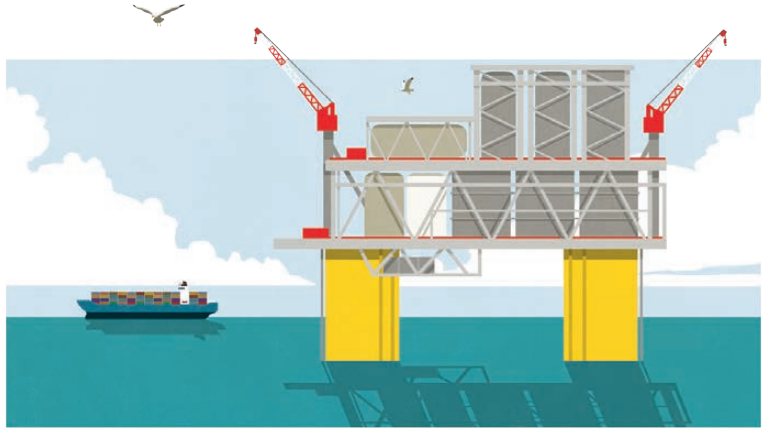
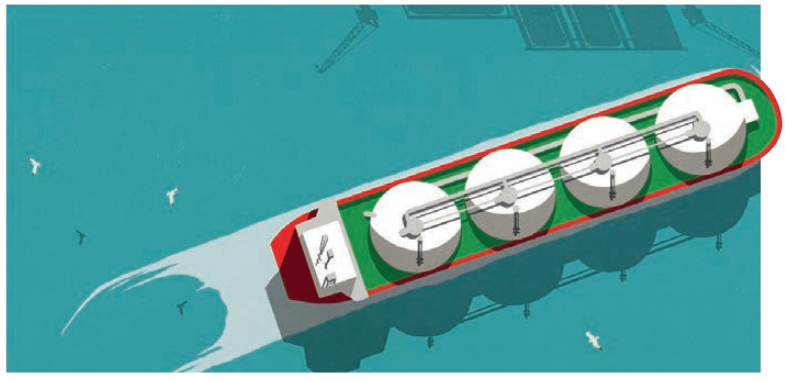
# Powering Progress

**Shell plc**
**Annual Report and Accounts**
for the year ended December 31, 2022












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# About this Report

The Shell plc Annual Report (this "Report") serves as the Annual Report and Accounts in accordance with UK requirements for the year ended December 31, 2022, for Shell plc (the "Company") and its subsidiaries (collectively referred to as "Shell"). This Report presents the Consolidated Financial Statements of Shell (pages 237-307), the Parent Company Financial Statements of Shell (pages 340-349) and the Financial Statements of the Royal Dutch Shell Dividend Access Trust (pages 352-356). Except for these Financial Statements, the numbers presented throughout this Report may not sum precisely to the totals provided and percentages may not precisely reflect the absolute figures due to rounding.

The Consolidated Financial Statements of Shell plc and its subsidiaries contained in this Report have been prepared in accordance with international accounting standards in conformity with the requirements of the UK Companies Act 2006 (the "Act"), and therefore in accordance with UK-adopted international accounting standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Consolidated Financial Statements have been prepared in accordance with IFRS as issued by the IASB. IFRS as defined above includes interpretations issued by the IFRS Interpretations Committee. Financial reporting terms used in this Report are in accordance with IFRS.

This Report contains certain forward-looking non-GAAP measures such as cash capital expenditure. We are unable to provide a reconciliation of these forward-looking non-GAAP measures to the most comparable GAAP financial measures because certain information needed to reconcile those non-GAAP measures to the most comparable GAAP financial measures is dependent on future events some of which are outside the control of Shell, such as oil and gas prices, interest rates and exchange rates. Moreover, estimating such GAAP measures with the required precision necessary to provide a meaningful reconciliation is extremely difficult and could not be accomplished without unreasonable effort. Non-GAAP measures in respect of future periods which cannot be reconciled to the most comparable GAAP financial measure are calculated in a manner which is consistent with the accounting policies applied in Shell plc's consolidated financial statements.

The entities in which Shell plc directly or indirectly owns investments are separate legal entities. In addition to the term "Shell", in this Report "Shell Group", "Group", "we", "us" and "our" are also used to refer to the Company and its subsidiaries in general or to those who work for them. These terms are also used where no useful purpose is served by identifying the particular entity or entities. "Subsidiaries", "Shell subsidiaries" and "Shell companies" refer to those entities over which the Company has control, either directly or indirectly. Entities and unincorporated arrangements over which Shell has joint control are generally referred to as "joint ventures" and "joint operations", respectively. "Joint ventures" and "joint operations" are collectively referred to as "joint arrangements". Entities over which Shell has significant influence but neither control nor joint control are referred to as "associates". The term "Shell interest" is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in an entity or unincorporated joint arrangement, after exclusion of all third-party interest. Shell subsidiaries' data include their interests in joint operations.

As used in this Report, "Accountable" is intended to mean: required or expected to justify actions or decisions. The Accountable person does not necessarily implement the action or decision (implementation is usually carried out by the person who is Responsible) but must organise the implementation and verify that the action has been carried out as required. This includes obtaining requisite assurance from Shell companies that the framework is operating effectively. "Responsible" is intended to mean: required or expected to implement actions or decisions. Each Shell company and Shell-operated venture is responsible for its operational performance and compliance with the Shell General Business Principles, Code of Conduct, Statement on Risk Management and Risk Manual, and Standards and Manuals. This includes responsibility for the operationalisation and implementation of Shell Group strategies and policies.

Shell's operating plan, outlook and budgets are forecasted for a 10-year period and are updated every year. They reflect the current economic environment and what we can reasonably expect to see over the next ten years. Accordingly, they reflect our Scope 1, Scope 2 and NCI targets over the next 10 years. However, Shell's operating plans cannot reflect our 2050 net-zero emissions target and 2035 NCI target, as these targets are currently outside our planning period. In the future, as society moves towards net-zero emissions, we expect Shell's operating plans to reflect this movement. However, if society is not net zero in 2050 as of today, there would significant risk that Shell may not meet this target.

Shell's "Net Carbon Intensity" referred to in this Report include Shell's carbon emissions from the production of our energy products, our suppliers' carbon emissions in supplying energy for that production, and our customers' carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions. The use of the term "Net Carbon Intensity" is for convenience only and not intended to suggest these emissions are those of Shell plc or its subsidiaries.

Except where indicated, the figures shown in the tables in this Report are in respect of subsidiaries only, without deduction of any non-controlling interest. However, the term "Shell share" is used for convenience to refer to the volumes of hydrocarbons that are produced, processed or sold through subsidiaries, joint ventures and associates. All of a subsidiary's production, processing or sales volumes (including the share of joint operations) are included in the Shell share, even if Shell owns less than 100% of the subsidiary. In the case of joint ventures and associates, however, Shell-share figures are limited only to Shell's entitlement. In all cases, royalty payments in kind are deducted from the Shell share.

Except where indicated, the figures shown in this Report are stated in US dollars. As used herein all references to "dollars" or "$" are to the US currency.

This Report contains forward-looking statements concerning the financial condition, results of operations and businesses of Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as "aim", "ambition", "anticipate", "believe", "could", "estimate", "expect", "goals", "intend", "may", "milestones", "objectives", "outlook", "plan", "probably", "project", "risks", "schedule", "seek", "should", "target", "will" and similar terms and phrases. There are a number of factors that could affect the future operations of Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this Report, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, judicial, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; (m) risks associated with the impact of pandemics, such as the COVID-19 (coronavirus) outbreak; and (n) changes in trading conditions. Also see "Risk factors" on pages 15-26 for additional risks and further discussion. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this Report are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue

reliance on forward-looking statements. Each forward-looking statement speaks only as of the date of this Report. Neither the Company nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this Report.

Past performance cannot be relied on as a guide to future performance.

This Report contains references to Shell's website, the Shell Sustainability Report, Energy Transition Progress Report, Tax Contribution Report, Industry Associations Climate Review and our report on Payments to Governments. These references are for the readers' convenience only. Shell is not incorporating by reference into this Report any information posted on www.shell.com or in the Shell Sustainability Report, Tax Contribution Report, Industry Associations Climate Review or our report on Payments to Governments. The content of any other websites referred to in this Report does not form part of this Report.

With effect from January 29, 2022, Shell's A shares and B shares were assimilated into a single line of ordinary shares. Shell's A and B American Depositary Shares (ADSs) were assimilated into a single line of ADSs on the same date. This Report continues to refer to A shares, B shares, A ADSs and B ADSs when describing the position prior to January 29, 2022.

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## Documents on display

This Report is also available, free of charge, at www.shell.com/annualreport or at the offices of Shell in London, United Kingdom and The Hague, the Netherlands. Copies of this Report also may be obtained, free of charge, by mail.

## Terms and abbreviations

### Currencies

| | |
|---|---|
| $ | US dollar |
| € | euro |
| £ | sterling |

### Units of measurement

| | |
|---|---|
| acre | approximately 0.004 square kilometres |
| b(/d) | barrels (per day) |
| boe(/d) | barrels of oil equivalent (per day); natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel |
| GW | gigawatt |
| kboe(/d) | thousand barrels of oil equivalent (per day); natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel |
| kWh | kilowatt-hours |
| megajoule | a unit of energy equal to one million joules |
| MMBtu | million British thermal units |
| mb/d | million barrels per day |
| mtpa | million tonnes per annum |
| MW | megawatt |
| MWh | megawatt hours |
| per day | volumes are converted into a daily basis using a calendar year |
| scf(/d) | standard cubic feet (per day) |
| TWh | terawatt hours |

### Products

| | |
|---|---|
| GTL | gas-to-liquids |
| LNG | liquefied natural gas |
| LPG | liquefied petroleum gas |
| NGL | natural gas liquids |

### Miscellaneous

| | |
|---|---|
| ADS | American Depositary Share |
| AGM | Annual General Meeting |
| API | American Petroleum Institute |
| CCS | carbon capture and storage |
| CCS earnings | earnings on a current cost of supplies basis |
| CMF | carbon management framework |
| $CO_2$ | carbon dioxide |
| EMTN | Euro medium-term note |
| EPS | earnings per share |
| FCF | free cash flow |
| FID | final investment decision |
| GAAP | generally accepted accounting principles |
| GHG | greenhouse gas |
| HSSE | health, safety, security and environment |
| IAS | International Accounting Standards |
| IEA | International Energy Agency |
| IFRS | International Financial Reporting Standard(s) |
| IPIECA | International Petroleum Industry Environmental Conservation Association |
| IOGP | International Association of Oil & Gas Producers |
| LTIP | Long-term Incentive Plan |
| NCF | Net Carbon Footprint |
| NCI | net carbon intensity |
| OECD | Organisation for Economic Co-operation and Development |
| OML | oil mining lease |
| OPEC | Organization of the Petroleum Exporting Countries |
| OPL | oil prospecting licence |
| PSC | production-sharing contract |
| PSP | Performance Share Plan |
| REMCO | Remuneration Committee |
| RT | real terms |
| SEC | US Securities and Exchange Commission |
| TCFD | Task Force on Climate-related Financial Disclosures |
| TRCF | total recordable case frequency |
| TSR | total shareholder return |
| WTI | West Texas Intermediate |

# Strategic Report





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# Chair's message

"A large, multinational organisation, like Shell, can combine the pursuit of value with contributing to a better world."



**Sir Andrew Mackenzie**
Chair

Russia's invasion of Ukraine began more than a year ago. In the face of the humanitarian disaster this war created, Shell acted swiftly and decisively to support our own people in both countries, as well as Ukrainians who fled the conflict.

We also played a vital role in helping to safeguard energy supplies as many countries sought alternative sources to Russian oil and gas. Shell moved quickly, redirecting supplies, particularly liquefied natural gas (LNG), to where they were needed.

I am immensely proud of how our people responded to this challenge, especially given the continuing pandemic in some parts of the world, which added to the uncertainties. The tragic earthquakes in Turkey and Syria last month also showed how Shell people step up, this time when faced with a natural disaster. Thankfully none of our staff were hurt, although many of their families were affected. Shell provided fuel to support emergency workers and chemicals to make foam mattresses, and hand sanitiser in the absence of water for washing.

The impact of war in particular has shown how vital it is for Shell to continue to supply secure and affordable energy, while producing what our customers need to make the transition to cleaner energy. Whatever challenges dominate the immediate view, we must stay focused on our role in the energy transition and the need to tackle climate change.

## Shareholder value

A large, multinational organisation, like Shell, can combine the pursuit of value with contributing to a better world. Our Powering Progress strategy sets out how we plan to generate value for shareholders while reducing our carbon emissions.

Rewarding shareholders must be a priority for a company wanting to deliver on its long-term strategy. They have put their faith in us and entrusted their money to us. Without their support we lack the remit to do what we must to become a net-zero emissions energy business. In 2022, we used some of our profits to buy back shares and distribute dividends. Importantly, we did this while keeping a strong balance sheet.

We also continued to make the kind of disciplined investments in the energy transition we need to help our customers achieve net zero by providing low- and zero-carbon energy. We completed our acquisition of Denmark's Nature Energy, Europe's largest producer of renewable natural gas made from biomass, in February 2023. This will enable us to provide enough renewable natural gas to heat thousands more homes and power thousands more buses. We are also investing in growing our renewable power business. In 2022, we acquired the solar and wind group Sprng Energy, in India.

As one of the world's largest producers of biofuels, we can help customers reduce their emissions by providing energy that can be used in existing aircraft, cars, trucks, or ships. We are also expanding our electric vehicle charging network around the world to help decarbonise road transport.

## CEO succession

Wael Sawan became CEO on January 1, 2023, succeeding Ben van Beurden. In his years at the head of Shell, Ben achieved many great things. In 2016, he made Shell's largest ever acquisition in buying BG, he led us through the pandemic and the global financial turmoil that followed, and he led the historic move of our headquarters to London. He took the swift decision to start the process of pulling Shell out of Russia. We are grateful to Ben for his leadership through some of the most difficult challenges any CEO could face.

With Wael, Shell is in excellent hands. He has the capability and experience to focus on our strengths, such as the production of oil and gas, and oil products, and do this in ways that are profitable while

# Chair's message continued

## Shell: aiming for efficiency in the energy transition

(Top): The Shell Chemicals Park Moerdijk the Netherlands. In 2022, we announced plans to build a new pyrolysis oil upgrader. The plant will have capacity to produce up to 50,000 tonnes of pyrolysis oil per year. (Bottom left): In 2022, Shell opened its first electric vehicle charging hub in the UK in Fulham, London. (Bottom right): The Goldeneye pipeline at the St Fergus Gas Terminal. Sir Andrew Mackenzie, third from right.







lowering our emissions. But I believe that he will also drive the transformation of Shell into a business for the future, offering our customers a range of affordable energy, including from low- and zero-carbon sources, from renewables to biofuels and charging for electric vehicles.

When asked to describe Wael, I tell people that he is a man who pursues excellence with relentless efficiency. He has clarity of vision and the conviction that performance rightly comes first. Wael has already acted to simplify the business structure, and allow for faster and better decision-making by combining Integrated Gas with Upstream and placing Renewables and Energy Solutions into our Downstream business. This will create a simpler senior leadership structure, with greater clarity of purpose and accountability.

### Contributing to the energy transition

My visit in September to St Fergus near Aberdeen, on the east coast of Scotland, gave me a glimpse of what Shell is doing to provide energy and take carbon out of the energy system. We pipe gas from the North Sea to St Fergus and process it to help meet the UK's energy needs.

But St Fergus is also going to be important in helping the UK achieve its net-zero targets. We are part of the Acorn carbon capture and storage (CCS) and hydrogen project, which is using existing oil and gas infrastructure for decarbonisation. We are repurposing our Goldeneye pipeline to carry carbon dioxide ($CO_2$) from our St Fergus gas plant and store it safely beneath the seabed.

Projects like these allow the skills and capability of our people to transfer from fossil fuels exploration and development to activities that help progress the energy transition.

As we develop low- and zero-carbon products, we must also find ways to provide oil products that have a lower net carbon impact. This includes continuing to produce oil-based products that do not require burning in their use, such as lubricants and essential plastics.

At all times, we must do this efficiently and sustainably. We are focusing on chemical recycling where we break down hard-to-recycle plastics into raw materials through a technique called pyrolysis. The pyrolysis oil can then be used as feedstock in our chemical plants, replacing traditional hydrocarbon feedstock.

### Aiming for highest return, lowest emissions

We apply firm capital discipline at Shell. We are equally disciplined when it comes to budgeting for carbon. Our carbon management framework (CMF) allocates a carbon budget to the operating plans of our businesses. We began applying this in 2022 and in 2023 we will challenge our businesses even further: return the highest value within a given carbon and capital budget.

This approach is working. We reduced carbon emissions from our operations by 30% by the end of 2022, compared with 2016, our reference year. This is well over halfway towards our target of a 50% reduction by 2030.

Faced with the challenge of providing secure supplies of energy while transforming for a net-zero future, it is more important than ever that Shell act decisively. As Chair, I want the Board to ensure that our governance is always firmly in place and highly effective in guiding the Executive Committee and management to move quickly when opportunity comes.

Society has long enjoyed the benefits of oil and gas. But now the world must find ways to benefit from energy while urgently cutting emissions. This is going to be tough, but it is possible if everyone collaborates to develop and use low- and zero-carbon energy solutions and deploy technologies that capture $CO_2$ and store it underground or remove it directly from the air.

These are exciting times to work in the industry as we explore cleaner ways to keep the world moving. Opportunity surrounds us and I feel the same sense of adventure that I felt as a young geologist when my career began in the North Sea in the 1980s.

The story of Shell is the story of pioneers. We have always been at the forefront of developments, from our first oil discoveries to deep-water exploration, and now to the energy transition. It is this spirit of adventure that will carry us forward.

**Sir Andrew Mackenzie**
Chair

# Chief Executive Officer's review

"The stark realities we are seeing globally reinforce the need for a balanced energy transition."



**Wael Sawan**
Chief Executive Officer

It was more than a year ago that Russia invaded Ukraine, triggering a war that has killed thousands and continues to wreck the lives of many more. I hope and pray for an end to this devastating conflict that is threatening the security of Europe.

We continue to provide support to our staff in both countries and we are working with aid organisations in Ukraine and in bordering countries, where millions of refugees are now trying to rebuild their lives. In the days following the invasion, we announced our intention to withdraw from our Russian oil and gas activities in a phased manner, aligned with government guidance.

In 2022, the invasion and reduction of gas supply from Russia that followed accelerated a surge in global energy prices. This pushed up the cost of almost everything for households, industry, and businesses. Europe took positive actions to secure energy supply with Germany, for example, getting two floating regasification facilities up and running by the end of the year.

Shell also did its part, responding with agility as an energy provider. For example, we used our strength as a global energy producer and supplier to deliver 194 cargoes of liquefied natural gas to Europe and the UK – almost five times the usual average – and helped countries like Germany and Austria ensure they had enough energy storage ahead of their winter. I am proud of how our people stepped up when called upon.

As we publish our Annual Report, the tragic aftermath of devastating earthquakes in Turkey and Syria is still unfolding. We are supporting our staff in the region, and they are working hard to keep fuel supplies flowing to help relief efforts and keep hospitals operating.

The stark realities we are seeing globally reinforce the need for a balanced energy transition. They also show that our Powering Progress strategy is the right one: delivering secure and affordable energy with increasingly lower emissions. We must do this profitably as we help build the net-zero energy system of the future.

## Generating shareholder value

In becoming Chief Executive Officer in January 2023, I succeeded Ben van Beurden, who was CEO for nine years. In that time Ben transformed Shell into a much stronger company and set us on the path to net-zero emissions. I am grateful to Ben for his work and for what he has handed over to me. In my first Annual Report as CEO, I want to be clear: Shell is a great company, and we are changing to ensure we become a great investment too.

In 2022, we made income of around $43 billion and our highest ever Adjusted Earnings of around $40 billion. While the global business environment for energy producers helped make this possible, our Adjusted Earnings were still around $17 billion higher than in 2014, when Brent prices were at similar levels. Thanks to improvements made over the past few years, the quality of our portfolio also makes us resilient to market volatility, and the streamlining of our organisation has made us more efficient.

We delivered a cash flow from operations of more than $68 billion and our organic free cash flow was around $48 billion. This strong performance allowed us to increase our distributions to shareholders and we returned around $26 billion to them through share buybacks and dividends, which is more than 35% of our cash flow from operations. We will continue to target shareholder distributions with a hard floor of 20%, and the option of more than 30%, of our cash flow from operations, subject to Board approval.

Profit without sustainability erodes our licence to operate. Sustainability without profit erodes our shareholder support and financial capacity to play a meaningful part in the energy transition.

# Chief Executive Officer's review continued

## Investing to meet demand today and in the future

(Top): Energy users in South Africa. A mother and daughter cooking together. Shell is working to provide secure and affordable energy. (Bottom left): Holland Hydrogen 1 imagery, credit: Plotvis. Shell took the final investment decision to build Holland Hydrogen 1 in July 2022. (Bottom right): Denmark-based Nature Energy. Shell completed the acquisition of the renewable natural gas producer in February 2023.








We must continue to provide energy and do it with fewer emissions. We can only do this with the backing of our shareholders because it is their capital that enables us to invest in the energy transition.

### Performance and discipline

In 2022, there were significant improvements in both personal and process safety. The safety of our employees and contractors is paramount. Despite our best efforts, I am saddened to say that in 2022 two of our contractor colleagues died tragically, one in Nigeria and one in Pakistan. We will, as always, learn from these accidents and do our utmost to keep our people safe and unharmed.

While our 2022 financial performance was strong, we can do even better. We aim to be disciplined in allocating our capital by investing in the best oil and gas projects and making investments in the energy transition with a relentless focus on shareholder value and returns.

Our acquisition of Nature Energy, the largest producer of renewable natural gas in Europe, is a case in point. This is a transformative investment because Nature Energy will supply customers we already have, while giving us access to new customers who want low-carbon products. Another investment that promises value is our acquisition of Sprng Energy group, a solar and wind platform in India, which has added significant capacity to our renewable generation portfolio. We also took the final investment decision to build Holland Hydrogen 1 in the Netherlands, which will be Europe's largest renewable hydrogen plant once operational from 2025.

In addition to this, our oil and gas activities are showing they can operate according to our belief that value is more important than volume. For example, our Vito deep-water oil platform, which produced first oil in February 2023 in the Gulf of Mexico, was redesigned to make the combined topsides and hull a third of the originally planned size and reduce costs by more than 70%.

As part of our efforts to improve our operating performance, all our businesses work within a rigorous capital and carbon budget. Shell will continue to apply capital discipline as we require directorates to adhere to our new carbon management framework, which sets limits for the emissions in each business.

In early 2023, I moved to simplify our business and leadership structure. By combining Integrated Gas with Upstream, and Renewables and Energy Solutions with the Downstream business, I believe we will be able to make faster, more focused decisions.

### Balance and ingenuity

The energy transition must succeed, but balance is needed if society is to leave nobody behind. Trying to dismantle the current energy system before the new energy system is ready will lead to supply shortages and higher prices. The transition must seek to ensure energy security, affordability and sustainability.

Shell is ready to play a role in a balanced transition, profitably and purposefully. As we delivered record profits for 2022, we also reduced carbon emissions from our operations by over 30%, compared with 2016, our reference year. This is more than halfway towards our target of a 50% reduction by 2030. We are also making progress in reducing our fresh-water consumption in water-stressed areas and focusing on chemical recycling.

As I take on the role of CEO, I am reminded of when I joined Shell some 25 years ago. I was attracted to its core values of honesty, integrity and respect for people. I believe those same values, along with Shell's diverse and exceptional talent, our assets and capabilities, our brand and relationships, equip us well for the next phase of our journey. We can make a real difference in the world and create value for our shareholders by doing so.

Since my appointment was announced in September 2022, I have spent time with our teams in a number of countries, including Brazil, the Netherlands, Qatar, the UAE and the USA. I have drawn tremendous energy and pride from seeing the outstanding work that our people are engaged in every day. My single biggest contribution, along with my Executive Committee, will be to find ways to harness the collective energy and commitment that our 93,000 people possess.

Together, we have the ingenuity, talent and resilience to continue to transform our business into one that performs with increasing discipline, efficiency and excellence. We will unlock our potential, power progress, and help make this balanced energy transition happen.

**Wael Sawan**
Chief Executive Officer

# Powering Progress strategy

## Who we are

Shell is a global group of energy and petrochemical companies, employing 93,000 [A] people and with operations in more than 70 countries.

We use advanced technologies and take an innovative approach as we seek to help the world build a sustainable energy future. Shell is a customer-focused organisation, serving more than 1 million commercial and industrial customers, and around 32 million customers daily at more than 46,000 Shell-branded retail service stations.

[A] At December 31, 2022.

## Our stakeholders

- Our investors
- Our customers
- Our employees/workforce/pensioners
- Our strategic partners/suppliers
- Communities
- NGOs/civil society stakeholders/academia/think-tanks
- Governments/regulators

See "Respecting nature", "Powering lives" and "Governance".

## Our purpose

To power progress together by providing more and cleaner energy solutions.




Underpinned by our **core values** and our focus on **safety**

## Our core values

Honesty | Integrity | Respect for people

See "Powering lives - Our people".

# Our strategy

## Our strategy

Powering Progress is our strategy to generate value for shareholders and become a net-zero emissions business by 2050. It is designed to help customers decarbonise and bring benefits for wider society, while respecting nature. Our strategy is underpinned by our focus on safety, and our core values of honesty, integrity and respect for people.

### Context

Climate change is one of the biggest challenges the world faces today. In 2022, geopolitical events showed that a secure supply of energy is crucial, and a growing global population is likely to continue to drive demand for energy, including oil and gas, for years to come. This necessitates society's rapid transition to a low-carbon, multi-source energy system.

Shell supports the most ambitious goal of the Paris Agreement, which is to limit the rise in global average temperature this century to 1.5 degrees Celsius above pre-industrial levels. To achieve this, urgent action is needed to reduce emissions across power, transport, buildings, and hard-to-abate industries, such as steel and concrete. Around 140 countries and more than 2,000 companies and organisations have made commitments to get to net-zero emissions by 2050.

Shell seeks to play its part, purposefully and profitably, in the energy transition, while helping to maintain energy security. We are building a resilient business by putting customers at the centre of our strategy, and innovating the products and solutions they need. Our integrated assets and supply chains are designed to deliver value for our shareholders and customers. We aim to manage risk for Shell and our customers as we produce, buy, trade, transport and sell energy products and solutions worldwide.

The energy transition brings risks, involves confronting complex obstacles, and poses great challenges. The energy transition also offers significant opportunities.

We seek to work with our customers to identify available, affordable and low- and zero-carbon energy solutions that meet their changing needs and to help decarbonise the energy system.

There will be no single solution that fits all customers. Instead, there will be variations with differing approaches and rates of progress across countries, sectors and markets.

Customers' use of the energy we sell generates most emissions. Helping our customers get to net zero will also reduce our net carbon intensity, and the average amount of greenhouse gas emissions we produce for every unit of energy that we sell and that is used by our customers.

We work with sectors that would benefit from the expertise and experience that energy companies can provide to help them find a path to net-zero emissions. Aviation is one of these sectors. Together with our customers, we are working on changing energy demand and developing ways to help increase the use of low-carbon fuels and decrease carbon emissions from this sector. Meanwhile, on the supply side, in Rotterdam in the Netherlands, Shell is building an 820,000-tonnes-a-year biofuels facility. This is expected to be among the largest in Europe, producing sustainable aviation fuel and renewable diesel made from waste and certified sustainable vegetable oils.

### Powering Progress

Our Powering Progress strategy comprises: generating shareholder value, achieving net-zero emissions, powering lives and respecting nature. It is a strategy that integrates sustainability with our pursuit of value through high performance. Our purpose is to power progress together by providing more and cleaner energy solutions. We also expect our employees and contractors to maintain Shell's focus on safety and abide by our core values of honesty, integrity and respect for people.

Powering Progress is a strategy that combines our financial strength and discipline with a dynamic approach to our portfolio of assets and products, so we can seize the opportunities of the energy transition. Shell transforms its portfolio continuously to better meet the clean energy needs of its customers today and in the future.

Achieving our strategy depends on how we respond to competitive forces. We assess the external environment – the markets and margins, and the underlying economic, political, social and environmental drivers that shape them – to evaluate commercial opportunities and potential new business models. We regularly review the markets where we operate, and assess our competitive position by analysing trends, uncertainties, and the strengths and weaknesses of our traditional and non-traditional competitors.

We maintain business plans that focus on actions and capabilities to create and sustain competitive advantage. We maintain a risk management framework that regularly assesses our response to, and appetite for, identified risks.

Our Executive Directors' remuneration is linked to the successful delivery of our strategy, based on performance indicators that we consider to be aligned with shareholder interests. Long-term incentives form the majority of the Executive Directors' remuneration for above-target performance. In 2022, the Long-term Incentive Plan (LTIP) included conditions relating to cash generation, capital discipline, value created for shareholders, and energy transition.

# **Our strategy** continued







## Generating shareholder value

Powering Progress is designed to pursue shareholder value, make disciplined and focused investments to grow our businesses, and help Shell become even more competitive and resilient.

We aim to create the conditions for share price appreciation by optimising the performance of our businesses. We are also preparing for the future by seizing the opportunities presented by the energy transition. Shell takes a dynamic approach to its portfolio by continuing to provide the energy the world needs and increasing our investments in low- and zero-carbon energy products and services.

We aim to generate value for shareholders by providing sustainable distributions through our progressive dividend policy and share buyback programmes. In 2022, we generated $68.4 billion cash flow from operating activities. Our cash capital expenditure was $24.8 billion and total shareholder distributions amounted to $25.8 billion, whilst we reduced our net debt to $44.8 billion as at December 31, 2022.

We completed our share buyback programmes in 2022 with a combined value of $18.4 billion. We increased our dividend to $0.25 per share in the first quarter of 2022 and announced a 15% increase for the fourth quarter of 2022. Total shareholder distributions were in excess of 35% of cash flow from operating activities.

We seek to maintain a strong balance sheet and apply a disciplined approach to capital investment. In this way, we believe we will achieve our aim of building a compelling investment case for our shareholders.

## Achieving net-zero emissions

We have a long-term target to become a net-zero emissions energy business by 2050. The target covers emissions from our operations (Scope 1), emissions from the energy we buy to run our operations (Scope 2), and emissions from our customers' use of the energy products we sell (Scope 3).

We also have targets to reduce the net carbon intensity of the energy products we sell, with 2016 as our baseline year. These include targets of a 6-8% reduction by the end of 2023, a 9-12% reduction by the end of 2024, and a 9-13% reduction by the end of 2025. Our medium- and longer-term targets are to reduce by 20% by 2030, by 45% by 2035 and 100% by 2050. We achieved our target of a 3-4% reduction by the end of 2022. We also have an absolute emissions reduction target of 50% on all Scope 1 and 2 emissions under Shell's operational control by 2030 on a net basis. By the end of 2022, Shell had reduced its absolute Scope 1 and 2 emissions by 30%.

We place a high priority on combating methane emissions linked to oil and gas, and we have set a target to keep our methane emissions intensity for operated oil and gas assets (including liquefied natural gas) below 0.2% by 2025. In 2022, methane emissions intensity for operated facilities with marketing gas was 0.05%.

We are transforming our business and selling more low-carbon products and services, such as electricity generated by solar and wind power, hydrogen, biofuels, and charging for electric vehicles. We are helping sectors to decarbonise by working collaboratively with customers, businesses and governments.

Shell engages with governments and other stakeholders, such as international organisations and industry associations, to support robust policies, legislation and regulations designed to accelerate the transition to net-zero emissions.

# **Our strategy** continued







## Powering lives

Shell is dedicated to making a positive impact on the lives of people around the world. We work to improve people's lives through our products and activities, and by contributing to local communities and championing inclusion.

We help to power lives and livelihoods by providing vital energy for homes, businesses and transport. Millions of people live without access to affordable, reliable and sustainable energy, and this has been exacerbated by the geopolitical events of 2022. Energy supply is crucial for addressing global challenges, including those related to poverty and inequality. In line with our Powering Progress strategy, Shell has been striving to bring reliable electricity to those in emerging markets who do not yet have it.

We support livelihoods by providing employment and training in the communities where we operate. In addition, we buy and sell goods and services and generate revenues for governments through the taxes and royalties we pay and the sales taxes we collect on their behalf. This helps governments fund health care, education, transport and other essential services.

Shell is working to become one of the most diverse and inclusive organisations in the world, a place where everyone feels valued and respected. We are focusing on four areas: gender; race and ethnicity; lesbian, gay, bisexual and transgender (LGBT+); and disability.

We seek to respect human rights in all parts of our business. In 2021, Shell published a commitment to worker welfare as part of our approach to human rights and implemented the new Worker Welfare Control Framework requirements based on principles developed by the global, business-led coalition Building Responsibly. These requirements became mandatory in 2022 for Shell and our contractors.

## Respecting nature

Our environmental ambitions include protecting and enhancing biodiversity. We are also focused on using water and other resources more efficiently and reusing as much of them as we can. We are reducing waste from our operations and increasing the recycling of plastics.

We are committed to recycling plastic waste in our chemical facilities. Shell's proprietary technology to improve the quality of pyrolysis oil is a key process in delivering on this ambition. Pyrolysis is a technique whereby hard-to-recycle plastics are broken down into raw materials. We have invested in our first pyrolysis oil upgrader unit at the Shell Energy and Chemicals Park Singapore. In Canada, Shell has been working with the people of Dawson Creek city to manage water use at our nearby natural gas operations at Groundbirch. We worked with the city council to open a plant that treats municipal waste water that would otherwise be discharged to a local river. Our Groundbirch site recycles around 98% of water used for its operations.

Across Shell, we are helping to improve air quality by reducing emissions from our operations and providing clean ways to power transport and industry.

Our purchasing policies include requirements that reflect our environmental framework and take the energy efficiency, material efficiency and sustainability of products into consideration in our purchases.

# How we create value

## Brand value

Value of Shell brand ($ billion) [F]:
**48** 2021: 50

We aim to meet the world's growing need for more and sustainable energy solutions in ways that are economically, environmentally and socially responsible. Our Powering Progress strategy is designed to create value for our shareholders, customers and wider society.

## Our inputs [A]

### Financial capital

Equity attributable to Shell plc shareholders ($ billion) [B]:
**190** 2021: 172

Non-current debt ($ billion) [B]:
**75** 2021: 81

Net debt ($ billion) [B][C]:
**45** 2021: 53

Average capital employed ($ billion) [B]:
**270** 2021: 265

Cash capital expenditure ($ billion) [C]:
**25** 2021: 20

### Operations

Refining and chemicals availability:
**96%** 2021: 96%

Oil & gas production available for sale (kboe/d):
**2,864** 2021: 3,237

LNG liquefaction volumes (million tonnes):
**30** 2021: 31

### Human capital

Number of employees (thousands) [B][D]:
**93** 2021: 83

Number of training days (thousands):
**266** 2021: 271

### Relationships

Customers, joint arrangements, government relations, suppliers.
Operating countries [B]:
**>70** 2021: >70

### Intellectual capital

Research and development expenses ($ million):
**1,075** 2021: 815

Number of patents [B][E]:
**10,788** 2021: 8,532

### Natural resources

Proved oil and gas reserves (million boe) [B]:
**9,578** 2021: 9,365

Energy consumed (million MWh):
**199** 2021: 223

[A] In 2022 unless stated otherwise.
[B] At December 31.
[C] See "Non-GAAP measures reconciliations" on pages 362-365.
[D] Employee numbers, including comparatives, have been updated from Full Time Equivalents (FTE) to Headcount.
[E] Includes patents granted and pending patent applications.
[F] Source: Brand Finance Global 500 (years 2023 and 2022).

## Business activities




## Our outcomes and impacts [A]

### GENERATING SHAREHOLDER VALUE

Cash flow from operating activities ($ billion):
**68** 2021: 45

Adjusted earnings ($ billion) [C]:
**40** 2021: 19

Shareholder distributions ($ billion) [C]:
**26** 2021: 9

### ACHIEVING NET-ZERO EMISSIONS

Absolute emissions (Scope 1 and 2 – million tonnes of $CO_2$ equivalent):
**58** 2021: 68 | 2016: 83

Net carbon intensity (Grams of $CO_2$ equivalent per megajoule):
**76** 2021: 77 | 2016: 79

Methane emissions intensity for operated facilities with marketing gas:
**0.05%** 2021: 0.06%

### POWERING LIVES

Women in senior leadership positions [B]:
**30%** 2021: 30%

Taxes paid and collected ($ billion):
**68** 2021: 59

Total spend on goods and services ($ billion):
**42** 2021: 38

### RESPECTING NATURE

Fresh water consumed by four major facilities in high water-stressed areas (million $m^3$):
**18** 2021: 22 | 2018: 25

Total waste disposed (million tonnes):
**2** 2021: 2

Operational spills of more than 100 kilograms (thousand tonnes):
**0.06** 2021: 0.05

[A] In 2022 unless stated otherwise.
[B] At December 31.
[C] See "Non-GAAP measures reconciliations" on pages 362-365.

# Powering Progress in action

## ACHIEVING NET-ZERO EMISSIONS

**Working with our customers and across sectors to accelerate the transition to net-zero emissions**

**January 2022** Shell started up a hydrogen electrolyser in China with 20 MW production capacity which is critical to decarbonisation in China.

**January 2022** Shell completed sale of interest in Deer Park refinery. Shell plans to consolidate its refinery footprint to five or six core energy and chemicals parks. These locations will maximise the integration benefits of conventional fuels and chemicals production while also offering new low-carbon fuels and performance chemicals.

**January 2022** Shell and ScottishPower won bids to develop 5 GW of floating wind power to become the world's first large-scale floating offshore wind farm in UK waters. Once built, it will power the equivalent of 6 million homes in Scotland.

**February 2022** Shell's joint venture Atlantic Shores won acreage in New York Bight, which expands Shell's offshore wind renewable power generation capacity in the USA. This area, subject to a future investment decision, could support around 1.5 GW of commercial wind generation, enough to power nearly 700,000 New York and New Jersey homes.

**February 2022** Shell completed the acquisition of Powershop in Australia an online energy retailer serving more than 185,000 customers. This complements Shell's existing Australian investments in low- and zero-carbon assets and technologies.

**June 2022** Shell completed the acquisition of the Landmark fuel and convenience network which provides opportunities to offer customers expanded fuelling options (including electric vehicle charging, hydrogen, biofuels and lower-carbon premium fuels) and allows for the growth of non-fuel sales through an enhanced convenience offering.

**July 2022** QatarEnergy selected Shell as a partner in the North Field East (NFE) expansion project in Qatar. In December 2022, QatarEnergy and Shell closed the transaction with Shell purchasing 25% of the joint venture (JV) which owns 25% of the overall project. Shell's ownership of NFE via its JV shareholding is 6.25%. The project will use CCS, helping to reduce emissions.

**July 2022** Shell took the final investment decision to build Holland Hydrogen I, which will be Europe's largest renewable hydrogen plant once operational from 2025. Holland Hydrogen I demonstrates how new energy solutions can help meet society's need for cleaner energy. It is also an example of Shell's own efforts and commitment to become a net-zero emissions business by 2050.

**August 2022** Shell completed the acquisition of Solenergi Power Private Limited and with it the Sprng Energy group, one of India's leading renewable power platforms that develops and manages renewable energy facilities and infrastructure assets.

**October 2022** QatarEnergy selected Shell to participate in the North Field South project in Qatar. Shell will obtain a 9.375% participating interest in the 16 mtpa project out of a total 25% interest available for international partners. QatarEnergy will hold the remaining 75%.

**February 2023** Shell completed the acquisition of Nature Energy which is a producer of renewable natural gas (RNG) from agricultural, industrial, and household waste. This acquisition, announced in November 2022, will increase Shell's ability to help customers decarbonise and accelerate its transition to net-zero emissions.

## RESPECTING NATURE

**Protecting the environment, reducing waste and making a positive contribution to biodiversity**

Shell's Upstream business has a project under way to restore two hectares of coral reef in Mexico. The project aims to replant damaged coral reefs that support the marine ecosystem.

Shell Moerdijk's 39-hectare solar park, in the Netherlands, is designed with optimal habitats for pollinators that resulted in more species of bees than on neighbouring agricultural land, research showed. Future solar parks in the Netherlands, such as Heerenveen, will follow the same design.

Shell and Space Intelligence are maturing an artificial intelligence (AI) techniques to monitor the health of natural ecosystems. At scale, this use of AI can improve how Shell's nature-based solutions (NBS) business evaluates, tracks and assesses the performance of ecosystems and may augment the value of NBS projects worldwide.

## POWERING LIVES

**Improving people's lives through our products and activities, contributing to local communities and championing inclusion**

**Access to Energy** In September 2022, Shell acquired Daystar Power, a provider of integrated solar power solutions to businesses in West Africa, helping customers reduce power costs and pollution. This deal marks our first power acquisition in Africa and is a fundamental step for Shell in growing our presence in emerging power markets.

**Diversity, equity and inclusion (DE&I)** In 2022, as part of Shell's ambition to become one of the most diverse and inclusive organisations in the world, we published data to demonstrate the progress we have made against all our individual commitments for gender, race and ethnicity, LGBT+ and disability inclusion. We published our DE&I roadmap and guiding principles to increase transparency around our approach and to drive leadership accountability and the behaviours we expect.

**Communities** In 2022, Shell's social investment amounted to almost $260 million. This included programmes supporting education, community development, disaster relief, energy access, community skills and enterprise development, health, biodiversity and road safety.

**Human Rights** Human rights are fundamental to Shell's core values of honesty, integrity and respect for people. In 2022, we completed a review of our salient human rights with an external advisor, Business for Social Responsibility (BSR). We published a list grouping these rights according to four focus areas: workplace, supply chains, community and security.

# Outlook for 2023 and beyond

Our integrated business model is key to driving our strategy. Shell has a competitive portfolio and we intend to maintain that position as we develop our assets and the mix of energy that we sell to meet the needs of our customers for more affordable, reliable and cleaner energy. By doing so, we aim to generate additional value for our shareholders.

Delivering our strategy will require clear and deliberate capital allocation choices. We approach capital allocation at three levels: enterprise, portfolio and project. The enterprise level is about how we make choices between increasing distributions to our shareholders, investing in our business and strengthening our balance sheet. The portfolio level is about how we allocate capital between our business segments. The project level is about how we evaluate and prioritise investment opportunities.

For cash capital expenditure (capex), the 2023 outlook is in the $23-27 billion range.

Our capital framework target is a distribution of at least 20-30% of cash flow from operations to shareholders and we may choose to return cash to shareholders through a combination of dividends and share buybacks. Subject to Board approval, we aim to grow the dividend per share by around 4% every year. When setting the level of shareholder distributions, the Board looks at a range of factors, including the macro-environment, the underlying business earnings and cash flow of the Shell Group, the current balance sheet, future investment, acquisition and divestment plans and existing commitments.

We have announced an increase of our dividend per share of 15% for the fourth quarter of 2022 as part of our progressive dividend policy. Portfolio allocation affects our ability to deliver on targets we have made, and socio-economic, political and market factors sometimes change our outlooks. Existing global targets are currently under review. While no decisions have been made, to ensure our transition to a net-zero energy business is profitable, it is likely that some business targets may be retired, as part of normal strategy evolution and mindful of existing capital allocation in the latest operating plan. We expect to provide further insights during our Capital Markets Day in June 2023. All targets presented at Capital Markets Day in June will be filed with the SEC.

The statements in this section, including those related to our growth strategies and our expected or potential future cash flow from operations, organic free cash flow, share buybacks, capital investment, divestments, production, absolute emissions and net carbon intensity, are based on management's current expectations and certain material assumptions. Accordingly, these statements involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

## Financial framework

### Capital discipline

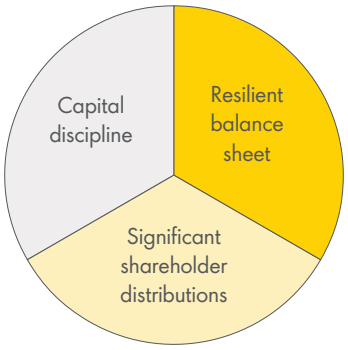
2023 cash capex within $23-27 billion

- Includes inorganic capex

### Resilient balance sheet

Targeting AA credit metrics through the cycle

- Continued focus on Net debt reduction in upcycle
- Divest for value
- Invest for value




### Significant shareholder distributions

Around 4% annual growth in dividend per share, subject to Board approval

**Sustainable progressive dividend**

**Total shareholder distributions ≥ 20-30% [A] of cash flow from operating activities**

Total shareholder distributions (dividends + share buybacks) based on cash generation, macro-outlook and balance sheet trajectory

[A] Potentially more than 30% (subject to Board approval and prevailing market conditions).

# Our Powering Progress businesses in 2022

## Integrated Gas, Renewables and Energy Solutions

Integrated Gas manages liquefied natural gas (LNG) activities and the conversion of natural gas into gas-to-liquids (GTL) fuels and other products. It includes natural gas and liquids exploration and extraction, as well as the operation of the upstream and midstream infrastructure necessary to deliver gas and liquids to market. The marketing, trading and optimisation of LNG are included within Integrated Gas.

Renewables and Energy Solutions (R&ES) manages Shell's integrated power activities. These comprise electricity generation, marketing and trading of power and pipeline gas, as well as digitally enabled customer solutions. The R&ES business also includes the production and marketing of hydrogen, development of commercial carbon capture and storage hubs, trading of carbon credits, and investment in nature-based projects that avoid or reduce carbon.

## Upstream

Upstream explores for and extracts crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market. Upstream business delivers reliable energy from conventional oil and gas operations, as well as deep-water exploration and production activities.

We are focusing our Upstream portfolio to become more resilient, prioritising value over volume to provide the energy the world needs today whilst funding the energy system of tomorrow. Upstream will play a fundamental role in supporting Shell's transformation to a net-zero business by 2050. Upstream's oil and gas supplies help maintain the world's energy security. The business is working to provide these supplies with lower emissions.

## Downstream

Marketing manages the Mobility, Lubricants, and Sectors & Decarbonisation activities. Mobility operates Shell's retail network, including electric vehicle charging services. Lubricants produces, markets and sells lubricants for road transport and machinery. Sectors & Decarbonisation sells fuels, speciality products and services including low-carbon energy solutions to a broad range of commercial customers.

Chemicals and Products manages chemical manufacturing plants with their own marketing network and refineries, which turn crude oil and other feedstocks into a range of oil products. These products are moved and marketed around the world for domestic, industrial and transport use. Downstream also includes the pipeline activities, and trading of crude oil, oil products and petrochemicals.

## Projects & Technology

Projects & Technology manages the delivery of our major projects and drives research and innovation. It provides technical services for our businesses. It is also responsible for providing functional leadership across Shell in safety and environment, contracting and procurement, wells activities and greenhouse gas management.

Technology and innovation are essential to our efforts to meet the world's energy needs in a competitive way. Our main technology centres are in India, the Netherlands and the USA, with other centres in Brazil, China, Germany, Oman and Qatar.

On January 30, 2023, Shell announced that the Integrated Gas and Upstream businesses will be combined into a single Integrated Gas and Upstream Directorate. The Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate. The changes are expected to take effect on July 1, 2023. The intention of this change is to simplify the organisation further and improve performance as we deliver our Powering Progress strategy.

# Risk factors

The risks discussed below could have a material adverse effect separately, or in combination, on our earnings, cash flows and financial condition. Accordingly, investors should carefully consider these risks.

Further background on each risk is set out in the relevant sections of this Report, indicated by way of cross references under each risk factor.

The Board's responsibility for identifying, evaluating and managing our significant and emerging risks is discussed in "Other regulatory and statutory information" on pages 211-219.

## Strategic risks

### We are exposed to macroeconomic risks including fluctuating prices of crude oil, natural gas, oil products and chemicals.

Further information: See "Market overview" on page 35.

**Risk description**

The prices of crude oil, natural gas, oil products and chemicals can be volatile and are affected by supply and demand, both globally and regionally. Macroeconomic, geopolitical and technological uncertainties can also affect production costs and demand for our products. Government actions may also affect the prices of crude oil, natural gas, oil products and chemicals. These include price caps on gas, the promotion of electric vehicle sales or the phasing-out of future sales of new diesel or gasoline vehicles (as announced in the UK and due to come into force in 2030). Oil and gas prices can also move independently of each other (as seen with European gas prices in 2022). Factors that influence supply and demand include operational issues, natural disasters, weather, pandemics such as COVID-19, political instability, conflicts, such as the Russian invasion of Ukraine, economic conditions, including inflation, and actions by major oil- and gas-producing countries. In a low oil and gas price environment, we would generate less revenue from our Upstream and Integrated Gas businesses, and parts of those businesses could become less profitable or incur losses. Low oil and gas prices have also resulted and could continue to result in the debooking of proved oil or gas reserves, if they become uneconomic in this type of price environment. Prolonged periods of low oil and gas prices, or rising costs, have resulted and could continue to result in projects being delayed or cancelled. Assets have been impaired in the past, and there could be impairments in the future. Low oil and gas prices have affected and could continue to affect our ability to maintain our long-term capital investment and shareholder distribution programmes. Prolonged periods of low oil and gas prices could adversely affect the financial, fiscal, legal, political and social stability of countries that rely significantly on oil and gas revenue. In the past, a high oil and gas price environment has generally led to sharp increases in costs and this could continue. Under high oil and gas prices, our entitlement to proved reserves under some production-sharing contracts could also be reduced. Higher prices could also reduce demand for our products, which could result in lower profitability, particularly in our Chemicals and Products and Marketing businesses. Some of the reduction in demand could be permanent. Higher prices can also lead to more capacity being built, potentially resulting in an oversupplied market which would negatively affect our Upstream, Integrated Gas, Renewables and Energy Solutions, Chemicals and Products and Marketing businesses.

Accordingly, price fluctuations could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We maintain a diversified portfolio to manage the impact of price volatility. We test the resilience of our projects and other opportunities against a range of prices and costs for crude oil, natural gas, oil products and chemicals. We prepare annual strategic and financial plans that test different scenarios and their impact on prices on our businesses and company as a whole. We also aim to maintain a strong balance sheet to provide resilience against weak market prices.

### Our ability to deliver competitive returns and pursue commercial opportunities depends in part on the accuracy of our price assumptions.

Further information: See "Market overview" on page 37.

**Risk description**

We use a range of commodity price and margin assumptions, which we review on a periodic basis. These ranges help us to evaluate the robustness of our capital allocation for our evaluation of projects and commercial opportunities. If our assumptions prove to be incorrect, this could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

The range of commodity prices and margins used in our project and portfolio evaluations is subject to a rigorous assessment of short-, medium- and long-term market drivers. These drivers include the extent and pace of the energy transition.

### Our ability to achieve our strategic objectives depends on how we react to competitive forces.

Further information: See "Our strategy" on page 7 and "Outlook" on page 13.

**Risk description**

We face competition in all our businesses. We seek to differentiate our services and products, though many of our products are competing in commodity-type markets. Accordingly, failure to manage our costs and our operational performance could result in a material adverse effect on our earnings, cash flows and financial condition. We also compete with state-owned hydrocarbon entities and state-backed utility entities with access to financial resources and local markets. Such entities could be motivated by political or other factors in making their business decisions. Accordingly, when bidding on new leases or projects, we could find ourselves at a competitive disadvantage because these state-owned entities may not require a competitive return. If we are unable to obtain competitive returns when bidding on new leases or projects, this could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We continually assess the external environment - the markets and the underlying economic, political, social and environmental drivers that shape them - to evaluate changes in competitive forces. We define multiple future potential scenarios and business environments by identifying drivers, uncertainties, enablers and constraints to our competitiveness. These scenarios help us to find issues which affect our operating environment and have implications for our strategy.

# Risk factors continued

## Strategic risks continued

Rising concerns about climate change and effects of the energy transition could continue to lead to a fall in demand and potentially lower prices for fossil fuels. Climate change could also have a physical impact on our assets and supply chains. This risk may also lead to additional legal and/or regulatory measures, resulting in project delays or cancellations, potential additional litigation, operational restrictions and additional compliance obligations.

For further explanations of our climate change governance, risk management approach, climate ambition and strategy, and our portfolio and performance, please refer to the section "Our journey to net zero" on pages 78-105.

### Risk description

Societal demand for urgent action on climate change has increased, especially since the Intergovernmental Panel on Climate Change (IPCC) Special Report of 2018 on 1.5°C effectively made the more ambitious goal of the Paris Agreement to limit the rise in global average temperature this century to 1.5 degrees Celsius the default target. This increasing focus on climate change and drive for an energy transition have created a risk environment that is changing rapidly, resulting in a wide range of stakeholder actions at global, local and company levels. The potential impact and likelihood of the associated exposure for Shell could vary across different time horizons, depending on the specific components of the risk.

We expect that a growing share of our greenhouse gas (GHG) emissions will be subject to regulation, resulting in increased compliance costs and operational restrictions. Regulators may seek to limit certain oil and gas projects or make it more difficult to obtain required permits. Additionally, climate activists are challenging the grant of new and existing regulatory permits, and protesting at some of our facilities and projects. We expect that these challenges and protests are likely to continue and could delay or prohibit operations in certain cases. Our journey to achieving our target of becoming net zero on all emissions from our operations has resulted in and could continue to require additional costs. We also expect that actions by customers to reduce their emissions will continue to lower demand and potentially affect prices for fossil fuels, as will GHG emissions regulation through taxes, fees and/or other incentives. This could be a factor contributing to additional provisions for our assets and result in lower earnings, cancelled projects and potential impairment of certain assets.

The pace and extent of the energy transition could pose a risk to Shell if we decarbonise our operations and the energy we sell at a different speed relative to society. If we are slower than society, customers may prefer a different supplier, which would reduce demand for our products and adversely affect our reputation besides materially affecting our earnings and financial results. If we move much faster than society, we risk investing in technologies, markets or low-carbon products that are unsuccessful because there is limited demand for them.

The physical effects of climate change such as, but not limited to, increases in temperature and sea levels and fluctuations in water levels could also adversely affect our operations and supply chains.

Certain investors have decided to divest their investments in fossil fuel companies. If this were to continue, it could have a material adverse effect on the price of our securities and our ability to access capital markets. Stakeholder groups are also putting pressure on commercial and investment banks to stop financing fossil fuel companies. Some financial institutions have started to limit their exposure to fossil fuel projects. Accordingly, our ability to use financing for these types of future projects may be adversely affected. This could also adversely affect our potential partners' ability to finance their portion of costs, either through equity or debt.

In some countries, governments, regulators, organisations and individuals have filed lawsuits seeking to hold fossil fuel companies liable for costs associated with climate change. While we believe these lawsuits to be without merit, losing could have a material adverse effect on our earnings, cash flows and financial condition. For example, in May 2021, the District Court in The Hague, Netherlands, ruled that, by 2030, Shell must reduce, from its consolidated subsidiaries, its Scope 1 net emissions by 45% from its 2019 levels and use its best efforts to reduce its Scope 2 and Scope 3 net emissions by 45% from its 2019 levels. In 2019, our Scope 1 emissions from our consolidated subsidiaries were 86 million tonnes carbon dioxide equivalent, rounded. We expect to see additional regulatory requirements to provide disclosures related to climate risks.

In summary, rising climate change concerns, the pace at which we decarbonise our operations relative to society and effects of the energy transition have led and could lead to a decrease in demand and potentially affect prices for fossil fuels. If we are unable to find economically viable, publicly acceptable solutions that reduce our GHG emissions and/or GHG intensity for new and existing projects and for the products we sell, we could experience financial penalties or extra costs, delayed or cancelled projects, potential impairments of our assets, additional provisions and/or reduced production and product sales. This could have a material adverse effect on our earnings, cash flows and financial condition.

### How this risk is managed

Our response to the evolving risk outlook requires transparency and clarity around our plans and actions to achieve our climate target. Our climate change risk management approach is supported by standards, policies and controls, as part of our Health, Safety, Security and Environment and Social Performance (HSSE & SP) Control Framework. Climate change and risks resulting from GHG emissions are reviewed and managed in accordance with other significant risks through the Board and Executive Committee. We have established several dedicated climate change and GHG-related forums at different levels of the organisation. These forums seek to address, monitor and review climate change issues. Our strategy to assess and manage risks and opportunities resulting from climate change includes considering different time horizons and their relevance to risk identification and business planning.

We also actively monitor societal developments, such as regulation-driven carbon-pricing mechanisms and customer-driven preferences for products. We incorporate these into potential scenarios which provide insights into how the energy transition may unfold in the medium and long term. These insights and those from various other external scenarios (such as the IPCC Special Report 1.5°C) guide how we set our strategic direction, capital allocation and carbon emission commitments.

Overall, mitigation of the risk is addressed through our strategy to accelerate the transition to net-zero emissions, purposefully and profitably. This approach has three components:

- reducing the GHG emissions intensity of our operations. We expect to reduce our carbon intensity primarily through altering our product mix as customer (Scope 3) emissions represent the largest component of our carbon intensity. Our aim is to achieve this by shifting the focus of our portfolio as we build our power, hydrogen, biofuels, carbon capture and storage and nature-based solutions businesses and activities;
- demonstrating our resilience by aligning our disclosures to the Task Force on Climate-related Financial Disclosures; and
- working towards our target to become a net-zero emissions energy business by 2050.

We are also working with governments on their climate policy to help establish regulatory frameworks that will enable society to reach the goals of the Paris Agreement. The ruling delivered by the District Court in The Hague in May 2021 has provided an additional challenge in this context. We have appealed the ruling but have stated that we want to rise to the challenge and accelerate our Powering Progress strategy to become a net-zero emissions energy business by 2050, regardless of whether we win or lose the appeal.

# Risk factors continued

## Strategic risks continued

### Investments in our low-carbon products and services may not achieve expected returns.

Further information: See "Marketing" on pages 60-64 and "Renewables & Energy Solutions" on pages 73-76.

We are building our portfolio of low-carbon products and services such as electricity generated from solar and wind power, hydrogen and biofuels, and charging for electric vehicles through organic and inorganic growth.

In expanding our offerings of these low-carbon products and services, we expect to undertake acquisitions and form partnerships. The success of these transactions will depend on our ability to realise the synergies from combining our respective resources and capabilities, including the development of new processes, systems and distribution channels. For example, it may take time to develop these areas through retraining our workforce and recruitment for the necessary new skills. It may take longer to realise the expected returns from these transactions.

The operating margins for our low-carbon products and services may not be as high as the margins we have experienced historically in our oil and gas operations. Some of our acquired companies are not yet in full compliance with the Shell Control Framework.

Therefore, developing our low-carbon products and services is subject to challenges which could have a material adverse effect on our earnings, cash flows and financial condition.

We maintain an integrated business model, with trading and optimisation, to help us manage our value delivery. Our investments are subject to financial modelling and stress-testing, due diligence and risk assessments to ensure that our capital is allocated to the most attractive low carbon opportunities. We rigorously monitor and evaluate the performance of our acquisitions against our expectations. Following specific assessments of each new acquisition, dedicated projects are put in place to achieve compliance with the Shell Control Framework.

### We operate in more than 70 countries that have differing degrees of political, legal and fiscal stability. This exposes us to a wide range of political developments that could result in changes to contractual terms, laws and regulations. We and our joint arrangements and associates also face the risk of litigation and disputes worldwide.

Further information: See "Other regulatory and statutory information" on page 216.

**Risk description**

Developments in politics, laws and regulations can and do affect our operations. Potential impacts, which we have experienced in the past, include: forced divestment of assets; expropriation of property; cancellation or forced renegotiation of contract rights; additional taxes including windfall taxes, restrictions on deductions and retroactive tax claims; antitrust claims; changes to trade compliance regulations; price controls; local content requirements; foreign exchange controls; changes to environmental regulations; changes to regulatory interpretations and enforcement; and changes to disclosure requirements. Many parts of the world are facing economic and fiscal challenges and growing pressure on cost-of-living standards. The situation is further exacerbated by Russia's invasion of Ukraine, which is having an unprecedented impact on gas and power markets in terms of both supply and price. These issues impact our business as governments, in response to political and social pressures, pursue policies that could have a material adverse effect on our earnings, cash flows and financial condition.

From time to time, social and political factors play a role in unprecedented and unanticipated judicial outcomes that could adversely affect Shell. Non-compliance with policies and regulations could result in regulatory investigations, litigation and, ultimately, sanctions. Certain governments and regulatory bodies have, in Shell's opinion, exceeded their constitutional authority by: attempting unilaterally to amend or cancel existing agreements or arrangements; failing to honour existing contractual commitments; and seeking to adjudicate disputes between private litigants. Certain governments have also adopted laws and regulations that could potentially conflict with other countries' laws and regulations, potentially subjecting us to criminal and civil sanctions. Such developments and outcomes could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We continually monitor geopolitical developments and societal issues relevant to our interests. Our Legal and Tax functions are organised globally and support our business lines in seeking to ensure compliance with local laws and fiscal regulations. Our Corporate Relations department liaises with governments in countries where we operate to understand and engage on local policies and to advocate Shell's position on topics relevant to our industry. We are prepared to exit a country if we believe we can no longer operate there in accordance with our standards and applicable law, and we have done so in the past.

# Risk factors continued

## Operational risks

### Russia's invasion of Ukraine has affected the safety and security of our people and operations in these and neighbouring countries. The resulting sanctions and export controls and the evolving geopolitical situation have caused wide-ranging challenges to our operations which could continue in the medium to longer term.

Further information: See "Post-balance sheet events" on page 307.

**Risk description**

Russia's invasion of Ukraine continues to pose wide-ranging challenges to our operations and commercial decisions. The immediate impacts included those relating to the safety and security of our people and operations in these and neighbouring countries. The subsequent sanctions and export controls imposed by countries around the world are having a material impact on a number of our activities, including supply, trading and treasury activities. More sanctions, export controls and taxes are expected.

Given the evolving situation, there may be many other unknown factors and events that could materially impact our operations, which may be temporary or more permanent in nature. These risks and future events could impact our supply chain, commodity prices, credit, commodity trading, treasury and legal risks. In addition, there is potential reputational risk associated with how Shell's decisions in response to evolving challenges are perceived. The tensions also create heightened cyber-security threats to our information technology infrastructure. The geopolitical situation may influence our future investment and financial decisions.

Any of these factors, individually or in aggregate, could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

In response to the invasion, a Group Crisis Team was set up to assess the situation, consider potential scenarios of how events may further develop and co-ordinate responses accordingly.

Care for our people remains Shell's top priority. Local crisis teams, led by the respective Country Chairs, have been deployed to ensure the health, safety and well-being of our staff, contractors and their families in Ukraine, Russia and neighbouring countries.

We are closely monitoring and responding to the sanctions that have been imposed and are following international guidelines where relevant to our business activities.

### The estimation of proved oil and gas reserves involves subjective judgements based on available information and the application of complex rules. This means subsequent downward adjustments are possible.

Further information: See "Supplementary information - oil and gas (unaudited)" on pages 308-326.

**Risk description**

The estimation of proved oil and gas reserves involves subjective judgements and determinations based on available geological, technical, contractual, and economic information. Estimates can change over time because of new information from production or drilling activities, changes in economic factors, such as oil and gas prices, alterations in the regulatory policies of host governments, or other events. Estimates also change to reflect acquisitions, divestments, new discoveries, extensions of existing fields and mines, and improved recovery techniques. Published proved oil and gas reserves estimates could also be subject to correction because of errors in the application of rules and changes in guidance. Downward adjustments could indicate lower future production volumes and could also lead to impairment of assets. This could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

A central group of reserves experts undertakes the primary assurance of the proved reserves bookings. A multidisciplinary committee reviews and endorses all major proved reserves bookings. Shell's Audit Committee reviews all proved reserves bookings and Shell's CEO is responsible for final approval. The Internal Audit function also provides further assurance through audits of the control framework, from which information disclosed in "Supplementary information – oil and gas (unaudited)" is obtained.

# Risk factors continued

## Operational risks continued

### Our future hydrocarbon production depends on the delivery of large and integrated projects and our ability to replace proved oil and gas reserves.

Further information: See "Powering Progress strategy" on page 6-14.

**Risk description**

We face numerous challenges in developing capital projects, especially those which are large and integrated. Challenges include: uncertain geology; frontier conditions; the existence and availability of necessary technology and engineering resources; the availability of skilled labour; the existence of transport infrastructure; project delays; the expiration of licences; delays in obtaining required permits; potential cost overruns; and technical, fiscal, regulatory, political and other conditions. These challenges are particularly relevant in certain developing and emerging-market countries, in frontier areas and in deep-water fields, such as off the coast of Mexico. We may fail to assess or manage these and other risks properly. Such potential obstacles could impair our delivery of these projects, our ability to fulfil the full potential value of the project as assessed when the investment was approved, and our ability to fulfil related contractual commitments. This could lead to impairments and could have a material adverse effect on our earnings, cash flows and financial condition.

Future oil and gas production will depend on our access to new proved reserves through exploration, negotiations with governments and other owners of proved reserves and acquisitions, and through developing and applying new technologies and recovery processes to existing fields. Failure to replace proved reserves could result in an accelerated decrease of future production, potentially having a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We continue to explore for and mature hydrocarbons across our Upstream and Integrated Gas businesses. We use our subsurface, project and technical expertise, and actively manage non-technical risks across a diversified portfolio of opportunities and projects. This involves adopting an integrated approach for all stages, from basin choice to development. We use competitive techniques and benchmark our approach internally and externally.

### Oil and gas production available for sale

Million boe [A]

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Shell subsidiaries | 938 | 1,047 | 1,104 |
| Shell share of joint ventures and associates | 108 | 134 | 135 |
| Total | **1,046** | **1,181** | **1,239** |

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

### Proved developed and undeveloped oil and gas reserves [A][B]

Million boe [C]

| | Dec 31, 2022 | Dec 31, 2021 | Dec 31, 2020 |
|---|---|---|---|
| Shell subsidiaries | 8,317 | 8,456 | 8,222 |
| Shell share of joint ventures and associates | 1,261 | 909 | 902 |
| Total | **9,578** | **9,365** | **9,124** |
| Attributable to non-controlling interest of Shell subsidiaries | 365 | 267 | 322 |

[A] We manage our total proved reserves base without distinguishing between proved reserves from subsidiaries and those from joint ventures and associates.
[B] Includes proved reserves associated with future production that will be consumed in operations.
[C] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

# Risk factors continued

## Operational risks continued

### The nature of our operations exposes us, and the communities in which we work, to a wide range of health, safety, security and environment risks.

Further information: See "Respecting nature" on page 109, "Powering lives" on page 113 and "Safety" on pages 121-124.

**Risk description**

The health, safety, security and environment (HSSE) risks to which we and the communities in which we work are potentially exposed cover a wide spectrum, given the geographical range, operational diversity and technical complexity of our operations. These risks include the effects of natural disasters (including weather events), earthquakes, social unrest, pandemic diseases, criminal actions by external parties, and safety lapses. If a major risk materialises, such as an explosion or hydrocarbon leak or spill, which we have experienced in the past, this could result in injuries, loss of life, environmental harm, disruption of business activities, loss or suspension of permits, loss of our licence to operate and loss of our ability to bid on mineral rights. Accordingly, this could have a material adverse effect on our earnings, cash flows and financial condition.

Our operations are subject to extensive HSSE regulatory requirements that often change and are likely to become more stringent over time. Governments could require operators to adjust their future production plans, as has occurred in the Netherlands, affecting production and costs. We could incur significant extra costs in the future because of the need to comply with such requirements. We could also incur significant extra costs due to violations of or liabilities under laws and regulations that involve elements such as fines, penalties, clean-up costs and third-party claims. If HSSE risks materialise, they could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We have standards and a clear governance structure to help manage HSSE risks and avoid potential adverse effects. The standards and governance structure also help us to develop mitigation strategies aimed at ensuring that if an HSSE risk materialises, we avoid catastrophic consequences and have ways of trying to remediate any environmental damage. Our standards and governance structure are defined in our Health, Safety, Security, Environment and Social Performance (HSSE & SP) Control Framework and supporting guidance documents. These describe how key controls should be operated, for example to ensure safe production and implementation of maintenance activities. When planning new major projects, we conduct detailed environmental, social and health impact assessments. We routinely practise implementing our emergency response plans to significant risks (such as a spill, toxic substances, fire or explosion).

The Shell Internal Audit & Investigation team provides assurance on the HSSE & SP controls to the Safety, Environment and Sustainability Committee.

### A further erosion of the business and operating environment in Nigeria could have a material adverse effect on us.

Further information: See "Upstream" on page 49.

**Risk description**

In our Nigerian operations, we face various risks and adverse conditions. These include: security incidents affecting the safety of our people, host communities and operations; sabotage and crude theft; ongoing litigation; limited infrastructure; challenges presented by delayed government and partner funding and budget delays; and regional instability created by militant activities. Some of these risks and adverse conditions, such as security issues affecting the safety of our people and sabotage and theft have occurred in the past and are likely to continue in the future, with a potential material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We test the economic and operational resilience of our Nigerian projects against a wide range of assumptions and scenarios. We seek to proportionally share risks and funding commitments with joint-venture partners. When we participate in joint ventures in Nigeria, we require that they operate in accordance with good industry practice. We monitor the security situation, and liaise with host communities, and governmental and non-governmental organisations to help promote peaceful and safe operations.

### An erosion of our business reputation could have a material adverse effect on our brand, our ability to secure new resources or access capital markets, and on our licence to operate.

Further information: See "Other regulatory and statutory information" on page 215 and "Powering lives" on page 119.

**Risk description**

Our reputation is an important asset. The Shell General Business Principles (Principles) govern how Shell and its individual companies conduct their affairs, and the Shell Code of Conduct tells employees and contract staff how to behave in line with the Principles. Our challenge is to ensure that all employees and contract staff comply with the Principles and the Code of Conduct. Real or perceived failures of governance or regulatory compliance or a perceived lack of understanding of how our operations affect surrounding communities could harm our reputation.

Societal expectations of companies are increasing, with a focus on business ethics, quality of products, contribution to society, safety and minimising damage to the environment. There is increasing focus on the role of oil and gas in the context of climate change and energy transition. This could negatively affect our brand, reputation and licence to operate, which could limit our ability to deliver our strategy, reduce consumer demand for our branded and non-branded products, harm our ability to secure new resources and contracts, and restrict our ability to access capital markets or attract staff. Many other factors, including the materialisation of other risks discussed in this section, could negatively affect our reputation and could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We continually assess and monitor the external environment for potential risks to our reputation. We engage in ongoing dialogue with our key stakeholders such as investors, industry and trade groups, universities, governments and non-governmental organisations (NGOs) to gain greater insights into societal expectations of our business. We have mitigation plans for identified brand and reputation risks at the Group, country and line of business level. Our country chairs are responsible for implementing country reputation plans which are updated annually. We continually develop and defend our brand in line with Shell's purpose and promises, and target our investments to drive brand differentiation, relevance and preference.

# Risk factors continued

## Operational risks continued

### We rely heavily on information technology systems in our operations.

Further information: See "Corporate" on page 77.

**Risk description**

Our continued focus on digitalising our business processes, and our increasing dependence on information technology (IT) systems for our core operations mean that we are heavily reliant on secure, affordable and resilient IT services.

Externally, we observe several dynamics impacting our IT and cyber risk profile: deterioration of the cyber security threat landscape represented by increasing volumes of attacks and sophisticated cyber actors, geopolitical conflicts and increases in regulations across the markets in which Shell operates. We have observed an increase in social engineering (manipulation of individuals) as a method of financially driven cybercrime. Threat actors are targeting bank account changes, invoice settlement and identity fraud to extract money from corporations. Ransomware attacks on corporations continue to be widespread. These contribute to potential breaches and disruptions of critical IT services, such as the security incident involving the transfer of files which Shell experienced in 2021. If the breaches are not detected early and responded to effectively, they could impact our operations and the safety of our staff and/or harm our reputation and/or result in material regulatory fines. This could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We operate globally integrated Information Risk Management (IRM) and cyber-defence teams that scan, assure and defend our global IT landscape. Our cyber-security capabilities are embedded into our IT systems, and our IT is protected by various detective and protective technologies. Identification and assessment capabilities are built into our support processes and align to industry best practices. The security of IT services, operated by external IT companies, is managed through contractual clauses and additionally through formal supplier assurance reports for critical IT services.

As a response to the growing set of threat actors and sophisticated forms of attacks resulting from the Russia/Ukraine war, we have prioritised accelerated closure of critical vulnerabilities identified by the Cybersecurity and Infrastructure Security Agency (CISA), performing rigorous rationalisation of high-risk entitlements, and supported our withdrawal/divestment from Russian operations. We continue to track cyber-attacks, threat intelligence, and vulnerabilities in our estate.

### Our business exposes us to risks of social instability, criminality, civil unrest, terrorism, piracy, cyber disruption and acts of war that could have a material adverse effect on our operations.

Further information: See "Respecting nature" on page 109, "Powering lives" on page 113 and "Safety" on pages 121-124.

**Risk description**

As seen in recent years, these risks can manifest themselves in the countries where we operate and elsewhere. These risks affect people, our operations and assets. Potential risks, which we have experienced in the past, include: acts of terrorism; acts of criminality including maritime piracy; cyber espionage or disruptive cyber attacks; conflicts including war - such as Russia's invasion of Ukraine; malicious acts carried out by individuals within Shell - such as increased data exfiltration during divestments; civil unrest which for example caused disruptions to our Trading & Supply distribution operations in South Africa, and environmental and climate activism (including disruptions by non-governmental and political organisations) especially in the USA and north-west Europe.

The above risks can threaten the safe operation of our assets and the transport of our products. They can harm the well-being of our people, inflict loss of life and injuries, damage the environment and disrupt our operational activities. These risks could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We seek to obtain the best possible information to enable us to assess threats and risks. We conduct detailed threat and risk assessments for all our assets and activities, and implement appropriate measures to deter, detect and respond to security risks. Further mitigations include strengthening the security of assets, reducing our exposure as appropriate and using journey management plans. We also invest in information risk management capabilities and crisis management and business continuity measures. We conduct training and awareness campaigns for staff and provide them with travel and health advice and access to 24/7 assistance while travelling. We learn from incidents, in order to continually improve our security risk management in Shell.

# Risk factors continued

## Operational risks continued

### Production from the Groningen field in the Netherlands causes earthquakes that affect local communities.

Further information: See "Upstream" on pages 46-47.

**Risk description**

Shell and ExxonMobil are 50:50 shareholders in Nederlandse Aardolie Maatschappij B.V. (NAM). An important part of NAM's gas production comes from the onshore Groningen gas field, in which EBN, a Dutch government entity, has a 40% interest and NAM a 60% interest. The gas field is in the process of being closed down owing to earthquakes induced by gas production. Some of these earthquakes have damaged houses and other structures in the region, resulting in complaints and lawsuits from the local community. The Dutch government has announced it intends to accelerate the close-down, bringing the end of production forward from 2030 to possibly 2023 or 2024. The exact close-down date is still to be decided and depends on the Dutch government's considerations of security of gas supply. While we expect the earlier close-down of the Groningen gas field to further reduce the number and strength of earthquakes in the region, any additional earthquakes could have further adverse effects on our earnings, cash flows and financial condition.

**How this risk is managed**

NAM is working with the Dutch government and other stakeholders to fulfil its obligations to residents of the area. These include compensating for damage caused by the earthquakes and paying to strengthen houses where this is required for safety considerations. Negotiations with the state are being conducted to determine how to manage the accelerated close-down. Specific remediations within the agreed scope of responsibilities are planned. NAM's joint-venture partners will review its financial robustness against different scenarios for Groningen's liabilities and costs, with the aim of the venture being able to self-fund any additional expenses and claims.

### We are exposed to treasury and trading risks, including liquidity risk, interest rate risk, foreign exchange risk and credit risk. We are affected by the global macroeconomic environment and the conditions of financial and commodity markets.

Further information: See "Financial framework" on page 31 and Note 25 to the "Consolidated Financial Statements" on page 293-299.

**Risk description**

Our subsidiaries, joint arrangements and associates are subject to differing economic and financial market conditions around the world. Political or economic instability affects such markets.

We use debt instruments, such as bonds and commercial paper, to raise significant amounts of capital. Should access to debt markets become more challenging, the impact on our liquidity could have a material adverse effect on our operations. Group financing costs could also be affected by interest rate fluctuations or any credit rating deterioration.

We are exposed to changes in currency values and to exchange controls as a result of our substantial international operations. Our reporting currency is the US dollar, although, to a material extent, we also hold assets and are exposed to liabilities in other currencies. While we undertake some foreign exchange hedging, we do not do so for all our activities. Even where hedging is in place, it may not function as expected.

Commodity trading is an important component of our businesses. Processing, managing and monitoring many trading transactions across the world, some of them complex, exposes us to operational and market risks, including commodity price risks. The Russian invasion of Ukraine has led to supply constraints and increased commodity price volatility in 2022, together with additional sanctions and export controls imposed by countries around the world, both of which have an impact on our trading activities. We use derivative instruments such as futures, options and contracts for difference to hedge market risks. Due to differences between derivative instruments available in the market to hedge market risks and the actual market risks we are exposed to, perfect hedging is not always achievable. Therefore, our hedging has from time to time not functioned as expected and may not function as expected in the future.

We are exposed to credit risk; our counterparties could fail or be unable to meet their payment and/or performance obligations under contractual arrangements.

Our pension plans invest in government bonds, so they could be affected by a sovereign debt downgrade or other default.

If any of the above risks materialise, they could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We use various financial instruments for managing exposure to foreign exchange and interest rate movements. Our treasury operations are highly centralised and seek to manage credit exposures associated with our substantial cash, foreign exchange and interest rate positions. Our portfolio of cash investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Other than in exceptional cases, the use of external derivative instruments is confined to specialist trading and central treasury organisations that have the appropriate skills, experience, supervision, control and reporting systems.

We have credit risk policies in place which seek to ensure that products are sold to customers with appropriate creditworthiness. These policies include detailed credit analysis and monitoring of customers against counterparty credit limits. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage credit risk.

We maintain committed credit facilities. Management believes it has access to sufficient debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements.

In effecting commodity trades and derivative contracts, we operate within procedures and policies designed to ensure that market risks are managed within authorised limits and trading can only be performed by staff with the appropriate skills and experience. We closely monitor developments in sanctions and export controls to ensure compliance with international guidelines. Senior Management regularly reviews mandated trading limits. We operated with enhanced risk management and increased governance to protect the business during the period following Russia's invasion of Ukraine. A department that is independent from our traders monitors our market risk exposures daily, using value-at-risk techniques alongside other risk metrics as appropriate.

# Risk factors continued

## Operational risks continued

### Our future performance depends on the successful development and deployment of new technologies that provide new products and solutions.

Further information: See "Powering Progress strategy" on pages 6-14.

**Risk description**

Technology and innovation are essential to our efforts to help meet the world's energy demands competitively. If we fail to effectively develop or deploy new technology, products and solutions, or fail to make full, effective use of our data in a timely and cost-effective manner, there could be a material adverse effect on the delivery of our strategy and our licence to operate. We operate in environments where advanced technologies are used. In developing new technologies, products and solutions, unknown or unforeseeable technological failures or environmental and health effects could harm our reputation and licence to operate or expose us to litigation or sanctions. The associated costs of new technology are sometimes underestimated. Sometimes the development of new technology is subject to delays. If we are unable to develop the right technology and products in a timely and cost-effective manner, or if we develop technologies, products and solutions that harm the environment or people's health, there could be a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

Shell's technology organisation and the relevant business lines work together to determine the content, scope and budget for developing new technology that supports our activities. The new technology is developed using a robust technology maturation process, to systematically de-risk both technical and commercial risks, while ensuring portfolio alignment with Shell's strategic ambitions and deployment commitments. A significant proportion of Shell's technology contributes to our Renewables and Energy Solutions portfolio and our emissions reduction targets. We benefit from key relationships with leading academic research institutes and universities, and from working with start-ups. In our Shell GameChanger programme, we help companies to mature early-stage technologies. In our Shell Ventures scheme, we invest in and partner with start-ups and small and medium-sized enterprises that are in the early stages of developing new technologies.

### We have substantial pension commitments, the funding of which is subject to capital market risks and other factors.

Further information: See "Financial framework" on page 31.

**Risk description**

Liabilities associated with defined benefit pension plans are significant, and the cash funding requirement of such plans can also involve significant liabilities. They both depend on various assumptions. Volatility in capital markets or government policies could affect investment performance and interest rates, causing significant changes to the funding level of future liabilities and/or short-term liquidity requirements. Changes in assumptions for mortality, retirement age or pensionable remuneration at retirement could also cause significant changes to the funding level of future liabilities. We operate a number of defined benefit pension plans and, in case of a shortfall, we could be required to make substantial cash contributions (depending on the applicable local regulations). This could result in a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

A pensions forum chaired by the Chief Financial Officer oversees Shell's input to pension strategy, policy and operation. A risk committee supports the forum in reviewing the results of assurance processes with respect to pension risks. Local trustees manage the funded defined benefit pension plans, and the contributions paid are based on independent actuarial valuations that align with local regulations. Pension fund liquidity is managed by holding liquid assets and maintaining credit facilities.

### We mainly self-insure our hazard risk exposures. Consequently, we could incur significant financial losses from different types of risks that are not insured with third-party insurers.

Further information: See "Corporate" on page 77.

**Risk description**

Our Group insurance companies (wholly owned subsidiaries) provide insurance coverage to Shell subsidiaries and entities in which Shell has an interest. These subsidiaries and entities may also insure a portion of their risk exposures with third parties, but such external insurance would not provide any material coverage in the event of a large-scale safety or environmental incident. Accordingly, in the event of a material incident, we would have to meet our obligations without access to material proceeds from third-party insurers. We have in the past incurred adverse impacts from events, such as Hurricane Ida in 2021. We may, in the future, incur significant losses from different types of hazard risks that are not insured with third-party insurers, potentially resulting in a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We continually assess the safety performance of our operations and make risk mitigation recommendations, where relevant, to keep the risk of an accident as low as possible. Our insurance subsidiaries are adequately capitalised and they may transfer risks to third-party insurers where economical, effective and relevant.

### Many of our major projects and operations are conducted in joint arrangements or with associates. This could reduce our degree of control and our ability to identify and manage risks.

Further information: See "Other regulatory and statutory information" on page 216.

**Risk description**

When we are not the operator, we have less influence and control over the behaviour, performance and operating costs of joint arrangements or associates. Despite having less control, we could still be exposed to the risks associated with these operations, including reputational, litigation (where joint and several liability could apply) and government sanction risks. For example, our partners or members of a joint arrangement or an associate, (particularly local partners in developing countries), may be unable to meet their financial or other obligations to projects, threatening the viability of a given project. Where we are the operator of a joint arrangement, the other partner(s) could still be able to veto or block certain decisions, which could be to our overall detriment. Accordingly, where we have limited influence, we are exposed to operational risks that could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

For every major project where we share control, Shell appoints a Joint Venture Asset Manager, whose responsibility is to manage performance and create and protect value for Shell. The Joint Venture Asset Manager seeks to influence operators and other partners to adapt their practices in order to drive value appropriately and to mitigate identified risks. An annual assurance review assesses how the joint venture's standards and processes align with those of Shell. The Joint Venture Asset Manager follows up on any gaps identified.

# Risk factors continued

## Conduct and culture risks

### We are exposed to regulatory and conduct risk in our trading operations.

Further information: See "Other regulatory and statutory information" on page 215 and Note 25 to the "Consolidated Financial Statements" on pages 293-299.

**Risk description**

Commodity trading is an important component of our Upstream, Integrated Gas, Renewables and Energy Solutions, and Chemicals and Products businesses. Our commodity trading entities are subject to many regulations including requirements for standards of conduct. The risk of ineffective controls, poor oversight of trading activities, and the risk that traders could deliberately operate outside compliance limits and controls, either individually or as a group, has occurred. This has resulted in losses in the past and may result in further losses in the future. The rapidly changing regulatory environment creates a risk of insufficient, delayed or incorrect implementation of new or changes to existing regulatory requirements. Violations of such regulatory requirements could also expose us and/or our employees to regulatory fines and have an adverse effect on our licence to operate. These risks could have a material adverse effect on our earnings, cash flows, reputation and financial condition.

**How this risk is managed**

We maintain a trading compliance function managed by a regulated Chief Compliance Officer with adequate resources, a comprehensive governance structure, including mitigating controls (both automated and non-automated), and established reporting lines. Staff receive clear guidance through the Shell Code of Conduct, the organisation's Trading Compliance Manual, a specific compliance website, training modules where completion is monitored, and additional quarterly training sessions. Shell leaders frequently reinforce the importance of managing compliance and conduct risk in the trading organisation.

### Violations of antitrust and competition laws carry fines and expose us and/or our employees to criminal sanctions and civil suits.

Further information: See "Powering lives" on page 119 and "Other regulatory and statutory information" on page 215.

**Risk description**

Antitrust and competition laws apply to Shell and its joint arrangements and associates in the vast majority of countries where we do business. Shell and its joint arrangements and associates have been fined for violations of antitrust and competition laws in the past. This includes a number of fines by the European Commission Directorate-General for Competition (DG COMP). Because of DG COMP's fining guidelines, any future conviction of Shell or any of its joint arrangements or associates for violation of EU competition law could potentially result in significantly larger fines and have a material adverse effect on us. Violation of antitrust laws is a criminal offence in many countries, and individuals can be imprisoned or fined. In certain circumstances, directors may receive director disqualification orders. It is also now common for persons or corporations allegedly injured by antitrust violations to sue for damages. Any violation of these laws can harm our reputation and could have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We maintain an antitrust programme with adequate resources, a comprehensive governance structure and established reporting lines. Staff receive clear guidance that includes requirements in Shell's Ethics and Compliance Manual, an antitrust-specific website, training modules where completion is monitored and regular messages from Shell leaders on the importance of managing antitrust risks. Staff must understand and comply with the Protect Shell Policy, which explains Shell's position on managing antitrust risks in engagements with parties external to Shell. In response to fast-moving external antitrust developments/trends, internal, guidance is continually being monitored to ensure that it remains current (for example, recent guidance on collaboration in the energy transition and US enforcement action with regard to interlocking directors).

### Violations of anti-bribery, tax-evasion and anti-money laundering laws carry fines and expose us and/or our employees to criminal sanctions and civil suits.

Further information: See "Powering lives" on page 119, "Other regulatory and statutory information" on page 215 and Note 31 to the "Consolidated Financial Statements" on pages 303-305.

**Risk description**

Anti-bribery, tax-evasion and anti-money laundering laws apply to Shell, its joint arrangements and associates in all countries where we do business. Shell and its joint arrangements and associates have in the past settled with the US Securities and Exchange Commission regarding violations of the US Foreign Corrupt Practices Act. Any violation of anti-bribery, tax-evasion or anti-money laundering laws, including potential violations associated with Shell Nigeria Exploration and Production Company Limited's investment in Nigerian oil block OPL 245 and the 2011 settlement of litigation pertaining to that block, could harm our reputation or have a material adverse effect on our earnings, cash flows and financial condition. Violations of such laws also could expose us and/or our employees to criminal sanctions, civil suits and other consequences, such as debarment and the revocation of licences.

**How this risk is managed**

We maintain an anti-bribery, anti-tax evasion and anti-money laundering (ABC/AML) programme with adequate resources, a comprehensive governance structure and established reporting lines. Staff receive clear guidance, which includes requirements in Shell's Ethics and Compliance Manual, an ABC/AML-specific website, training modules where completion is monitored and regular messages from Shell leaders on the importance of managing ABC/AML risks.

As regards OPL 245, we have always maintained that the 2011 settlement was fully legal and on March 17, 2021, the court in Milan, Italy, acquitted Shell and its former employees of all charges on the grounds that there was no case to answer. On July 19, 2022, the Milan public prosecutor withdrew its appeal, meaning the criminal case is now closed and the acquittal of all defendants is final. On July 21, 2022, the Dutch Public Prosecutor's office announced it had dismissed its investigation into bribery allegations related to OPL 245. On November 11, 2022, the Court of Appeal rejected the Federal Republic of Nigeria's civil appeal of the March 17, 2021 decision.

# Risk factors continued

## Conduct and culture risks continued

### Violations of data protection laws carry fines and expose us and/or our employees to criminal sanctions and civil suits.

Further information: See "Other regulatory and statutory information" on page 215.

**Risk description**

Data privacy and the management of personal data have become an issue of increasing importance and focus for companies and regulators in recent years. Following the implementation of the EU General Data Protection Regulation (GDPR) in May 2018, we have on a global basis seen updates to, or the introduction of, data privacy laws largely based on the GDPR. More than 100 countries globally now have data privacy laws. Shell companies are increasingly processing large volumes of personal data as we continue to acquire small companies with relatively large amounts of customer data. As we accelerate the delivery of our Powering Progress strategy, we expect to acquire an increasing number of companies. In doing so, we must consider how this is done responsibly, including managing cyber risks and managing personal data effectively. In some countries that are key to Shell's business operations, such as China, relevant legislation continues to be amended or introduced. Shell must be able to adapt dynamically to such legislative changes and be capable of updating our internal programmes if necessary. Many countries require mandatory notification of data breaches often within short time frames (72 hours under the GDPR) in certain situations. In these circumstances we might be required to report to affected individuals and regulators in the relevant countries. Non-compliance with data protection laws could harm individuals and expose us to regulatory investigations. This could result in fines, which could be up to 4% of global annual turnover if under the GDPR; orders to stop processing certain data; harm to our reputation; and loss of the trust of existing and potential customers, stakeholders, governments, and employees. With regard to data breaches, we notified a number of data privacy regulators in 2022 of personal data breaches and have had fines issued against us. In addition to imposing fines, regulators may also issue orders to stop processing personal data, which could disrupt operations. We could also be subject to litigation from persons or entities allegedly affected by data protection violations.

Violation of data protection laws is a criminal offence in some countries, and individuals can be imprisoned or fined. Any violation of these laws could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

Over the last decade, the Shell Group has continued to invest in and develop a mature and robust privacy compliance programme based on our Binding Corporate Rules ("BCRs"). BCRs are a pragmatic way to enable large corporations to generate value from personal data by collecting them and sharing them between Group companies and are perceived as a positive mechanism by data privacy regulators for enabling lawful data sharing and demonstrating accountability within large corporate groups. BCRs allow intra-group transfers of personal data without needing to enter into additional complex intra-group agreements. The overall objective of the programme is to enable the Shell Group of companies to collect, handle and manage personal data in a professional, ethical, and lawful manner.

The Chief Privacy Officer also serves as the legally appointed "Data Protection Officer" (DPO) under the GDPR and other applicable data privacy laws, save where there is a requirement to have a locally based DPO, such as in China and the Phillippines.

Our staff receive clear guidance which includes requirements in Shell's Ethics and Compliance Manual, a website focusing on data privacy, training modules where completion is monitored, and regular messages from Shell leaders on the importance of managing data privacy risks.

We monitor new and imminent data privacy legislation and ensure we have a robust impact assessment process aligned with the relevant businesses. We design operations and processes with privacy requirements and build controls into our processes and practices which involve the handling of personal data.

We have and continue to update a Group-wide incident management process designed to immediately identify and remediate data breaches. The process also helps us to comply with country-level requirements for reporting breaches. We continue to address challenges with compliance in data-heavy companies controlled by Shell but not yet fully integrated into our systems.

Newly acquired companies are expected to become compliant with our Binding Corporate Rules within three years of acquisition and there is currently a multi-year programme under way to achieve compliance. IT remediation work remains a priority in such companies, as does the strengthening of programmes to support data privacy compliance.

# Risk factors continued

## Conduct and culture risks continued

### Violations of trade compliance laws and regulations, including sanctions, carry fines and expose us and our employees to criminal proceedings and civil suits.

Further information: See "Other regulatory and statutory information" on page 215.

**Risk description**

We use "trade compliance" as an umbrella term for various national and international laws designed to regulate the movement of items across national boundaries and restrict or prohibit trade, financial flows and other dealings with certain parties, countries and territories. For example, the EU and the USA continue to impose comprehensive sanctions on countries and territories such as Syria, North Korea, and Crimea and other territories in Eastern Ukraine. The USA continues to have comprehensive sanctions against Iran and Cuba. The EU, UK and some other nations such as Canada and Australia continue to maintain targeted sanctions against Iran. The EU and the USA introduced sectoral sanctions against Venezuela in 2017, which the USA expanded in 2018 and 2019. The US sanctions primarily target the government of Venezuela and the oil and gas industry.

In 2014, the EU and the USA imposed additional restrictions and controls directed at defined oil and gas activities in Russia, as well as restricting access to EU and USA financing sources for certain Russian state-owned entities and military and dual use controls. These remain in force. The USA introduced further restrictions regarding Russia in 2017, expanding them in 2018. In February 2022, countries around the world began imposing additional sanctions and export controls against Russia over its invasion of Ukraine including regional trade bans, designations of entities (including Russian banks and state-owned entities) and individuals as Specially Designated Nationals and Blocked Parties, and restrictions on access by Russia to financial systems. Export controls have also been introduced targeting Russian defence, aerospace, oil and gas related technology, IT and maritime sectors. The EU, USA and UK have also adopted a significant number of trade controls on oil, petroleum products and a wide range of products and technologies. These restrictions are subject to different wind-down periods and limited exceptions. Furthermore, it is likely that sanctions against Russia will continue to escalate. A number of countries have also implemented significant new sanctions against Belarus for its role in the Russian invasion. Russia has in turn adopted a significant number of countermeasures including making it an offence to take steps to comply with foreign sanctions.

Many other nations are also adopting trade compliance programmes similar to those administered by the EU and the USA. Since January 2021, the UK has maintained a legal framework for trade compliance that is separate and distinct from those of the EU and the USA.

Abiding by all the laws and regulations on trade compliance and sanctions is often complex and challenging because of factors such as: the expansion of sanctions; the frequent addition of prohibited parties as well as other measures; the number of markets in which we operate; the risk of differences in how jurisdictions apply sanctions; and the large number of transactions we process. Shell has voluntarily self-disclosed potential violations of sanctions in the past.

Any violation of sanctions could lead to loss of import or export privileges and significant penalties on or prosecution of Shell or its employees. This could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition.

**How this risk is managed**

We continue to develop and maintain a trade compliance programme with adequate resources, robust screening protocols, a comprehensive governance structure and established reporting lines. Staff receive clear guidance, which includes requirements in Shell's Ethics and Compliance Manual, a specific website for trade compliance, training modules where completion is monitored and regular messages from Shell leaders on the importance of managing trade compliance risks. The effectiveness of the trade compliance programme is assessed annually (or more frequently if necessary) and we are continually seeking ways to improve it.

Investors should also consider the following, which could limit shareholder remedies.

## Other (generally applicable to an investment in securities)

### The Company's Articles of Association determine the jurisdiction for shareholder disputes. This could limit shareholder remedies.

**Risk description**

Our Articles of Association generally require that all disputes between our shareholders in such capacity and the Company or our subsidiaries (or our Directors or former Directors), or between the Company and our Directors or former Directors, be exclusively resolved by arbitration in The Hague, the Netherlands, under the Rules of Arbitration of the International Chamber of Commerce. At the 2023 AGM, shareholders will be asked to approve updated Articles of Association that change the place of any arbitration to London, the United Kingdom. Our Articles of Association also provide that, if this provision is to be determined invalid or unenforceable for any reason, the dispute could only be brought before the courts of England and Wales. Accordingly, the ability of shareholders to obtain monetary or other relief, including in respect of securities law claims, could be determined in accordance with these provisions.

# Progress on strategy – year in review

## Performance indicators

These indicators enable management to evaluate Shell's performance against our strategy and operating plans during the year. They are also used as part of the determination of Executive Directors' remuneration. See "Directors' Remuneration Report" on pages 178-182.

### Financial delivery

**Cash flow from operating activities ($ billion)**

**68** 2021: 45

Cash flow from operating activities is the total of all the cash receipts and payments associated with our sales of oil, gas, chemicals and other products. The components that provide a reconciliation from income for the period are listed in the "Consolidated Statement of Cash Flows". This indicator reflects our ability to generate cash to service and reduce our debt and for distributions to shareholders and for investments.

See "Financial framework" on page 32.

### Progress in the energy transition

**Selling lower-carbon products (%)**

**60** 2021: 65

The percentage of Marketing segment Adjusted Earnings from lower-carbon energy products (on a life cycle basis), defined as biofuels and EV charging, as well as non-energy products, defined as lubricants, bitumen, sulphur, and earnings from convenience retail.

See "Our journey to net zero" on pages 101-102.

**Reducing operational emissions (thousand tonnes $CO_2$)**

**2,010** 2021: 3,988

GHG abatement projects in 2022 that resulted in sustained GHG reductions (e.g. flare reduction projects or energy efficiency projects), site closures and decommissioning or transformations, and use of renewable electricity for Scope 2 reduction.

See "Our journey to net zero" on pages 101-102.

**Electric vehicle (EV) charge points (thousand)**

**139** 2021: 86

All charge points in Mobility organisation which includes both public out-of-home and Shell Recharge Solutions.

See "Our journey to net zero" on pages 101-102.

# **Performance indicators** continued

## Operational excellence

### Asset management excellence

#### Upstream controllable availability (%)

**84.7** 2021: 87.8

Upstream controllable availability performance reflects our ability to optimally run our Upstream assets. Reliability issues, turnarounds and maintenance at own-operated or third-party facilities all impact controllable availability, but it excludes the impact of extreme unexpected events that are outside our control such as government restrictions and hurricanes. Upstream controllable availability includes all Shell-operated assets (excluding Groningen) and selected assets not operated by Shell, but for which Shell has strategic influence.

#### Midstream availability (%)

**89.3** 2021: 87.3

Midstream availability shows to what extent liquefied natural gas (LNG) assets are ready to process product as a comparison with capacity, considering the impact of planned and unplanned maintenance.

#### Refinery and chemical plant availability (%)

**95.5** 2021: 95.6

Refinery and chemical plant availability is the weighted average of the actual uptime of plants as a percentage of their maximum possible uptime. The weighting is based on the capital employed, adjusted for cash and non-current liabilities. This indicator is a measure of the operational excellence of our refinery and chemical plant facilities.

### Project delivery excellence

#### Project delivery on schedule (%)

**69** 2021: 87

Project delivery reflects our capability to complete major projects on time and within budget on the basis of the targets set in our annual business plan. Project delivery on schedule measures the percentage of projects delivered on schedule.

#### Project delivery on budget (%)

**103** 2021: 104

Project delivery on budget reflects the aggregate cost against the aggregate budget for those projects, where a figure greater than 100% means over budget.

### Customer excellence

#### Customer satisfaction (index)

**8.3** 2021: 8.2

The customer satisfaction index (CSI) score is generated from a transactional survey programme measuring performance (customer interactions). CSI is calculated as the average of customer satisfaction scores from email surveys.

#### Brand preference (%)

**13.8** 2021: 14.2

Brand Share Preference is the percentage of customers who answer 'Shell' in response to the question: "Assuming that all the fuel station companies that you would consider are conveniently located, which ONE company do you prefer most?". Responses are taken from survey respondents in more than 60 countries covering both fuel and non-fuel retail B2C customers.

## Safety

#### Personal safety (SIF-F cases per 100 million working hours)

**1.7** 2021: 6.9

Serious Injury, Illness and Fatality (SIF) is defined as a serious work-related injury or illness that resulted in fatality or a life-altering event, which is defined as a long-term or permanent injury or illness with significant impact on daily activities. Serious Injury and Fatality Frequency (SIF-F) is calculated by dividing the number of employee and contractor SIF by 100 million working hours.

See "Safety" on page 121.

#### Process safety (number of events)

**66** 2021: 103 [A]

A Tier 1 process safety event is an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials, from a process with the greatest actual consequence resulting in harm to employees, contract staff, or a neighbouring community, damage to equipment, or exceeding a threshold quantity, as defined by the API Recommended Practice 754 and IOGP Standard 456. A Tier 2 process safety event is a release of lesser consequence.

See "Safety" on page 121.

[A] 2021 adjustment on Tier 1+2 count from 102 to 103 due to an event identified after publication.

# Generating shareholder value

## Group results

### Key statistics

$ million, except where indicated

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Income/(loss) attributable to Shell plc shareholders | 42,309 | 20,101 | (21,680) |
| Income attributable to non-controlling interest | 565 | 529 | 146 |
| Income/(loss) for the period | 42,874 | 20,630 | (21,534) |
| Current cost of supplies adjustment | (1,312) | (3,148) | 1,833 |
| Total segment earnings [A][B][C], of which: | 41,562 | 17,482 | (19,701) |
| Integrated Gas | 22,212 | 8,060 | (7,230) |
| Upstream | 16,222 | 9,603 | (9,300) |
| Marketing | 2,133 | 3,535 | 4,081 |
| Chemicals and Products | 4,515 | 404 | (3,821) |
| Renewables and Energy Solutions | (1,059) | (1,514) | (479) |
| Corporate | (2,461) | (2,606) | (2,952) |
| Identified Items [C] | 1,243 | (2,216) | (24,767) |
| Adjusted Earnings [C] | 39,870 | 19,289 | 4,846 |
| Adjusted EBITDA [C] | 84,289 | 55,004 | 36,533 |
| Capital expenditure | 22,600 | 19,000 | 16,585 |
| Cash capital expenditure [C] | 24,833 | 19,698 | 17,827 |
| Operating expenses [C] | 39,477 | 35,964 | 34,789 |
| Underlying operating expenses [C] | 39,456 | 35,309 | 32,502 |
| Return on average capital employed [C] | 16.7% | 8.8% | (6.8)% |
| Net Debt at December 31 [D] | 44,837 | 52,556 | 75,386 |
| Gearing at December 31 [D] | 18.9% | 23.1% | 32.2% |
| Oil and gas production (thousand boe/d) | 2,864 | 3,237 | 3,386 |
| Proved oil and gas reserves at December 31 (million boe) | 9,578 | 9,365 | 9,124 |

[A] Segment earnings are presented on a current cost of supplies basis. See Note 8 to the "Consolidated Financial Statements" on pages 265-269.
[B] Revised to conform with reporting segment changes applicable from January 1, 2022.
[C] See "Non-GAAP measures reconciliations" on pages 362-365.
[D] See Note 20 "Debt" on pages 279-280 and "Non-GAAP measures reconciliations" on pages 362-365.

### Earnings 2022-2021

Income attributable to Shell plc shareholders in 2022 was $42,309 million, compared with $20,101 million in 2021. With non-controlling interest included, income for the period in 2022 was $42,874 million, compared with $20,630 million in 2021. After current cost of supplies adjustment, total segment earnings in 2022 were $41,562 million, compared with $17,482 million in 2021.

Earnings on a current cost of supplies basis (CCS earnings) exclude the effect of changes in the oil price on inventory carrying amounts, after making allowance for the tax effect. The purchase price of volumes sold in the period is based on the current cost of supplies during the same period, rather than on the historic cost calculated on a first-in, first-out (FIFO) basis. When oil prices are decreasing, CCS earnings are likely to be higher than earnings calculated on a FIFO basis and, when prices are increasing, CCS earnings are likely to be lower than earnings calculated on a FIFO basis.

Integrated Gas earnings in 2022 were $22,212 million, compared with $8,060 million in 2021. The increase was mainly driven by the combined effect of higher realised prices and contributions from trading and optimisation, and gains related to the fair value accounting of commodity derivatives. This was partly offset by lower volumes and higher operating expenses.

See "Integrated Gas" on pages 38-43.

Upstream earnings in 2022 were $16,222 million, compared with $9,603 million in 2021. The increase was mainly driven by higher realised prices, gains relating to storage and working gas transfer effects and impairment reversals. This was partly offset by lower volumes, mainly as a result of divestments, and charges relating to the EU solidarity contribution and UK Energy Profits Levy.

See "Upstream" on pages 44-51.

# Generating shareholder value | Group results continued

Marketing earnings in 2022 were $2,133 million, compared with $3,535 million in 2021. The decrease was mainly driven by higher operating expenses (including the effects of higher volumes), net losses on the sale of assets compared with net gains in 2021, and higher impairment charges. These were partly offset by higher margins.

See "Marketing" on pages 60-64.

Chemicals and Products earnings in 2022 were $4,515 million, compared with $404 million in 2021. The increase was mainly driven by higher Products margins (reflecting higher Refining margins and higher contributions from trading and optimisation), and lower impairment charges. These were partly offset by lower Chemicals margins and higher operating expenses.

See "Chemicals and Products" on pages 65-72.

Renewables and Energy Solutions earnings in 2022 were a loss of $1,059 million, compared with a loss of $1,514 million in 2021. The decrease in the loss was mainly driven by higher contributions from trading and optimisation for gas and power. This was partly offset by higher net losses related to the fair value accounting of commodity derivatives and higher operating expenses.

See "Renewables and Energy Solutions" on pages 73-76.

Corporate segment earnings in 2022 were an expense of $2,461 million, compared with an expense of $2,606 million in 2021. The lower expense was mainly driven by favourable movements in net interest expense. This was partly offset by lower tax credits and unfavourable currency exchange effects.

See "Corporate" on page 77.

## Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2021, compared with the financial year ended December 31, 2020, can be found in the Annual Report and Accounts (page 34) and Form 20-F (page 33) for the year ended December 31, 2021, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

## Production available for sale

Oil and gas production available for sale in 2022 was 2,864 thousand boe per day (boe/d), compared with 3,237 thousand boe/d in 2021. This net reduction was mainly driven by divestments, higher maintenance activities, and net field declines, partly offset by new fields ramp-ups.

### Oil and gas production available for sale [A]

Thousand boe/d

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Crude oil and natural gas liquids | 1,460 | 1,685 | 1,752 |
| Synthetic crude oil | 46 | 54 | 51 |
| Natural gas [B] | 1,357 | 1,498 | 1,583 |
| Total | 2,864 | 3,237 | 3,386 |
| Of which: | | | |
| Integrated Gas | 921 | 1,004 | 1,011 |
| Upstream | 1,897 | 2,178 | 2,324 |
| Oil sands (part of Chemical and Products) | 46 | 54 | 51 |

[A] See "Oil and gas information" on pages 56-57.
[B] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

## Proved reserves

The proved oil and gas reserves of Shell subsidiaries and the Shell share of the proved oil and gas reserves of joint ventures and associates are summarised in "Oil and gas information" on pages 52-54 and set out in more detail in "Supplementary information – oil and gas (unaudited)" on pages 308-326.

Before taking production into account, our proved reserves increased by 1,304 million boe in 2022. Total oil and gas production was 1,091 million boe. Accordingly, after taking production into account, our proved reserves increased by 213 million boe in 2022, to 9,578 million boe at December 31, 2022.

## Cash capital expenditure and other information

Cash capital expenditure was $24,833 million in 2022, compared with $19,698 million in 2021.

Operating expenses were $39,477 million in 2022, compared with $35,964 million in 2021. Underlying operating expenses were $39,456 million, compared with $35,309 million in 2021.

Our return on average capital employed (ROACE) increased to 16.7%, compared with 8.8% in 2021, mainly driven by higher earnings.

Net debt was $44,837 million at the end of 2022, compared with $52,556 million at the end of 2021, mainly reflecting higher free cash flow.

Gearing was 18.9% at the end of 2022, compared with 23.1% at the end of 2021, mainly driven by net debt reduction and higher income which resulted in higher equity.

## Significant accounting estimates and judgements

See Note 2 to the "Consolidated Financial Statements" on pages 242-252.

## Legal proceedings

See Note 31 to the "Consolidated Financial Statements" on pages 303-305.

# Generating shareholder value

## Financial framework

We manage our businesses to deliver strong cash flows, sustain our strategy and create profitable growth. Management applies Shell's cash to support disciplined capital expenditure and maintain a resilient balance sheet; target AA credit metrics through the cycle; deliver a progressive dividend to shareholders with growth of around 4% annually (subject to Board approval); and target total distributions to shareholders of a minimum of 20% and (subject to Board approval and prevailing market conditions) potentially more than 30% of our cash flow from operating activities.

The Board may choose to return cash to shareholders through a combination of dividends and share buybacks. When setting the level of shareholder remuneration, the Board looks at a range of factors, including the macro environment, the underlying business earnings and cash flow of the Group, the current balance sheet, future investment, acquisition and divestment plans, and existing commitments.

### Liquidity and capital resources

Shell generated cash flow from operations of $68.4 billion, including a negative impact from working capital of $5.4 billion, and free cash flow of $46.0 billion in 2022, aided by the improving global macro environment for oil and gas businesses, and divestments (for more information on free cash flow see "Non-GAAP measures reconciliations" on pages 362-365). Net debt decreased to $44.8 billion at December 31, 2022 (December 31, 2021: $52.6 billion). Gearing fell to 18.9% at December 31, 2022, compared with 23.1% at December 31, 2021, as higher income increased equity and cash flow generation reduced net debt. Note 20 to the "Consolidated Financial Statements" on pages 279-280 provides information on our debt arrangements, including net debt and gearing definitions.

### Liquidity

We satisfy our funding and working capital requirements from the cash generated from our operations, the issuance of debt and divestments. In 2022, access to the international debt capital markets remained strong, with our debt principally financed from these markets through central debt programmes consisting of:

- a $10 billion global commercial paper (CP) programme, with maturities between 183 days and 364 days;
- a $10 billion US CP programme, with maturities not exceeding 397 days;
- an unlimited Euro medium-term note (EMTN) programme (also referred to as the Multi-Currency Debt Securities Programme); and
- an unlimited US universal shelf (US shelf) registration.

The CP, EMTN and US shelf debt is issued by Shell International Finance B.V., the issuance company for Shell, with its debt being guaranteed by Shell plc (the Company).

We also maintain committed credit facilities. The core facilities were extended in December 2022. Of the $9.92 billion total facility, $1.92 billion matures in 2023, $0.32 billion in 2025 and $7.68 billion in 2026. This remained fully undrawn at December 31, 2022. These core facilities and internally available liquidity provide back-up coverage for our CP programmes. Other than certain borrowing by local subsidiaries, we do not have any other committed credit facilities.

Our total debt decreased by $5.3 billion to $83.8 billion at December 31, 2022. The total debt excluding leases matures as follows: 8% in 2023; 8% in 2024; 11% in 2025; 7% in 2026; and 66% in 2027 and beyond. The portion of debt maturing in 2023 is expected to be repaid from some combination of cash balances, cash generated from operations, divestments and the issuance of new debt.

In 2022, we did not issue any bonds under our US shelf registration or EMTN programme. $175 million of CP was issued in the second quarter, and repaid within the same quarter. CP outstanding was zero at the end of 2022. Management believes it has access to sufficient debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements.

While our subsidiaries are subject to restrictions, such as foreign withholding taxes on the transfer of funds in the form of cash dividends, loans or advances, such restrictions are not expected to have a material impact on our ability to meet our cash obligations.

### Market risk and credit risk

We are affected by the global macroeconomic environment, as well as financial and commodity market conditions. This exposes us to treasury and trading risks, including liquidity risk, credit risk, and market risk (interest rate risk, foreign exchange risk and commodity price risk). See "Risk factors" on page 22 and Note 25 to the "Consolidated Financial Statements" on pages 293-299. The size and scope of our businesses require a robust financial control framework and effective management of our various risk exposures.

We use various financial instruments for managing exposure to commodity price, foreign exchange and interest rate movements. Our treasury and trading operations are highly centralised and seek to manage credit exposures associated with our substantial cash, commodity, foreign exchange and interest rate positions. Our portfolio of cash investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. The use of external derivative instruments is confined to specialist trading and central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems. Credit risk policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness, and include credit analysis and monitoring of customers against counterparty credit limits. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage credit risk.

### Pension commitments

We have substantial pension commitments, the funding of which is subject to capital market risks (see "Risk factors" on page 23). We address key pension risks in a number of ways. Principal among these is the Pensions Forum, chaired by the Chief Financial Officer, which oversees Shell's input to pension strategy, policy and operation. A risk committee supports the forum in reviewing the results of assurance processes in respect of pensions risks. In general, local trustees manage the funded defined benefit pension plans, with contributions paid based on independent actuarial valuations in accordance with local regulations. Our total employer contributions were $0.7 billion in 2022 and are estimated to be $0.8 billion in 2023.

See Note 23 to the "Consolidated Financial Statements" on pages 285-291.

# Generating shareholder value | Financial framework continued

### Capitalisation table

$ million

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| Equity attributable to Shell plc shareholders | 190,472 | 171,966 |
| Current debt | 9,001 | 8,218 |
| Non-current debt | 74,794 | 80,868 |
| Total debt [A] | 83,795 | 89,086 |
| Total capitalisation | 274,267 | 261,052 |

[A] Of total debt of $83.8 billion (2021: $89.1 billion), $55.2 billion (2021: $61.5 billion) was unsecured and $28.6 billion (2021: $27.6 billion) was secured. $51.0 billion was issued by Shell International Finance B.V., a 100%-owned subsidiary of Shell plc with its debt guaranteed by Shell plc (December 31, 2021: $54.7 billion). See Note 20 to the "Consolidated Financial Statements" on pages 279-280 for further disclosure on debt.

## Guarantees and other off-balance sheet arrangements

There were no guarantees or other off-balance sheet arrangements at December 31, 2022, or December 31, 2021, that were reasonably likely to have a material effect on Shell.

## Statement of cash flows

Cash flow from operating activities in 2022 was an inflow of $68.4 billion, compared with $45.1 billion in 2021, mainly due to higher earnings, partly offset by unfavourable working capital movements of $5.4 billion (compared with unfavourable working capital movements of $10.4 billion in 2021). The increase in cash flow from operating activities in 2021, compared with $34.1 billion in 2020, was mainly due to higher earnings, partly offset by unfavourable working capital movements.

Cash flow from investing activities in 2022 was an outflow of $22.4 billion, compared with an outflow of $4.8 billion in 2021. The increased cash outflow was mainly due to lower proceeds from sale of property, plant and equipment in 2022. The decreased cash outflow in 2021 compared with $13.3 billion in 2020 was mainly due to higher proceeds from sale of property, plant and equipment in 2021, including the divestment of our Permian assets in the USA.

Cash flow from financing activities in 2022 was an outflow of $42.0 billion, compared with outflows of $34.7 billion in 2021 and $7.2 billion in 2020, mainly due to higher repurchases of shares of $18.4 billion (2021: $2.9 billion; 2020: $1.7 billion) and net repayment of debt of $7.9 billion (2021: $19.7 billion net repayment; 2020: $5.6 billion net issuance).

Cash and cash equivalents were $40.2 billion at December 31, 2022 (December 31, 2021: $37.0 billion; December 31, 2020: $31.8 billion).

See Consolidated Statement of Cash Flows on page 241.

## Cash flow from operating activities

The most significant factors affecting our cash flow from operating activities are earnings, which are mainly impacted by: realised prices for crude oil, natural gas and LNG; production levels of crude oil, natural gas and LNG; chemicals, refining and marketing margins; and movements in working capita and derivative financial instruments.

The impact on earnings from changes in market prices depends on: the extent to which contractual arrangements are tied to market prices; the dynamics of production-sharing contracts; the existence of agreements with governments or state-owned oil and gas companies that have limited sensitivity to crude oil and natural gas prices; tax impacts; and the extent to which changes in commodity prices flow through into operating expenses. Changes in benchmark prices of crude oil and natural gas in any particular period provide only a broad indicator of changes in our Integrated Gas and Upstream earnings in that period. Changes in any one of a range of factors, derived from either within the industry or the broader economic environment, can influence refining and marketing margins. The precise impact of any such changes depends on how the oil markets respond to them. The market response is affected by factors such as: whether the change affects all crude oil types or only a specific grade; regional and global crude oil and refined products inventories; and the collective speed of response of refiners and product marketers in adjusting their operations. As a result, margins fluctuate from region to region and from period to period.

## Divestment and cash capital expenditure

The levels of divestment proceeds and cash capital expenditure in 2022 and 2021 reflect our discipline and focus on the Powering Progress strategy. Divestment proceeds for 2022 were $2.1 billion, compared with $15.1 billion in 2021, which included the divestment of the Permian assets.

Cash capital expenditure is used to monitor investing activities on a cash basis, excluding items such as lease additions which do not necessarily result in cash outflows in the period.

### Cash capital expenditure

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Integrated Gas | 4,265 | 3,502 | 3,566 |
| Upstream | 8,143 | 6,168 | 7,099 |
| Marketing | 4,831 | 2,273 | 1,774 |
| Chemicals and Products | 3,838 | 5,175 | 4,198 |
| Renewables and Energy Solutions | 3,469 | 2,359 | 928 |
| Corporate | 287 | 221 | 262 |
| Total cash capital expenditure | 24,833 | 19,698 | 17,827 |

See non-GAAP measures reconciliations on pages 362-365.

# Generating shareholder value | Financial framework continued

## Contractual obligations

The table below summarises our principal contractual obligations at December 31, 2022, by expected settlement period. The amounts presented have not been offset by any committed third-party revenue in relation to these obligations.

**Contractual obligations**

$ billion

| | Less than 1 year | Between 1 and 3 years | Between 3 and 5 years | 5 years and later | Total |
|---|---|---|---|---|---|
| Debt [A] | 4.6 | 10.6 | 6.5 | 35.7 | 57.4 |
| Leases | 5.9 | 9.1 | 6.5 | 17.9 | 39.4 |
| Purchase obligations [B] | 34.1 | 30.9 | 18.4 | 63.8 | 147.2 |
| Other long-term contractual liabilities [C] | 0.2 | 0.6 | 0.1 | 0.6 | 1.5 |
| Total | 44.8 | 51.2 | 31.5 | 118.0 | 245.5 |

[A] See Note 20 to the "Consolidated Financial Statements" on pages 279-280. Debt contractual obligations exclude interest, which is estimated to be $1.7 billion payable in less than one year, $3.0 billion between one and three years, $2.5 billion between three and five years, and $14.8 billion in five years and later. For this purpose, we assume that interest rates with respect to variable interest rate debt remain constant at the rates in effect at December 31, 2022, and that there is no change in the aggregate principal amount of debt other than repayment at scheduled maturity as reflected in the table. Lease contractual obligations include interest.

[B] Purchase obligations disclosed in the above table exclude commodity purchase obligations that are not fixed or determinable and are principally intended to be resold in a short period of time through sale agreements with third parties. Examples include long-term non-cancellable LNG and natural gas purchase commitments and commitments to purchase refined products or crude oil at market prices. Inclusion of such commitments would not be meaningful in measuring liquidity and cash flow, as the cash outflows generated by these purchases will generally be offset in the same periods by cash received from the related sales transactions.

[C] Includes obligations included in "Trade and other payables" and provisions related to onerous contracts included in "Decommissioning and other provisions" in "Non-current liabilities" in the "Consolidated Balance Sheet" that are contractually fixed as to timing and amount. In addition to these amounts, Shell has certain obligations that are not contractually fixed as to timing and amount, including contributions to defined benefit pension plans (see Note 23 to the "Consolidated Financial Statements" on pages 285-291) and obligations associated with decommissioning and restoration (see Note 24 to the "Consolidated Financial Statements" on page 292-293).

## Dividends

Subject to Board approval, Shell aims to grow the dividend per share by around 4% every year. In total, Shell targets the distribution of a minimum of 20% and, subject to Board approval and prevailing market conditions, potentially more than 30% of our cash flow from operations to shareholders. Shell may choose to return cash to shareholders through a combination of dividends and share buybacks.

When setting the level of shareholder distributions, the Board looks at a range of factors, including the macro environment, the earnings and cash flows of the Group, the current balance sheet, future investment, acquisition and divestment plans and existing commitments. We returned $7.4 billion to our shareholders through dividends in 2022.

The fourth quarter 2022 dividend of $0.2875 per share will be paid on March 27, 2023, to shareholders on the register at February 17, 2023, and represents an increase of 15% compared with the third quarter of 2022.

See Note 29 to the "Consolidated Financial Statements" on page 303.

## Purchases of securities

On February 3, 2022, share buybacks of $8.5 billion for the first half of 2022 were announced, comprising two programmes which were completed in May 2022 and July 2022. These included the remaining $5.5 billion of the Permian divestment proceeds that had been allocated for share buybacks. On July 28, 2022, and October 27, 2022, the Company announced buybacks of $6 billion and $4 billion which were completed in October 2022 and January 2023 respectively, leading to a total of $18.4 billion across 2022. The buybacks were conducted on both London market exchanges and Amsterdam exchanges.

Between January 1, 2022, and January 28, 2022, 32 million B shares were purchased and cancelled. Over the remainder of 2022, 650 million ordinary shares were purchased and cancelled. Overall, a total nominal share value of €48 million ($57 million), 9.8% of the Company's total issued share capital at December 31, 2022, was purchased and cancelled during 2022 for a total cost of $18.4 billion, including expenses, at an average price of $26.99 per share.

The buybacks completed in the first half of 2022 were in accordance with the authorities granted by shareholders at the 2021 Annual General Meeting (AGM). The buybacks completed in the second half of 2022 were in accordance with the authorities granted by shareholders at the 2022 AGM. At the 2022 AGM, authority was granted for the Company to repurchase up to a maximum of 10% of its issued ordinary shares, excluding treasury shares, (758 million ordinary shares), both on and off market, allowing purchases on Amsterdam as well as London exchanges. As at December 31, 2022, 416 million ordinary shares could still be repurchased under the current AGM authorities. The purpose of the share repurchases in 2022 was to reduce the issued share capital of the Company.

New resolutions will be proposed at the 2023 AGM to renew the authority for the Company to purchase its own share capital, up to specified limits, for a further year. These proposals will be described in more detail in the 2023 Notice of Annual General Meeting.

Shares are also purchased by the employee share ownership trusts and trust-like entities (see Note 27 to the "Consolidated Financial Statements" on page 300) to meet delivery commitments under employee share plans. All share purchases are made in open-market transactions.

The table on the next page provides information on purchases of shares in 2022 and January 2023 by the Company and affiliated purchasers. Purchases in euros and sterling are converted into dollars using the exchange rate on each transaction date.

# Generating shareholder value | Financial framework continued

**Purchases of equity securities by issuer and affiliated purchasers in 2022 [A]**

| | Euro Shares | | | GBP Shares | | | ADSs [B] | |
|---|---|---|---|---|---|---|---|---|
| Purchase period | Number purchased for employee share plans | Number purchased for cancellation [C] | Weighted average price ($)[D] | Number purchased for employee share plans | Number purchased for cancellation [C] | Weighted average price ($)[D] | Number purchased for employee share plans | Weighted average price ($)[D] |
| January [E] | – | – | – | – | 31,678,192 | 24.43 | 1,106,045 | 46.31 |
| February | – | – | – | – | 46,523,793 | 26.92 | – | – |
| March | – | – | – | – | 56,830,503 | 26.32 | – | – |
| April | – | – | – | – | 41,502,892 | 27.88 | – | – |
| May | – | – | – | – | 74,210,419 | 29.00 | – | – |
| June | – | – | – | – | 80,226,377 | 27.43 | – | – |
| July | – | 2,100,000 | 26.18 | – | 11,359,217 | 26.07 | – | – |
| August | – | 37,458,590 | 26.56 | – | 38,547,931 | 26.55 | – | – |
| September | – | 46,030,334 | 25.59 | – | 62,467,606 | 25.70 | – | – |
| October | – | 10,046,901 | 26.25 | – | 36,420,460 | 26.12 | | |
| November | – | 27,532,944 | 27.91 | – | 21,324,945 | 27.91 | | |
| December | 13,784,280 | 36,324,940 | 28.42 | 911,200 | 21,384,292 | 28.29 | 2,398,670 | 55.63 |
| Total 2022 | 13,784,280 | 159,493,709 | 27.03 | 911,200 | 522,476,627 | 26.29 | 3,504,715 | 52.69 |
| January | – | 3,902,011 | 28.34 | – | 24,834,916 | 28.82 | 808,490 | 55.87 |
| Total 2023 | – | 3,902,011 | 28.34 | – | 24,834,916 | 28.82 | 808,490 | 55.87 |

[A] Reported as at transaction date.
[B] American Depositary Shares.
[C] Under the share buyback programme.
[D] Includes stamp duty and brokers' commission.
[E] On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one ordinary share of the Company.

## Financial information relating to the Royal Dutch Shell Dividend Access Trust

The results of the Royal Dutch Shell Dividend Access Trust (the Trust) are included in the consolidated results of operations and financial position of Shell. See "Royal Dutch Shell Dividend Access Trust Financial Statements" on pages 352-356. Certain condensed financial information in respect of the Trust is given below.

The Shell Transport and Trading Company Limited and BG Group Limited have each issued a dividend access share to Computershare Trustees (Jersey) Limited (the Trustee). For the years 2022, 2021 and 2020, the Trust recorded income before tax of £nil, £2.2 billion, and £2.8 billion respectively. In each period, this reflected the amount of dividends payable on the dividend access shares. Dividends are also classified as unclaimed where amounts have not cleared recipient bank accounts.

At December 31, 2022, the Trust had total equity of £nil (December 31, 2021: £nil; December 31, 2020: £nil), reflecting assets of £6 million (December 31, 2021: £7 million; December 31, 2020: £7 million) and unclaimed dividends of £6 million (December 31, 2021: £7 million; December 31, 2020: £7 million). The Trust only records a liability for an unclaimed dividend to the extent that dividend cheque payments have not been presented within 12 months, have expired or have been returned unpresented.

On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one ordinary share of the Company. This assimilation had no impact on voting rights or dividend entitlements. Dutch withholding tax, applied previously on dividends on A shares, no longer applies on dividends paid on the ordinary shares following the assimilation.

In relation to the assimilation of the Company's A and B shares, the Trust will continue in existence for the foreseeable future to facilitate the payment of unclaimed dividend liabilities for shareholders of the former B shares until these are either claimed or forfeited in line with the terms outlined.

# Generating shareholder value

## Market overview

In 2022, the energy price shock and rising food prices led to a cost-of-living crisis and lower economic growth, pushing up inflation to levels not seen for many decades.

Prices were already creeping up as a result of the economic rebound from the pandemic, its lockdowns and related supply chain constraints. But inflation soared globally after Russia's invasion of Ukraine, which triggered the war that continues today.

Shell maintains a large business portfolio across an integrated value chain and is exposed to fluctuating prices of crude oil, natural gas, oil products, chemicals and power (see "Risk factors" on page 15). This diversified portfolio provides resilience when prices are volatile. Our annual planning cycle and periodic portfolio reviews aim to ensure that our levels of capital investment and operating expenses are appropriate in the context of a volatile price environment.

We test the resilience of our projects and other opportunities against a range of prices for crude oil, natural gas, oil products, chemicals and power. We also aim to maintain a strong balance sheet to provide resilience against weak market prices.

### Global economic growth

Higher energy and food prices have caused real wages to fall in many countries, slashing purchasing power. This is hurting consumers. In addition, central banks around the world are increasing interest rates to curb inflation and anchor inflation expectations in their economies. Tighter monetary policy and higher interest rates, weak real household income growth and declining confidence have resulted in lower economic growth during 2022.

For 2023, a further growth slowdown for the world economy is projected, as well as high, but declining, inflation in many countries. In the International Monetary Fund's latest global economic prospects report published in January 2023, global growth is forecast to decelerate from 6.2% in 2021 and 3.4% in 2022 to 2.9% in 2023. Asia is expected to be the main engine of growth in 2023 and 2024, whereas Europe, North America and South America are expected to see very low growth.

Risks to the economic outlook remain significant, including new uncertainties about natural gas supplies to Europe, the impact of the real estate and COVID-19 crises in China, and a resurgence of COVID-19 health scares around the world. Central banks must chart a difficult path as they face mixed economic signals, such as slowing economic growth with still-tight labour markets and strong pressure for wage growth. In this environment, an insufficient increase in interest rates may prove a mistake. If rates are not adequately raised, inflation could become entrenched, prompting higher interest rates in the future at a significant cost to the economy. On the other hand, increasing interest rates by too much may risk sending many economies into debt distress and prolonged recession.

### Global prices, demand and supply

The following table provides an overview of the main crude oil and natural gas price markers to which we are exposed:

**Oil and gas average industry prices [A]**

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Brent ($/b) | 101 | 71 | 42 |
| West Texas Intermediate ($/b) | 95 | 68 | 39 |
| Henry Hub ($/MMBtu) | 6.4 | 4.0 | 2.0 |
| EU TTF ($/MMBtu) | 40 | 16 | 3 |
| Japan Customs-cleared Crude ($/b) - 3 months | 98 | 60 | 51 |

[A] Yearly average prices are based on monthly average spot prices. The 2022 average price for Japan Customs-cleared Crude is based on available market information up to the end of the period.

### Crude oil and oil products

The global benchmark oil price Brent averaged $101 per barrel (/b) in 2022, the highest annual average price since 2013. This represents an increase of more than 40% increase from the annual average of $71/b recorded in 2021. High prices were mostly realised in the first half of the year, with demand recovering as economies reopened and supply constrained by the capacity of major oil producers. Russia's invasion of Ukraine triggered concerns about supply availability, sending Brent to a high of $133/b on March 8, 2022. Prices stayed at an elevated level until the middle of the year, before falling as recession concerns weighed on the market. Brent averaged $80/b in December, the same price as it was in the fourth quarter of 2021. West Texas Intermediate (WTI) traded at a sharper discount of around $6/b to Brent in 2022, compared with a discount of about $3/b in 2021. This is because of rising demand for Brent as a replacement for Urals, the most common grade of Russian crude exports.

In 2022, global oil product demand rose by more than 2 mb/d to nearly 100 mb/d, approaching the pre-COVID-19 level of 100.5 mb/d in 2019. Growth largely came from jet fuel, supported by the rebound in air travel after the pandemic. Growth in other product segments continued in 2022, albeit at a slower pace. Global diesel/gas oil growth eased from 1.5 mb/d in 2021 to 0.66 mb/d in 2022 based on IEA estimates, reflecting weakening economic activities. Naphtha, after a strong year of growth in 2021, declined by 0.13 mb/d due to a weak petrochemical sector. Regionally, growth has largely come from non-OECD markets, particularly the Middle East and India. Chinese demand dropped by about 0.4 mb/d as lockdowns in the country affected demand. Among OECD markets, European growth was particularly weak. While high gas prices resulted in a switch from gas to oil, this was largely offset by a weak petrochemical sector which struggled with high energy costs.

Global oil production increased to 100 million b/d in 2022, up by 4.7 mb/d from 2021. Growth was largely led by the ramp-up of Saudi Arabian and US shale oil. Saudi Arabia delivered an additional 1.4 mb/d compared with 2021, about half of the OPEC supply growth. Outside OPEC, the USA added 1.2 mb/d, providing about 60% of the non-OPEC growth. During the third quarter, there were concerns about whether OPEC would raise production in step with demand recovery because a number of member countries were producing below quota. But the trend started shifting from the fourth quarter, with OPEC in November reintroducing production cuts of 2 mb/d, in view of the potential surplus should economic conditions worsen.

# Generating shareholder value | Market overview continued

Russia's invasion of Ukraine has strong ramifications for global crude and oil product supply. Before the invasion, Russian production was expected to surge by more than 0.8 mb/d in 2022, according to the IEA. But actual production growth was about 0.2 mb/d due to OECD market sanctioning. Global crude/product trade flow also shifted as Russian crude/products were redirected to non-OECD markets.

The outlook for 2023 demand is highly uncertain. One key uncertainty is the recession risk in OECD economies, particularly Europe. China's lifting of COVID-19 restrictions to focus on economic growth could provide some support to global oil demand. The main uncertainty on the supply side is the supply from Russia after the embargo on Russian crude and oil products took effect. The EU embargo and G7 price caps on Russian crude oil took effect in early December 2022. Russian oil product embargoes and price caps followed in February 2023. These measures could lead to a further reduction in Russia's oil supply.

## Natural gas

Global demand for natural gas in 2022 is estimated to have declined by 1.6% compared with 2021. This was a result of high, volatile prices and shorter supply, particularly in Europe and emerging Asian countries, which led to reduced industrial, commercial and residential consumption. The year-on-year downturn came after gas demand rebounded in 2021 from the historically low levels during the pandemic. Europe's gas market experienced an unprecedented supply shock from the sharp reduction in Russian pipeline gas imports. Already-elevated spot gas prices in Europe rose further under the threat of Russian supply curtailments and the uncertainty about the LNG market's ability to make up the difference. This triggered demand curtailment in Europe's industrial sector. It also caused a slowdown in LNG import purchases in China amid economic weakness and COVID-19 lockdowns. Emerging economies, such as Pakistan and Bangladesh, struggled with the affordability of spot LNG.

European gas prices were turbulent in 2022 as almost all pipeline flows from Russia came to a halt. Exports through Gazprom's pipelines fell from a 2022 peak of just over 300 million cubic metres per day (mcm/d) to about 65 mcm/d in November. On an annual basis, Europe's imports of Russian pipeline gas almost halved. The European benchmark price Title Transfer Facility (TTF) was volatile, breaching $96/MMBtu at its peak. There were also large disconnections in regional European gas hub prices caused by the reconfiguration of supply flows and regasification capacity reaching maximum utilisation rates. This particularly affected the UK's National Balancing Point (NBP) and TTF prices, as well as the price of delivered LNG.

The pricing environment was a catalyst for major demand destruction. The residential and commercial consumer sector shed more than 15% of demand year-on-year, assisted by mild temperatures. The industrial sector is estimated to have lost more demand year-on-year than any period for over a decade. But TTF prices experienced a sharp decline at the end of the third quarter after Russian gas pipeline cuts materialised and gas inventories were built beyond government-mandated levels ahead of time. Europe remained the highest-priced global gas market for 2022 and attracted substantial volumes away from other markets, especially in Asia. Higher LNG exports into Europe, coupled with demand curtailment, made up for the lack of Russian pipeline imports, allowing for a comfortable storage situation by the start of the northern hemisphere winter. European LNG imports increased by about 45 million tonnes with north-west Europe accounting for more than 30 million tonnes of this growth. A migration of floating storage and regasification units (FSRUs) to Europe reduced bottlenecks and increased import capacity, specifically to north-west Europe. The commissioning of the Eemshaven FSRU in the Netherlands in September 2022, and the commissioning of several FSRUs for Germany have set Europe up to be a major LNG importer for years to come.

Asian spot LNG prices, as reflected by the Japan Korea Marker (JKM), traded at a significant discount to European prices for most of 2022, driven largely by lower LNG imports into China. By the end of the year, China had imported about 15 million tonnes less LNG year-on-year, ceding the title of the world's biggest LNG importer back to Japan. South Korea and Japan continued to import LNG despite the high spot prices because of JKM buyers' high concentration of long-term LNG contract volume. Crude-oil-linked contracts were cheaper than JKM prices by an average of 50% in 2022. This was evidenced by the Japan Landed Cost (JLC), which accounts for imported LNG long-term contract and spot prices averaging about $17/MMBtu versus an average of around $33/MMBtu for the spot price of JKM.

Henry Hub gas benchmark prices in North America were volatile throughout the year, ranging from below $4/MMbtu to nearly $10/MMbtu. Henry Hub cash prices averaged $6.39/MMBtu in 2022, reaching a peak of $9.84/MMBtu in August. The rise in the first half of the year was caused by a structurally tighter market and spill-over effects from the higher prices for LNG exports. The decline towards the end of the year was a result of strong production and comfortable storage expectations for the northern hemisphere winter. US LNG export plants consumed an average of 11.81 bcf (billion cubic feet) per day throughout the year, accounting for 12% of US overall production of around 97 bcf per day. This is a 547% increase from five years ago and a 203% increase from the previous five-year average. Strong power demand for gas in the USA and lagging upstream production supported the rise.

## Power

Europe: European power prices were turbulent in 2022. In Germany, for example, the average power price in 2022 was $247/MWh, an unprecedented seven times higher than the average price of $37/MWh in the period from 2015 to 2019. Prices increased in the first quarter of the year, peaking in August with spot prices of up to $916/MWh. European power prices are strongly influenced by the power plants dependent on natural gas. Widespread unplanned outages of French nuclear power plants and low hydropower availability also pushed up power prices. The high European power prices have triggered a range of regulatory actions, including revenue caps for inframarginal power generators (generators which do not set marginal prices); national demand reduction goals; and a consultation for market reforms by the European Commission.

United States: US power prices were much higher across all major markets in 2022 compared with 2021. One of the key drivers of higher power prices and volatility in 2022 was gas prices. Henry Hub gas benchmark prices in North America were volatile throughout the year, ranging from below $4/MMbtu to nearly $10/MMbtu. Prices in the second half of the year traded back down to below $4.00/MMBtu as natural gas production steadily increased and the ability to increase storage injections prior to winter picked up. Power prices were also driven higher by weather events throughout the year and across the country. For the eastern part of the USA, cold weather in January led ISO-NE (New England) prices to average around $150/MWh, and a late December cold front led to significantly higher prices in PJM and MISO (Midcontinent) markets. For the ERCOT (Texas) market, a hot July in Texas led to record level demand and North Hub settled at $147/MWh. A heatwave in the western part of the USA in September sent Mid-C (Midcontinent) ISO and CAISO (California) prices to highs of $152/MWh and $118/MWh respectively, and a cold December resulted in even higher prices in Mid-C ($263/MWh) and CAISO ($254/MWh).

# Generating shareholder value | Market overview continued

Australia: In 2022, the (East) Australia power market was volatile with spot prices averaging $191/MWh and $151/MWh in the second and third quarter respectively. This was because of unseasonal weather, unplanned outages of coal-fired power plants, and gas and hydropower supply constraints. High international coal and spot LNG prices pushed up domestic gas and coal prices. The gas market spiked to the $21–28 per gigajoule (GJ) range in the second and third quarters after having started the year at $7/GJ (well below international LNG prices). The spike was caused by a significant demand for uncontracted and unforecasted gas with little or no notice. This demand came primarily from the aforementioned power market disruptions, but also arose from the early onset of the Australian winter and a heavy reliance on spot markets by some industrial and power generation end-users. Prices became more moderate as Australia moved out of winter, but remained volatile as the government implemented gas and coal price caps and controls at the wholesale level for 2023 and beyond.

## Crude oil and natural gas price assumptions

Our ability to deliver competitive returns and pursue commercial opportunities depends on the accuracy of our price assumptions (see "Risk factors" on page 15). We use a rigorous assessment of short-, medium- and long-term market uncertainties to determine what ranges of future crude oil and natural gas prices to use in project and portfolio evaluations. Market uncertainties include, for example, future economic conditions, geopolitics, actions by major resource holders, production costs, technological progress and the balance of supply and demand.

See also Note 12 to the "Consolidated Financial Statements" on pages 271-274.

## Refining margins

### Global indicative refining margin [A]

| | | | $/bbl |
|---|---|---|---|
| | 2022 | 2021 | 2020 |
| Indicative refining margin | 18.03 | 4.79 | 2.12 |

[A] The indicative margin is an approximation of Shell's global gross refining unit margin, calculated using price markers from third parties' databases. It is based on a simplified crude and product yield profile at a nominal level of refining performance. The actual margins realised by Shell may vary due to factors including specific local market effects, refinery maintenance, crude diet optimisation as the crudes in the IRM are indicative benchmark crudes, operating decisions and product demand. Gross refining unit margin is defined as the hydrocarbon margin net of purchased/sold utilities, additives and relevant freight costs, divided by crude and feedstock intake in barrels. It is only applicable to the impact of market pricing on refining business performance, excluding trading margin. Prior period comparatives are calculated on the same basis as the current year.

In 2022, gross refining margins improved in comparison with 2021, especially during the first half of the year. Economic recovery and disruption caused by the Russian war in Ukraine led to very strong refining margins, especially during the second quarter. With demand falling in sync with the economic slowdown, refining margins fell towards the end of the year. Weak chemical feedstocks and gasoline demand was partially offset by strong middle distillate demand. Middle distillate demand is supported by continued aviation demand recovery and disruptions to Russian product flows to Europe.

Construction of new capacity continued during the year, especially in the Middle East, Africa and Asia. However, several projects were delayed due to supply chain issues and inflationary cost pressures.

For 2023 and beyond, refining margins are expected to decline as refinery capacity increases and demand growth slows. This would result from weaker economic growth, high energy prices and the tightening of monetary policy by central banks.

## Petrochemical margins

### Global indicative chemical margin [A]

| | | | $/tonne |
|---|---|---|---|
| | 2022 | 2021 | 2020 |
| Indicative chemical margin | 48.04 | 216.44 | 184.55 |

[A] The Indicative Chemical Margin (ICM) is an approximation of Shell's global chemical margin performance trend (including equity-accounted associates), calculated using price markers from third parties' databases. It is based on a simplified feedstock and product yield profile at a nominal level of plant performance. The actual margins realised by Shell may vary due to factors including specific local market effects, chemicals plants maintenance, optimisation, operating decisions and product demand. Chemical unit margin is defined as the hydrocarbon margin net of purchased/sold utilities, additives and relevant freight costs, divided by a nominal denominator expressed in metric tons. It is only applicable to the impact of market pricing on Chemical business performance.Prior period comparatives are calculated on the same basis as the current year.

Chemical cracker margins came under pressure in 2022. The Russian war in Ukraine caused volatile energy prices, especially in Europe and Asia, leading to lower cracker margins. This has also impacted derivative trade and demand. Macroeconomic factors, including inflation and lower economic growth, further contributed to weaker global demand and lockdown restrictions in China resulted in further demand destruction in Asia. New capacity growth primarily in Asia and the USA led to global oversupply and lower margins. Producers continue to match demand through lower cracker utilisation.

The outlook for petrochemical margins in 2023 and beyond depends on feedstock costs and the balance of supply and demand. Demand for petrochemicals is expected to be affected by energy costs, macroeconomic factors, and any further COVID-19 impacts. A recovery in demand is needed to absorb the excess capacity. The supply of petrochemicals will depend on the net capacity effect of new facilities and plant closures with utilisation balancing the system. Product prices will reflect the prices of raw materials which are closely linked to crude oil and natural gas prices.

The statements in this "Market overview" section, including those related to our price forecasts, are forward-looking statements based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

See "About this Report" on page iii and "Risk factors" on page 15.

# Generating shareholder value

## Integrated Gas

Integrated Gas (IG) includes liquefied natural gas (LNG), conversion of natural gas into gas-to-liquids (GTL) fuels and other products. It includes natural gas and liquids exploration and extraction, and the operation of the upstream and midstream infrastructure necessary to deliver these to market. IG also includes the marketing, trading and optimisation of LNG, including LNG as a fuel for heavy-duty vehicles.

**Segment earnings ($ billion)**

**22.2** 2021: 8.1

**Adjusted Earnings ($ billion)**

**16.1** 2021: 9.0

**Cash flow from operating activities ($ billion)**

**27.7** 2021: 13.2

**Production (thousand boe/d)**

**921** 2021: 1,004

**LNG liquefaction volumes (million tonnes)**

**30** 2021: 31

**LNG sales volumes (million tonnes)**

**66** 2021: 64



# Generating shareholder value | Integrated Gas continued

## Key statistics [A]

$ million, except where indicated

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Segment earnings/(loss) | 22,212 | 8,060 | (7,230) |
| Including: | | | |
| Revenue (including inter-segment sales) | 73,163 | 37,994 | 25,222 |
| Share of profit of joint ventures and associates | 1,219 | 1,933 | 612 |
| Interest and other income | (714) | 1,596 | 212 |
| Operating expenses [B] | 5,238 | 4,526 | 5,100 |
| Underlying operating expenses [B] | 4,884 | 4,295 | 4,318 |
| Exploration | 240 | 122 | 616 |
| Depreciation, depletion and amortisation | 2,211 | 5,908 | 19,314 |
| Taxation charge/(credit) | 5,899 | 2,648 | (2,794) |
| Identified Items [B] | 6,075 | (988) | (11,443) |
| Adjusted Earnings [B] | 16,137 | 9,048 | 4,213 |
| Adjusted EBITDA [B] | 26,569 | 16,754 | 11,908 |
| Capital expenditure | 3,432 | 3,306 | 3,491 |
| Cash capital expenditure [B] | 4,265 | 3,502 | 3,566 |
| Oil and gas production available for sale (thousand boe/d) | 921 | 1,004 | 1,011 |
| LNG liquefaction volumes (million tonnes) | 29.7 | 31.0 | 33.2 |
| LNG sales volumes (million tonnes) | 66.0 | 64.2 | 71.9 |

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.
[B] See "Non-GAAP measures reconciliations" on pages 362-365.

### Business conditions

For the business conditions relevant to Integrated Gas, see "Market overview" on pages 35-37.

### Production available for sale

In 2022, our production was 336 million barrels of oil equivalent (boe) or 921 thousand boe per day (boe/d), compared with 366 million boe, or 1,004 thousand boe/d in 2021. Natural gas production was 86% of total production in 2022 and 83% of total production in 2021. In 2022, natural gas production decreased by 5% compared with 2021. This was mainly because of the derecognition of Sakhalin-related volumes and production-sharing contract effects, partly offset by new field ramp-up in Trinidad and Tobago. Liquids production decreased by 25%, driven mainly by derecognition of Sakhalin-related volumes.

### LNG liquefaction volumes

LNG liquefaction volumes were 29.7 million tonnes in 2022, compared with 31.0 million tonnes in 2021. The decrease was mainly a result of the derecognition of Sakhalin-related volumes, and lower feedgas supply, partly offset by lower maintenance.

LNG sales volumes were 66.0 million tonnes in 2022 compared with 64.2 million tonnes in 2021. This increase was mainly a result of higher purchases from third parties and trading and optimisation opportunities.

Through our trading organisation, we market and sell a portion of our share of equity production of LNG together with third-party LNG through our hubs in the UK, UAE and Singapore. Shell has term sales contracts for the majority of our LNG liquefaction and term purchase contracts. We are able to optimise the income we generate from our LNG cargoes through our shipping network, regasification terminals and ability to purchase and deliver LNG spot cargoes from third parties. For example, if one customer does not need a scheduled cargo, we can deliver it to another customer who does need it. Similarly, if a customer needs an additional cargo not available from our production facilities, we contract with third parties to deliver the additional cargo. We conduct paper trades, primarily to manage commodity price risk related to sales and purchase contracts. We also sell LNG for trucks in China, Singapore and Europe.

# Generating shareholder value | Integrated Gas continued

## Integrated gas data table

### LNG liquefaction volumes

Million tonnes

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Australia | 13.2 | 13.1 | 11.8 |
| Brunei | 1.2 | 1.4 | 1.6 |
| Egypt | 0.5 | 0.3 | 0.2 |
| Nigeria | 3.6 | 4.3 | 5.3 |
| Oman | 2.8 | 2.5 | 2.5 |
| Peru | 0.8 | 0.6 | 0.9 |
| Qatar | 2.4 | 2.4 | 2.4 |
| Russia | 0.9 | 2.8 | 3.1 |
| Trinidad and Tobago | 4.3 | 3.6 | 5.4 |
| Other | – | – | 0.2 |
| Total | 29.7 | 31.0 | 33.2 |

### Earnings 2022-2021

Segment earnings in 2022 were $22,212 million, compared with $8,060 million in 2021. The increase was mainly driven by the combined effect of higher realised prices and contributions from trading and optimisation, and gains related to the fair value accounting of commodity derivatives. This was partly offset by lower volumes and higher operating expenses.

Full year segment earnings included identified items of $6,075 million which comprised gains of $6,273 million due to the fair value accounting of commodity derivatives and net impairment reversals of $779 million, partly offset by other impacts of $608 million, which mainly comprised loan write-downs, and charges of $387 million due to provisions for onerous contracts. The full year 2021 Identified Items were a loss of $988 million and included losses of $1,423 million due to the fair value accounting of commodity derivatives and impairment charges of $395 million, partly offset by gains of $1,097 million related to the sale of assets.

### Earnings 2021-2020

Segment earnings in 2021 were $8,060 million, compared with a loss of $7,230 million in 2020. The increase was mainly driven by higher realised prices for oil, LNG and gas, favourable tax movements and higher volumes.

Full year 2021 segment earnings included Identified Items of $988 million loss which comprised losses of $1,423 million due to the fair value accounting of commodity derivatives and impairment charges of $395 million, partly offset by gains of $1,097 million related to the sale of assets. Full year 2020 Identified Items were $11,443 million loss, which included impairment charges of $10,152 million mainly reflecting revisions to mid- and long-term price outlook assumptions and primarily related to the Queensland Curtis LNG and Prelude floating liquefied natural gas (FLNG) operations in Australia and unconventional assets in North America. It also comprised a net charge of $880 million because of the fair value accounting of commodity derivatives and a charge of $607 million related to onerous contract provisions.

### Cash capital expenditure

Cash capital expenditure in 2022 was $4,265 million, compared with $3,502 million in 2021. The increase was mainly due to investment in the North Field East expansion project in Qatar. Our cash capital expenditure is expected to be around $5 billion in 2023.

### Portfolio and business development

Key portfolio events included the following:

- Shell announced in the first quarter 2022 its intent to withdraw from its ventures in Russia with Gazprom and related entities, and to end its involvement in the Nord Stream 2 pipeline project. See Note 6 on pages 262-264 for the actions we have taken since these announcements and for the impact on the consolidated financial statements.
- In March 2022, we produced first gas from Block 22 and NCMA-4 in the North Coast Marine Area in Trinidad and Tobago.
- In May 2022, Shell Australia Pty Ltd and its joint-venture partner, SGH Energy, took a final investment decision to approve the development of the Crux natural gas field, off the coast of Western Australia, which will be processed through the Prelude FLNG facility.
- In July 2022, QatarEnergy selected us to participate in the North Field East (NFE) expansion project in Qatar. In December 2022 QatarEnergy and Shell closed the transaction resulting in Shell purchasing 25% of the shareholding in a joint venture (JV) which owns a 25% interest in the overall NFE project. Thus, Shell's ownership of NFE via its JV shareholding is 6.25%.
- In October 2022, we were also selected as a partner in the North Field South (NFS) project (Shell interest 9.375%). Shell participation in the NFS project remains subject to clearance of remaining customary conditions precedent.

# Generating shareholder value | Integrated Gas continued

## Business and property

### Integrated Gas

A complete list of LNG and GTL plants in operation and under construction in which we have an interest is provided below.

### LNG liquefaction plants in operation at December 31, 2022 [A]

| | Asset | Location | Shell interest (%) | 100% capacity (mtpa) [B] | Shell-operated |
|---|---|---|---|---|---|
| **Asia** | | | | | |
| Brunei | Brunei LNG | Lumut | 25 | 7.6 | No |
| Oman | Oman LNG | Sur | 30 | 7.1 | No |
| | Qalhat LNG [C] | Sur | 11 | 3.7 | No |
| Qatar | Qatargas 4 [D] | Ras Laffan | 30 | 7.8 | No |
| **Oceania** | | | | | |
| Australia | Australia North West Shelf [D] | Karratha | 16.7 | 16.9 | No |
| | Gorgon LNG [D] | Barrow Island | 25 | 15.6 | No |
| | Prelude [D] | Browse Basin | 67.5 | 3.6 | Yes |
| | Queensland Curtis LNG T1 [D] | Curtis Island | 50 | 4.3 | Yes |
| | Queensland Curtis LNG T2 [D] | Curtis Island | 97.5 | 4.3 | Yes |
| **Africa** | | | | | |
| Egypt [E] | Egyptian LNG T1 | Idku | 35.5 | 3.6 | No |
| | Egyptian LNG T2 | Idku | 38 | 3.6 | No |
| Nigeria | Nigeria LNG | Bonny | 25.6 | 24.1 | No |
| **South America** | | | | | |
| Peru | Peru LNG | Pampa Melchorita | 20 | 4.5 | No |
| Trinidad and Tobago | Atlantic LNG T1 | Point Fortin | 46 | 3 | No |
| | Atlantic LNG T2/T3 | Point Fortin | 57.5 | 6.6 | No |
| | Atlantic LNG T4 | Point Fortin | 51.1 | 5.2 | No |

[A] We have offtake rights via a lease to 100% of the capacity (2.5 mtpa) of the Kinder Morgan-operated Elba Island liquefaction plant in Georgia, USA.
[B] 100% capacity represents the total capacity that all trains can process as reported by the operator.
[C] The interest is held via an indirect shareholding through Oman LNG.
[D] These assets are clustered as integrated assets and have onshore or offshore upstream production.
[E] In January 2014, force majeure notices were issued under the LNG agreements as a result of domestic gas diversions severely restricting volumes available to the Egyptian LNG (ELNG) plant. These notices remain in place.

### LNG liquefaction plants under construction at December 31, 2022

| | Asset | Location | Shell interest (%) | 100% capacity (mtpa) [A] | Shell-operated |
|---|---|---|---|---|---|
| **Africa** | | | | | |
| Nigeria | Train 7 [B] | Bonny | 25.6 | 7.6 | No |
| **North America** | | | | | |
| Canada | LNG Canada T1-2 [C] | Kitimat | 40.0 | 14.0 | No |
| **Asia** | | | | | |
| Qatar | NFE JV [D] | Ras Laffan | 25.0 | 8.0 | No |

[A] 100% capacity represents the total capacity that all trains are expected to process as reported by the operator.
[B] First LNG is expected around the middle of the 2020s.
[C] Construction started in October 2018 and first LNG is expected around the middle of the 2020s.
[D] Shell holds 25% in the joint venture, which in turn owns 25% of the North Field East expansion project, which has a nameplate capacity of 32 million tonnes per annum. First LNG is expected later in the 2020s.

### GTL plants in operation at December 31, 2022

| | Asset | Location | Shell interest (%) | 100% capacity (b/d) [A] | Shell-operated |
|---|---|---|---|---|---|
| **Asia** | | | | | |
| Malaysia | Shell MDS | Bintulu | 72.0 | 14,700 | Yes |
| Qatar | Pearl | Ras Laffan | 100.0 | 140,000 | Yes |

[A] 100% capacity represents the total capacity of the plant.

We also have interests and rights in the regasification terminals listed below. Extension of leases or rights beyond the periods mentioned below will be reviewed on a case-by-case basis.

# Generating shareholder value | Integrated Gas continued

## LNG regasification terminals

| Project name | Location | Shell capacity rights (mtpa) | Capacity rights period | Shell interest (%) and rights |
|---|---|---|---|---|
| Costa Azul | Baja California, Mexico | 2.7 | 2008–2028 | Capacity rights |
| Cove Point | Lusby, MD, USA | 1.8 | 2003–2023 | Capacity rights |
| Dragon LNG | Milford Haven, UK | 3.1 | 2009–2029 | 50 |
| Eemshaven | Groningen, the Netherlands | 3.1 | 2022–2027 | Capacity rights |
| Elba Island | Elba Island, GA, USA | 4.6 | 2003–2027 | Leased |
| Elba Island | Elba Island, GA, USA | 2.8 | 2006–2036 | Leased |
| Elba Island Expansion | Elba Island, GA, USA | 4.2 | 2010–2035 | Leased |
| GATE (Gas Access to Europe) | Rotterdam, the Netherlands | 1.5 | 2015–2031 | Capacity rights |
| Lake Charles | Lake Charles, LA, USA | 4.4 | 2002–2030 | Leased |
| Lake Charles Expansion | Lake Charles, LA, USA | 8.7 | 2005–2030 | Leased |
| Singapore SGM | SLNG, Singapore | [A] | 2013–2029 | Import rights |
| Singapore SETL | SLNG, Singapore | [A] | 2018–2035 | Import rights |
| Singapore SETL | SLNG, Singapore | up to 1.0 [B] | 2021–2025 | Import rights |
| Shell Energy India Pvt Ltd (formerly Hazira) | Gujarat, India | 5 | 2005–2035 | 100 |
| Shell LNG Gibraltar | Gibraltar | up to 0.04 | 2018–2038 | 51 |

[A] Licences to import LNG and sell regasified LNG in Singapore with no volume cap.
[B] Exclusive licence to import LNG and sell regasified LNG in Singapore for up to 1.0 mtpa.



## Colibri gas for LNG export and domestic use in Trinidad and Tobago

In 2022, we produced gas for the first time from the Shell-operated Colibri project in Trinidad and Tobago. Most of Colibri's gas is exported as liquefied natural gas (LNG). Gas will also be used in the country's petrochemical sector and to generate electricity for the country.

The final investment decision on Colibri was taken in March 2020. The team continued to implement the project and first gas was reached in March 2022, despite termination of operations by a key supplier. We delivered safely, within budget and ahead of schedule.

Colibri is expected to reach about 250 million standard cubic feet of gas per day at peak production through a series of four subsea gas wells. The wells are tied back to the existing Poinsettia platform in the North Coast Marine Area (NCMA).

Shell seeks to provide more affordable, reliable, and cleaner energy to our customers. While the vast majority of Colibri's gas will be exported, about 25% will be supplied to Trinidad and Tobago's National Gas Company (NGC), which will deliver it to the local power utility, Trinidad & Tobago Electricity Commission, to power homes and businesses. The NGC also supplies gas to petrochemicals plants in Trinidad, a major exporter of ammonia and methanol.

Photo: Seven Borealis pipelay vessel adjacent to the Poinsettia production facility conducting pipelay activities for the Colibri project.

# Generating shareholder value | Integrated Gas continued

**Oil and natural gas production, exploration and development**

**Australia**

We operate the Queensland Curtis LNG (QCLNG) venture's natural gas operations, including wells, compression stations and processing plants, in Queensland's Surat Basin. We have interests ranging from 44% to 74% in 25 field compression stations and six central processing plants. Our production of natural gas from the onshore Surat Basin supplies the QCLNG liquefaction plant and the domestic gas market.

We have a 50% interest in Arrow, a Queensland-based joint venture with China National Petroleum Corporation (CNPC). Arrow owns coalbed methane assets and a domestic power business.

In addition, Shell has interests in offshore production, LNG liquefaction and exploration licences in the Browse Basin and in the North West Shelf (NWS) and Greater Gorgon areas of the Carnarvon Basin. Woodside is the operator on behalf of the NWS joint venture (Shell interest 16.7%). We have a 25% interest in the Chevron-operated Gorgon LNG joint venture that includes offshore production.

In the Browse Basin, Shell is the operator for the Prelude field (Shell interest 67.5%); the Crux gas and condensate development field (Shell interest 84.5%), where a final investment decision was taken in May 2022; and other backfill projects for Prelude FLNG.

We are also a partner in the Browse joint arrangement (Shell interest 27%) covering the Brecknock, Calliance and Torosa gas fields, which are under development and operated by Woodside.

**Barbados**

In 2022, we farmed into two exploration blocks (Shell interest 40%), where our partner is the operator.

**Bolivia**

We hold a 37.5% participating interest in the Caipipendi block where we produce and deliver natural gas to domestic and export markets. We also have a 25% interest in the Tarija XX West block where we produce from the Itaú field.

In 2022, we exited the Iñiguazu exploration block (operated by Repsol) where we held a 15% participating interest.

**Canada**

In Canada, we produce and market natural gas, natural gas liquids and condensate. We hold mineral acres, primarily in the Montney play in British Colombia and Alberta. We operate four natural gas processing area facilities at our Groundbirch asset in British Colombia.

**China**

We develop and produce from the onshore Changbei tight-gas field under a production-sharing contract (PSC) with CNPC.

**Colombia**

We have 50% interests in three blocks that we operate, and 60% interests in two other deep-water blocks where Chevron is the operator.

**Egypt**

We have a 25% interest in the Burullus Gas Company (Burullus) joint venture, which operates the West Delta Deep Marine concession (Shell interest 50%) and supplies gas to the domestic market and the Egyptian LNG plant. We have a 50% interest in the Rashid Petroleum Company (Rashpetco) joint venture, which operates the Rosetta concession (Shell interest 100%). We have a 30% interest in the El Burg Offshore Company (EBOC) joint venture, which operates the El Burg offshore concession (Shell interest 60%).

We have participating interests in several exploration concessions in the Nile Delta, the wider East Mediterranean and the Red Sea.

**Indonesia**

We have a 35% interest in the INPEX Masela Ltd joint venture, which owns and operates the offshore Masela block.

**Oman**

We have a concession to develop and produce natural gas from Block 10 (Shell interest 53.45%). We also have a separate gas sales agreement for gas produced from the block. In September 2022, Shell and its partners signed an exploration and production-sharing agreement with the government of Oman for the exploration, evaluation and development of natural gas resources and condensate in Block 11 (Shell interest 67.5%).

**Qatar**

We operate the Pearl GTL plant (Shell interest 100%) in Qatar under a development and production-sharing contract with the government. The fully integrated facility has the capacity to produce, process and transport 1.6 billion standard cubic feet per day (scf/d) of gas from Qatar's North Field.

We have a 30% interest in Qatargas 4, which comprises integrated facilities to produce around 1.4 billion scf/d of gas from Qatar's North Field, an onshore gas-processing facility. In July 2022, QatarEnergy selected us to participate in the North Field East (NFE) expansion project in Qatar. In December 2022, QatarEnergy and Shell closed the transaction resulting in Shell purchasing 25% of the shareholding in a joint venture (JV) which owns a 25% interest in the overall NFE project. Thus, Shell's ownership of NFE via its JV shareholding is 6.25%. In October 2022, we were also selected as a partner in the North Field South project (Shell interest 9.375%). Shell participation in the North Field South project remains subject to clearance of remaining customary conditions precedent.

**Russia**

Shell announced in the first quarter 2022 its intent to withdraw from its ventures in Russia with Gazprom and related entities, and to end its involvement in the Nord Stream 2 pipeline project.

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See Note 6, which is incorporated by reference into the Strategic Report, on pages 262-264 for the actions we have taken since these announcements and for the impact on the consolidated financial statements.

**Tanzania**

We operate and have a 60% interest in Blocks 1 and 4 off the coast of southern Tanzania under a production-sharing agreement with the government of Tanzania that expires in 2024.

**Trinidad and Tobago**

We have interests in three concessions with producing fields: Central Block (Shell interest 65%), North Coast Marine Area (Shell interest 80.5%), and East Coast Marine Area (Shell interest 100%). In 2022, production started on Block 22 (Shell interest 90%) and NCMA-4 (Shell interest 80%) in the North Coast Marine Area.

Our interests range from 35% to 100% in exploration Blocks 5(d), 5(c)REA, 6(d), and Atlantic Area Block 5.

**Turkey**

In 2022 we released our exploration licence in the Western Black Sea.

# Generating shareholder value

## Upstream

Upstream explores for and extracts crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market. Shell's Upstream business delivers reliable energy from conventional oil and gas operations, as well as deep-water exploration and production activities. We are focusing our Upstream portfolio to become more resilient, prioritising value over volume to provide the energy the world needs today whilst funding the energy system of tomorrow.

**Segment earnings ($ billion)**

**16.2** 2021: 9.6

**Adjusted Earnings ($ billion)**

**17.3** 2021: 8.0

**Cash flow from operating activities ($ billion)**

**29.6** 2021: 21.6

**Production (thousand boe/d)**

**1,897** 2021: 2,178



# Generating shareholder value | Upstream continued

## Key statistics [A]

| | $ million, except where indicated | | |
|---|---|---|---|
| | 2022 | 2021 | 2020 |
| Segment earnings/(loss) | 16,222 | 9,603 | (9,300) |
| Including: | | | |
| Revenue (including inter-segment sales) | 60,637 | 44,971 | 27,763 |
| Share of profit of joint ventures and associates | 2,111 | 632 | (7) |
| Interest and other income | 726 | 4,592 | 541 |
| Operating expenses [B] | 10,364 | 10,324 | 10,650 |
| Underlying operating expenses [B] | 10,802 | 10,086 | 9,894 |
| Exploration | 1,472 | 1,301 | 1,131 |
| Depreciation, depletion and amortisation | 10,334 | 13,485 | 21,079 |
| Taxation charge/(credit) | 14,070 | 6,057 | (103) |
| Identified Items [B] | (1,096) | 1,587 | (6,874) |
| Adjusted Earnings [B] | 17,319 | 8,015 | (2,426) |
| Adjusted EBITDA [B] | 42,100 | 27,170 | 13,045 |
| Capital expenditure | 8,020 | 6,277 | 6,714 |
| Cash capital expenditure [B] | 8,143 | 6,168 | 7,099 |
| Oil and gas production available for sale (thousand boe/d) | 1,897 | 2,178 | 2,324 |

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.
[B] See "Non-GAAP measures reconciliations" on pages 362-365.

### Business conditions

For the business conditions relevant to Upstream, see "Market overview" on pages 35-37.

### Production available for sale

In 2022, production was 692 million barrels of oil equivalent (boe), or 1,897 thousand boe per day (boe/d), compared with 795 million boe, or 2,178 thousand boe/d in 2021. Liquids production decreased by 12% and natural gas production decreased by 15%, compared with 2021.

Total production, compared with 2021, decreased as a result of divestments and scheduled maintenance. The impact of field decline was more than offset by growth from new fields.

Controllable availability of 84.7% was driven mainly by unscheduled deferments in Nigeria (Forcados Oil terminal repairs), extended turnarounds and reliability in the UK (Pierce FPSO, Shearwater and Gannet).

### Earnings 2022-2021

Upstream earnings in 2022 were $16,222 million, compared with $9,603 million in 2021. The increase was mainly driven by higher realised oil and gas prices and a gain related to storage and working gas transfer effects and impairment reversals. This was partly offset by lower volumes, mainly as a result of divestments, and charges related to the EU solidarity contribution and UK Energy Profits Levy.

Full year 2022 segment earnings included a gain from net impairment reversals of $853 million and charges of $1,385 million relating to EU solidarity contributions and $802 million relating to the UK Energy Profits Levy. These gains and losses are part of identified items and compare with the full year 2021, which included a net gain of $3,261 million related to the sale of assets (mainly related to the sale of the Permian business in the USA), partly offset by impairment charges of $633 million, losses of $393 million for the fair value accounting of commodity derivatives, and legal provisions of $287 million.

Adjusted Earnings and Adjusted EBITDA were driven by the same factors as the segment earnings and adjusted for identified items.

### Earnings 2021-2020

Upstream earnings in 2021 were a profit of $9,603 million, compared with a loss of $9,300 million in 2020. Earnings were helped by higher oil and gas prices, mainly driven by the improved macroeconomic conditions and the one-off release of a tax provision in Nigeria and lower depreciation, partly offset by lower production volumes.

Full year 2021 segment earnings included a net gain of $3,261 million related to the sale of assets (mainly related to the sale of the Permian business in the USA), partly offset by impairment charges of $633 million, losses of $393 million for the fair value accounting of commodity derivatives, and legal provisions of $287 million. These gains and losses are part of identified items, and compare with the full year 2020 segment earnings which included a net charge of $5,387 million related to impairments, primarily in the US Gulf of Mexico, unconventional assets in North America, offshore assets in Brazil and Europe, and a project in Nigeria (OPL245), mainly triggered by revision of Shell's mid- and long-term commodity price and updated Appomattox subsurface understanding. Also included was a net charge of $782 million related to the impact of the weakening Brazilian real on a deferred tax position.

Adjusted Earnings and Adjusted EBITDA were driven by the same factors as the segment earnings and adjusted for identified items.

### Cash capital expenditure

Cash capital expenditure in 2022 was $8.1 billion, compared with $6.2 billion in 2021. The increased expenditure in 2022 was mainly a result of the Brazil Atapu Transfer of Rights and a ramp-up in projects, partially offset by the slippage of activities across the portfolio and divestments. Our cash capital expenditure is expected to be around $8 billion in 2023.

### Portfolio and business development

We took the following key portfolio decisions during 2022:

- In Brazil, in April 2022, we signed a production-sharing contract (PSC) to formally acquire a 25% stake in the Atapu Field.

# Generating shareholder value | Upstream continued

- In Brazil, in May 2022, we started production at the FPSO Guanabara in the Mero field, in the offshore Santos Basin.
- In Malaysia, in September 2022, together with PETRONAS Carigali Sdn Bhd, we took the final investment decision (FID) to develop the Rosmari-Marjoram gas project.
- In the UK, in July 2022, we took the final investment decision (FID) to develop the Jackdaw North Sea gas field.
- In the US Gulf of Mexico, in March 2022, we started the production at PowerNap, a subsea development.
- In the US Gulf of Mexico, in February 2023, we started production at Vito, a Shell-operated floating production facility.

We continued to divest assets during 2022, including:
- In Malaysia, in December 2022, we agreed to sell our stake in two offshore production sharing contracts (PSCs) in the Baram Delta to Petroleum Sarawak Exploration & Production Sdn. Bhd. ("PSEP"). The sale concerns non-operated interests of 40% in the Amended 2011 Baram Delta EOR PSC and 50% in the SK 307 PSC. The remaining interests in both PSCs are held by the operator, PETRONAS Carigali Sdn Bhd ("PCSB"). Sale completion is expected in 2023.
- In the Philippines, in November 2022, we sold our 100% shareholding in Shell Philippines Exploration B.V. (SPEX) to Malampaya Energy XP Pte Ltd (MEXP), a subsidiary of Prime Infrastructure Capital Inc (Prime Infra).
- In the USA, in February 2023, we sold our 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC to IKAV.

Shell announced in the first quarter of 2022 its intent to withdraw from its ventures in Russia with Gazprom and related entities.

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See Note 6, which is incorporated by reference into the Strategic Report, on pages 262-264 for the actions we have taken since these announcements and for the impact on the consolidated financial statements.

## Business and property

Our subsidiaries, joint ventures and associates are involved in all aspects of upstream activities, including land tenure, entitlement to produced hydrocarbons, production rates, royalties, pricing, environmental protection, social impact, exports, taxes and foreign exchange.

The conditions of the leases, licences and contracts under which oil and gas interests are held vary from country to country. In almost all cases outside North America, legal agreements are generally granted by, or entered into with, a government, state-owned company, government-run oil and gas company or agency. The exploration risk usually rests with the independent oil and gas company. In North America, these agreements may also be with private parties that own mineral rights. Of these agreements, the following are most relevant to our interests:
- Licences (or concessions), which entitle the holder to explore for hydrocarbons and exploit any commercial discoveries. Under a licence, the holder bears the risk of exploration, development and production activities, and is responsible for financing these activities. In principle, the licence holder is entitled to the totality of production less any royalties in kind. The government, state-owned company or government-run oil and gas company may sometimes enter into a joint arrangement as a participant, sharing the rights and obligations of the licence but usually without sharing the exploration risk. In a few cases, the state-owned company, government-run oil and gas company or agency has an option to purchase a certain share of production.
- Lease agreements, which are typically used in North America and are usually governed by terms similar to licences. Participants may include governments or private entities. Royalties are either paid in cash or in kind.
- Production-sharing contracts (PSCs) entered into with a government, state-owned company or government-run oil and gas company. PSCs generally oblige the independent oil and gas company, as contractor, to provide all the financing and bear the risk of exploration, development and production activities in exchange for a share of the production. Usually, this share consists of a fixed or variable part that is reserved for the recovery of the contractor's cost (cost oil). The remaining production is split with the government, state-owned company or government-run oil and gas company on a fixed or volume/revenue-dependent basis. In some cases, the government, state-owned company or government-run oil and gas company will participate in the rights and obligations of the contractor and will share in the costs of development and production. Such participation can be across the venture or on a field-by-field basis. Additionally, as the price of oil or gas increases above certain predetermined levels, the independent oil and gas company's entitlement share of production normally decreases, and vice versa. Accordingly, its interest in a project may not be the same as its entitlement.

### Europe

#### Germany

Shell and ExxonMobil are 50:50 shareholders of BEB Erdgas und Erdoel GmbH & Co. KG (BEB) which owns interests in various concessions mainly in Lower Saxony. ExxonMobil Production Deutschland GmbH has a service contract with BEB under which it provides operating services to BEB for most of the concessions.

#### Italy

Shell has a 39% interest in the Val d'Agri producing concession, operated by ENI S.p.A.

We also have a 25% interest in the Tempa Rossa producing concession, operated by TotalEnergies EP Italia S.p.A.

#### Netherlands

Shell and ExxonMobil are 50:50 shareholders in Nederlandse Aardolie Maatschappij B.V. (NAM). NAM holds a 60% interest in the onshore low-calorific Groningen gas field (the remaining 40% interest is held by EBN, a Dutch government entity), the Schoonebeek oil field and some 25 smaller hydrocarbon production licences.

Production from the Groningen field induces earthquakes which have led to damage claims, security concerns, a strengthening operation to make buildings earthquake resistant and calls from residents and local politicians to close the field.

Since 2013, the Dutch government has set the annual production and capacity target for the Groningen field which for the gas year 2022-2023 (ending October 1, 2023) was set at 2.8 billion cubic metres. For 2021-2022 the production level was set at 4.5 billion cubic metres.

In June 2018, NAM's shareholders and the Dutch government signed a heads of agreement (HoA) to reduce and eventually stop production from the Groningen field, and to ensure the financial robustness of NAM to fulfil its obligations. Pursuant to this HoA no dividend is expected for 2022 as dividend payments can only be made if a solvency ratio of 25% is reached and maintained.

In September 2018, detailed agreements were signed to further implement the HoA. As part of these agreements, Shell has guaranteed 50% of NAM's 60% share of earthquake-related costs for damage claims and the strengthening of buildings. Whilst the Dutch government has responsibility for issuing production instructions for annual Groningen production and has set up public entities for settling damage claims and strengthening buildings, NAM remains liable to pay for damage caused by earthquakes and strengthening required to comply with the safety norm. Under the terms of the HoA, it was agreed that the Dutch government would pass on to NAM costs insofar

# Generating shareholder value | Upstream continued

as the costs corresponded to NAM's liability. In 2022, NAM started arbitrations with the Dutch government to have its financial liability determined for costs which the Dutch government compensated to claimants and subsequently charged to NAM.

In September 2019, the Dutch government announced that the reduction of Groningen production would be accelerated and that production would cease in 2022, eight years earlier than planned in the HoA. This has been revised to 2023 or 2024, provided that certain conditions are met, including the timely start-up of a new nitrogen plant, sufficient reduction in demand for low-cal gas, usage of NAM's underground gas storages (UGS) in Grijpskerk and Norg, and sufficient supply of high-cal gas. Compensation payments are made by the government to NAM for the revised usage of the Norg UGS. Discussions continue between the Dutch government and NAM shareholders regarding the compensation payable by the Dutch government to NAM in order to give effect to the terms of the HoA.

The parliamentary enquiry into the production of gas from Groningen and the subsequent effects of the earthquakes moved into the public hearings phase in 2022 and the final report was published on February 24, 2023.

On October 26, 2021, NAM announced that it would split up its non-Groningen assets into several new legal entities, with the intent to divest those legal entities.

**Norway**
Shell is a partner in 20 production licences on the Norwegian continental shelf, and the operator of eight of these. We have interests in two gas-producing fields: Shell-operated Ormen Lange (Shell interest 17.8%) and Equinor-operated Troll (Shell interest 8.1%). In 2022, a plan for development and operation was submitted for government approval for the Equinor-operated gas discovery Irpa (Shell interest 10%), as a tie-back to the Aasta Hansteen field. We are also the operator of two fields which are being decommissioned: Knarr (which ceased production in 2022) and Gaupe. In addition, we are the technical service provider for the Gassco-operated Nyhamna processing plant.

**UK**
Shell operates a number of interests on the UK continental shelf under 50:50 joint-venture agreements with Neo Energy and has a 50:50 joint venture agreement with ExxonMobil for the SEGAL gas transportation system; the Brent Field, which is being decommissioned; and other assets in the North Sea. Shell also has non-operated positions in the West of Shetland area, namely Clair (Shell interest 27.97%) and Schiehallion (Shell interest 44.89%), both operated by BP.

In May 2022, the UK's Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) approved the revised environmental statement for the Jackdaw gas field development and gave production consent in June 2022. In July, Greenpeace applied for a judicial review of the Regulator's decision. The application has, at Greenpeace's request, been put on hold pending the decision by the UK Supreme Court on another case which concerns similar legal issues, and which will likely be heard in the second half of 2023. If the hold on Greenpeace's judicial review application is lifted, we currently believe there is a relatively low risk of disruption to the Jackdaw project, in terms of delays and/or changes to the project. The project is expected to come on stream in the mid-2020s.

In 2022, Shell drilled five exploration wells on the UK continental shelf.

From April 2022, Shell assumed the role of technical development lead for the $CO_2$ capture, transportation and storage modules of the Acorn carbon capture, utilisation and storage (CCUS) and hydrogen project. Acorn is part of the Scottish Cluster, which continues to be the Track 1 reserve cluster in the UK government's CCUS cluster sequencing process. This means that if another cluster selected as Track 1 is discontinued the Scottish Cluster may take its place.

In November 2022, Shell completed the acquisition of a 100% interest in Corallian Energy Limited. The interest comprises the P.2596 licence containing the Victory field gas discovery west of Shetland which is expected to be a subsea tie-back to existing infrastructure tied into the Shetland Gas Plant. Gas would be exported via existing pipelines to the North Sea Midstream Partners operated plant at St Fergus, helping to ensure longer-term gas supply for the UK.

Decommissioning of the Heather A platform and Curlew floating production, storage and offloading (FPSO) asset continued in 2022. Production from Brent Charlie ceased in the first quarter of 2021 and topsides preparations are ongoing in readiness for the lift, removal and recycling of the facilities. OPRED continues to assess the Brent Field decommissioning programme, which pertains to the Brent gravity-based substructures.

**Rest of Europe**
Shell also has interests in Albania.

**Asia (including the Middle East and Russia)**
**Brunei**
Shell and the Brunei government are 50:50 shareholders in Brunei Shell Petroleum Company Sendirian Berhad (BSP). BSP has long-term onshore and offshore oil and gas concession rights and sells most of its gas production to Brunei LNG Sendirian Berhad, with the remainder sold in the domestic market.

See "Integrated Gas" on pages 38-43.

In addition to our interest in BSP, we have a non-operating interest in the offshore Block B concession (Shell interest 35%, operated by TotalEnergies), where gas and condensate are produced from the Maharaja Lela field.

We have a non-operating interest in a gas holding area for deep-water Block CA2 (Shell interest 12.5%, operated by Petronas), under a PSC.

We operate the deep-water Block CA1 (Shell interest 86.95%), in which the Jagus-East field is located, under a PSC. As referred to in the Malaysia section below, the Jagus-East field and the Geronggong field, held by BSP, form part of the unitised GKGJE field.

**Iraq**
Shell has a 44% interest in the Basrah Gas Company, which gathers, treats and processes associated gas that was previously being flared from the Rumaila, West Qurna 1 and Zubair fields. The processed gas and associated products, such as condensate and LPG, are sold to the domestic market. Any surplus condensate and LPG is exported.

**Kazakhstan**
Shell is the joint operator with ENI S.p.A. of the onshore Karachaganak oil and condensate field (Shell interest 29.3%). The Karachaganak field is in north-west Kazakhstan and covers an area of more than 280 square kilometres.

We also have an interest in the North Caspian Sea Production Sharing Agreement (Shell interest 16.8%) which includes the Kashagan field in the Kazakh sector of the Caspian Sea. The North Caspian Operating Company is the operator. This shallow-water field covers an area of around 3,400 square kilometres.

# Generating shareholder value | Upstream continued

We have a 7.4% interest in the Caspian Pipeline Consortium which owns and operates an oil pipeline running from the Caspian Sea to the Black Sea, across parts of Kazakhstan and Russia. We hold our interest in the Caspian Pipeline Consortium via three legal entities, two of which are wholly owned by Shell, and the other is a joint venture with Rosneft (Shell interest 49%), Rosneft-Shell Caspian Ventures Ltd (Cyprus) (RSCV), which was formed in 1996 to primarily own and manage pipeline capacity rights. We continue to manage that part of our interest in CPC held through RSCV in full compliance with applicable laws.

**Malaysia**

Shell explores for and produces oil and gas off the coast of Sabah and Sarawak under 21 PSCs, in which our interests range from 20% to 92.5%.

Offshore Sabah

- We operate two producing oil fields: (i) the Malikai deep-water field (Shell interest 35%), and (ii) the unitised GKGJE field consisting of the Malaysian Gumusut and Kakap fields and the Bruneian Geronggong and Jagus-East fields that straddle the Malaysia-Brunei border and have been made into a single unit. Shell's interest in the unitised field is 37.89%. In June 2022, we took the final investment decision on the GKGJE Phase 4 oil development project. In July 2022, we achieved first oil for the Phase 3 development.
- In March 2022, we signed two new exploration PSCs for Block 2W and X (Shell interest 50% each).
- In our non-operated portfolio:
  - We have a 21% interest in the Siakap North-Petai deep-water field and a 30% interest in the Kebabangan field.
  - In October 2022, we signed a new exploration PSC for Block SB 2K (Shell interest 25.1%).
  - In February 2023, we completed the farm-in to one exploration PSC for Block SB2V (Shell interest 40%).

Offshore Sarawak

- We are the operator of eight producing gas fields and one producing oil and gas field. Nearly all the gas produced offshore Sarawak is supplied to Malaysia LNG (MLNG) and to our gas-to-liquids plant in Bintulu. The fields are:
  - gas fields F6, F23, E8, F13 East and F13 West under the MLNG PSC (Shell interest 40%);
  - gas fields F14 and F28 under the SK308 PSC (Shell interest 50%);
  - gas field Gorek under the SK408 PSC (Shell Interest 30%); and
  - oil and gas field E6 under the SK308 PSC (Shell interest 50%).

See "Integrated Gas" on pages 38-43.

- We are also the operator for Block SK318 PSC. This block contains the Timi field (Shell interest 75%) which is under development, and the Rosmari-Marjoram fields (Shell interest 80%). In September 2022, together with PETRONAS Carigali Sdn Bhd, we took the final investment decision to develop the Rosmari-Marjoram natural gas project. Situated around 220 kilometres off the coast of Bintulu, the project comprises a remotely operated offshore platform and onshore gas plant. Rosmari-Marjoram will mainly be powered by renewable energy from solar power offshore and hydroelectric power onshore.
- In November 2022, we progressed with the execution of the MLNG F22, F27, Selasih (FaS) project, which comprises a single well development in each of the F22, F27 and Selasih fields to be drilled from the wellhead platforms with tie-backs to the F23 hub.
- In March 2022, we signed one new exploration PSC for Block SK439 and SK440 (Shell interest 92.5%). In February 2023, we signed one new PSC for Block SK3B (Shell interest 45%).
- In our non-operated portfolio:
  - First gas was achieved for SK320 (Shell interest 20%) in April 2022.



## Using renewables to produce gas in Malaysia

In 2022, we took the final investment decision to develop the Rosmari-Marjoram gas production project in Malaysia. The project will be mainly powered by renewable energy, using solar power for its remotely operated offshore platform and hydroelectric power for its onshore gas plant.

Rosmari-Marjoram is designed to produce 800 million standard cubic feet of gas per day and is expected to start production in 2026. The project will include one of the longest gas offshore pipelines in the world, stretching more than 200 kilometres from the field to the coast of Sarawak. Once production starts, the gas will be piped to the Malaysia liquefied natural gas (Malaysia LNG) complex.

Rosmari-Marjoram will help Shell deliver a reliable supply of gas and do this while reducing the emissions from our operations. This is in line with our Powering Progress energy transition strategy to become a net-zero business by 2050.

The project team has demonstrated ingenuity and applied a learner mindset to the design, evolving the project from a conventional offshore processing platform to a carbon-competitive onshore gas plant. Shell focuses on seeking the highest return from investments within the lowest possible carbon emissions budget.

Rosmari-Marjoram's offshore platform will use power from 240 solar panels and the onshore plant is connected to the Sarawak grid system, which is supplied mainly by hydroelectric plants. Batteries and diesel generators will be held in reserve as back-up to ensure the safety of our operations.

Photo: The Rosmari-Marjoram gas project will feed the Bintulu LNG export plant in Sarawak, Malaysia.

# Generating shareholder value | Upstream continued

- We have a 30% interest in Jerun which is part of the Block SK408 PSC. Jerun is a gas development with an integrated central processing platform. Block SK408 also contains the producing non-Shell-operated Larak and Bakong fields.
- We also have a 40% interest in the amended 2011 Baram Delta enhanced oil recovery PSC and a 50% interest in the SK307 PSC. In December 2022, Shell signed an agreement to sell its non-operated interests in these two PSCs to Petroleum Sarawak Exploration and Production Sdn Bhd (PSEP), effective January 1, 2023. The sale is expected to be completed in early 2023, subject to completion of conditions which include, amongst others, regulatory approval.

### Oman

Shell has a 34% interest in Petroleum Development Oman (PDO), which operates the Block 6 oil concession. Shell is entitled to 34% of oil produced from Block 6 through its interest in Private Oil Holdings Oman Ltd. The government of Oman has a 60% interest in PDO and the Block 6 oil concession through its 100% owned company, Energy Development Oman (EDO). PDO operates a concession area of about 90,000 square kilometres and has more than 200 producing oil fields.

We have a 50% interest in Block 42 under an Exploration and Production Sharing Agreement (EPSA) where Shell is the operator. The other 50% interest is held by the government through its 100% owned company, OQ. We have a 100% interest in Block 55 under an EPSA.

### Russia

Shell announced in the first quarter of 2022 its intent to withdraw from its ventures in Russia with Gazprom and related entities.

See Note 6, which is incorporated by reference into the Strategic Report, on pages 262-264 for the actions we have taken since these announcements and for the impact on the "Consolidated Financial Statements".

### Syria

Shell holds a 65% interest in Syria Shell Petroleum Development B.V. (SSPD), a joint venture between Shell and the China National Petroleum Corporation. SSPD holds a 31.25% interest in Al Furat Petroleum Company, a Syrian joint stock company, whose role was to perform petroleum operations. Shell also holds a 70% interest in two exploration licences via Shell South Syria Exploration B.V. In December 2011, in compliance with international sanctions on Syria, including European Council Decision 2011/782/CFSP, Shell suspended all exploration and production activities in Syria. SSPD continued to fulfil minimum contractual obligations towards the Syrian finance and labour ministries, in compliance with applicable trade control laws. In 2022, as part of the minimum contractual obligations, payments for taxes related to salary and social security amounted to $1,400.

### Rest of Middle East and Asia

Shell also has interests in Kuwait and the United Arab Emirates.

On November 1, 2022, Shell Petroleum N.V. completed the sale of its 100% shareholding in Shell Philippines Exploration B.V. (SPEX) to Malampaya Energy XP Pte Ltd, a subsidiary of Prime Infrastructure Capital Inc (Prime Infra). SPEX owns a 45% operating interest and is operator in Service Contract 38, which includes the Malampaya gas field. The sale completion transferred ownership and control of SPEX to Prime Infra.

## Africa

### Nigeria

Shell operates a number of interests in onshore and offshore oil exploration and production assets in Nigeria.

#### Onshore

The Shell Petroleum Development Company of Nigeria Limited (SPDC) is the operator of the SPDC joint venture (SPDC JV, Shell interest 30%) which, after the handover of its operations in OML 11 in 2022, has 15 Niger Delta onshore oil mining leases (OMLs).

SPDC also has three shallow-water oil mining leases (OML 74, 77 and 79) and a 40% interest in the non-operated Sunlink joint venture which has one shallow-water lease (OML 144).

In 2021, we announced our intention to reduce our involvement in onshore oil production in Nigeria, in line with our Powering Progress strategy.

#### Offshore

Our main offshore deep-water activities are carried out by Shell Nigeria Exploration and Production Company Limited (SNEPCo, Shell interest 100%). SNEPCo has interests in three deep-water blocks that are under PSC terms: the producing assets Bonga (OML 118) and Erha (OML 133), and the non-producing asset Bolia Chota (OML 135). SNEPCo operates OML 118 (Shell interest 55%), including the Bonga field FPSO vessel. We also operate OML 135, encompassing the Bolia and Doro fields (Shell interest 55%). We have a 43.8% non-operating interest in OML 133 (including the Erha FPSO).

In 2022, OML 118 and OML 133 were renewed for 20 years following settlement of disputes regarding historic allocation of production between Nigerian National Petroleum Corporation (NNPC) and the parties to the PSCs.

Authorities are investigating our involvement in Nigerian oil Block OPL 245 and the 2011 settlement of litigation pertaining to that block.

See Note 31 to the "Consolidated Financial Statements" on pages 303-305.

#### Business update

In August 2021, the Petroleum Industry Act (PIA) entered into effect, creating a new regulatory framework for the petroleum industry in Nigeria. The PIA introduces significant changes and we are actively engaged in the implementation process to ensure that these changes are implemented in a timely manner in our operations.

In 2022, our share of production, onshore and offshore, in Nigeria was 131 thousand boe/d, compared with 175 thousand boe/d in 2021. Security issues, sabotage and crude oil theft in the Niger Delta continued and remained significant challenges to our onshore operations in 2022, leading to a significant reduction of crude available for export from the Bonny terminal for several months. We will continue to monitor the situation closely and evaluate implications for the integrity of our infrastructure and the sustainability of our current operations. We continue to put the safety of our employees and contractors first.

In our Nigerian operations, we face various risks and adverse conditions which could have a significant adverse effect on our operational performance, earnings, cash flows and financial condition.

See "Risk factors" on page 20.

There are limitations to the extent to which we can mitigate these risks. We liaise with host communities, and governmental and non-governmental organisations to help promote peaceful and safe operations for our people and local communities. We carry out regular portfolio assessments so we can maintain our long-term competitiveness in Nigeria. We support the Nigerian government's efforts to improve the efficiency, functionality and domestic benefits of Nigeria's oil and gas industry. We monitor legislative developments and the security situation. We continue to be transparent about how we manage and

# Generating shareholder value | Upstream continued

report spills, and how we respond to spills. We implement a maintenance strategy to support sustainable equipment reliability and have begun a multi-year programme to reduce routine flaring of associated gas.

See "Our Journey to net zero" on pages 78-105.

### Rest of Africa

Shell also has interests in Algeria, Mauritania, Namibia, Sao Tome and Principe, South Africa and Tunisia.

In 2021, Shell announced plans to hand back to the government of Tunisia upstream assets associated with the Miskar and Hasdrubal concessions. In 2022, Shell handed back the Miskar concession upon its expiry. Discussions continue regarding the Hasdrubal hand-back.

### North America

#### Canada

Shales assets in Canada are now reported as part of the Integrated Gas segment instead of the Upstream segment.

See "Integrated Gas" on pages 38-43.

#### USA

The majority of our oil and gas interests in the USA comprise leases for federal offshore tracts in the deep waters of the Gulf of Mexico. Such leases usually have a fixed primary term and, once production is established, the leases remain in effect through continued production, subject to compliance with the terms and provisions of the leases (including appurtenant applicable laws and regulations).

In February 2023, we sold our 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC to IKAV.

Shell holds one licence interest in the North Slope area of Alaska. In 2020, we received regulatory approval to combine our near-shore leases in West Harrison Bay into a single unit. Shell is currently seeking a co-owner to operate the unit.

#### Gulf of Mexico

Shell's major production area in the USA is the Gulf of Mexico. We have a total of 327 active federal offshore leases where Shell is the operator and an additional 103 active federal offshore leases where Shell has a non-operated interest.

We are the operator of eight production hubs: Mars (Shell interests ranging from 33.7% to 100%), Olympus (Shell interests ranging from 71.5% to 100%), Auger (Shell interests ranging from 27.5% to 100%), Perdido (Shell interests ranging from 33.3% to 40%), Ursa (Shell interests ranging from 40% to 80%), Enchilada/Salsa (Shell interests ranging from 37.5% to 75%), Appomattox (Shell interest 79%) and Stones (Shell interest 100%). We also have the West Delta 143 processing facilities (Shell interest 71.5%).

We continue to produce from Coulomb (Shell interest 100%) which ties into the Na Kika platform (Shell interest 50%) operated by BP.

We continued exploration, development and abandonment activities in the Gulf of Mexico in 2022.

In March 2022, we began production at PowerNap (Shell interest 100%), a subsea tie-back to the Shell-operated Olympus tension leg platform (Shell interest 71.5%) in the Mars Corridor. PowerNap is expected to produce up to 20,000 barrels of oil equivalent per day (boe/d) at peak rates.



## Vito - delivering value with a smaller, less costly design

Upstream seeks to deliver more value for shareholders by producing oil and gas more cost competitively, while striving for lower carbon emissions. Shell has more than 40 years of deep-water experience and we are constantly learning.

We planned a new Shell-operated deep-water platform for the Gulf of Mexico, Vito (Shell interest 63.1%), and then redesigned it to be simpler and more cost-efficient. The result: a platform a third of its original planned size at 70% less cost. The Vito team rose to the challenge and achieved first production in February 2023. Peak production is estimated at 100,000 barrels of oil equivalent per day.

Vito's simplified hull design reduces operating expenses since it requires less maintenance. Its simplified mooring design requires less equipment, less capital investment and reduces safety exposures to operators. By limiting the topside scope to a weight less than 9,000 tonnes, this new design focused on being less complex to operate and less expensive to build.

Vito has not only delivered shareholder value but will also pave the way for other deep-water developments through innovation and simplification. Our Shell-operated Whale project (Shell interest 60%), also in the Gulf of Mexico and approved in 2021, will follow suit and replicate much of Vito's smaller, more cost-effective design.

Photo: In July 2022, our latest deep-water project, Vito, set sail from Ingleside, Texas to go out for installation in the US Gulf of Mexico.

# Generating shareholder value | Upstream continued

Together with our partner, China National Offshore Oil Corporation (CNOOC), we have reached a final investment decision (FID) on Rydberg (Shell interest 80%). It is a subsea tie-back to the Shell-operated Appomattox production hub (Shell interest 79%). The project is expected to start production in 2024 and produce up to 16,000 barrels of oil equivalent per day (boe/d) at peak rates.

In June 2022, we acquired a 51% operated interest from Equinor in the North Platte deep-water development project. To reflect Shell's entry to the project, Shell and Equinor have agreed to rename the North Platte opportunity to Sparta. Front-end engineering and design (FEED) has been well matured, and Shell is working closely with Equinor to progress the opportunity.

In February 2023, we began production at the Shell-operated Vito floating production facility (Shell interest 63.1%). Vito is expected to produce up to 100,000 barrels of oil equivalent per day (boe/d) at peak rates. We also made progress on the development of Whale (Shell interest 60%), which is a Shell-operated stand-alone host in the execution phase, expected to achieve first oil in late 2024.

The 2022 Atlantic hurricane season did not have a material impact on production at our Gulf of Mexico assets.

**Rest of North America**
Shell also has deep-water licences and one shallow-water licence in Mexico.

**South America**
**Argentina**
Shell has interests in the onshore Vaca Muerta Basin in the Neuquén Province. We are the operator of the Cruz de Lorena, Sierras Blancas and Coiron Amargo Sur Oeste (Shell interest 90% each), and Bajada de Añelo (Shell interest 50%) areas. We have non-operated interests in the areas of Rincon La Ceniza and La Escalonada (Shell interest 45% each), both operated by Total Austral S.A., and in the Bandurria Sur area (Shell interest 30%), operated by YPF S.A. We are the operator of a joint venture created for the construction of a pipeline which connects Sierras Blancas and the regional distribution network (Shell interest 60%).

In the north-western Argentina basin, we have a non-operated interest in the onshore Acambuco area (Shell interest 22.5%), operated by Pan American Energy.

In addition to the producing interests, we are the operator of two frontier exploration areas offshore Argentina (Shell interest 60% each) and we have a non-operated interest in an adjacent area (Shell interest 30%), operated by Equinor.

**Brazil**
Shell's operated assets in Brazil consist of the Bijupirá and Salema fields (Shell interest 80% each), which are being decommissioned; the producing BC-10 field (Shell interest 50%) in the Campos Basin; the Gato do Mato and the adjacent Sul de Gato do Mato areas in the Santos Basin (Shell interest 50%), subject to unitisation and with development options under evaluation. We also hold an interest in 13 exploration blocks in the Santos Basin (Shell interests ranging from 45% to 100%), 10 blocks in the Barreirinhas Basin (Shell interests ranging from 50% to 100%), four blocks in the Campos Basin (Shell interests ranging from 40% to 100%) and one block in the Potiguar Basin (Shell interest 100%).

Our non-operated portfolio consists of eight producing fields in the offshore Santos Basin: the Sapinhoá field (Shell interest 30%, operated by Petrobras and straddling the BM-S-9 and Entorno de Sapinhoá blocks already unitised); the Lapa field (Shell interest 30% in Block BM-S-9A, operated by TotalEnergies); the Berbigão and Sururu fields (Shell interest 25% in Block BM-S-11A, operated by Petrobras and subject to ongoing unitisation agreement discussions); the Atapu field (Shell interest 16.7% and straddling the BM-S-11A and Atapu PSC area already unitised); the Tupi field (Shell interest 23%, already unitised, in Block BM-S-11 and operated by Petrobras); the Iracema field (Shell interest 25% in Block BM-S-11 and operated by Petrobras); and the Mero field in the Libra PSC area (Shell interest 20%, unitisation with an adjoining area still subject to government approval and operated by Petrobras).

In addition to the producing assets, we hold interests in four non-operated exploration blocks, two in the Santos Basin (Shell interest of 20% and 40%, both operated by Petrobras) and two in the Potiguar Basin (Shell interest 40%, both operated by Petrobras).

The FPSO Guanabara production started in the Mero field in April 2022, offshore Santos Basin. Mero is expected to receive three more FPSOs and start producing from these between 2023 and 2025.

In April 2022, we signed the PSC related to the acquisition of 25% of Atapu Transfer of Rights area (acquired in the ANP bid round in 2021) and increasing Shell's interest in the Atapu field from 4.3% to 16.7%.

In December 2022, Shell placed a successful bid in the ANP's Permanent Offer PSC bid round for the acquisition of 40% of the Sudoeste de Sagitário block in the Santos Basin and is awaiting ratification.

**Rest of South America**
Shell also has interests in Suriname and Uruguay.

## Trading and supply

Shell markets and trades crude oil from most of its Upstream operations.

# Generating shareholder value

## Oil and gas information

### Proved developed and undeveloped reserves of Shell subsidiaries and Shell share of joint ventures and associates

| | Crude oil and natural gas liquids (million barrels) | Synthetic crude oil (million barrels) | Natural gas (thousand million scf) | Total (million boe)[A] |
|---|---|---|---|---|
| Shell subsidiaries | | | | |
| Increase/(decrease) in 2022: | | | | |
| Revisions and reclassifications | 137 | (25) | (31) | 107 |
| Improved recovery | 32 | – | – | 32 |
| Extensions and discoveries | 61 | – | 1,270 | 280 |
| Purchases and sales of minerals in place | 66 | 240 | 662 | 420 |
| Total before taking production into account | 296 | 215 | 1,901 | 839 |
| Production [B] | (504) | (17) | (2,648) | (978) |
| Total | (208) | 198 | (747) | (139) |
| At January 1, 2022 | 3,820 | 533 | 23,795 | 8,456 |
| At December 31, 2022 | 3,612 | 731 | 23,048 | 8,317 |
| Shell share of joint ventures and associates | | | | |
| Increase/(decrease) in 2022: | | | | |
| Revisions and reclassifications | (25) | – | (733) | (152) |
| Improved recovery | – | – | – | – |
| Extensions and discoveries | 4 | – | 80 | 18 |
| Purchases and sales of minerals in place | 159 | – | 2,549 | 599 |
| Total before taking production into account | 138 | – | 1,896 | 465 |
| Production [C] | (29) | – | (486) | (113) |
| Total | 109 | – | 1,410 | 352 |
| At January 1, 2022 | 228 | – | 3,949 | 909 |
| At December 31, 2022 | 337 | – | 5,359 | 1,261 |
| Total | – | – | – | – |
| Increase/(decrease) before taking production into account | 434 | 215 | 3,797 | 1,304 |
| Production | (533) | (17) | (3,134) | (1,091) |
| Increase/(decrease) | (99) | 198 | 663 | 213 |
| At January 1, 2022 | 4,048 | 533 | 27,744 | 9,365 |
| At December 31, 2022 | 3,949 | 731 | 28,407 | 9,578 |
| Reserves attributable to non-controlling interest in Shell subsidiaries at December 31, 2022 | – | 365 | – | 365 |

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 standard cubic feet (scf) per barrel.
[B] Included 40 million boe consumed in operations (natural gas: 228 thousand million scf; synthetic crude oil: 1 million barrels).
[C] Included 5 million boe consumed in operations (natural gas: 31 thousand million scf).

# Generating shareholder value | Oil and gas information continued

## Proved reserves

The proved oil and gas reserves of Shell subsidiaries and the Shell share of the proved oil and gas reserves of joint ventures and associates are set out in more detail in "Supplementary Information – Oil and Gas (unaudited)" on pages 308-326.

Before taking production into account, our proved reserves increased by 1,304 million boe in 2022. This consisted of an increase of 839 million boe from Shell subsidiaries and an increase of 465 million boe from the Shell share of joint ventures and associates. After taking production into account, our proved reserves increased by 213 million boe in 2022 to 9,578 million boe at December 31, 2022.

## Shell subsidiaries

Before taking production into account, Shell subsidiaries' proved reserves increased by 839 million boe in 2022. This consisted of an increase of 296 million barrels of crude oil and natural gas liquids, an increase of 328 million boe (1,901 thousand million scf) of natural gas and an increase of 215 million barrels of synthetic crude oil. The 839 million boe increase is the net effect of a net increase of 107 million boe from revisions and reclassifications, an increase of 280 million boe from extensions and discoveries, an increase of 32 million boe from improved recovery, and a net increase of 420 million boe related to purchases and sales of minerals in place.

After taking into account production of 978 million boe (of which 40 million boe were consumed in operations), Shell subsidiaries' proved reserves decreased by 139 million boe in 2022 to 8,317 million boe. In 2022, Shell's subsidiaries proved developed reserves (PD) decreased by 519 million boe to 6,221 million boe and proved undeveloped reserves (PUD) increased by 380 million boe to 2,096 million boe.

## Shell share of joint ventures and associates

Before taking production into account, the Shell share of joint ventures and associates' proved reserves increased by 465 million boe in 2022. This consisted of an increase of 138 million barrels of crude oil and natural gas liquids and an increase of 327 million boe (1,896 thousand million scf) of natural gas. The 465 million boe increase comprised a net decrease of 152 million boe from revisions and reclassifications, an increase of 18 million boe from extensions and discoveries and an increase of 599 million boe from purchase of minerals in place.

After taking into account production of 113 million boe (of which 5 million boe were consumed in operations), the Shell share of joint ventures and associates' proved reserves increased by 352 million boe to 1,261 million boe at December 31, 2022.

The Shell share of joint ventures and associates' proved developed reserves (PD) decreased by 193 million boe to 608 million boe, and proved undeveloped reserves (PUD) increased by 545 million boe to 653 million boe.

For further information, see "Supplementary Information - oil and gas (unaudited)" on pages 308-326.

## Proved undeveloped reserves

In 2022, Shell subsidiaries and the Shell share of joint ventures and associates' PUD increased by 925 million boe to 2,749 million boe. There were decreases of 331 million boe as a result of maturation to PD, mainly 39 million boe in Mero (Brazil), 31 million boe in Pierce (UK), and 261 million boe spread across other fields. This was a decrease of 116 million boe as a result of revisions, reclassifications and entitlement changes, which were mainly because of the de-recognition of reserves in Russia and de-maturation of some PUD wells in British Columbia, Canada, after regulator authorisations were suspended in 2022. These were offset by an increase of 301 million as a result of de-maturation of PD to PUD, mainly due to 262 million boe in Kashagan (Kazakhstan), where a new slug catcher needs to be installed, an increase of 32 million boe due to improved recovery, a net increase of 741 million boe due to purchases and sales of minerals in place and a net increase of 298 million boe due to extensions and discoveries, mainly due to 102 million boe in Crux (Australia), 78 million boe in Marjoram (Malaysia), and 118 million boe spread across other fields.

In addition to the maturation of 331 million boe from PUD to PD, 126 million boe was matured to PD from contingent resources through PUD as a result of project execution during the year.

PUD held for five years or more (PUD5+) at December 31, 2022, amounted to 156 million boe, a decrease of 82 million boe compared with the end of 2021. The decrease in PUD5+ during 2022 was driven mainly by changes in Lunskoye (Russia) and Kolo Creek (Nigeria).

The fields with the largest PUD5+ on December 31, 2022, were Gorgon (Australia) and Tupi (Brazil). These PUD5+ remain undeveloped because of the complexity and scale of the project (Australia) or because ongoing development requires the ongoing drilling of additional wells (Brazil).

During 2022, we spent $5.8 billion on development activities related to PUD maturation.

## Delivery commitments

We sell crude oil and natural gas from our producing operations under a variety of contractual obligations. Most contracts generally commit us to sell quantities based on production from specified properties, although some natural gas sales contracts specify delivery of fixed and determinable quantities, as discussed below.

In the past three years, we met our contractual delivery commitments, with the notable exceptions of Egypt, Trinidad and Tobago, and Malaysia. In the period 2023-2025, we are contractually committed to deliver to third parties, joint ventures and associates a total of 5,870 billion scf of natural gas from our subsidiaries, joint ventures and associates. The sales contracts contain a mixture of fixed and variable pricing formulae that are generally referenced to the prevailing market price for crude oil, natural gas or other petroleum products at the time of delivery.

In the period 2023-2025, we expect to meet our delivery commitments for almost all the areas in which they are carried, with an estimated 71% coming from PD, 5% through the delivery of gas that becomes available to us from paying royalties in cash, and 24% from the development of PUD as well as other new projects and purchases. The key exceptions are:

- In Egypt, the expected shortfall of 491 billion scf (85% of the promised gas delivery) for the 2023-2025 period is mainly caused by the performance of the West Delta Deep Marine fields being insufficient to meet the committed quantities to ELNG. If the government divert more gas to the domestic market, this would increase the shortfall.
- In Trinidad and Tobago (North Coast Marine Area), we expect to cover 77% of our delivery commitments from existing developed resource volumes and new projects, resulting in an expected true shortfall of some 62 billion scf.
- In Malaysia, one of the third-party gas supply lines which was under maintenance has not been repaired during 2022. Force majeure has been declared, and no penalties have been incurred, resulting in an expected true shortfall of some 77 billion scf (64% of the promised gas delivery).

# Generating shareholder value | Oil and gas information continued

## Summary of proved oil and gas reserves of Shell subsidiaries and Shell share of joint ventures and associates (at December 31, 2022)

Based on average prices for 2022

| | Crude oil and natural gas liquids (million barrels) | Natural gas (thousand million scf) | Synthetic crude oil (million barrels) | Total (million boe)[A] |
|---|---|---|---|---|
| **Proved developed** | | | | |
| Europe | 143 | 2,635 | – | 597 |
| Asia | 1,153 | 8,959 | – | 2,698 |
| Oceania | 73 | 4,240 | – | 804 |
| Africa | 187 | 984 | – | 356 |
| North America | | | | |
| USA | 356 | 275 | – | 404 |
| Canada | 3 | 712 | 731 | 857 |
| South America | 838 | 1,589 | – | 1,113 |
| Total proved developed | 2,753 | 19,394 | 731 | 6,829 |
| **Proved undeveloped** | | | | |
| Europe | 52 | 424 | – | 125 |
| Asia | 585 | 5,127 | – | 1,469 |
| Oceania | 33 | 1,878 | – | 356 |
| Africa | 31 | 857 | – | 179 |
| North America | | | | |
| USA | 187 | 246 | – | 229 |
| Canada | 1 | 244 | – | 43 |
| South America | 307 | 237 | – | 348 |
| Total proved undeveloped | 1,196 | 9,013 | – | 2,749 |
| **Total proved developed and undeveloped** | | | | |
| Europe | 195 | 3,059 | – | 722 |
| Asia | 1,738 | 14,086 | – | 4,167 |
| Oceania | 106 | 6,118 | – | 1,160 |
| Africa | 218 | 1,841 | – | 535 |
| North America | | | | |
| USA | 543 | 521 | – | 633 |
| Canada | 4 | 956 | 731 | 900 |
| South America | 1,145 | 1,826 | – | 1,461 |
| Total | 3,949 | 28,407 | 731 | 9,578 |
| Reserves attributable to non-controlling interest in Shell subsidiaries | | | 365 | 365 |

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

# Generating shareholder value | Oil and gas information continued

## Exploration

Shell's exploration team searches for crude oil and gas, both onshore and offshore. Exploration may result in discoveries of oil and gas that we can develop, helping maintain energy security and contributing to our Powering Progress strategy.

In 2022, producible hydrocarbons were encountered in Malaysia, the UK and the Gulf of Mexico. Hydrocarbons were also encountered in Namibia and further appraisal is being undertaken to determine producibility.

### Gulf of Mexico

In 2022, Shell acquired 20 blocks in the Gulf of Mexico in Lease Sale 257. We relinquished a lease for one block ahead of expiration.

### Brazil

In 2022, the Brazilian government ratified 11 Santos Basin blocks. Shell secured five blocks in the 2021 17th National Petroleum Agency Bid-Round and the remaining six in the 2022 3rd Permanent Offer Concession Bid-Round (Shell interest 70% in seven of them, 100% in the remaining four, operator in all cases). We also secured one Santos block in 2022 1st Production Sharing Permanent Offer Bid-Round in Brazil (Shell interest 40%, non-operated), which is awaiting government ratification.

### Malaysia

In 2022, Shell relinquished one non-operated Sabah block (Shell interest 50%). We signed three exploration PSCs for the offshore Sarawak and Sabah blocks (Shell interest 92.5% in two Sarawak blocks, 50% in two Sabah blocks, operator). We also signed an exploration PSC for another non-operated Sabah block (Shell interest 25.1%).

### UK

In 2022, Shell farmed into three exploration licences in the UK's southern North Sea area (Shell interest 50%, non-operated).

### New frontiers

In June 2022, Shell secured two blocks in the Open Uruguay Round, which are awaiting government ratification (Shell interest 100%, operator).

In September 2022, we took over an additional 50% participating interest in two operated blocks offshore Sao Tome and Principe, after the withdrawal of a partner, giving us a total interest of 85% in both blocks.

In December 2022, we completed the farm-out of a 45% non-operated participating interest in a deep-water exploration licence off the Western Cape of South Africa.

For further information, see "Supplementary Information - oil and gas (unaudited)" on pages 308-326.

## Location of oil and gas exploration and production activities

### Location of oil and gas exploration and production activities [A] (at December 31, 2022)

| | Exploration | Development and/or Production | Shell operator [B] |
|---|---|---|---|
| **Europe** | | | |
| Albania | ● | ● | ● |
| Cyprus | | ● | |
| Germany | | ● | |
| Italy | | ● | |
| Netherlands | ● | ● | ● |
| Norway | ● | ● | ● |
| UK | ● | ● | ● |
| **Asia** | | | |
| Brunei | ● | ● | ● |
| China | | ● | ● |
| Indonesia | | ● | |
| Kazakhstan | | ● | |
| Malaysia | ● | ● | ● |
| Oman | ● | ● | ● |
| Qatar | | ● | ● |
| **Oceania** | | | |
| Australia | ● | ● | ● |
| **Africa** | | | |
| Egypt | ● | ● | ● |
| Mauritania | ● | | ● |
| Namibia | ● | | ● |
| Nigeria | ● | ● | ● |
| Sao Tome and Principe | ● | | ● |
| South Africa | ● | | ● |
| Tanzania | | ● | ● |
| Tunisia | | ● | ● |
| **North America** | | | |
| Mexico | ● | | ● |
| USA | ● | ● | ● |
| Canada | ● | ● | ● |
| **South America** | | | |
| Argentina | ● | ● | ● |
| Barbados | ● | | |
| Bolivia | | ● | |
| Brazil | ● | ● | ● |
| Colombia | ● | ● | ● |
| Suriname | ● | | ● |
| Trinidad and Tobago | ● | ● | ● |
| Uruguay | ● | | ● |

[A] Includes joint ventures and associates. Where a joint venture or an associate has properties outside its base country, those properties are not shown in this table.
[B] In several countries where "Shell operator" is indicated, Shell is the operator of some but not all exploration and/or production ventures.

# Generating shareholder value | Oil and gas information continued

## Oil and gas production available for sale

### Crude oil and natural gas liquids [A]

Thousand barrels

| | 2022 | | 2021 | | 2020 | |
|---|---|---|---|---|---|---|
| | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates |
| **Europe** | | | | | | |
| Italy | 9,091 | – | 9,677 | – | 11,342 | – |
| UK | 23,905 | – | 25,554 | – | 30,061 | – |
| Other [B] | 3,722 | 621 | 5,456 | 1,205 | 7,523 | 1,084 |
| Total Europe | 36,718 | 621 | 40,687 | 1,205 | 48,926 | 1,084 |
| **Asia** | | | | | | |
| Brunei | 3,256 | 16,282 | 1,076 | 17,894 | 387 | 17,094 |
| Kazakhstan | 29,667 | – | 35,592 | – | 37,769 | – |
| Malaysia | 16,759 | – | 17,983 | – | 18,494 | – |
| Oman | 82,006 | – | 78,745 | – | 74,854 | – |
| Russia | 10,955 | 1,963 | 21,012 | 7,769 | 20,816 | 9,050 |
| Other [B] | 24,965 | 7,498 | 30,061 | 7,548 | 30,101 | 7,629 |
| Total Asia | 167,608 | 25,743 | 184,469 | 33,211 | 182,421 | 33,773 |
| Total Oceania [B] | 9,391 | – | 11,844 | – | 7,416 | – |
| **Africa** | | | | | | |
| Nigeria | 27,554 | – | 35,911 | – | 48,620 | – |
| Other [B] | 1,855 | – | 5,540 | – | 8,485 | – |
| Total Africa | 29,409 | – | 41,451 | – | 57,105 | – |
| **North America** | | | | | | |
| USA | 121,690 | – | 164,811 | – | 165,169 | – |
| Canada | 687 | – | 2,640 | – | 8,128 | – |
| Total North America | 122,377 | – | 167,451 | – | 173,297 | – |
| **South America** | | | | | | |
| Argentina | 9,023 | 2,587 | 4,836 | 1,566 | 3,371 | 729 |
| Brazil | 127,862 | – | 126,566 | – | 131,339 | – |
| Other [B] | 1,583 | – | 1,620 | – | 1,701 | – |
| Total South America | 138,468 | 2,587 | 133,022 | 1,566 | 136,411 | 729 |
| Total | 503,971 | 28,951 | 578,924 | 35,982 | 605,576 | 35,586 |

[A] Reflects 100% of production of subsidiaries except in respect of production-sharing contracts (PSCs), where the figures shown represent the entitlement of the subsidiaries concerned under those contracts.
[B] Comprises countries where production was lower than 10,100 thousand barrels or where specific disclosures are prohibited.

### Synthetic crude oil

Thousand barrels

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | Shell subsidiaries | Shell subsidiaries | Shell subsidiaries |
| North America - Canada | 16,949 | 19,891 | 18,920 |

# Generating shareholder value | Oil and gas information continued

## Natural gas [A]

Million standard cubic feet

| | 2022 | | 2021 | | 2020 | |
|---|---|---|---|---|---|---|
| | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates |
| **Europe** | | | | | | |
| Netherlands | – | 133,210 | – | 159,107 | – | 131,648 |
| Norway | 174,523 | – | 178,577 | – | 187,627 | – |
| UK | 69,647 | – | 49,128 | – | 65,012 | – |
| Other [B] | 45,159 | – | 47,127 | – | 48,923 | – |
| Total Europe | 289,329 | 133,210 | 274,832 | 159,107 | 301,562 | 131,648 |
| **Asia** | | | | | | |
| Brunei | 15,328 | 138,007 | 17,989 | 147,865 | 21,025 | 159,846 |
| China | 56,008 | – | 55,967 | – | 46,750 | – |
| Kazakhstan | 57,932 | – | 72,176 | – | 86,999 | – |
| Malaysia | 200,249 | – | 193,871 | – | 226,791 | – |
| Russia | 2,085 | 37,897 | 4,113 | 125,973 | 4,301 | 142,418 |
| Other [B] | 378,313 | 118,435 | 447,743 | 118,397 | 452,528 | 118,153 |
| Total Asia | 709,915 | 294,339 | 791,859 | 392,235 | 838,394 | 420,417 |
| **Oceania** | | | | | | |
| Australia | 693,293 | 22,577 | 696,562 | 19,272 | 633,580 | 20,646 |
| Total Oceania | 693,293 | 22,577 | 696,562 | 19,272 | 633,580 | 20,646 |
| **Africa** | | | | | | |
| Egypt | 49,618 | – | 86,348 | – | 104,946 | – |
| Nigeria | 118,032 | – | 161,916 | – | 190,982 | – |
| Other [B] | 11,966 | – | 23,473 | – | 27,438 | – |
| Total Africa | 179,616 | – | 271,737 | – | 323,366 | – |
| **North America** | | | | | | |
| USA | 112,560 | – | 198,578 | – | 255,383 | – |
| Canada | 122,753 | – | 116,423 | – | 164,451 | – |
| Total North America | 235,313 | – | 315,001 | – | 419,834 | – |
| **South America** | | | | | | |
| Bolivia | 40,360 | – | 45,214 | – | 45,015 | – |
| Brazil | 73,975 | – | 72,107 | – | 73,914 | – |
| Trinidad and Tobago | 186,150 | – | 121,411 | – | 141,576 | – |
| Other [B] | 12,912 | 2,227 | 11,006 | 393 | 9,609 | 830 |
| Total South America | 313,397 | 2,227 | 249,738 | 393 | 270,114 | 830 |
| Total | 2,420,863 | 452,353 | 2,599,729 | 571,007 | 2,786,850 | 573,541 |

[A] Reflects 100% of production of subsidiaries except in respect of PSCs, where the figures shown represent the entitlement of the subsidiaries concerned under those contracts.
[B] Comprises countries where production was lower than 41,795 million scf or where specific disclosures are prohibited.

# Generating shareholder value | Oil and gas information continued

## Average realised price by geographical area

### Crude oil and natural gas liquids

$/barrel

| | 2022 | | 2021 | | 2020 | |
|---|---|---|---|---|---|---|
| | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates |
| Europe | 94.52 | 91.26 | 68.30 | 64.18 | 39.51 | 39.05 |
| Asia | 88.69 | 100.81 | 63.82 | 70.09 | 38.73 | 42.51 |
| Oceania | 78.37 | – | 63.56 | – | 21.29 | – |
| Africa | 104.84 | – | 70.89 | – | 41.23 | – |
| North America - USA | 92.89 | – | 62.75 | – | 34.17 | – |
| North America - Canada | 62.10 | – | 46.58 | – | 27.17 | – |
| South America | 85.84 | 71.21 | 64.28 | 56.91 | 36.01 | 37.28 |
| Total | 90.06 | 97.80 | 64.28 | 69.34 | 36.72 | 42.31 |

### Synthetic crude oil

$/barrel

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | Shell subsidiaries | Shell subsidiaries | Shell subsidiaries |
| North America - Canada | 86.93 | 60.11 | 31.13 |

### Natural gas

$/thousand scf

| | 2022 | | 2021 | | 2020 | |
|---|---|---|---|---|---|---|
| | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates |
| Europe | 27.24 | 26.87 | 10.71 | 9.86 | 3.66 | 3.76 |
| Asia | 3.74 | 10.88 | 2.54 | 6.91 | 1.88 [A] | 4.19 |
| Oceania | 13.21 | 6.75 | 7.74 | 4.04 | 5.95 [A] | 3.15 |
| Africa | 7.08 | – | 3.43 | – | 2.55 | – |
| North America - USA | 8.46 | – | 4.40 | – | 1.72 | – |
| North America - Canada | 4.08 | – | 2.70 | – | 1.61 | – |
| South America | 8.71 | 3.90 | 4.04 | 1.82 | 1.35 | 1.90 |
| Total | 10.88 | 14.56 | 5.39 | 7.60 | 2.99 [A] | 4.06 |

[A] As revised, following a reassessment.

# Generating shareholder value | Oil and gas information continued

## Average production cost by geographical area

### Crude oil, natural gas liquids and natural gas [A]

$/boe

| | 2022 | | 2021 | | 2020 | |
|---|---|---|---|---|---|---|
| | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates | Shell subsidiaries | Shell share of joint ventures and associates |
| Europe | 24.83 | 12.25 | 21.48 | 8.59 | 20.05 | 11.44 |
| Asia | 6.75 | 8.06 | 5.66 | 7.64 | 5.54 | 6.83 |
| Oceania | 10.32 | 24.97 | 9.26 | 24.68 | 8.92 | 20.23 |
| Africa | 13.66 | – | 11.47 | – | 9.43 | – |
| North America - USA | 11.03 | – | 10.88 | – | 12.50 | – |
| North America - Canada | 11.15 | – | 10.64 | – | 10.52 | – |
| South America | 6.91 | 7.74 | 5.80 | 5.51 | 5.18 | 9.18 |
| Total | 10.20 | 9.59 | 9.12 | 8.23 | 9.10 | 8.02 |

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

### Synthetic crude oil

$/barrel

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | Shell subsidiaries | Shell subsidiaries | Shell subsidiaries |
| North America - Canada | 23.05 | 18.87 | 18.28 |

# Generating shareholder value

## Marketing

Marketing comprises Mobility, Lubricants, and Sectors and Decarbonisation activities. Mobility operates Shell's retail network, including electric vehicle charging services. Lubricants produces, markets and sells lubricants for road transport, and for machinery used in manufacturing, mining, power generation, agriculture and construction. Sectors and Decarbonisation sells fuels, and speciality products and services, including energy solutions that help customers reduce emissions in the aviation, marine, commercial road transport and agricultural sectors, among others.

**Segment earnings ($ billion)**

**2.1** 2021: 3.5

**Adjusted Earnings ($ billion)**

**2.8** 2021: 3.5

**Cash flow from operating activities ($ billion)**

**2.4** 2021: 5.0

**Marketing sales volumes (thousand b/d)**

**2,503** 2021: 2,433



# Generating shareholder value | Marketing continued

## Key statistics [A]

$ million, except where indicated

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Segment earnings [B] | 2,133 | 3,535 | 4,081 |
| Including: | | | |
| Revenue (including inter-segment sales) | 121,243 | 83,748 | 55,997 |
| Share of profit of joint ventures and associates | 237 | 385 | 491 |
| Interest and other income | (104) | 278 | 143 |
| Operating expenses [C] | 8,384 | 7,501 | 6,305 |
| Underlying operating expenses [C] | 8,281 | 7,366 | 6,161 |
| Depreciation, depletion and amortisation | 1,900 | 1,700 | 1,499 |
| Taxation charge/(credit) | 903 | 903 | 846 |
| Identified Items [C] | (622) | 68 | 13 |
| Adjusted Earnings [C] | 2,754 | 3,468 | 4,068 |
| Adjusted EBITDA (CCS basis) [C] | 5,324 | 6,021 | 6,455 |
| Capital expenditure | 4,527 | 2,122 | 1,684 |
| Cash capital expenditure [C] | 4,831 | 2,273 | 1,774 |
| Marketing sales volumes (thousand b/d) | 2,503 | 2,433 | 2,276 |

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.
[B] See Note 8 to the "Consolidated Financial Statements" on pages 265-269. Segment earnings are presented on a current cost of supplies basis.
[C] See "Non-GAAP measures reconciliations" on pages 362-365.

### Business conditions

For the business conditions relevant to Marketing, see "Market overview" on pages 35-37.

### Marketing sales

In 2022, Marketing sales volumes were 2,503 thousand barrels of oil per day (TBL/day), which was 3% higher than 2021 sales volumes of 2,433 TBL/day mainly as a result of demand recovery in aviation (within Sectors and Decarbonisation).

### Earnings 2022-2021

Segment earnings in 2022 of $2,133 million were 40% lower than in 2021. This was driven by higher operating expenses($704 million) partly offset by higher marketing margins ($171 million).

Segment earnings in 2022 included a net charge of $622 million, comprising:

- impairment charges of $321 million (mainly related to withdrawal from Russian oil and gas activities);
- net loss from sale of assets of $135 million (mainly related to the withdrawal from Russian oil and gas activities, partly offset by a gain on the revaluation of the existing 50% share of the Texas Petroleum Group following the acquisition of the remaining 50% share); and
- provisions for onerous contracts of $62 million.

These net losses are part of identified items and compare with 2021 which included a net gain of $68 million as follows:

- net gain from disposal of assets of $290 million (mainly related to the dilution of interest in the Raizen joint venture);
- redundancy and restructuring costs of $109 million (mainly the cost of Reshape 2020-2021); and
- impairment charges of $106 million (goodwill impairment on acquisitions of Ubitricity and Multi Service Commercial Road Transport card platform).

Adjusted Earnings compared with 2021 decreased by $714 million, driven by the following:

- Mobility adjusted earnings were $469 million lower than in 2021, mainly as a result of higher operating expenses and unfavourable tax movements. This was partly offset by better margins.
- Lubricants adjusted earnings were $266 million lower than in 2021, mainly because of lower margins due to a higher base oil price, lower associate and joint-venture income and higher operating expenses.
- Sectors and Decarbonisation adjusted earnings were $21 million higher than in 2021, mainly because of better margins (demand recovery in aviation). This was partly offset by higher operating expenses and higher financing expenses in joint ventures.

### Earnings 2021-2020

Segment earnings in 2021 of $3,535 million were 13% lower than in 2020. This was driven by higher operating expenses, partly offset by higher volumes.

Segment earnings in 2021 included a net gain of $68 million as described above. This net gain is part of identified items and compares with 2020 which included a net gain of $13 million as follows:

- net gains of $132 million on sale of assets, mainly related to the acquisition of the remaining 51% equity shares from a joint-venture partner in China;
- restructuring costs of $90 million (various initiatives across the Marketing segment); and
- impairment charges of $33 million.

Adjusted Earnings compared with 2020 decreased by $600 million, driven by the same factors as the segment earnings adjusted for identified items.

# Generating shareholder value | Marketing continued

## Cash capital expenditure

Cash capital expenditure was $4.8 billion in 2022, of which $1.5 billion was in non-energy products and $1.4 billion in low-carbon energy solutions. Cash capital expenditure was $2.3 billion in 2021, of which $0.7 billion was in non-energy products and $0.5 billion in low-carbon energy solutions.

Cash capital expenditure increased by $2.5 billion, because of higher spend on business acquisitions across Marketing (including the acquisition of certain company-owned fuel and convenience retail sites from the Landmark group of companies in the USA, and the acquisition of EcoOils Limited in Singapore). Our cash capital expenditure is expected to be around $6 billion in 2023.

## Portfolio and business developments

Significant portfolio and business developments in 2022 included:

- In May 2022, we completed the sale of Shell Neft LLC, Shell's retail stations and lubricants business in Russia, to PJSC LUKOIL. See Note 6 on pages 262-264 for more information.
- In June 2022, we completed the acquisition of 184 company-owned fuel and convenience retail sites and 107 supply agreements for the independently operated retail fuel and convenience retail sites from the Landmark group of companies in the USA. The agreement to acquire the retail fuel station network (including fuel stations, convenience retail and dealer supply agreements) was signed in October 2021.
- In December 2022, we completed the acquisition of the Environmentally Considerate Lubricants (ECLs) business of the PANOLIN Group. The transaction includes the PANOLIN brand, ECL product formulations, intellectual property, technical expertise and technology, international customer base and portfolio of products.
- In February 2023, we completed the acquisition of 100% of the shares of Nature Energy Biogas A/S for nearly $2 billion.




### Building integrated renewable natural gas (RNG) value chain at global scale

On February 20, 2023, Shell announced it had completed the acquisition of Denmark-based Nature Energy, Europe's largest producer of renewable natural gas (RNG) from biomass, for around $2 billion. The acquisition, which was announced in November 2022, helps accelerate our transition to become a net-zero emissions energy business by 2050 by offering our customers low-carbon fuels, which can help them decarbonise.

Nature Energy produces RNG from agricultural, industrial, and household waste. It has 14 operating plants and established supply infrastructure. The company produced around 6.5 million MMBtu in 2022 and has around 30 new plant projects in Europe and North America which could deliver up to 9.2 million MMBtu/year by 2030.

RNG, also known as biogas or biomethane, is chemically identical to conventional natural gas and can be used in our existing transmission and distribution infrastructure. This makes it a competitive option to help decarbonise hard-to-abate sectors, including commercial road transport, shipping, heating and heavy industry. The sustainability benefits are amplified by the processing and use of methane that would otherwise be released to the atmosphere from the decomposition of organic byproducts and waste.

Shell's Powering Progress strategy seeks to deliver affordable, reliable, low-carbon energy to our customers.

Photos: A truck has delivered manure to Nature Energy's Korskro plant, in the southwest of Jutland, near the Danish city of Esbjerg. Nature Energy converts waste, like manure, into renewable natural gas.

# Generating shareholder value | Marketing continued

## Business and property

### Mobility

Shell is one of the world's largest mobility retailers, by number of sites, with more than 46,000 Shell-branded mobility locations in more than 80 markets at the end of 2022. We operate different models across these markets, from full ownership of retail sites through to brand licensing agreements.

Every day, around 32 million customers visit our mobility locations for an evolving range of quality fuels, including electric vehicle charging, and convenience and non-fuel products and services. We offer our business customers Shell Fleet Solutions, through which they can obtain items including fuel cards, road services and carbon-offset offers. Beyond our mobility locations, we also serve electric vehicle customers at their homes and workplaces through Shell Recharge Solutions, and at on-street locations through Ubitricity.

In addition to fuels, we are expanding our convenience and non-fuel retail offer to cater to more of our customers' needs. At many of our sites, we offer a range of convenience items, including beverages and fresh food, and services such as lubricant changes and car washes. At the end of 2022, Shell operated 12,500 convenience stores worldwide and we expect to grow this number to 15,000, including Shell-branded mobility locations by 2025. We have upgraded more than 1,500 stores with our Shell Café premium fresh coffee and food offer since launching in 2021.

We remain committed to developing traditional fuels for drivers of internal combustion engine vehicles. Aided by our partnership with Scuderia Ferrari, we have concentrated on developing fuels with special formulations designed to clean engines and improve performance. In 2022, we launched a new and improved formulation of Shell V-Power across multiple markets, with further roll-out planned for 2023. We sold fuels under the Shell V-Power brand in 69 markets in 2022.

We are also expanding networks of refuelling stations of lower-emission fuels, including biofuels, hydrogen, and various gaseous fuels such as LNG and bio-LNG. We have more than 50 hydrogen retail sites in Europe and North America, where drivers can fill up their vehicles with hydrogen fuel. In nine markets, Shell Mobility provides customers with the opportunity to compensate their carbon emissions, including through carbon credits.

Shell Mobility aims to take a leadership position in the energy transition by marketing more and cleaner fuels for our customers. At the end of 2022, Shell owned or operated around 139,000 charge points, including more than 28,000 charge points at Shell forecourts, on-street locations, mobility hubs and destinations like supermarkets.

In January 2022, Shell opened its first electric vehicle charging hub in the UK in Fulham, London, where petrol and diesel pumps at an existing fuel station have been replaced with charge points. Shell Fulham features nine high-powered, ultra-rapid 175 kW charge points.

### Lubricants

Shell Lubricants has been the number one global finished lubricants supplier in terms of market share for 16 consecutive years, according to Kline & Company data for 2021. Shell lubricants are available across more than 160 markets for passenger cars, motorcycles, trucks, coaches, and machinery used in manufacturing, mining, power generation, agriculture and construction.

We also make premium lubricants for conventional vehicles and Shell E-fluids for electric vehicles using gas-to-liquids (GTL) base oils that are made from natural gas at our Pearl GTL plant in Qatar.

See "Integrated Gas" on page 43.

We have a global lubricants supply chain with a network of 32 blending plants, four base oil plants, ten grease plants and six GTL base oil storage hubs.

Through our marine activities, we primarily provide the shipping and maritime sectors with lubricants. We also provide fuels, chemical products, and related technical and digital services. We supply more than 200 grades of lubricants and seven types of fuel to vessels worldwide, ranging from large ocean-going tankers to small fishing boats. Shell marine lubricant products are currently used in more than 10,000 vessels and are available in over 700 ports across more than 60 countries.

### Sectors and Decarbonisation

Sectors and Decarbonisation sells fuels, speciality products and services including energy solutions that help customers reduce emissions in the aviation, marine, commercial road transport, and agricultural sectors, among others.

Shell Aviation provides aviation fuel, lubricants and low-carbon solutions globally. In February 2022, Shell became the first supplier of sustainable aviation fuel (SAF) to customers in Singapore. Together with Accenture and American Express Global Business Travel (Amex GBT), Shell launched Avelia - one of the world's first blockchain-powered digital sustainable aviation fuel book-and-claim solutions for business travel. Avelia is designed to help trigger demand for SAF, providing confidence to suppliers like us to further increase investment in production, and in turn lowering the price point for these fuels.

Shell Marine offers a portfolio of marine fuels, lubricants and low-carbon solutions, with a supply network that covers key bunkering locations globally.

Shell is investing in a variety of fuels, technologies and solutions to support a decarbonised future for shipping. In June 2022, Shell and CMA CGM signed a non-binding memorandum of understanding to support the advancement of low-carbon marine fuels and innovative technical solutions, alongside a multi-year LNG supply agreement in the Port of Singapore from the second half of 2023.

Shell Commercial Road Transport provides fuels, lubricants and digital services to customers with heavy-duty vehicles in their fleets. In 2022, Shell expanded its LNG refuelling network to more than 60 operated sites, bringing the number of sites where Shell customers can access LNG in Europe to more than 160. In February 2022, Shell became the first fuel provider to offer customers in the Netherlands a blended product, by feeding a portion of Shell BioLNG into its entire LNG network.

Shell Bitumen supplies customers across 60 markets and provides enough bitumen to resurface 500 kilometres of road lanes every day. It also invests in research and development to create innovative products.

# Generating shareholder value | Marketing continued

Shell Sulphur Solutions manages the complete value chain of sulphur, from refining to marketing. It provides sulphur for use in applications such as fertiliser, mining and chemicals. It also licenses Shell Thiogro technologies to create innovative and custom sulphur-enhanced fertilisers.

In 2022, around 9.5 billion litres of biofuels (2021: 9.1 billion litres) went into Shell's fuels worldwide, which includes sales made by Raízen, our non-operated joint venture in Brazil (Shell interest 44%).

In 2022, Raízen produced around 3 billion litres of ethanol (2021: 2.5 billion litres) and around 4.8 million tonnes of sugar from sugar cane (2021: 4 million tonnes). The cellulosic ethanol plant at Raízen's Costa Pinto mill in Brazil produced 26 million litres of ethanol in 2022 (2021: 19 million litres).

Renewable natural gas (RNG), also known as biogas or biomethane, is gas derived from processing organic waste in a controlled environment until it is fully interchangeable with conventional natural gas.

Shell is constructing two facilities which will convert dairy manure to RNG and which will be co-located at the Bettencourt Dairies in Wendell, Idaho, USA. Once operational, Shell Downstream Bovarius is expected to produce approximately 400,000 MMBtu a year of negative-carbon-intensity RNG. The second facility, Shell Downstream Friesian, is expected to produce approximately 350,000 MMBtu a year of negative-carbon-intensity RNG using cow manure from the dairy once operational.

In Europe, we are offering liquefied renewable natural gas (bio-LNG) to customers with trucks powered by natural gas. In 2022, in collaboration with Nordsol, we commenced production at our first European bio-LNG plant, in Amsterdam Westpoort, in the Netherlands. This made us the first fuel provider to offer a blend of bio-LNG throughout the entire LNG network in the Netherlands. We also began construction of a bio-LNG plant at our Energy and Chemicals Park Rheinland, scheduled to commence operations in 2023.

## Business activities with Syria and Cuba

### Syria

We ceased all operations in Syria in 2011. In 2022, we renewed our trademark rights in Syria and paid $381 to the Syrian Arab Republic Ministry of Finance, and $783 in agent and handling fees. The renewal of the trademark rights is not indicative of any sales of products in Syria.

### Cuba

We do not have any operations in Cuba.

## Marketing data tables

### Branded retail sites [A]

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Europe | 8,260 | 8,178 | 8,071 |
| Asia [B] | 10,470 | 10,753 | 10,387 |
| Oceania [B] | 1,083 | 1,060 | 1,071 |
| Africa | 2,815 | 2,724 | 2,622 |
| Americas [C] | 23,597 | 23,305 | 23,461 |
| Total | 46,225 | 46,020 | 45,612 |

[A] Includes different models, from full-ownership retail sites, and sites operated by joint ventures, through to brand licensing agreements, and excludes sites closed for more than six months.
[B] Asia includes Turkey and Russia; Oceania includes French Polynesia, Guam, Palau and New Caledonia.
[C] Includes around 7,900 retail sites operated by the Raizen joint venture.

### Marketing sales volumes [A][B][C][D]

Thousand b/d

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| **Europe** | | | |
| Mobility | 296 | 360 | 344 |
| Lubricants | 17 | 16 | 15 |
| Sectors & Decarbonisation | 238 | 121 | 107 |
| Total | 551 | 497 | 466 |
| **Asia** | | | |
| Mobility | 520 | 512 | 475 |
| Lubricants | 38 | 42 | 30 |
| Sectors & Decarbonisation | 124 | 107 | 111 |
| Total | 682 | 661 | 616 |
| **Africa** | | | |
| Mobility | 47 | 45 | 40 |
| Lubricants | 3 | 3 | 3 |
| Sectors & Decarbonisation | 8 | 7 | 7 |
| Total | 58 | 55 | 50 |
| **Americas** | | | |
| Mobility | 797 | 828 | 782 |
| Lubricants | 25 | 24 | 23 |
| Sectors & Decarbonisation | 390 | 368 | 339 |
| Total | 1,212 | 1,220 | 1,144 |
| **Total product sales** | | | |
| Mobility | 1,660 | 1,745 | 1,641 |
| Lubricants | 83 | 85 | 71 |
| Sectors & Decarbonisation | 760 | 603 | 564 |
| Total | 2,503 | 2,433 | 2,276 |
| Gasolines | 1,160 | 1,165 | 1,090 |
| Kerosines | 321 | 232 | 214 |
| Gas/Diesel oils | 731 | 746 | 698 |
| Fuel oil | 11 | 7 | 8 |
| Other products | 280 | 283 | 266 |
| Total | 2,503 | 2,433 | 2,276 |

[A] With effect from January 1, 2022, the Marketing segment consists of Mobility, Lubricants, and Sectors and Decarbonisation. Comparative sales volumes have been revised for these businesses, with the exception of the Commercial Road Transport sector, which transferred from Mobility to Sectors and Decarbonisation with effect from January 1, 2022, but where comparative information is not revised due to impracticability.
[B] Excludes deliveries to other companies under reciprocal sale and purchase arrangements, that are in the nature of exchange contracts.
[C] Includes the Shell share of Raízen's sales volumes and joint ventures' sales volumes.
[D] Sales volumes from markets where Shell operates under trademark licensing agreements are excluded.

# Generating shareholder value

## Chemicals and Products

Chemicals and Products includes chemicals manufacturing plants with their own marketing network, and refineries which turn crude oil and other feedstocks into a range of oil products. These are moved and marketed around the world for domestic, industrial and transport use. The business also includes pipelines, trading of crude oil, oil products and petrochemicals, and oil sands activities, which involves the extraction of bitumen from mined oil sands and its conversion into synthetic oil.

**Segment earnings ($ billion)**

**4.5** 2021: 0.4

**Adjusted Earnings ($ billion)**

**4.7** 2021: 2.1

**Cash flow from operating activities ($ billion)**

**12.9** 2021: 3.7

**Refinery processing intake (thousand b/d)**

**1,402** 2021: 1,639

**Refining & Trading sales volumes (thousand b/d)**

**1,700** 2021: 2,026

**Chemicals sales volumes (thousand tonnes)**

**12,281** 2021: 14,216



# Generating shareholder value | Chemicals and Products continued

## Key statistics [A]

$ million, except where indicated

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Segment earnings/(loss) [B] | 4,515 | 404 | (3,821) |
| Including: | | | |
| Revenue (including inter-segment sales) | 147,026 | 118,338 | 85,713 |
| Share of profit of joint ventures and associates | 374 | 989 | 1,064 |
| Interest and other income | 244 | 37 | (236) |
| Operating expenses [C] | 11,361 | 10,347 | 10,514 |
| Underlying operating expenses [C] | 11,368 | 10,298 | 9,916 |
| Depreciation, depletion and amortisation | 3,289 | 5,485 | 10,096 |
| Taxation charge/(credit) | 935 | (210) | (1,754) |
| Identified Items [C] | (204) | (1,712) | (6,656) |
| Adjusted Earnings [C] | 4,719 | 2,115 | 2,835 |
| Adjusted EBITDA [C] | 8,561 | 5,635 | 6,032 |
| Capital expenditure | 3,835 | 5,091 | 4,163 |
| Cash capital expenditure [C] | 3,838 | 5,175 | 4,198 |
| Chemicals manufacturing plant utilisation (%) | 79% | 85% | 88% |
| Refinery utilisation (%) | 86% | 80% | 83% |
| Refinery processing intake (thousand b/d) | 1,402 | 1,639 | 2,063 |
| Refining & Trading sales volumes (thousand b/d) | 1,700 | 2,026 | 2,434 |
| Chemicals sales volumes (thousands tonnes) | 12,281 | 14,216 | 15,036 |

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.
[B] See Note 8 to the "Consolidated Financial Statements" on pages 265-269. Segment earnings are presented on a current cost of supplies basis.
[C] See "Non-GAAP measures reconciliations" on pages 362-365.

### Business conditions

For the business conditions relevant to Chemicals and Products, see "Market overview" on pages 35-37.

### Chemical manufacturing plant utilisation

Utilisation is defined as the actual usage of the plants as a percentage of the rated capacity. Chemicals manufacturing plant utilisation was 79% in 2022 (previous methodology: 72%) compared with 85% in 2021 (previous methodology: 78%). The decrease was mainly a result of optimisation for the low-margin environment and higher turnarounds during 2022.

### Refinery utilisation

Utilisation is defined as the actual usage of the plants as a percentage of the rated capacity. Refinery utilisation was 86% in 2022 (previous methodology: 74%) compared with 80% in 2021 (previous methodology: 72%) as a result of less unplanned maintenance and lower turnarounds.

With effect from the second quarter 2022, the methodology applied in calculating both Chemicals plant utilisation and Refinery utilisation has been revised to further align with industry disclosures. The revisions include moving from stream days capacity (defined as the maximum throughput, excluding the impact of maintenance or operational outages) to calendar days capacity (defined as the throughput including typical limitations such as maintenance over an extended period of time). Furthermore, Refinery utilisation is now specific to the capacity of the crude distillation unit (except for Scotford Refinery which uses the capacity of the hydrocracker), and no longer the capacity across all refinery units.

### Chemicals and Products sales

In 2022, Chemicals sales volumes were 12,281 thousand tonnes, 14% lower than 2021 sales volumes of 14,216 thousand tonnes, due to lower demand.

In 2022, Refining & Trading sales volumes were 1,700 thousand b/d, 16% lower than 2021 volumes of 2,026 thousand b/d due to impact of divestments

### Earnings 2022-2021

Segment earnings in 2022 were $4,515 million, 1018% higher than in 2021, reflected higher Products margins (increase of $5,721 million) reflecting higher Refining margins and higher contributions from trading and optimisation, lower tax charges (decrease of $300 million), as well as lower depreciation charges (decrease of $175 million). These were partly offset by lower Chemicals margins (decrease of $2,705 million) and higher operating expenses (increase of $822 million).

Segment earnings in 2022 included a net charge of $204 million.

This included:

- impairment charges of $226 million mainly related to impairment of capital expenditure additions across sites based on the revisions to medium- and long-term price outlook assumptions decision considered in 2020;
- legal provisions of $149 million;
- losses of $147 million related to the fair value accounting of commodity derivatives;
- tax charges relating to the EU solidarity contribution of $74 million;
- gains of $223 million related to the sale of assets; and
- gains of $104 million related to the remeasurement of redundancy and restructuring costs (mainly pension curtailments).

# Generating shareholder value | Chemicals and Products continued

These gains and losses are part of identified items and compare with 2021 which included a net charge of $1,712 million as follows:
- impairment charges of $1,814 million mainly related to the divestment of Puget Sound, Mobile and Deer Park refineries in the USA and closure of production unit on Jurong Island, Singapore;
- provisions for onerous contracts of $82 million; and
- a net gain of $160 million related to the fair value accounting of commodity derivatives.

Adjusted Earnings in 2022 were $4,719 million, compared with $2,115 million in 2021. Chemicals accounted for (29)% of these 2022 earnings, Refining for 80% and Trading and Supply for 49%. The increase in Adjusted Earnings of $2,604 million, driven by the following:
- Products Adjusted Earnings were $5,728 million higher than in 2021, mainly driven by higher realised refining margins due to increased prices and higher contributions from trading and optimisation. These were partially offset by higher operating expenses.
- Chemicals Adjusted Earnings were $3,125 million lower than in 2021, mainly because of lower margins due to weak price environment, lower associate income and higher operating expenses.

## Earnings 2021-2020

Segment earnings in 2021 were $404 million, 111% higher than in 2020.

Segment earnings in 2021 included a net charge of $1,712 million as described above. This net charge is part of identified items and compares with 2020 which included a net charge of $6,656 million as follows:
- Impairment charges of $5,500 million (across sites, reflecting revisions to medium- and long-term price outlook assumptions in light of changes in supply and demand fundamentals in the energy market; macroeconomic conditions; the COVID-19 pandemic; expenditure at Pulau Bukom in Singapore including transformation; and the shutdown of the Convent refinery in Louisiana, USA);
- restructuring costs of $313 million, mainly shutdown of Convent, Bukom transformation and various initiatives across Chemicals & Products;
- other net charges of $657 million (mainly onerous contract provisions due to shutdown of Convent and legal provision);
- net charge of $112 million related to the fair value accounting of commodity derivatives; and
- net loss from sale of assets of $74 million.

Adjusted Earnings were $2,115 million in 2021 compared to $2,835 million in 2020. The decrease in Adjusted Earnings of $720 million was driven by the following:
- Products adjusted earnings were $1,511 million lower than in 2020, mainly driven by lower contributions from trading and optimisation, higher operating expenses and unfavourable tax movements. These were partially offset by higher margins in Refining, Oil sands (higher average realised price) and lower depreciation.
- Chemicals adjusted earnings were $792 million higher than in 2020, mainly because of higher margins due to stronger price environment, favourable deferred tax movements, partly offset by higher operating expenses.

## Cash capital expenditure

Cash capital expenditure was $3.8 billion in 2022, compared with $5.2 billion in 2021.

Cash capital expenditure decreased by $1.4 billion, mainly because of lower spend on the construction of our cracker facilities in Pennsylvania, USA, and lower turnaround. Our cash capital expenditure is expected to be around $3 billion to $4 billion in 2023.

## Portfolio and business developments

Significant portfolio and business developments in 2022 included:
- In October 2022, Shell USA, Inc. and Shell Midstream Partners, L.P. completed the definitive agreement and plan of merger announced in July 2022, pursuant to which Shell USA, Inc. acquired all of the common units representing limited partner interests in Shell Midstream Partners, L.P. not held by Shell USA, Inc. or its affiliates.
- In November 2022, we commenced operations of our Pennsylvania Chemical project, Shell Polymers Monaca (SPM). The Pennsylvania facility is the first major polyethylene manufacturing complex in the north-eastern USA and has a designed output of 1.6 million tonnes annually.

## Business and property

### Chemicals

Our plants produce a range of base chemicals, including ethylene, propylene and aromatics, and intermediate chemicals such as styrene monomer, propylene oxide, solvents, detergent alcohols, ethylene oxide and ethylene glycol. We have the capacity to produce around 8.1 million tonnes of ethylene a year (including the Shell share of capacity entitlement (offtake rights) of joint ventures and associates, which may be different from nominal equity interest). We are expanding our product portfolio to include sustainable chemicals made from bio-based and circular feedstocks, more intermediates and performance chemicals such as polyethylene and polycarbonate. We operate chemical plants worldwide and have a global balance of locations, feedstocks and products that allows us to seize commercial opportunities and withstand cycles of lower margins.

Shell Chemicals is transforming and has integrated further with Refining. In addition to our standalone, chemicals-only production sites, we are transforming our refineries into energy and chemicals parks. We expect this to happen at the following sites: Norco in the USA, Scotford in Canada, Pernis in the Netherlands, Rheinland in Germany and Pulau Bukom in Singapore. We are also exploring options for the former Convent Refinery in Louisiana, USA, which is currently shut down, and may turn it into a low-carbon fuels facility. The energy and chemicals parks are expected to focus more on meeting customers' low-carbon and sustainability needs.

In 2022, we supplied more than 12 million tonnes of petrochemicals to more than 1,000 industrial customers worldwide. Products made from chemicals are used in everyday life in medical equipment, construction, transport, electronics, agriculture and sports. As global demand for chemicals increases, we plan to increase the size of our business, by understanding and responding to our customers' needs.

# Generating shareholder value | Chemicals and Products continued

## Products – Refining & Trading

### Refining

We have interests in eight refineries worldwide, with a capacity to process a total of 1.7 million barrels of crude oil per day. The distribution of our refining capacity is 60% in Europe, 26% in the Americas and 14% in Asia.

Shell Refining is transforming. We are concentrating our refineries portfolio to meet our strategic aims and to capitalise on the strong integration between our customers, trading operations, chemical plants and, increasingly, our low-carbon fuels output. We are transforming our refining sites into energy and chemicals parks. See "Chemicals" on page 67 for details. Transforming our refineries will mean developing new facilities and converting or dismantling existing units. We plan to process less crude oil and use more renewable and recycled feedstocks such as hydrogen, biofuels and plastic waste.

### Trading and Supply

Through our main trading offices in London, Houston, Singapore and Rotterdam, we trade crude oil, low-carbon fuels, refined products, chemical feedstocks and environmental products. Trading and Supply trades in physical and financial contracts, lease storage and transportation capacities, and manages shipping and wholesale commercial fuel activities globally.

Operating in around 25 countries, with about 180 Shell and joint-venture (including pipeline) terminals, we believe our supply and distribution infrastructure is well positioned to make deliveries around the world.

Shipping and Maritime enables the safe delivery of the Shell Trading and Supply contracts. This includes supplying feedstocks for our refineries and chemical plants, and finished products such as gasoline, diesel and aviation fuel to our Marketing segment and customers.

Shell Wholesale Commercial Fuels provides fuels for transport, industry and heating and from reliable main-grade fuels to premium products.

### Pipelines

We own and operate eight tank farms across the USA through Shell Pipeline Company LP (Shell interest 100%). It transports around 1.5 billion barrels of crude oil, refined products and chemicals a year through around 6,000 kilometres of pipelines in the Gulf of Mexico and nine US states. Our non-Shell-operated ownership interests provide another 13,000 kilometres of pipeline.

We carry more than 40 types of crude oil and more than 20 grades of fuel and chemicals, including gasoline, diesel, aviation fuel, chemicals and ethylene.

Shell Midstream Partners, L.P., a master limited partnership headquartered in Houston, Texas, became a wholly owned subsidiary of Shell in October 2022. Accordingly, we now own, operate, develop and acquire pipelines and other midstream and logistics assets. Our assets include interests in entities that own crude oil and refined products pipelines and terminals that serve as key infrastructure to (i) transport onshore and offshore crude oil production to USA Gulf Coast and Midwest refining markets and (ii) deliver refined products from those markets to major demand centres. Our assets also include interests in entities that own natural gas and refinery gas pipelines that transport offshore natural gas to market hubs and deliver refinery gas from refineries and plants to chemical sites along the USA Gulf Coast.

See "Governance - related party transactions" on page 214 for further information regarding the acquisition of remaining common units held by the public representing limited partner interests in Shell Midstream Partners, L.P.

### Oil Sands

Synthetic crude oil is produced by mining bitumen-saturated sands, extracting the bitumen, and transporting it to a processing facility where hydrogen is added to make a wide range of feedstocks for refineries. The Athabasca Oil Sands Project (AOSP) in Alberta, Canada, includes the Albian Sands mining and extraction operations, the Scotford upgrader and the Quest carbon capture and storage (CCS) project.

We have a 50% interest in 1745844 Alberta Ltd. (formerly known as Marathon Oil Canada Corporation), which holds a 20% interest in the Athabasca Oil Sands Project.

## Business activities with Syria

We ceased supplying polyols, via a Netherlands-based distributor, to private-sector customers in Syria in 2018. Polyols are commonly used for the production of foam in mattresses and soft furnishings.

## Chemicals and Products data tables

The tables below reflect Shell subsidiaries and instances where Shell owns the crude oil or feedstocks processed by a refinery. Other joint ventures and associates are only included where explicitly stated.

### Refining & Trading sales volumes [A][B]

Thousand b/d

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Europe | 830 | 426 | 472 |
| Asia | 377 | 870 | 974 |
| Africa | 39 | 47 | 70 |
| Americas | 454 | 683 | 918 |
| Total | 1,700 | 2,026 | 2,434 |
| Gasolines | 410 | 551 | 660 |
| Kerosines | 117 | 123 | 163 |
| Gas/Diesel oils | 616 | 735 | 921 |
| Fuel oil | 270 | 337 | 346 |
| Other products | 287 | 280 | 344 |
| Total | 1,700 | 2,026 | 2,434 |

[A] Excludes deliveries to other companies under reciprocal sale and purchase arrangements, that are in the nature of exchanges. Sales of condensate are included.
[B] Certain contracts are held for trading purposes and reported net rather than gross. The effect in 2022 was a reduction in refining and trading sales of approximately 1,197 thousand b/d (2021: 1,127 thousand b/d; 2020: 1,284 thousand b/d).

### Cost of crude oil processed or consumed [A]

$/barrel

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Total | 84.39 | 60.51 | 35.03 |

[A] Includes Upstream and Integrated Gas margins on crude oil supplied by Shell subsidiaries, joint ventures and associates.

# Generating shareholder value | Chemicals and Products continued

## Crude distillation capacity [A]

Thousand b/stream day [B]

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Europe | 990 | 1,023 | 1,059 |
| Asia | 237 | 307 | 573 |
| Africa | 23 | 90 | 90 |
| Americas | 449 | 729 | 1,028 |
| Total | 1,698 | 2,149 | 2,750 |

[A] Average operating capacity for the year, excluding mothballed capacity.
[B] Stream day capacity is the maximum capacity with no allowance for downtime.

## Crude oil processed [A]

Thousand b/d

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Europe | 715 | 761 | 810 |
| Asia | 184 | 223 | 292 |
| Africa | 16 | 57 | 54 |
| Americas | 353 | 455 | 719 |
| Total | 1,268 | 1,496 | 1,875 |

[A] Includes natural gas liquids, share of joint ventures and associates and processing for others.

## Refinery processing intake [A]

Thousand b/d

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Crude oil | 1,267 | 1,496 | 1,876 |
| Feedstocks | 135 | 143 | 187 |
| Total | 1,402 | 1,639 | 2,063 |
| Europe | 763 | 806 | 854 |
| Asia | 184 | 225 | 302 |
| Africa | 16 | 57 | 54 |
| Americas | 439 | 551 | 853 |
| Total | 1,402 | 1,639 | 2,063 |

[A] Includes crude oil, natural gas liquids and feedstocks processed in crude distillation units and in secondary conversion units.

## Refinery processing outturn [A]

Thousand b/d

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Gasolines | 477 | 624 | 771 |
| Kerosines | 166 | 141 | 158 |
| Gas/Diesel oils | 512 | 611 | 774 |
| Fuel oil | 90 | 108 | 140 |
| Other | 193 | 258 | 279 |
| Total | 1,438 | 1,742 | 2,122 |

[A] Excludes own use and products acquired for blending purposes.

## Manufacturing plants at December 31, 2022

### Refineries in operation

Thousand barrels/stream day, 100% capacity [B]

| | Location | Asset class | Shell interest (%) [A] | Crude distillation capacity | Thermal cracking/ visbreaking/ coking | Catalytic cracking | Hydro-cracking |
|---|---|---|---|---|---|---|---|
| **Europe** | | | | | | | |
| Germany | Miro [C] | | 32 | 313 | 40 | 96 | – |
| | Rheinland | ■ ● | 100 | 354 | 49 | – | 90 |
| | Schwedt [C] | | 38 | 234 | 46 | 57 | – |
| Netherlands | Pernis | ■ ● | 100 | 447 | – | 53 | 104 |
| **Asia** | | | | | | | |
| Singapore | Pulau Bukom | ■ ● | 100 | 237 | – | – | 61 |
| **Africa** | | | | | | | |
| South Africa | Durban [C] [D] | | 36 | 180 | 25 | 37 | – |
| **Americas** | | | | | | | |
| Argentina | Buenos Aires [C] | ● □ | 44 | 108 | 20 | 22 | – |
| **Canada** | | | | | | | |
| Alberta | Scotford | ■ | 100 | 100 | – | – | 83 |
| Ontario | Sarnia | □ | 100 | 85 | 5 | 21 | 10 |
| **USA** | | | | | | | |
| Louisiana | Norco | ■ | 100 | 250 | 29 | 119 | 44 |

[A] Shell interest is rounded to the nearest whole percentage point; Shell share of production capacity may differ.
[B] Stream day capacity is the maximum capacity with no allowance for downtime.
[C] Not operated by Shell.
[D] Refinery operations were paused from Q2 2022.

■ Integrated refinery and chemical complex
● Refinery complex with cogeneration capacity
□ Refinery complex with chemical unit(s)

# Generating shareholder value | Chemicals and Products continued

## Chemicals data tables

The tables below reflect Shell subsidiaries and instances where Shell owns the crude oil or feedstocks processed by a refinery. Other joint ventures and associates are only included where explicitly stated.

### Ethylene capacity [A]

Thousand tonnes/year

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Europe | 1,710 | 1,726 | 1,701 |
| Asia | 2,542 | 2,542 | 2,530 |
| Americas [B] | 3,821 | 2,321 | 2,268 |
| Total | 8,073 | 6,589 | 6,499 |

[A] Includes the Shell share of capacity entitlement (offtake rights) of joint ventures and associates, which may be different from nominal equity interest. Nominal capacity is quoted at December 31.
[B] Includes data pertaining to Shell Polymers Monaca which commenced operations in November 2022.



## Converting plastic waste to chemical feedstock at Moerdijk

Shell is investing in a new pyrolysis oil upgrader at its Shell Chemicals Park Moerdijk in the Netherlands which will convert plastic waste into chemical feedstock, replacing traditional hydrocarbon raw materials. The new upgrader is expected to start production in 2024 and will help us meet the rising demand from our customers for more low-carbon products that are made from recycled material.

The new pyrolysis oil upgrader unit treats liquid made from plastic waste that cannot be mechanically recycled. The upgrader prevents waste that would otherwise have gone to landfill or incineration. The unit will have a capacity of 50,000 tonnes per annum, which is equivalent to the weight of about 7.8 billion plastic bags. This contributes to our circular economy ambition to recycle one million tonnes of plastic waste in our chemical plants by 2025.

We will use the treated pyrolysis oil to produce chemicals which are the ingredients used in many end products that are all around us.

Over the next 10 years, the Shell Chemicals Park Moerdijk plans to increase the use of circular and bio-based feedstocks, growing its offer of low-carbon products, and aims to become net zero through using hydrogen and implementing carbon capture and storage (CCS) technology.

Photo: Pipe racks in one of the many units of Shell Chemicals Park Moerdijk, the Netherlands.

# Generating shareholder value | Chemicals and Products continued

## Chemicals sales volumes [A]

Thousand tonnes/year

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| **Europe** | | | |
| Base chemicals | 2,809 | 3,883 | 3,490 |
| Intermediates and other chemicals products | 1,955 | 2,076 | 1,990 |
| Total | 4,764 | 5,959 | 5,480 |
| **Asia** | | | |
| Base chemicals | 825 | 1,354 | 1,192 |
| Intermediates and other chemicals products | 2,147 | 2,656 | 2,969 |
| Total | 2,972 | 4,010 | 4,161 |
| **Americas** | | | |
| Base chemicals | 2,125 | 1,984 | 2,936 |
| Intermediates and other chemicals products | 2,420 | 2,263 | 2,459 |
| Total | 4,545 | 4,247 | 5,395 |
| **Total product sales** | | | |
| Base chemicals | 5,759 | 7,221 | 7,618 |
| Intermediates and other chemicals products | 6,522 | 6,995 | 7,418 |
| Total | 12,281 | 14,216 | 15,036 |

[A] Excludes feedstock trading and by-products.

## Major chemical plants in operation [A]

Thousand tonnes/year, Shell share capacity [B]

| | Location | Ethylene | Polyethylene | Styrene monomer | Ethylene glycol | Higher olefins [C] | Additional products |
|---|---|---|---|---|---|---|---|
| **Europe** | | | | | | | |
| Germany | Rheinland | 324 | – | – | – | – | A |
| Netherlands | Moerdijk | 971 | – | 815 | 153 | – | A, I |
| UK | Mossmorran [D] | 415 | – | – | – | – | O |
| **Asia** | | | | | | | |
| China | Nanhai [D] | 1,100 | 605 | 645 | 415 | – | A, I |
| Singapore | Jurong Island [E] | 281 | – | 1,069 | 1,081 | – | A, I, P, O |
| | Pulau Bukom | 1,161 | – | – | – | – | A, I |
| **Americas** | | | | | | | |
| Canada | Scotford | – | – | 475 | 462 | – | A, I |
| USA | Monaca [F] | 1,500 | 1,600 | – | – | – | |
| | Deer Park | 889 | – | – | – | – | A, I |
| | Geismar | – | – | – | 400 | 1,390 | I |
| | Norco | 1,432 | – | – | – | – | A |
| Total | | 8,073 | 2,205 | 3,004 | 2,511 | 1,390 | |

[A] Major chemical plants are large integrated chemical facilities, typically producing a range of chemical products from an array of feedstocks.
[B] Shell share of capacity of subsidiaries, joint arrangements and associates (Shell- and non-Shell-operated), excluding capacity of the Infineum additives joint ventures.
[C] Higher olefins are linear alpha and internal olefins (products range from C4 to C2024).
[D] Not operated by Shell.
[E] The Polypropylene and olefins production mentioned refers to Shell share of capacity of our non-operated joint ventures Petchem Corporation of Singapore (PCS) and The Polyolefin Company (TPC) which are on Jurong Island.
[F] Shell Polymers Monaca commenced its operations in November 2022.

A Aromatics, lower olefins
I Intermediates
P Polypropylene
O Other

# Generating shareholder value | Chemicals and Products continued

## Other chemical locations [A]

| | Location | Products |
|---|---|---|
| **Europe** | | |
| Germany | Karlsruhe | A |
| | Schwedt | A |
| Netherlands | Rotterdam | A, I, O |
| **Americas** | | |
| Argentina | Buenos Aires | I |
| Canada | Sarnia | A, I |

[A] Other chemical locations reflect locations with smaller chemical units, typically serving more local markets.

A Aromatics, lower olefins
I Intermediates
O Other

# Generating shareholder value

## Renewables and Energy Solutions

Renewables and Energy Solutions (R&ES) includes renewable power generation, the marketing and trading of power and pipeline gas, as well as carbon credits, and digitally enabled customer solutions. R&ES also includes the production and marketing of hydrogen, development of commercial carbon capture and storage (CCS) hubs, investment in nature-based projects that avoid or reduce carbon emissions (NBS), and Shell Ventures, which invests in companies that work to accelerate the energy and mobility transformation.

**Segment earnings ($ billion)**

**(1.1)** 2021: (1.5)

**Adjusted Earnings ($ billion)**

**1.7** 2021: (0.2)

**Cash flow from operating activities ($ billion)**

**(6.4)** 2021: 0.5

**External power sales (terawatt hours) [A]**

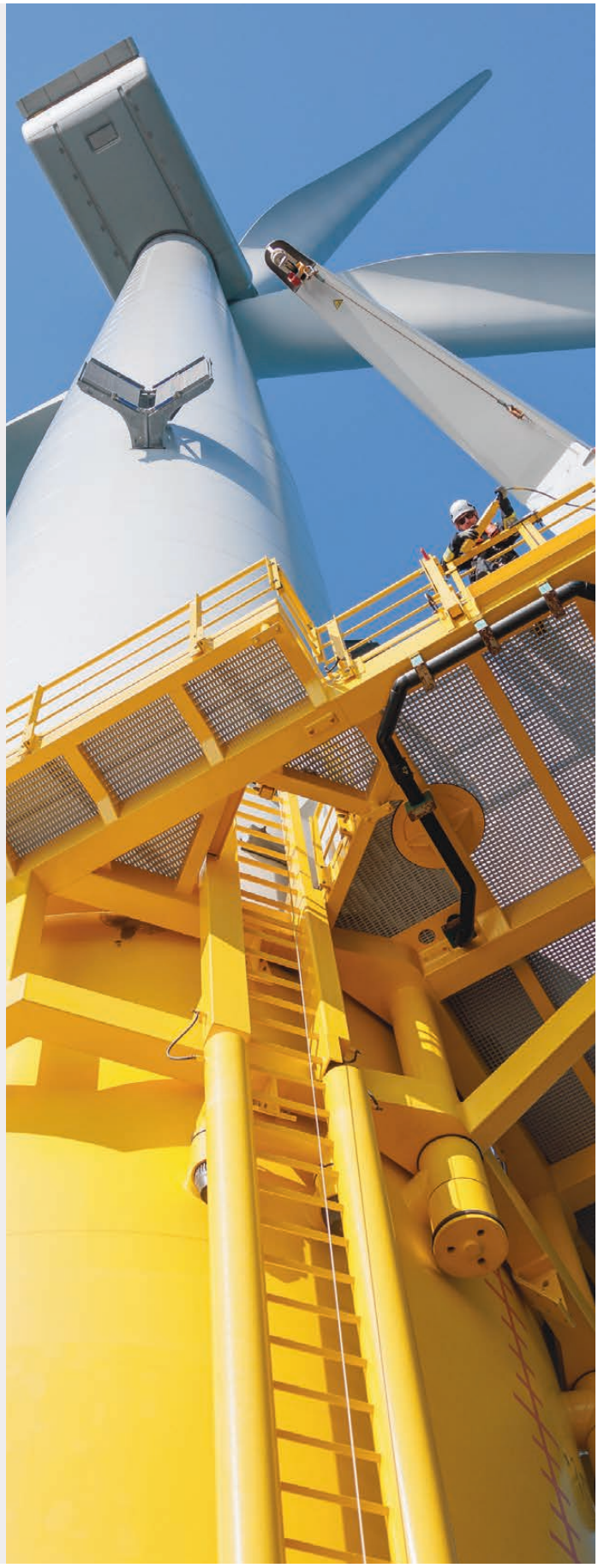
**243** 2021: 247

**Sales of pipeline gas to end-use customers (terawatt hours) [B]**

**843** 2021: 899

**Renewable capacity (gigawatt) [C]**

**6.4** 2021: 3.0



[A] Physical power sales to third parties; excluding financial trades and physical trade with brokers, investors, financial institutions, trading platforms, and wholesale traders.
[B] Physical natural gas sales to third parties; excluding financial trades and physical trade with brokers, investors, financial institutions, trading platforms, and wholesale traders. Excluding sales of natural gas by other segments and LNG sales.
[C] Renewable power generation capacity (Shell Interest) in operation, under construction and/or committed for sale.

# Generating shareholder value | Renewables and Energy Solutions continued

## Key statistics [A]

| | $ million, except where indicated | | |
|---|---|---|---|
| | 2022 | 2021 | 2020 |
| Segment earnings/(loss) | (1,059) | (1,514) | (479) |
| Including: | | | |
| Revenue (including inter-segment sales) | 59,981 | 27,090 | 13,979 |
| Share of profit of joint ventures and associates | (7) | (27) | (50) |
| Interest and other income | 57 | 200 | (197) |
| Operating expenses [B] | 3,590 | 2,745 | 1,716 |
| Underlying operating expenses [B] | 3,583 | 2,737 | 1,711 |
| Depreciation, depletion and amortisation | 777 | 326 | 424 |
| Taxation charge/(credit) | (303) | (342) | (61) |
| Identified Items [B] | (2,805) | (1,272) | (277) |
| Adjusted Earnings [B] | 1,745 | (243) | (202) |
| Adjusted EBITDA [B] | 2,459 | (21) | 25 |
| Capital expenditure | 2,609 | 2,069 | 363 |
| Cash capital expenditure [B] | 3,469 | 2,359 | 928 |
| External power sales (terawatt hours) | 243 | 247 | 252 |
| Sales of pipeline gas to end-use customers (terawatt hours) | 843 | 899 | 882 |

[A] With effect from January 1, 2022, our reporting segments are Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions and Corporate. Comparative information has been revised.
[B] See "Non-GAAP measures reconciliations" on pages 362-365.

### Business conditions

For the business conditions relevant to Renewables and Energy Solutions, see "Market overview" on pages 35-37.

### External power sales

In 2022, our external power sales were 243 terawatt hours (TWh), compared with 247 TWh in 2021. The difference was mainly a result of higher volume sales during a Texas winter storm in 2021 and mild weather conditions in 2022. This was partly offset by business growth in the Americas and Europe.

### Sales of pipeline gas to end-use customers

In 2022, our sales of pipeline gas to end-use consumers were 843 TWh, compared with 899 TWh in 2021. This difference was also mainly a result of high demand during the Texas winter storm in 2021, and more sales to trading intermediaries versus end-user counterparties.

### Earnings 2022-2021

Segment earnings in 2022 were a loss of $1,059 million, compared with a loss of $1,514 million in 2021. The narrowing of the loss was mainly driven by higher prices and contributions from trading, marketing and optimisation results for gas and power (around $1,900 million). This was partly offset by higher operating expenses as a result of business growth and acquisitions (around $900 million), impairment (around $400 million) and tax charges (around $100 million).

Full year 2022 segment earnings included Identified Items of $2,805 million which comprised losses of $2,443 million due to the fair value accounting of commodity derivatives and impairment charges of $361 million mainly in Europe. The full year 2021 Identified Items were a loss of $1,272 million, mainly as a result of the fair value accounting of commodity derivatives.

Adjusted Earnings were $1,745 million in 2022. Adjusted Earnings from Energy Marketing and Trading and Optimisation accounted for 135% of R&ES 2022 Adjusted Earnings, partially offset by Renewable Power Generation, Hydrogen, CCS, NBS and Shell Ventures that accounted for (35)%.

Adjusted EBITDA was $2,459 million and included the impact of underlying operating expenses of $3,583 million, driven by business growth and the early-development stage of some of the portfolios prior to operating status.

Adjusted Earnings were a loss of $243 million in 2021. Adjusted Earnings from Renewable Power Generation, Hydrogen, CCS, NBS, and Shell Ventures accounted for 155% of R&ES 2021 negative Adjusted Earnings. These were partially offset by a positive Adjusted Earnings contribution from Energy Marketing and Trading and Optimisation (55)%.

### Earnings 2021-2020

Segment earnings in 2021 were a loss of $1,514 million, compared with a loss of $479 million in 2020. This bigger loss was mainly driven by higher operating expenses, mainly related to provisions for counterparty risk due to the Texas winter storm (around $1,000 million), and lower contributions from trading, marketing and optimisation results for gas and power (around $300 million). This was partly offset by lower tax charges (around $300 million).

Full year 2021 segment earnings included Identified Items of $1,272 million which comprised losses mainly due to the fair value accounting of commodity derivatives. Full year 2020 Identified Items were a loss of $277 million reflecting impairment charges of $190 million and the fair value accounting of commodity derivatives of $89 million.

# Generating shareholder value | Renewables and Energy Solutions continued

## Cash capital expenditure

Cash capital expenditure in 2022 was $3.5 billion, of which $2.9 billion was in low-carbon energy solutions. Cash capital expenditure in 2021 was $2.4 billion, of which $1.8 billion was in low-carbon energy solutions. This increase was mainly a result of the development projects in our wind and solar power generation business.

Our cash capital expenditure is expected to be in the range of $2-4 billion in 2023.

## Portfolio and business development

Key portfolio events included the following:

- In January 2022, Shell and ScottishPower won bids to develop 5 GW of floating wind power in the UK.
- In January 2022, we started operations at the power-to-hydrogen electrolyser in China.
- In February 2022, we completed the acquisition of online energy retailer Powershop Australia which was announced in November 2021.
- In April 2022, Atlantic Shores Offshore Wind (ASOW), our 50:50 joint venture with EDF Renewables North America, was awarded the commercial lease for acreage in the New York Bight offshore wind auction, USA. This was after it was announced as provisional winner in February.
- In July 2022, we took the final investment decision to build a 200 MW electrolyser, Holland Hydrogen I (Shell interest 100%), which is expected to be operational from 2025.
- In August 2022, we completed the acquisition of renewable energy platform Sprng Energy group in India, which was announced in April 2022.
- In December 2022, Ecowende, our joint venture with Eneco, won the tender to develop a 760 MW offshore wind farm at Hollandse Kust (west) lot VI in the Netherlands.

## Business and property

We are building our R&ES portfolio through organic and inorganic growth. Most of these growth opportunities are in sectors that differ from, but have similarities and links to, Shell's existing oil and gas businesses.

Some acquired companies in new business sectors are not yet in full compliance with the Shell Control Framework. Following specific assessment for each of those companies, dedicated projects were put in place to achieve compliance, with regular updates on the progress.

### Energy Marketing

We provide electricity and smart energy solutions to residential, commercial and industrial customers. We do this through direct electricity sales, storage solutions and energy optimisation services.

We sell natural gas and power to more than 2.2 million retail customers mainly in the UK, the USA, Australia, Germany, and the Netherlands.

Our largest markets for commercial and industrial customers are Australia and the USA. In Australia we are one of the largest commercial and industrial retailers of electricity in the market.

In January 2023 we launched a strategic review of our European home energy retail business including our operations in the UK, the Netherlands and Germany. Our priority remains to ensure our customers in those countries continue to receive a reliable and affordable energy supply. No decisions have been taken at this time. We intend to provide an update on the outcome of the review in due course.

### Trading and Optimisation

We market and trade natural gas and power from our own assets and from third parties. In the USA we are one of the leading power wholesale traders.

### Renewable Power Generation

We enable renewable power generation by owning and operating wind farms and solar plants, and participating in joint ventures. At the end of 2022, our share of renewable generation capacity was 2.2 GW in operation and 4.2 GW in development. Our renewable power capacities are listed below:

**Renewable power capacity in operation and in development as of December 31, 2022 - by region**

| | In operation [A] | | In development [B] | |
|---|---|---|---|---|
| Location | 100% capacity (MW) | Shell interest (MW) | 100% capacity (MW) | Shell interest (MW) |
| Asia | 2,250 | 1,830 | 681 | 614 |
| Europe | 932 | 344 | 1,664 | 1,208 |
| North America | 103 | 51 | 3,596 | 2,241 |
| Australia | – | – | 120 | 120 |
| Total | 3,285 | 2,225 | 6,061 | 4,183 |

**Renewable power generation capacity in operation and in development as of December 31, 2022**

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Renewable power generation capacity (Shell interest - gigawatt): | | | |
| In operation [A] | 2.2 | 0.7 | 0.4 |
| In development [B] | 4.2 | 2.3 | 1.7 |

[A] Renewable generation capacity post commercial operation date.
[B] Renewable generation capacity under construction and/or committed for sale under long-term offtake agreements (PPA).

# Generating shareholder value | Renewables and Energy Solutions continued

### Hydrogen

We are part of joint ventures and alliances that have built hydrogen filling stations for passenger cars and trucks. Since July 2021, we have operated an electrolyser (Shell interest 100%) in Germany, which produces green hydrogen (produced using electricity from renewable sources). In China, our joint venture Zhangjiakou City Transport and Shell New Energy Co., Limited (Shell interest 47.5%) developed a renewable power electrolyser and is developing hydrogen filling stations in Zhangjiakou City in the Beijing-Tianjin-Hebei region. The electrolyser started operations in January 2022. In July 2022, we announced the final investment decision to build the 200 MW electrolyser Holland Hydrogen I (Shell interest 100%) in the Netherlands, which is expected to be operational from 2025.

### Carbon capture and storage

Carbon capture and storage (CCS) is a combination of technologies that capture and store $CO_2$ deep underground, preventing its release into the atmosphere. In the R&ES segment we offer CCS services to our customers. Existing CCS operations that help decarbonise our own assets are reported in the segment where the relevant asset sits.

We have a 33.3% interest in the Northern Lights CCS joint venture, where the other partners are Equinor and TotalEnergies (equal partners). The project is located in Norway and is under construction. Phase One is expected to be operational in 2024.

### Nature and Environmental Solutions

Nature and Environmental Solutions include our Nature-Based Solutions (NBS) business and the Environmental Products Trading Business (EPTB). NBS conserve, enhance and restore ecosystems – such as forests, grasslands and wetlands – to prevent greenhouse gas emissions or reduce atmospheric $CO_2$ levels.

Through EPTB we develop, offtake, trade and supply environmental products across compliance and voluntary markets, and this includes working with our other businesses such as Integrated Gas or Marketing to provide integrated energy solutions to customers.

### Shell Ventures

Shell Ventures are corporate venture funds, where we act as an investor and a partner to help commercialise innovative businesses. We aim to accelerate the energy and mobility transformation by investing in companies that lower emissions, electrify energy systems, gain data-based insights and provide innovative consumer solutions.



## Treasury Wine Estates switches to solar

In 2022, Shell helped wine producer Treasury Wine Estates, owner of the Penfolds, 19 Crimes, St Huberts and Wolf Blass labels, get closer to achieving its net-zero target and become a renewable energy producer by installing a combined 9,500 solar panel modules at two of its Australian sites.

The solar modules were installed at the Barossa Winery and packaging centre in South Australia, and the Karadoc Winery in Victoria. They have been installed on rooftops and in open ground areas, and are expected to generate more than 5,500 megawatt-hours of electricity per year. This is the equivalent of powering 900 homes and offers an example of how the wine industry can navigate the energy transition.

Treasury Wine Estates wants to produce wine sustainably and is aiming for net-zero emissions from its own operations and the energy it consumes by 2030. Shell's Powering Progress strategy seeks to help customers decarbonise by identifying and providing solutions for cleaner, affordable and reliable energy.

Shell Energy is working with Treasury Wine Estates, which has 13,000 hectares of vineyards all over the world, to provide renewable energy across the wine company's operations, from cultivation to cellar door, tasting halls, offices and packaging centres. A further 9,000 solar panels are in the process of being installed at Treasury Wine Estates' Californian vineyards, including Sterling Winery, TWE Paso Winery, Paris Valley Ranch and Beaulieu Vineyards.

Photo: Solar panels installed at Treasury Wine Estates, Australia, helping TWE get closer to achieving its net-zero target.

# Generating shareholder value

## Corporate

### Earnings

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Segment earnings | (2,461) | (2,606) | (2,952) |
| Comprising: | | | |
| Net interest [A] | (1,723) | (2,701) | (2,991) |
| Operating expenses and other [B] | (745) | (570) | (943) |
| Taxation credit | 7 | 665 | 982 |
| Identified Items | (90) | 81 | 460 |
| Adjusted Earnings | (2,371) | (2,686) | (3,412) |
| Adjusted EBITDA | (725) | (554) | (933) |

[A] Mainly Shell's interest expense (excluding accretion expense) and interest income.
[B] Other mainly comprises net foreign exchange gains and losses on financing activities, headquarters and central functions' costs not recovered from business segments, and net gains on sale of properties.

### Overview

The Corporate segment covers the non-operating activities supporting Shell. It comprises Shell's holdings and treasury organisation, self-insurance activities and headquarters and central functions. All finance expense, income and related taxes are included in Corporate segment earnings rather than in the earnings of business segments.

The holdings and treasury organisation manages many of the Corporate entities. It is the point of contact between Shell and external capital markets, conducting a wide range of transactions, such as raising debt instruments and transacting foreign exchange. Treasury centres in London and Singapore support these activities.

Headquarters and central functions provide business support in communications, finance, health, human resources, information technology (IT), legal services, real estate and security. They also provide support for shareholder-related activities. The central functions are supported by business service centres, which process transactions, manage data and produce statutory returns, among other services. Most headquarters and central-function costs are recovered from the business segments. Costs that are not recovered are retained in Corporate.

### Earnings 2022-2021

Segment earnings in 2022 were an expense of $2,461 million, compared with $2,606 million in 2021.

This decrease in expense was mainly driven by favourable movements in net interest expense. This was primarily due to an increase in interest income generated on cash balances, a reduction in interest expense on lease liabilities, and a reduction in interest expense on debt following repayments in 2021. This was partially offset by lower tax credits on financing items and higher net foreign exchange losses due to unfavourable exchange rate movements.

### Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2021, compared with the financial year ended December 31, 2020, can be found in the Annual Report and Accounts (page 74) and Form 20-F (page 73) for the year ended December 31, 2021, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

### Self-insurance

We mainly self-insure our hazard risk exposures. Our Group insurance companies are adequately capitalised to meet self-insurance obligations and respective regulations, though they may transfer risks to third-party insurers where economical, effective and relevant (see "Risk factors" on page 23). We continually assess the safety performance of our operations and make risk mitigation recommendations, where relevant, to minimise the risk of an accident.

### Information technology and cyber security

Digitalisation is a key success factor in Shell's Powering Progress strategy. Shell is fast transforming its IT systems to support the evolving portfolio of businesses and is investing in new technologies to enhance IT capabilities such as data analytics, artificial intelligence, machine learning and virtual reality, bringing value to the business.

The growing dependence on information technology and data also brings risks which could cause significant harm to Shell in the form of loss of productivity, loss of intellectual property, regulatory fines and reputational damage. Cyber security is key to managing those risks, especially in today's increasingly regulated environment and adverse cyber threat landscape.

Shell operates a multi-level defence strategy underpinned by the Shell IT Control Framework and advanced cyber defence capabilities to prevent, detect, respond to, and evolve with complex cyber and data privacy risks. At the same time, we continuously measure and, where required, further improve our cyber-security capabilities to reduce the likelihood of successful cyber attacks.

A cyber security mindset across the enterprise forms the first line of defence to protect Shell. Robust governance processes are embedded across Shell to increase cyber awareness, monitor key cyber risks, and provide risk assurance. Cyber risk strategy and risk management are regularly reviewed with the Audit Committee and Board of Directors. Shell employees and contract staff are subject to mandatory courses and regular awareness campaigns aimed at protecting us against cyber threats.

See "Risk factors" on page 21.

# Our journey to net zero

Shell has long recognised that greenhouse gas (GHG) emissions from the use of hydrocarbon-based energy are contributing to the warming of the climate system. We support the more ambitious goal of the UN Paris Agreement, which is to limit the rise in global average temperature this century to 1.5 degrees Celsius above pre-industrial levels.

Shell's Powering Progress strategy is designed to generate shareholder value while meeting our target of becoming a net-zero emissions energy business by 2050.

Since 2017, Shell has supported the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The TCFD aims to improve the disclosure of climate-related risks and opportunities and provide stakeholders with the information they need to undertake robust and consistent analyses of the potential financial impacts of climate change. The TCFD recommends disclosure of qualitative and quantitative information aligned to its four core elements: governance, strategy, risk management, and metrics and targets.

We recognise the value that the recommendations bring and, in accordance with UK Listing Rule 9.8.6R, set out below our climate-related financial disclosures consistent with all of the TCFD Recommendations and Recommended Disclosures. By this we mean the four recommendations and the 11 recommended disclosures set out in Figure 4 of Section C of the report entitled "Recommendations of the Task Force on Climate-related Financial Disclosures" published in June 2017 by the TCFD. We also take into account relevant supplemental guidance including, for example, the TCFD's additional guidance "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures" (also known as the 2021 TCFD Annex) published in October 2021 by the TCFD. We continue to align and enhance our climate-related disclosures.



# Our journey to net zero continued

## Our journey to net zero

**Governance** (see Governance for more information)

**Board**

- Safety, Environmental and Sustainability Committee
- Audit Committee
- Remuneration Committee

Oversight of our energy transition strategy by the board, supported by board committees.

Accountability for delivering our energy transition strategy sits with the CEO, with support from the Executive Committee and regular monitoring by the Board.

**Executive Committee**

- Capital Investment Committee
- Carbon committees such as the Carbon Reporting Committee

Our carbon management framework oversees carbon reduction considerations across the Shell Group.

**Delivery of the strategy through our businesses**

**Strategy** (see Strategy for more information)

**We seek to decarbonise our own operations...**

- portfolio changes: acquisitions, new low-carbon projects, shutting down and decommissioning units, divestments, natural decline
- improving the energy efficiency of our operations
- low-carbon energy and chemicals parks
- using more renewable electricity in our operations
- developing carbon capture and storage (CCS)
- using high-quality carbon credits, if required

**...whilst supporting the transformation of the energy system**

- provide more electricity and renewable power
- develop low- and zero-carbon alternatives to traditional fuels
- help customers to decarbonise their use of energy
- address remaining emissions from conventional fuels with CCS and carbon credits

**Our financial strength and access to capital give us the ability to reshape our portfolio as the energy system transforms.**

**Climate Risk Management** (see Climate Risk Management for more information)

**Key Risk Factors**

- Commercial risk
- Regulatory risk
- Physical risk
- Societal risk

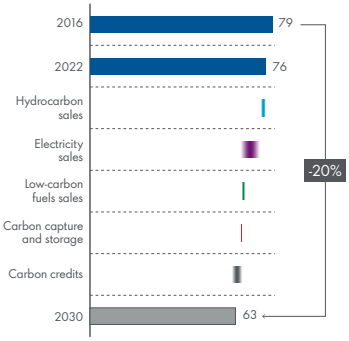
**Climate risk assessment and monitoring integrated into Shell's overall risk management processes via:**

- mandatory standards and manuals
- project-level risk management
- management and Board reviews
- internal audits and investigations
- annual attestation processes

**Metrics & Targets** (see Metrics & Targets for more information)

**Working to reduce our net carbon intensity**

Net carbon intensity in $gCO_2e/MJ$, equity control

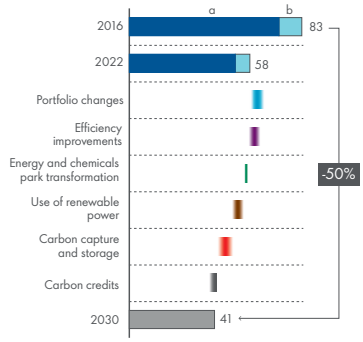



**-20%**
Net carbon intensity 20% reduction by 2030

**-1.3%**
-1.3% reduction vs 2021 actual

**Working to reduce our absolute Scope 1 and 2 emissions**

Scope 1 and 2 emissions in million tonnes $CO_2e$ per annum, operational control




**-50%**
Scope 1 and 2 emissions 50% reduction by 2030

**-15%**
-15% reduction vs 2021 actual

# Our journey to net zero continued

## Governance of climate-related risks and opportunities

### Board oversight of climate-related risks and opportunities

Our governance framework is designed to effectively deliver on the energy transition ambitions of Shell's Powering Progress strategy.

For detailed information on our Powering Progress strategy refer to pages 7-9.

The Board reviews our energy transition strategy periodically and oversees its implementation and delivery. In 2022, the Board considered climate-related matters throughout the year, including the assessment of climate-related risks and the effectiveness of corresponding risk management activities, and challenged and endorsed business plans, including consideration of major capital expenditures, acquisitions and divestments. In 2022, the Board convened eight times and continued to oversee the Powering Progress strategy and net-zero initiatives, including at the Board Strategy Day in June 2022.

Find more information in "Governance" (Board activities on pages 150-152 and Board engagements in 2022 on pages 154-156).

Three Board committees provide primary oversight of the delivery of our energy transition strategy: the Safety, Environmental and Sustainability Committee (SESCo), the Audit Committee (AC) and the Remuneration Committee (REMCO). The importance of our energy transition strategy means that these committees are informed about climate-related matters on a frequent basis throughout the year. See "Climate change governance organogram" below.

The SESCo provides oversight of our technical delivery when it comes to reducing our carbon emissions, and the potential impacts and adaptation measures related to the physical risks of climate change. This includes reviewing our carbon management framework (CMF) and monitoring progress in reducing emissions to meet targets. The SESCo met five times in 2022 and discussed some aspects of climate-related matters at every meeting. After each meeting the SESCo Chair provided updates to the Board.

For more information on the SESCo's activities in 2022, see pages 163-164.

Our AC provides oversight of the effectiveness of the risk management framework and the integrity of our financial reporting to ensure that our financial statements reflect the risks and opportunities associated with our energy transition strategy and climate change. During 2022, the AC convened six times and discussed climate-related matters on each occasion.

More information on our Audit Committee's activities in 2022 can be found in the Audit Committee Report on pages 165-177.

The REMCO develops our remuneration policy and sets performance conditions designed to challenge and support the Executive Committee to reduce net carbon emissions while maintaining shareholder value. The REMCO met five times during 2022, with climate-related matters discussed at each meeting.

Find more information on our Remuneration Committee's activities in 2022 in the "Directors' Remuneration Report" on pages 178-182 and the "Annual Report on Remuneration" on page 184.

**Climate performance and remuneration**

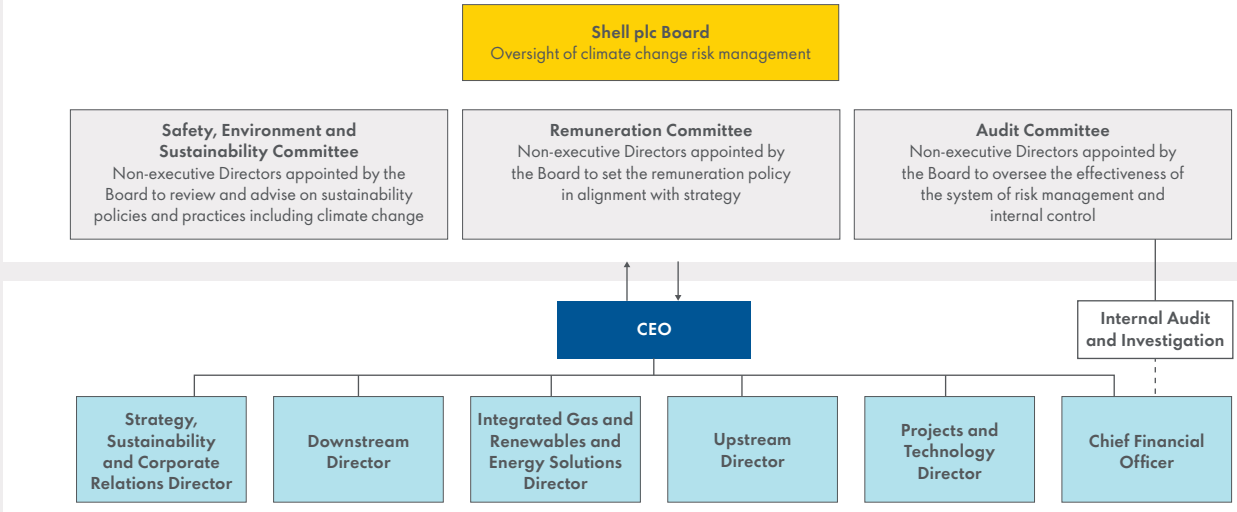
Energy transition targets were part of the 2022 annual bonus scorecard (15% weighting) for almost all of Shell's employees, as well as the 2022 Performance Share Plan (PSP) awards (10% weighting) and the 2022 Long-term Incentive Plan (LTIP) for senior executives (20% weighting), both vesting in 2025.

See "Directors' Remuneration Report" on pages 178-182 for further information.

Find additional information on the Board's oversight in "Governance framework" on pages 148-149.

### Management's role in assessing climate-related risks and opportunities

**Climate change governance organogram [A]**




[A] Current structure which is subject to change with effect from July 1, 2023. See page 81 for more information.

# Our journey to net zero continued

The Chief Executive Officer (CEO) has the delegated authority from the Board to manage Shell's actions in relation to the Company's strategy, which includes climate change. The CEO is assisted on climate-related matters by members of the Executive Committee to implement Shell's energy transition strategy and ensure that such matters are appropriately monitored:

- The Director of Strategy, Sustainability and Corporate Relations supports the CEO in developing Shell's energy transition strategy, including climate scenarios development, and augmenting our CMF. The CMF includes the setting of carbon budgets for our businesses, and the implementation of carbon management activities.
- The Downstream Director is responsible for identifying and delivering climate-related opportunities, as well as managing and mitigating the climate risks of our existing Downstream businesses. The Sectors and Decarbonisation organisation supports the Downstream Director in implementing the sectoral decarbonisation approach.
- The Integrated Gas, Renewables and Energy Solutions Director is responsible for developing and advancing low-carbon solutions and opportunities, including those across our solar, hydrogen and wind businesses, as well as managing and reducing carbon emissions from our business.
- The Upstream Director is responsible for identifying and delivering low-carbon and emission-reduction opportunities in our oil and gas business. This includes managing and reducing our carbon emissions, for example, by reducing routine flaring and, in some cases, by using renewable energy to power our oil and gas extraction activities.
- The Projects & Technology (P&T) Director is responsible for setting emissions, climate, and reporting standards that are applicable to all our businesses. The P&T Director is also responsible for developing new technologies that will help our businesses to deliver on net-zero emissions reduction targets through both energy efficiency measures and solutions geared towards decarbonisation.
- The Chief Financial Officer (CFO) is responsible for monitoring the effective application of the Shell Control Framework, which provides the basis for managing our material risks including climate-related risks and opportunities, and the assurance over our financial information, carbon emissions and climate-related disclosures.

On January 30, 2023, Shell announced it would reduce the size of its Executive Committee from nine to seven members. The changes are expected to take effect from July 1, 2023. The Integrated Gas and Upstream businesses will be combined into a single Integrated Gas and Upstream Directorate. The Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate. The Strategy, Sustainability and Corporate Relations directorate will be discontinued, and Strategy, Sustainability and New Business Development will now report directly to the CFO. The new structure is aimed at enabling more streamlined planning and capital allocation decisions. The intention of this change is to simplify the organisation further and improve performance as we deliver our Powering Progress strategy.

### Additional supporting governance

There are two key supporting management committees, with representatives from across Shell, which play a critical role in driving our energy transition strategy:

- The Capital Investment Committee (CIC) facilitates portfolio management discussions and reviews each investment opportunity that is, due to its size, subject to approval by the CEO or the Board. These reviews ensure that the climate risks and opportunities, together with other defined criteria including shareholder value, are embedded in investment decision-making. This committee is made up of senior executives, including the CEO, CFO, and individual business directors.
- The Carbon Reporting Committee (CRC) includes senior management representatives from business units, P&T climate-related disciplines and various functions, such as Strategy, Finance and Legal. This committee is tasked with ensuring that GHG emissions measures, both absolute emissions and carbon intensity, and associated metrics, comply with all regulatory and legal requirements. The CRC is responsible at Group level for the calculation methodologies and reporting of GHG emissions metrics, and the review and approval of external disclosures.

In addition to these committees, our network of country chairs supports the overall governance and development and deployment of climate-related initiatives. They facilitate the setting of each country's plans in support of Powering Progress.

### Processes by which management is informed about climate-related issues

Several processes are employed across the organisation to ensure that management teams can effectively monitor and manage climate-related matters. The management teams are helped by a combination of carbon-management-related standards and frameworks, forums at various levels of the organisation, and capability development programmes. These include our carbon management framework, carbon pricing, and the Greenhouse Gas (GHG) and Energy Management process, which forms part of our Health, Safety, Security, Environment and Social Performance (HSSE & SP) Control Framework.

#### Carbon management framework

Shell's carbon management framework (CMF) helps us set carbon budgets in the operating plans for our businesses. The CMF seeks to manage and reduce emissions in a manner that is similar to how we use our financial framework. Carbon budgets are an effective measure for maintaining absolute emissions below a capped level, however achieving our intensity target is dependent on our energy product mix which is not driven by carbon budgets alone.

The CMF allows for carbon budgets to be allocated to our businesses and trade-offs between emitting carbon and generating shareholder value to occur within those budgets. The CMF helps inform portfolio decisions and support our decarbonisation targets. This provides leadership with the information required to make decisions on GHG reduction opportunities and portfolio choices required to achieve our decarbonisation targets.

For the 2022 operating plan cycle, our net carbon intensity (NCI) targets were translated into Scope 1, 2 and 3 (see definition on page 82) carbon budgets for each business. These budgets were used to optimise the operating plans for each business.

Some examples of how our decarbonisation targets are taken into account in fundamental decisions across the organisation are as follows:

- Our businesses further embedded carbon emissions objectives in their respective Capital, Portfolio and Carbon forums. The forums consist of the most senior business management representatives who are responsible for active portfolio management through evaluation, and delivery of growth and divestment decisions.
- Certain assets are required to identify GHG abatement opportunities and reflect them in their annual business plans.

# **Our journey to net zero** continued



## Greenhouse gas and energy management

Each Shell entity and Shell-operated venture is responsible for the development of its GHG emissions and energy management plans.

Our Greenhouse Gas and Energy Management process sets out Shell's requirements for GHG reduction opportunities and portfolio choices to meet our carbon budgets and achieve our decarbonisation targets. These requirements allocate accountabilities for GHG and energy management within businesses, assets and projects, including responsibility for analysing our emissions, benchmarking performance, identifying improvement opportunities, and forecasting future performance. These requirements are applied to capital project delivery and through the asset-level annual business planning process, ensuring it is reflected in both opportunity realisation and strategic asset management planning.

A key aspect of the GHG and Energy Management process is the development of an energy efficiency and greenhouse gas reduction opportunity curve, economically assessed against the current and future costs of carbon. This information provides the basis for forecasts of absolute GHG emissions and associated intensities at the asset and project level. These forecasts are then aggregated to inform decisions on potential decarbonisation opportunities across our businesses.

A Global Process Council for GHG and Energy Management, led by the Global Process Owner for GHG and including business and functional experts, meets regularly to evaluate opportunities for the ongoing improvement of processes, tools, communications, and capabilities needed within the businesses to achieve our decarbonisation aspirations.

The requirements of our GHG & Energy Management Process are integrated into our annual business planning cycle.

**Definition - Scope 1, 2 and 3 emissions**

We follow the GHG Protocol's Corporate Accounting and Reporting Standard, which defines three scopes of GHG emissions:

- Scope 1: direct GHG emissions from sources under Shell's operational control.
- Scope 2: indirect GHG emissions from generation of purchased energy consumed by Shell assets under operational control.
- Scope 3: other indirect GHG emissions, including emissions associated with the use of energy products sold by Shell.



## Carbon pricing

We consider the potential costs associated with operational GHG emissions when we assess the resilience of new projects. For each region, we have developed short-, medium- and long-term estimates of future costs of carbon. These are reviewed and updated annually. See Note 4 to the "Consolidated Financial Statements" for further details on our regional cost of carbon estimates.

Up to 2030, costs for carbon emissions estimates are largely policy driven through emission trading schemes or taxation levied by governments and which varies significantly on a country-by-country basis. Beyond 2030, where policy predictions are more challenging, the costs for carbon emissions are estimated based on the expected costs of abatement technologies required for 2050. The costs are estimated to be at $125 per tonne (RT 2022) under Shell's mid-price scenario. Under a high-price scenario, the costs are set at $220 per tonne (RT 2022), the top of the bioenergy with CCS cost range and the lower end of the direct air capture cost range.

See "The resilience of Shell's strategy" on pages 88-89 for more information on how carbon costs impact Shell's resilience to climate-related risks, including sensitivity analysis.

# Our journey to net zero continued

## Energy transition strategy

Powering Progress is our strategy to become a net-zero emissions energy business, purposefully and profitably. Powering Progress aims to deliver value for our shareholders, for our customers and for wider society.

For more information, see the "Our strategy" section on pages 7-9.

### Our strategy aims to support the more ambitious goal of the Paris Agreement

Tackling climate change is an urgent challenge. It requires a fundamental transformation of the global economy and the energy system so that society stops adding to the total amount of greenhouse gases in the atmosphere, achieving what is known as net-zero emissions. That is why Shell has set a target to become a net-zero emissions energy business by 2050.

To help us get there, we have set short-, medium- and long-term targets to reduce our carbon intensity, measured using our net carbon intensity (NCI) metric. For more information see "Setting targets for NCI" on page 99.

There is no established standard for aligning an energy supplier's decarbonisation targets with the temperature limit goal of the Paris Agreement. In the absence of a broadly accepted standard, Shell has developed its own approach to demonstrate Paris alignment by setting carbon intensity targets within a pathway derived from scenarios from the IPCC Special Report on Global Warming of 1.5°C (SR 1.5), most of which show the global energy system reaching net zero between 2040 and 2060.

This pathway is aligned with the more ambitious temperature goal of the Paris Agreement to limit global mean temperature rise to 1.5°C above pre-industrial levels by 2100. We believe our targets are aligned with the IPCC SR1.5 pathway.

When constructing the pathway, we filtered out certain outlying IPCC scenarios to ensure that Shell's targets are aligned with earlier action, and low-overshoot scenarios. Overshoot refers to the extent to which a scenario exceeds an emissions budget and subsequently relies on carbon sinks to compensate for the excess emissions.

Becoming a net-zero emissions energy business means reducing emissions from our operations, and from the fuels and other energy products, such as electricity, that we sell to our customers. It also means capturing and storing any remaining emissions using technology, protecting natural carbon sinks, and providing high quality carbon credits to our customers to compensate for hard-to-abate emissions.

An increasing number of countries and companies have announced targets to achieve net-zero emissions by the middle of the century, and we are starting to see some changes in the demand and supply of energy. However, achieving the 1.5 degrees Celsius goal will be challenging and requires unprecedented global collaboration. The pace of change will also vary around the world.

### Climate-related risks and opportunities identified by Shell over the short, medium and long term

We are continually enhancing our strategic risk management approach to addressing climate-related risks. Our strategy is shaped in response to risks and opportunities identified across the customer sectors and regions we work in.

The process for identifying and assessing climate-related risks and opportunities is set out under "Climate Risk Management" below. Shell has identified climate change and the associated energy transition as a material risk based on societal concerns and developments related to climate change and managing GHG emissions. The risks could potentially result in changes to the demand for our products, our operational costs, supply chains, markets, the regulatory environment, our licence to operate, and litigation. The risks are composed of a combination of complex and interrelated elements that affect Shell's overall business value chain, and our asset, product and business portfolio. The risk landscape is evolving rapidly. To achieve our emissions reduction targets, active holistic management of all climate-related risk components is important. The composite risk is broken down into the following sub-components:

- commercial risk;
- regulatory risk;
- societal risk (including litigation risk); and
- physical risk.

We also seek to identify opportunities for Shell in the energy transition, from our existing position as a leading global energy provider. These risks and opportunities are described below and are also summarised in the "Risk factors" section of the Strategic Report on pages 15-26.

### Time horizons: short, medium and long

Due to the inherent uncertainty, and the pervasive nature of the risks across our strategy and business model, we monitor climate-related risks and opportunities across multiple time horizons.

- Short term (up to three years): we develop detailed financial projections and use them to manage performance and expectations on a three-year cycle. These projections incorporate decarbonisation measures required to meet our short-term targets.
- Medium term (generally three to 10 years): embedded within our operating plan, with our continued focus on the customer, the investments and portfolio shifts required in the medium term that will fundamentally reshape Shell's portfolio. At the same time, our existing asset base is expected to provide the cash flow to finance this transition of our revenue in this period.
- Long term (generally beyond 10 years): it is expected that our portfolio and product mix will look very different, addressing the shift from an asset-based approach to a customer-based business model.

# Our journey to net zero continued

### Transition risks

## Climate-related commercial risk

- The transition to a low-carbon economy may lead to lower sales volumes and/or margins due to a general reduction or elimination of demand for oil and gas products, possibly resulting in underutilised or stranded oil and gas assets and a failure to secure new opportunities.
- Changing preferences of investors and financial institutions could reduce access to and increase the cost of capital.

**Relevant time horizon:**
medium and long

**Potential material impacts on the organisation**

**Lower demand and margins for oil and gas products**
Changing customer sentiment towards renewable and sustainable energy products may reduce demand for our oil and gas products. An excess of supply over demand could reduce fossil fuel prices. This could be a factor contributing to additional provisions for our assets and result in lower earnings, cancelled projects and potential impairment of certain assets.

**Changing preferences of investors and financial institutions**
Financial institutions are increasingly aligning their portfolios to a low-carbon and net-zero world, driven by both regulatory and broader stakeholder pressures. A failure to decarbonise the business portfolios in line with investor and lender expectations could have a material adverse effect on our ability to use financing for certain types of projects. This could also adversely affect our potential partners' ability to finance their portion of costs, either through equity or debt.

Sensitivity analysis of a 1% shift in Shell's weighted average cost of capital on asset carrying values is presented in 'Carbon pricing and discount rate sensitivities' on page 89.

**Remaining in step with the pace and extent of the energy transition**
The energy transition provides us with significant opportunities, as described in the "Transition opportunities" below. If we fail to stay in step with the pace and extent of change or customers' and other stakeholders' demand for low-carbon products, this could adversely affect our reputation and future earnings. If we move much faster than society, we risk investing in technologies, markets or low-carbon products that are unsuccessful. Therefore we cannot transition too quickly or we will be trying to sell products that customers do not want. This could also have a material adverse effect on financial results.

Technology and innovation are essential to our efforts to help meet the world's energy demands competitively. If we are unable to develop the right technology and products in a timely and cost-effective manner, or if we develop technologies, products and solutions that harm the environment or people's health, there could be an adverse effect on our future earnings.

## Climate-related regulatory risk

The transition to a low-carbon economy will likely increase the cost of compliance for our assets and/or products, and may include restrictions on the use of hydrocarbons. The lack of net-zero-aligned global and national policies and frameworks increases the uncertainty around this risk.

**Relevant time horizon:**
short, medium, and long

**Potential material impacts on the organisation**

**Increased compliance costs**
Some governments have introduced carbon-pricing mechanisms, which we believe can be an effective way to reduce GHG emissions across the economy at the lowest overall cost to society.

Shell's cost of compliance with the EU Emissions Trading Scheme (ETS) and related schemes was around $493 million in 2022, as recognised in Shell's Consolidated Statement of Income for 2022. A further $3,512 million of costs were incurred in respect of biofuels ($2,918 million) and renewable power ($594 million) programmes (see Note 5 to the "Consolidated Financial Statements" on pages 261-262).

Shell's annual carbon cost exposure is expected to increase over the next decade because of evolving carbon regulations. The forecasted annual cost exposure in 2023 is estimated to be around $0.8 billion and around $1.5 billion in 2032. This estimate is based on a forecast of Shell's equity share of emissions from operated and non-operated assets (including joint ventures and associates), and real-term carbon cost estimates using the mid-price scenario (see Note 4 to the "Consolidated Financial Statements" on pages 252-260 for more information). This exposure also takes into account the estimated impact of free allowances as relevant to assets based on their location.

**Restrictions on use of hydrocarbons**
Around 90% of the global economy is now signed up to net-zero commitments as of June 2022, according to the Energy and Climate Intelligence Unit. This brings an increasing risk that governments set future regulatory frameworks that restrict further exploration and production of hydrocarbons, and bring in controls to limit the use of such products. Failure to replace proved reserves could result in an accelerated decrease of future production, which could have a material adverse effect on our earnings, cash flows and financial condition.

**Lack of net-zero-aligned global and national policies and frameworks**
The lack of net-zero-aligned global and national policies and frameworks increases the uncertainty around how carbon pricing and other regulatory mechanisms will be implemented in the future. This makes it harder to determine the appropriate assumptions to be taken into account in our financial planning and investment decision processes.

# Our journey to net zero continued

**Transition risks** continued

## Climate-related societal risk (including litigation risk)

As societal expectations develop around climate change, there is a potential impact on Shell's licence to operate, reputation, brand and competitive position. This is likely to include litigation.

**Relevant time horizon:**
short, medium and long

**Potential material impacts on the organisation**

**Decline in reputation and brand**
Societal expectations of businesses are increasing, with a focus on business ethics, quality of products, contribution to society, safety and minimising damage to the environment. There is an increasing focus on the role of the oil and gas sector in the context of climate change and the energy transition. This could negatively affect our brand, reputation and licence to operate, which could limit our ability to deliver our strategy, reduce consumer demand for our branded and non-branded products, harm our ability to secure new resources and contracts, and restrict our ability to access capital markets or attract staff.

**Deteriorating relationships with key stakeholders**
Failure to decarbonise Shell's value chain in line with societal, governmental and investor expectations is a material risk to Shell's reputation as a responsible and market-leading energy company. The impact of this risk includes shareholder divestment, greater regulatory scrutiny and potential asset closure resulting from public interest groups' protests.

**Litigation**
There is an increasing risk to oil and gas companies from public, private and governmental lawsuits. Such action may have wide-ranging consequences, including forcing entities to hand over strategic autonomy in part to regulators, divest from hydrocarbon technologies, denial of regulatory approvals and/or paying fines/penalties or large compensation packages to the plaintiff.

In some countries, governments, regulators, organisations and individuals have filed lawsuits of a wide variety, including seeking to hold oil and gas companies liable for costs associated with climate change, or seeking court-ordered reductions in emissions, challenging the regulatory approvals and operating licenses, or challenging energy transition strategies and plans. While we believe these lawsuits to be without merit, losing could have a material adverse effect on our earnings, cash flows and financial condition.

For example, in May 2021, the District Court in The Hague, the Netherlands, ruled that, by end 2030, Shell must reduce, from its consolidated subsidiaries, its aggregate net Scope 1, 2 and 3 emissions by 45%, compared with 2019 levels. The Scope 1 component is a results-based obligation and the Scope 2 and 3 components are a significant best efforts obligation. In 2019, our Scope 1 emissions from our consolidated subsidiaries were 86 million tonnes of carbon dioxide equivalent ($CO_2e$) (rounded) (financial control basis).

**Physical risks**

## Climate-related physical risk

The potential physical effects of climate change may impact Shell's assets, operations, supply chains, employees and markets.

**Relevant time horizon:**
short, medium and long

**Potential material impacts on the organisation**

Mitigation of physical risks, whether or not related to climate change, is considered and embedded in the design and construction of assets. The potential impact of physical changes comes from both acute and chronic physical risks.

Acute risks, such as flooding and droughts, wildfires and more severe tropical storms, and chronic risks, such as rising temperatures and rising sea levels, could potentially impact some of our facilities, operations and supply chains. The frequency of these hazards and impacts is expected to increase in certain high-risk locations. Extreme weather events, whether or not related to climate change, could have a negative impact on our earnings, cash flows and financial conditions.

We have performed a limited analysis addressing a range of typical climate change features for a select group of assets. As this is an emerging area of risk assessment, we aim to deepen our understanding of these potential future risks.

Additionally, the impact of physical climate change on our operations is unlikely to be limited to the boundaries of our assets. The overall impact including how supply chains, resource availability and markets may be affected also needs to be considered for a holistic assessment of this risk. Our assets manage this risk as part of broad risk and threat management processes as required by our HSSE & SP Control Framework.

# Our journey to net zero continued

**Transition opportunities**

## Climate-related opportunities

The transition to a low-carbon economy also brings significant opportunities for us to benefit from changing customer demands, given our position as a leading global energy provider.

**Relevant time horizon:**
short, medium and long

**Potential material impacts on the organisation**

As the global energy mix changes, our current infrastructure, know-how and global footprint put us in an ideal position to service the changing energy demands of the market. Our research and development (R&D) activities are key to achieving our net-zero emissions target.

As we shift from an asset-based to a customer-focused business model our current key focus areas for seizing this opportunity are:

**1. Renewables and Energy Solutions**
This encompasses our wind, solar, hydrogen, electric vehicle charging, nature-based solutions, and carbon capture and storage businesses. Electricity generated by wind and solar power plays a direct role in reducing emissions in passenger transport and parts of industry. It can also be used to create hydrogen. We expect hydrogen to present a business opportunity for heavy-duty road freight over a shorter time horizon and within shipping, industry and, possibly, aviation, over a longer time horizon. Hydrogen also has the potential to become a material part of Shell's business-to-business (B2B) operations, as heavy industry begins to transition away from energy sourced from hydrocarbons.

In 2022, Shell announced the final investment decision to build Holland Hydrogen 1, a 200 MW electrolyser that will be constructed on the Tweede Maasvlakte in the Port of Rotterdam and is expected to produce up to 60,000 kilograms of renewable hydrogen per day.

In 2022, Shell's spending on CCS opportunities (operating expenses and cash capital expenditure) amounted to around $220 million, an increase of 51% from the $146 million in 2021. Shell's equity share of captured and stored $CO_2$ was around 0.4 million tonnes in 2022, in line with the 2021 amount.

**2. Biofuels**
Shell and the non-operated joint venture Raízen (Shell interest 44%) are together one of the world's largest blenders and distributors of biofuels. Shell plans to continue to invest in and increase the production of these low-carbon fuels. Our low-carbon fuels projects and operations around the world form part of a wider commitment to provide a range of energy choices for customers. For example, we believe that sustainable aviation fuels (SAF) provide the most effective way of reducing emissions within the aviation sector, with wider adoption of SAF enabling us to provide more low-carbon fuels to our customers. Biofuels may also present opportunities in the shipping, road freight and other sectors.

Together with our customers, we are working on changing energy demand and developing ways to help increase the use of low-carbon fuels and decrease carbon emissions from this sector. Meanwhile, on the supply side, in Rotterdam in the Netherlands, Shell is building an 820,000-tonnes-a-year biofuels facility. This is expected to be among the largest in Europe producing sustainable aviation fuel and renewable diesel made from waste and certified sustainable vegetable oils.

**3. Natural gas**
Demand for liquefied natural gas (LNG) is expected to grow. As one of the world's largest suppliers of liquefied natural gas (LNG), with around 40 million tonnes of equity capacity, we can ship natural gas to where it is needed. LNG plays an important role in enabling countries to replace coal-fired power generation with a less carbon-intensive alternative. Shell seeks to provide more affordable, reliable and cleaner energy to our customers. In 2022, we produced gas for the first time from the Shell-operated Colibri project in Trinidad and Tobago. While the majority of Colibri's gas will be exported as LNG, around 25% will be used to power local homes and businesses.

**4. Transforming refineries into energy and chemicals parks**
An important aim of our Powering Progress strategy is to transform refineries into energy and chemicals parks so that we can sell more low-carbon and sustainable products.

### Impact of climate-related risks and opportunities on Shell's businesses, strategy and financial planning

The transformation of the energy system to net-zero emissions will require simultaneous action in three areas – an unprecedented improvement in the efficiency with which energy is used, a sharp reduction in the carbon intensity of the energy mix, and the mitigation of residual emissions using technology and natural sinks. While it is difficult to predict the exact combination of actions that will deliver the net-zero goal, scenarios help us to consider the variables and the potential direction and pace of the transition needed.

We have been developing scenarios within Shell for almost 50 years, helping Shell leaders to explore ways forward and make better decisions. Shell scenarios are designed to stretch management's thinking when it comes to considering events that may be remotely possible. Scenarios help management make choices in times of uncertainty and transition as we grapple with tough energy and environmental issues. They are aligned to different energy transition pathways and help in decision-making by guiding the identification of risks and opportunities.

Different socio-economic and technological parameters are used to construct these scenarios, such as:

- sectoral and regional energy demand;
- future trajectory of oil consumption and demand for natural gas;
- renewable electricity demand and the pace of the electrification of the global energy system;
- supply of solar and wind energy;
- pace of uptake of electric vehicles;
- demand for biofuels;
- growth of the hydrogen economy;
- level of carbon capture and storage (CCS);
- deployment of lower-carbon energy technologies; and
- global trade of oil and gas.

Management consideration of different climate change outcomes informs a range of areas including, but not limited to, the setting of the long-term strategy, business planning, and investment and divestment decisions. The outcomes considered by management vary in relation to the extent and pace of the energy transition.

# Our journey to net zero continued

### Impact on strategic planning

The application of scenario analysis informs our assessment of the impact of a wide range of risks and opportunities, including climate-change related issues, on our strategy and business planning, both at the Group and business unit levels. At the Group level, the potential impacts of the energy transition on our business model are discussed and assessed at the Board and the Executive Committee level as part of the annual strategic and business planning cycle. This assessment allows us to challenge accepted ways of thinking, identify material risks and opportunities, and identify key tensions and trade-offs.

### Key financial and non-financial components of business planning

The Board approves our annual business plan. The plan contains operational and financial metrics, and its objective is to drive the delivery of our Powering Progress strategy.

Decarbonisation targets are key to our business planning process. Each business owner offers viable Scope 1, 2 and 3 reduction opportunities as part of this process, in line with the CMF (see page 81).

The business plan is underpinned by assumptions about internal and external parameters and includes:

- commodity prices;
- refining margins;
- production levels and product demand;
- exchange rates;
- future carbon costs;
- the schedules of capital investment programmes; and
- risks and opportunities that may have material impacts on free cash flow.

These assumptions are developed with input from our scenarios and internal estimates and outlooks. The level of uncertainty around these assumptions increases over longer time horizons.

### Impact on business and financial planning

There is no single scenario that underpins Shell's business and financial planning. Scenarios are not intended to be predictions of likely future events or outcomes and, therefore, are not the basis for Shell's operating plans and financial statements. Our scenarios help in developing our future oil and gas pricing outlooks. The oil and gas pricing outlooks takes account of factors relating to the energy transition, such as potential changes in supply and demand (see details of scenario parameters above). The low-, medium- and high-pricing outlooks are prepared by a team of experts, reviewed by the Shell Executive Committee, and approved by the CEO and CFO. The medium pricing outlook represents management's reasonable best estimate and is the basis for Shell's financial statements, operating plans and impairment testing.

Shell's targets to reduce absolute Scope 1 and 2 emissions by 50% by 2030, compared with 2016 levels on a net basis (i.e. including carbon credits), and 20% reduction in net carbon intensity by 2030 have been included in Shell's operating plan. We will continue to update our business plan, price outlooks and assumptions as we move towards net-zero emissions by 2050.

As described in "Climate-related risks and opportunities identified by Shell over the short, medium and long term", the low-pricing outlooks could result in increased commercial, regulatory and societal risks, as well as transition opportunities. How these risks are prioritised is described in "Shell's processes for identifying and assessing climate-related risks". Given our target to become a net-zero emissions energy business by 2050, the use of low-pricing outlooks is a part of our resilience testing and resulting actions.

### Our strategy and national net-zero commitments

In line with LR 9.8.6FG, we have considered the extent to which country-level net zero commitments have been considered in developing our transition plan.

Our Powering Progress strategy aims to deliver a net-zero emissions energy business by 2050. The pace of the energy transition will be heavily influenced by government policy, creating a strong country and regional dimension in seeking to deliver the aims of the Paris Agreement. Our commitment is a global one and, as such, we look to deliver our strategy through a global lens.

We seek to translate our energy transition strategy into specific targets and plans at a business segment level, ensuring we take capital deployment and portfolio decisions in the context of the globally integrated nature of our operations. However, we continue to recognise the importance of engagement and collaboration in delivering the fundamental changes to the energy system that are required. This includes supporting and advocating for policies that aim to reduce carbon emissions and working with governments and other stakeholders in the development of policy that supports the transition to a lower-carbon energy system. As national transition plans develop, consideration will be given to the impact on our operations and the associated implications for our energy transition strategy.

# Our journey to net zero continued

## Resilience of Shell's strategy to different climate-related scenarios

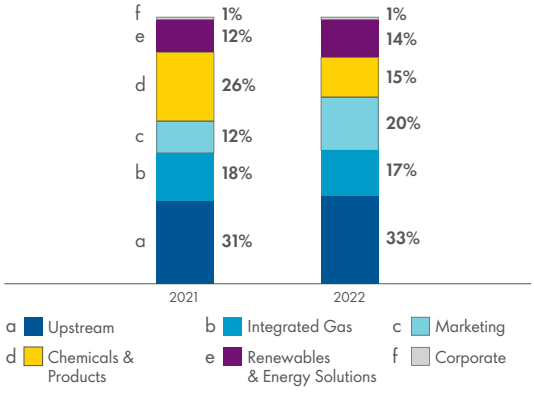
Shell's financial strength and access to capital give us the ability to reshape our portfolio as the energy system transforms. They also allow us to withstand volatility in oil and gas markets.

We continue to optimise our capital allocation balancing energy security and demand, as well as internal and external transition considerations and opportunities. We aim to find the right balance between managing our upstream assets – which provide the vital supplies of oil and gas that the world needs today and produce the returns needed to help us fund the transition – and investing in the energy transition. These activities are essential to identify, build and scale up profitable projects that offer low-carbon energy solutions for our customers.

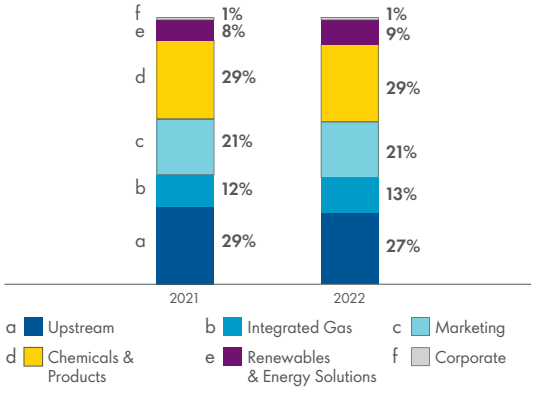
From January 1, 2022, we have disclosed the financial performance of our Renewables and Energy Solutions (R&ES) segment. R&ES is a business through which we seek to develop commercial opportunities which will be key in supporting the delivery of our net-zero emissions target.

See Note 8 to the Consolidated Financial Statements "Segment Information" on pages 265-269 for more information.

### Cash capital expenditure evolution by segment




### Operational expenditure evolution by segment




Cash capital expenditure by segment for 2023 is expected to be in the range of $8 billion for Upstream, $6 billion for Marketing, $5 billion for Integrated Gas, $3-4 billion for Chemicals and Products, and $2-4 billion for R&ES.

### Investing through the energy transition

**Total cash capital expenditure of $25 billion in 2022**

| Non-energy products [A] | Low-carbon energy solutions [B] |
|---|---|
| $3.9 billion | $4.3 billion |
| **LNG, gas and power marketing and trading [C]** | **Oil, oil products and other [D]** |
| $4.2 billion | $12.5 billion |

[A] Products for which usage does not cause Scope 3, Category 11 emissions: Lubricants, Chemicals, Convenience Retailing, Agriculture & Forestry, Construction & Road.
[B] E-Mobility and Electric Vehicle Charging Services, Low-Carbon Fuels (Biofuels/HEFA), Renewable Power Generation (Solar/Wind), Environmental Solutions, Hydrogen, CCUS. We define low-carbon energy products as those that have an average carbon intensity that is lower than conventional hydrocarbon products, assessed on a lifecycle basis (including emissions from production, processing, distribution and end use).
[C] LNG Production & Trading, Gas & Power Trading, and Energy Marketing.
[D] Upstream segment, GTL, Refining & Trading, Marketing fuel and hydrocarbon sales, Shell Ventures, Corporate segment.

Movements in cash capital expenditure versus 2021 were as follows:

- 'Non-energy products' reduced by 9% (from $4.2 billion in 2021) mainly through lower spend at Shell Polymers Monaca as construction came to completion.
- 'Low-carbon energy solutions' increased by 89% (from $2.3 billion in 2021) mainly through higher investments in renewable power generation, low-carbon fuels, and e-mobility.
- 'LNG, gas and power marketing and trading' increased by 17% (from $3.6 billion in 2021) reflecting investment in the North Field East expansion project in Qatar.
- 'Oil, oil products and other' increased by 30% (from $9.6 billion in 2021) mainly through our Upstream deepwater operations, including the acquisition of a 25% stake in the Atapu field in Brazil.

Key aspects of Shell's financial resilience in the context of climate-related impacts are assessed and described in more detail in Note 4 to the "Consolidated Financial Statements". This describes how Shell has considered climate-related impacts in key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities. Shell's financial statements are based on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that may exist in the foreseeable future.

Sensitivity analysis using external, and often normative, climate scenarios has been performed for the period covering asset life cycles. If these different price outlooks were used, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2022.

As there is no single scenario that underpins our plans, sensitivity analysis has been conducted using a range of key assumptions to test the resilience of our asset base. This includes sensitivity analysis on asset carrying values using commodity price outlooks from external and often normative climate change scenarios; shifting trends in our portfolio, particularly exploration and evaluation, Upstream production and refineries; risks related to stranded assets; resilience of investments for transformation of the refining portfolio into five energy and chemicals parks; forecasted taxable profits sufficient to recover deferred tax assets; dividend resilience; and limited risk on timing of decommissioning and restoration activities for Integrated Gas and Upstream.

# Our journey to net zero continued

### Commodity price sensitivities

Oil and gas prices are one of the key assumptions that underpin Shell's financial statements, with the mid-price outlook informed by Shell's scenario planning representing management's best estimate. Price outlooks reflect a broad range of factors, including, but not limited to, future supply and demand, and the pace of growth of low-carbon solutions. The scenarios have been selected to illustrate the resilience of the asset base under a range of possible outcomes, including the price implications arising from the IEA Net Zero Emissions scenario which provides a potential path for the global energy system to net-zero emissions by 2050. Sensitivities of asset carrying amounts to prices are under the assumption that all other factors in the models used to calculate impacts remain unchanged.

Sensitivity analysis has been performed using price outlooks from:

1. Average prices from three 1.5-2 degrees Celsius external climate change scenarios. In view of the broad range of price outlooks across the various scenarios, the average of three external price outlooks was taken from IHS Markit/ACCS 2022; Woodmac WM AET-1.5 degree; and IEA NZE50.

   Applying these prices to Integrated Gas assets of $75 billion and Upstream assets of $88 billion as at December 31, 2022, shows recoverable amounts that are $4-6 billion and $1-2 billion lower, respectively, than the carrying amounts as at December 31, 2022.

2. Hybrid Shell Plan and IEA NZE50: for this Shell's mid-price outlook is applied for the next 10 years. Because of greater uncertainty, the IEA normative Net Zero Emissions scenario is applied for the period after 10 years. This weights less price-risk uncertainty to the first 10 years reflected in the operating plan period and applies more risk to the more uncertain subsequent periods.

   Applying this priceline to Integrated Gas assets of $75 billion and Upstream assets of $88 billion as at December 31, 2022, shows recoverable amounts that are $4-6 billion and $1-2 billion lower, respectively, than the carrying amounts as at December 31, 2022.

3. For 2022, we have also included sensitivities based on a 1.5 degree scenario, derived from IEA NZE50. This priceline applies the IEA normative Net Zero Emissions scenario over the whole period under review. This priceline has been applied for the first time in the current year in order to also reflect the sensitivity to a pure net-zero emissions scenario from the IEA.

   Applying this priceline to Integrated Gas assets of $75 billion and Upstream assets of $88 billion as at December 31, 2022, shows recoverable amounts that are $9-12 billion and $8-11 billion lower, respectively, than the carrying amounts as at December 31, 2022.

In addition, further sensitivities are provided of -10% or +10% to Shell's mid-price outlook, as an average percentage over the full period. A change of -10% or +10% to the mid-price outlook, as an average percentage over the full period, would result in around $2-5 billion impairment or some $2-4 billion impairment reversal, respectively, in Integrated Gas and Upstream as at December 31, 2022.

Compared with the prior year the impact on recoverable amounts is significantly lower as a result of the higher short- and medium-term commodity prices.

### Carbon pricing and discount rate sensitivities

The risk of stranded assets may increase in a higher carbon price scenario. Sensitivities of our asset carrying values to carbon prices have been based on an IEA NZE 2050 scenario, to illustrate the resilience of asset carrying values to higher long-term carbon prices than those included in the Shell mid-price outlook.

Applying the IEA NZE 2050 carbon price scenario to Integrated Gas assets of $75 billion and Upstream assets of $88 billion, up to the end of life of these assets, shows recoverable amounts that are $2-5 billion and not significantly lower, respectively, than the carrying amounts as at December 31, 2022.

See "Carbon pricing" on page 82 for more information on our carbon price assumptions.

The discount rate applied for impairment testing is based on a nominal post-tax weighted average cost of capital (WACC) of 5% for Power activities and a nominal post-tax WACC of 6.5% for all other businesses. The discount rate includes generic systematic climate change risk. In addition, cash flow projections applied in individual assets include specific asset risks. An increase in systematic climate risk could lead to a higher WACC and consequently to a higher discount rate to be applied in impairment testing. We have used a 1% shift in discount rate for sensitivity analysis purposes as an indicator of the resilience of our asset base to incremental increases in our cost of capital.

An increase of the WACC of 1% under the assumption that all other factors in the models used to calculate recoverability of carrying amounts remain unchanged would lead to an impairment of $1-3 billion for Integrated Gas and up to $1 billion in each of the following segments: Upstream, Chemicals and Products, and Renewables and Energy Solutions. No significant impairment would arise in the Marketing segment.

See Note 4 to the Consolidated Financial Statements on page 252 for further information on climate-related impacts in key areas of the financial statements.

### Delivering our energy transition strategy

To ensure the resilience of our Powering Progress strategy, our responses to the risks and opportunities identified are:

- delivery through our integrated business model;
- a sectoral decarbonisation approach – recognising that we need to work with our customers to identify low-carbon energy solutions for their energy demands; and
- decarbonisation of our energy value chains and operations.

Our net-zero target includes emissions from our operations, and the life-cycle emissions from all the energy products we sell. We will seek to reduce emissions from our own operations, including the production of oil and gas. More than 90% of the total emissions we include within the NCI boundary are indirect emissions associated with third-party products and end use emissions of energy products we sell, so we are also working with our customers to support them in transitioning to low-carbon products and services.

Our integrated approach allows us to withstand volatility in oil and gas markets. Our financial framework is based on sector-leading cash flow, continued capital discipline, capital flexibility and a strong balance sheet.

- Upstream delivers the cash and returns needed to fund our shareholder distributions and the transformation of our portfolio, and provides vital supplies of oil and natural gas to help meet the world's energy needs.
- Integrated Gas and Chemicals and Products make the products needed to help enable the energy transition. They produce sustainable cash flow and provide us with the asset infrastructure to support our investments in the future of energy.
- Marketing and R&ES include service stations, sales of gasoline and diesel, fuels for business customers, power, hydrogen, biofuels, charging for electric vehicles, carbon credits, and development of commercial CCS. They focus on working with our customers to help accelerate the transition to net zero and are the foundation for the future businesses in Shell.

See "Outlook" for more information on page 13.

# Our journey to net zero continued

Our research and development (R&D) activities are also key to achieving our net-zero emissions target. They are an important way to address the technology risk as mentioned in the "Transition risk and opportunities" section.

In 2022, our R&D expenditure on projects that contributed to decarbonisation was around $440 million, representing about 41% of our total R&D spend, compared with around 40% in 2021. This includes expenditure on reducing greenhouse gas emissions:

- for our customers through renewable power generation, storage, e-mobility and other electrification solutions;
- from our own operations, for example, by improving energy efficiency and electrification;
- from the fuels and other products we sell to our customers - for example, biofuels, synthetic fuels and products made from low-carbon electricity, and hydrogen produced using renewable sources;
- by carbon capture, utilisation and storage applied to hydrogen production from natural gas and other carbon emissions; and
- by researching nature-based solutions to offset emissions.

Examples of R&D activities other than decarbonisation include safety, performance products such as lubricants and polymers, robotics, automation and artificial intelligence.

**Supporting our customers in achieving net-zero emissions**

Changes to the supply of energy products and decarbonising the energy system require structural changes in the end-use of energy. This requires energy users to improve, update or replace equipment so that they can use carbon-based energy more efficiently, or switch to low- and zero-carbon energy.

For example, in the transport sector, decarbonisation includes replacing internal combustion engine vehicles with electric and hydrogen vehicles. In the industrial sector, replacing oil- and coal-fired furnaces with electrical furnaces would be one solution, carbon capture and storage is another. And in the buildings sector, replacing gas heating systems with electric heating systems would also contribute to decarbonisation.

Such structural changes will help to trigger transitions along the supply chain of individual sectors and across sectors, including the production of energy and emissions over time. The IEA estimates that these changes in the end-use of energy will require substantial investment. Under the IEA Net Zero Emissions by 2050 scenario, for every one US dollar spent on fossil fuels, a further five US dollars need to be spent on clean energy and a further four US dollars spent on efficiency and end-uses.

Helping to transform energy demand is the focus of our decarbonisation strategy. To help transform demand, we are working with customers sector-by-sector across the energy system. We will seek to change the mix of energy products we sell to our customers as their needs for energy change. This is reflected in Shell's strategy to develop a portfolio that seeks to:

- provide more electricity to customers, while also driving a shift to renewable electricity;
- develop low- and zero-carbon alternatives to traditional fuel, including biofuels, hydrogen, and other low- and zero-carbon gases;
- work with customers across different sectors to decarbonise their use of energy; and
- address any remaining emissions from conventional fuels with solutions such as CCS and carbon credits.

**Energy transition in action - selection of portfolio changes and actions in 2022:**

**Electricity and renewable power**

- acquisition of Sprng Energy Group, a solar and wind platform in India;
- winning bids with our partners to build offshore wind farms in the UK, the Netherlands and US waters (December: Hollandse Kust west VI with Eneco; July: with Scottish Power in the UK; February: Atlantic Shores in the USA);
- the acquisition of Powershop Australia, an online energy retailer; and
- started operations at the power-to-hydrogen electrolyser in China.

**Develop low- and zero-carbon alternatives to traditional fuels**

- acquisition of Denmark's Nature Energy - the largest producer of renewable natural gas in Europe, completed on February 20, 2023;
- final investment decision to build a 200 MW electrolyser, Holland Hydrogen I (Shell interest 100%);
- agreement to buy sugar-cane ethanol under a long-term agreement with Raízen (Shell interest 44%). The low-carbon fuel is expected to be produced by five plants that Raízen plans to build in Brazil, bringing its total portfolio of ethanol facilities to nine; and
- began construction of a bio-LNG plant at the Energy and Chemicals Park Rheinland in Germany to make liquefied natural gas from biological waste.

**Help customers to decarbonise their use of energy**

- launched a programme with our partners called Avelia which will encourage companies to invest in the production of SAF;
- made progress rolling out our network of charging for electric vehicles and joint venture with Chinese automobile company BYD to operate a network of charging points in Shenzhen; and
- acquisition of German company SBRS GmbH, which provides electric charging services for e-buses, e-trucks and e-vans. This is a step towards decarbonising the commercial road transport sector.

**CCS and carbon credits**

- Agreement with Northern Lights CCS joint venture (Shell interest 33.3%) in Norway and Yara for a world-first cross-border carbon capture, transport and storage contract.
- Investment in Carbonext, a Brazilian company operating carbon-centric preservation projects in the Amazon.

# **Our journey to net zero** continued

Because emissions resulting from customer use of our energy products make up the greatest percentage of Shell's carbon emissions, this is where we believe we can make the greatest contribution to the energy transition, by enabling our customers to transition to low-carbon energy products and services. We intend to increase our share of low-carbon energy sales, which is reflected in our target to reduce the NCI of the energy products we sell by 20% between 2016 and 2030.

See "Working to reduce our net carbon intensity" for more information on page 100.

We have restructured our company so that we can better identify opportunities and the role that we can play in each sector to help transform demand. We are moving from an approach focused on types of products to one where our customer and account management is focused on sectors.

We aim to build on our existing relationships across each sector, with consumers, infrastructure owners, other suppliers and policymakers to help to accelerate change.

Our strategic approach to climate change emphasises the need to work collaboratively. We aim to make strategic alliances with customers, other companies and entire sectors so we and they can make profitable progress towards net zero.

**Collaborating with our customers**

We are helping software company SAP move to an emissions-free global car fleet by 2030 in support of its net-zero targets. Through our Accelerate to Zero programme, Shell is providing on-the-go and home charging, as well as other fleet solutions, for SAP employees in several countries. At SAP's headquarters in Walldorf, Germany, we are working to build solar generation capacity to help the company decarbonise and become more self-reliant in its energy use.

As a founding member of the Oil and Gas Climate Initiative (OGCI) we are part of a group of 12 national and international energy companies. The OGCI supports the climate goals of the UN Paris Agreement and recognises that collective actions will help drive the energy transition.

**Decarbonising our value chains and operations**

We will seek to base the decarbonisation of our value chains and operations on a deep understanding of the decarbonisation strategies and plans of our customers and users of our energy products. We are focused on decarbonising our own operations by:

- making portfolio changes, such as acquisitions of and investments in new, low-carbon projects. We are also decommissioning plants, divesting assets and reducing our production through the natural decline of existing oil and gas fields;
- improving the energy efficiency of our operations;
- transforming our remaining integrated refineries into low-carbon energy and chemicals parks, which involves decommissioning plants;
- using more renewable electricity to power our operations;
- developing CCS for our facilities; and, if required,
- using high-quality carbon credits to compensate for any remaining emissions from our operations.

We have set an interim target to achieve a 50% reduction in absolute Scope 1 and 2 emissions under our operational control by 2030 on a net basis, when compared with 2016.

See "Working to reduce our absolute Scope 1 and 2 emissions" for more information on page 100.

# Our journey to net zero continued

## Climate risk management

### Shell's processes for identifying and assessing climate-related risks

#### Identifying climate-related risks

As discussed in "Energy transition strategy", Shell considers climate change and GHG emissions a material risk factor. We monitor the risks related to these across four components:

- commercial risks;
- regulatory risks;
- societal risks (including litigation risk); and
- physical risks.

These components are monitored and assessed on an integrated basis, necessitated by the interdependence of the risks and the related actions. The different components pose different kinds of exposures spanning different time horizons. Similarly, the responses to the components of the risk are also planned by taking a holistic view.

For example, the increasing cost of complying with emission limits in some regions is a regulatory risk that may require operational responses in the near term. The reduction in demand for legacy hydrocarbons is a commercial risk that may have a medium- to long-term impact, demanding changes to our strategic portfolio and business models. The risk of physical impacts of climate change may occur in the short, medium and long term and would require actions to mitigate adverse impacts on our assets and supply chain. As an example, the transformation of our refineries into energy and chemicals parks reduces the level of our operational emissions and medium- to long-term commercial risks, allowing us to plan for future adaptation measures.

Our integrated approach to risk management and the resulting changes in our strategy ensure we manage our aggregate climate change risk within our overall risk appetite over different time horizons.

Shell's processes for identifying and assessing risks are part of our Shell Control Framework.

Our risk management procedures that help us identify climate-related risks and opportunities include:

- monitoring external developments, including policy changes and new regulations;
- evaluating the status of risk indicators, which illustrate how well we are managing each component of the risk related to climate change and GHG emissions; and
- learning from incidents and assurance findings.

We use these procedures to identify risks relating to climate change and GHG emissions, which in turn enables us to determine their significance, both individually and relative to other risks.

#### Assessing climate-related risks

Processes within the Shell Control Framework that help us assess each identified risk include the evaluation of its impact, likelihood and the level of risk we are willing to accept.

When assessing the likelihood of a risk occurring, we consider factors such as our ability to prevent the risk happening and whether the risk has materialised in the past.

We consider the financial consequences and how it might affect our reputation, our ability to comply with regulations, and possible damage to health, safety, our assets and the environment. The impact, and hence materiality, of a risk is based on how critical it could be to our business model.

We operate in multiple countries and therefore societal risks are material as they are directly linked to our licence to operate.

The impact and likelihood assessment helps us to prioritise risks and determine their relative materiality, based on a comprehensive picture of significant risks to a relevant business's objectives.

To support our risk assessments, we seek to establish the level of risk that we are willing to accept in pursuit of Shell's strategy and objectives. We consider the amount of resources – such as financial resources, people, processes, systems and controls – that we are willing and able to allocate to manage each risk in pursuit of our objectives and the impact to Shell's overall risk profile.

The impact and likelihood assessment, combined with risk appetite, determines the type of risk responses, such as controls and assurance activities, that may be required to manage each risk.

Possible responses include:

- accepting the risk without any further action;
- mitigating or reducing the risk with appropriate controls, supported by assurance activities;
- transferring the risk, for example to insurance providers where appropriate; and
- altogether stopping or forgoing the activity that gives rise to the risk.

In determining our risk responses, we always seek to comply with our Code of Conduct and other boundaries, such as our financial framework, which set the aggregate level of risk appetite that could be sustained. The financial framework considers boundaries such as our net debt levels and our credit rating.

#### Physical risks

Potential physical impacts to our assets, irrespective of cause, are important for us to manage.

Climate variability is considered in the design and operation of our assets and infrastructure to minimise the risk of adverse incidents to our employees and contractors, the communities where we operate, our equipment and infrastructure. Our new projects consider anticipated weather and climatic events in their design and Metocean (meteorology and oceanography) engineering experts are available, if requested, to assist our assets and project teams in the evaluation of physical risks.

On an ongoing basis, our assets leverage broad risk and threat management processes to identify and respond to emerging challenges to their ongoing safe, compliant and efficient operation, as required by our HSSE & SP Control Framework. We are working to deepen our understanding of this risk and to establish metrics in this area to monitor our exposure across the Group.

# Our journey to net zero continued

**Classifications of risks**
We identify and assess three distinct categories of risk across the Group:

- strategic: we consider current and future portfolio issues, examining parameters such as country concentration or exposure to higher-risk countries. We also consider long-range developments in order to test key assumptions or beliefs in relation to energy markets.
- operational: we consider material operational exposures across Shell's entire value chain to provide a more granular assessment of key risks that the organisation is facing.
- conduct and culture: we consider alignment of our policies, practices and behaviours against our purpose and core values.

The four sub-components of risk related to climate change and GHG emissions – commercial, regulatory, societal (including litigation), and physical risks – are assessed across the above three categories to ensure we maintain strategic resilience, have robust day-to-day operational risk responses and that responses align with Shell's purpose and core values.

## Shell's processes for managing climate-related risks

Our climate-related risk management process is carried out at the Group, business, function and asset level, which includes projects.

We apply the Shell Control Framework to ensure that we effectively manage our climate-related risks at all these levels. The framework includes:

- mandatory risk standards and manuals;
- project-level risk management processes;
- management and Board reviews;
- internal audits and investigations; and
- annual attestation processes.

### Mandatory risk standards and manuals

We have mandatory standards and manuals which establish the requirements on how to effectively manage material risks including the operation of appropriate controls. Our standards and manuals also provide guidance on how to monitor, communicate and report changes in the risk environment. These documents aim to:

- ensure consistent management and assessment of climate risk across Shell;
- clarify expectations for risk management and reporting, including roles and responsibilities of the risk owners;
- clarify types of assurance activities that may be applicable;
- strengthen decision-making by ensuring that businesses have better awareness and understanding of climate risks (including their likelihood and potential impact) and mitigation plans; and
- enable integration of Shell's reporting.

We periodically review and, if necessary, update our standards and manuals in light of developments in risks, including those associated with climate change. Our approach continues to evolve as we increase our understanding of changing policies and the differing pace of energy transition in different regions.

### Project-level risk management processes

At a project level, assessing climate-related risks is an important part of making initial investment decisions. Projects of a certain size or which carry unusual risks are required to follow Shell's Opportunity Realisation Standard, which sets out the rules for managing and delivering opportunities in the organisation. Each project is assisted by experts from our global subject matter groups during its development, implementation and operation.

Projects under development that are expected to have a material GHG impact must meet our internal carbon performance standards or industry benchmarks. Our performance standards are used for measuring a project's average lifetime GHG intensity or energy efficiency per asset type. Applying these criteria ensures that our projects can compete and prosper in the energy transition. An exception process is in place to manage specific incidental cases. Performance standards are under development for power and hydrogen projects.

The performance standards are approved by the Executive Vice President accountable for implementation in the relevant businesses, and by the Executive Vice President Safety, Environment and Asset Management.

Projects with a material GHG footprint that meet the performance standards or industry benchmarks will often set more ambitious emissions targets for themselves. GHG abatement plans help determine the nature of these targets, and we assess the effects of a project's emissions alongside economic and technical design factors.

We assess the future GHG emissions of projects against performance standards and by considering the GHG emissions from the use of the products that are to be manufactured. These assessments can lead to projects being stopped or designs being changed.

We expect the performance standards to evolve as our portfolio changes in the energy transition.

### Management and Board reviews

Management, the Board and Board committees review the risk of climate change and GHG emissions to ensure awareness of emerging issues that may impact our strategy and to ensure the effectiveness of our responses in managing this risk at a more granular, operational level. For example, as part of the annual planning cycle, the Executive Committee and the Board assess how climate change and GHG emissions may affect the pace of the energy transition, business emission reduction plans and the implications for Shell's current portfolio.

# **Our journey to net zero** continued

In addition, each business and function regularly reviews its risk profile, risk responses and assurance activities throughout the year to ensure climate-related risks are managed effectively. These insights are used to provide management with updates on the operational management of climate change and GHG emissions risks. During these updates, management considers the significance of the climate change and GHG emissions risks relative to other risks on the Group risk profile and reviews whether our risk responses are effective in addressing the four sub-components of the climate change and GHG emissions risk.

Our management reviews help us to update Shell's plans and guide our day-to-day operational decisions such as maintenance schedules and our risk response plans.

**Internal audits and investigations processes**
Shell's Internal Audit and Investigations (SIAI) team provides independent and objective assurance and advises management and the Board on the adequacy and effectiveness of our risk management and internal controls.

For example, SIAI conducted four GHG audits during 2022 to test whether controls are adequately designed and operating effectively to mitigate the identified risks. The controls tested covered GHG emissions measurement, reporting and forecasting and abatement projects. Additionally, SIAI conducted two audits focused on decarbonisation of industry sectors and nature based solutions.

**Annual attestation processes**
On an annual basis, all directors are required to provide an attestation of their business's or function's compliance with our HSSE & SP Control Framework and to report this to Shell's CEO. This includes the assessment of the effectiveness of the internal controls in managing climate-related risks.

**Project-level risk management in action: Shell Energy and Chemicals Park Singapore**
We are transforming our refining business and making it fit for the future. The Pulau Bukom Manufacturing Site in Singapore transformed into the Shell Energy and Chemicals Park Singapore. We have reduced our crude processing capacity by about half and delivered a significant reduction in $CO_2$ emissions.

We are repurposing Bukom by making significant changes in our refinery configuration, establishing a foundation for producing low-carbon energy products like biofuels. We are also incorporating circularity, such as waste plastics for feedstock, as well as providing renewable energy.

## Integration of the climate-related risk management process into Shell's overall risk management

Our climate-related risk management process follows the approach set out by the Shell Control Framework, ensuring that it is integrated into the overall risk management processes of the Group.

Climate-related risks are considered from a strategic and operational perspective to ensure we maintain a comprehensive view of the different types of climate risks we face and the different time horizons in which they may affect us.

The monitoring and review of risks is a key risk management process in Shell. The Executive Committee, the Board and Board committees review climate-related risks and their impact on the Group. This allows management to take a holistic view and to optimise risk mitigation responses, to ensure that climate-related risk responses are properly integrated into the relevant activities.

# Our journey to net zero continued

## Climate-related metrics and targets

### Metrics used by Shell to assess climate-related risks and opportunities in line with its strategy and risk management process

This section describes our energy product and carbon emissions performance and metrics used to monitor our progress in respect of significant climate-related transition risks and opportunities, including targets reflected in remuneration of senior management and employees.

Key metrics we use to track progress against our energy transition strategy are the NCI of our portfolio and our absolute emissions. Additional metrics associated with the resilience of Shell's strategy to transition risks and opportunities are included in "Resilience of Shell's strategy to different climate-related scenarios" from page 88. This includes information on capital allocation between our business segments and the sensitivity of our assets to carbon, discount rate and commodity price assumptions.

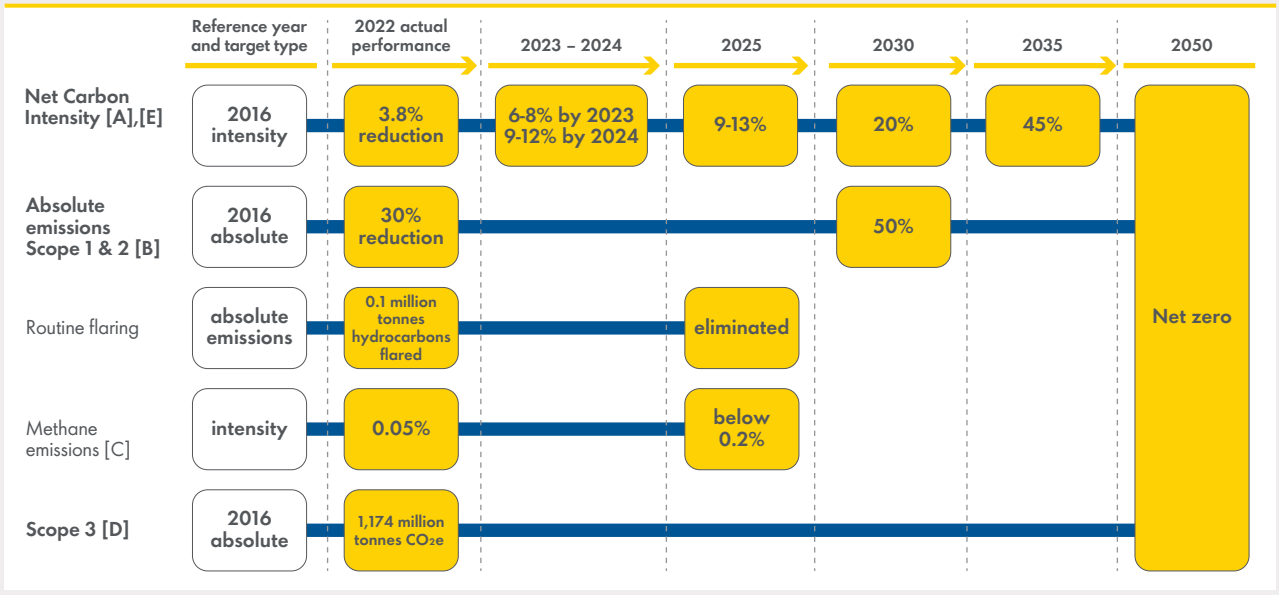
Another potentially significant climate-related risk relates to Shell's physical risk exposure at an asset level. We are working to establish metrics in this area to monitor our exposure to this risk across the Group.

Our overall climate target is to become a net-zero emissions business by 2050. It includes net-zero emissions from our operations (Scope 1 and 2 emissions), as well as net-zero emissions from the end-use of all the energy products we sell (Scope 3 emissions). We have set short-, medium- and long-term targets to track our performance against our overall climate target over time.

We believe our total absolute emissions peaked in 2018 at 1.73 gigatonnes of carbon dioxide equivalent ($GtCO_2e$).

In October 2021, in support of our 2050 net-zero emissions target, we set a target to reduce Scope 1 and 2 absolute emissions from assets and activities under our operational control (including divestments) by 50% by 2030 compared with 2016 levels on a net basis. We monitor our progress against these targets using the key metrics described.

### Climate-related targets summary




[A] Our total absolute emissions peaked in 2018 at around 1.73 gigatonnes of carbon dioxide equivalent ($GtCO_2e$) per annum.
[B] Operational control boundary.
[C] Overall methane emissions intensity for facilities with marketing gas.
[D] Indirect GHG emissions (Scope 3) based on the energy product sales included in Net Carbon Intensity (NCI) using equity boundary.
[E] Our interim targets for 2035 and 2050 are based on mitigation activities undertaken by both Shell and our customers.

# Our journey to net zero continued

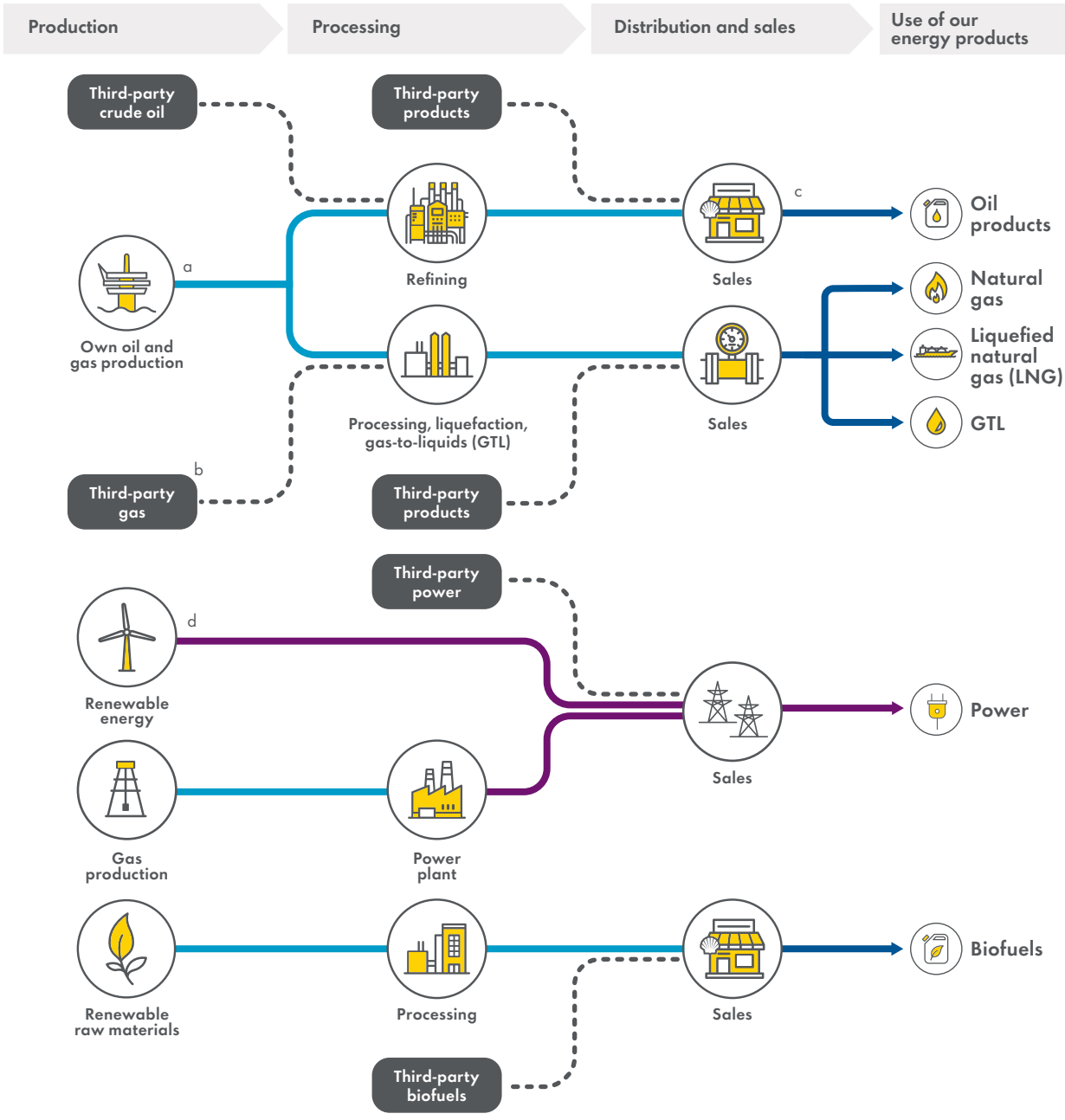
### Net carbon intensity (NCI)

Shell's NCI is the average intensity, weighted by sales volumes, of the energy products sold by Shell. It is tracked, measured and reported using the Net Carbon Footprint (NCF) methodology.

We have received third-party limited assurance on our net carbon intensity for the period 2016 to 2022.

## Scope of Net Carbon Intensity [A]

**Emissions from energy products included within the Net Carbon Footprint methodology**




[A] To be read in conjunction with Basis of preparation on page 102.

# Our journey to net zero continued

### Performance – NCI

In 2022, Shell's NCI was 76 grams of carbon dioxide equivalent per megajoule of energy ($gCO_2e/MJ$), a 1.3% decrease from the previous year and a 3.8% reduction compared with 2016, the reference year. The decrease in Shell's NCI in 2022 was primarily due to an increased proportion of renewable power and corresponding reduction in the carbon intensity of our power sales. Shell's 2022 NCI includes 4.1 million tonnes of carbon credits, compared to the 5.1 million tonnes which were included in Shell's 2021 NCI.

| NCI reference year: 2016 (equity boundary) | | 2022 | 2021 | 2020 | 2016 |
|---|---|---|---|---|---|
| NCI [E] | $gCO_2e/MJ$ | 76 | 77 | 75 | 79 |
| Estimated total energy delivered by Shell [A] | trillion (10^12) MJ | 16.29 | 17.89 | 18.40 | 20.93 |
| Estimated total GHG emissions included in NCI (net) [B] | million tonnes $CO_2e$ | 1,240 | 1,375 | 1,384 | 1,645 |
| Carbon credits | million tonnes $CO_2e$ | 4.1 | 5.1 | 3.9 | 0.0 |
| Estimated total GHG emissions (gross) [C][D] | million tonnes $CO_2e$ | 1,244 | 1,381 | 1,388 | 1,645 |

[A] The NCI calculation uses Shell's energy product sales volumes data, as disclosed in the Annual Report and Sustainability Report. This excludes certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are also excluded from the scope of Shell´s net carbon intensity metric.
[B] These numbers include well-to-wheel emissions associated with energy products sold by Shell, on an equity boundary basis; they also include the well-to-tank emissions associated with the manufacturing of energy products by others that are sold by Shell. Emissions associated with the manufacturing and use of non-energy products are excluded.
[C] All figures disclosed are rounded.
[D] While the NCI is an intensity measure and not an inventory of absolute emissions, a notional estimate of the amount of GHG emissions covered by the scope of the NCI calculation can be derived from the final NCI value for any year. Similarly, a fossil-equivalent estimate of the total amount of energy sold included in the calculation can also be determined.
[E] Acquisitions and divestments are included in the actual performance tracking with the target and baseline year unchanged. Note that acquisitions and divestments could have a material impact on meeting the targets.

As we implement our Powering Progress strategy, we are increasing the share of low-carbon products in our energy product sales, which is the biggest driver for reducing our NCI.

Our ability to change the emissions intensity of each energy product varies depending on the product type:

- Hydrocarbon fuels - emissions from end-use by customers are by far the biggest contributors to the carbon intensity of the product. As a result, the emissions intensity of hydrocarbon fuels is expected to stay relatively unchanged over time. This is why we are focused on helping our customers decarbonise.
- Power - the emissions intensity of power can be highly variable depending on how it has been generated. The proportion of our renewable power sales and the generation mix in countries where we sell power to the market both affect Shell's overall power mix and its resulting emissions intensity.
- Biofuels - can vary significantly in intensity depending on the feedstock and production process used.

## Scope 1, Scope 2 and Scope 3 GHG emissions and related risks

In assessing progress against our target to be a net-zero emissions energy business by 2050, we report our performance against our operational Scope 1 and 2, and Scope 3 emissions. Scope 1, 2 and 3 emissions are among the metrics we use to mitigate climate risks and seize opportunities in the energy transition.

### Shell's absolute emissions in 2022

In 2022, our total combined Scope 1 and 2 absolute GHG emissions (from assets and activities under our operational control) were 58 million tonnes on a $CO_2$ equivalent basis, a 15% reduction compared with 2021, and a 30% reduction compared with 2016, the base year. Our Scope 3 emissions from energy products included in our net carbon intensity were 1,174 million tonnes $CO_2e$.

| | Absolute emissions [D], [F] million tonnes of $CO_2e$ | | | | Targets [E] | |
|---|---|---|---|---|---|---|
| Scope | 2016 | 2020 | 2021 | 2022 | Target 2030 | Target 2050 |
| Scope 1 [A] | 72 | 63 | 60 | 51 | 50% reduction compared with 2016 levels on a net basis | 0 |
| Scope 2 [B] | 11 | 8 | 8 | 7 | | 0 |
| Scope 3 [C] | 1,545 | 1,305 | 1,299 | 1,174 | No target | 0 |

[A] Total direct (Scope 1) GHG emissions from assets and activities under our operational control. It includes emissions from production of energy and non-energy products.
[B] Total indirect GHG emissions from imported energy (Scope 2) from assets and activities under our operational control using the market-based method. It includes imported energy used for production of energy and non-energy products.
[C] Indirect GHG emissions (Scope 3) based on the energy product sales included in NCI using equity boundary. The NCI calculation uses Shell's energy product sales volumes data, as disclosed in the Annual Report and Sustainability Report. This excludes certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are also excluded from the scope of Shell´s net carbon intensity metric.
[D] Emissions are reported gross without the inclusion of carbon credits.
[E] Our 2030 and 2050 targets are on a net basis (i.e. including carbon credits). Acquisitions and divestments have been included in the actual performance tracking with the target unchanged. Note that acquisitions and divestments could have a material impact on meeting the targets.
[F] Oil and gas industry guidelines from IPIECA indicate that several sources of uncertainty can contribute to the overall uncertainty of a corporate emissions inventory. We have estimated the overall uncertainty for our direct GHG emissions (Scope 1) to be around 3% and for our energy indirect GHG emissions (Scope 2) to be around 7% for the market-based method and 6% for the location-based method for 2022. IPIECA also notes that due to the diversity of Scope 3 emissions, sources and the fact that these emissions occur outside the company's boundaries, the emissions estimates may be less accurate or may have high uncertainty.

Our Scope 3 emissions reported above can be categorised as follows, using the definitions from the GHG Protocol's Corporate Value Chain (Scope 3) Standard:

| GHG emissions, million tonnes $CO_2e$ | 2022 | 2021 |
|---|---|---|
| Scope 3, category 1: purchased goods and services | 144 | 147 |
| Scope 3, category 3: fuel and energy-related activities | 115 | 136 |
| Scope 3, category 9: downstream transport and distribution | 5 | 6 |
| Scope 3, category 11: use of sold products | 910 | 1,010 |
| | 1,174 | 1,299 |

Scope 3 emissions from categories 1, 3 and 11 make up the majority of Shell's Scope 3 emissions. Shell reports Scope 3 emissions across all 15 categories annually.

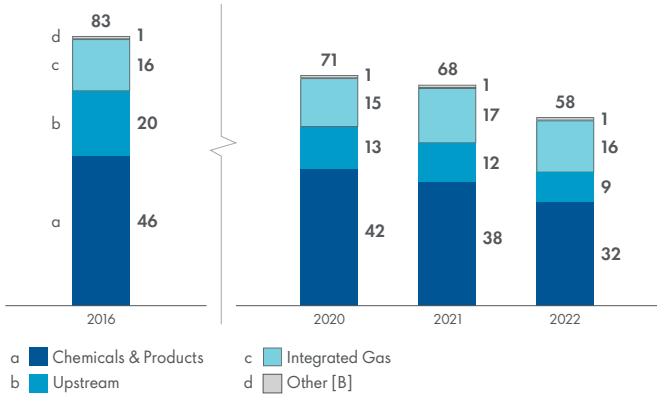
For further details see: www.shell.com/ghg

# Our journey to net zero continued

The Scope 3 emissions from the energy products we sell account for the majority of the total emissions we report. When we calculate our emissions, we include emissions not only from the products that we produce ourselves but also from the oil and gas that others produce and we sell as products to our customers. We sell more energy products than the energy we produce ourselves, therefore, to account for Shell's full effect, we include energy products sold in the measurement of our carbon emissions as shown in the chart on page 96.

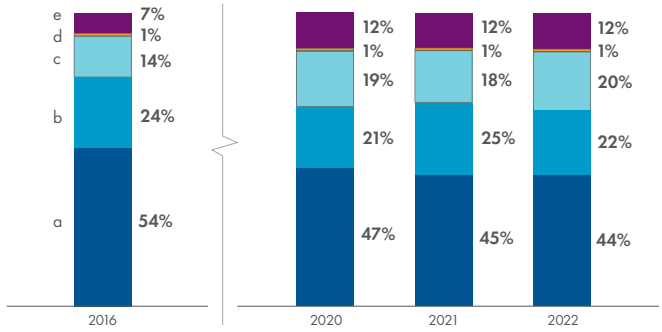
## Scope 1 & 2 – performance [A]

million tonnes carbon dioxide equivalent ($CO_2e$)




[A] Total direct (Scope 1) and energy indirect (Scope 2) GHG emissions from assets and activities under operational control boundary. It includes emissions from production of energy and non-energy products. For Scope 2, we used the market-based method.
[B] Other covers Renewables and Energy Solutions, Marketing, P&T and Real Estate.

## Share of energy delivered per energy product type [A]-[F]



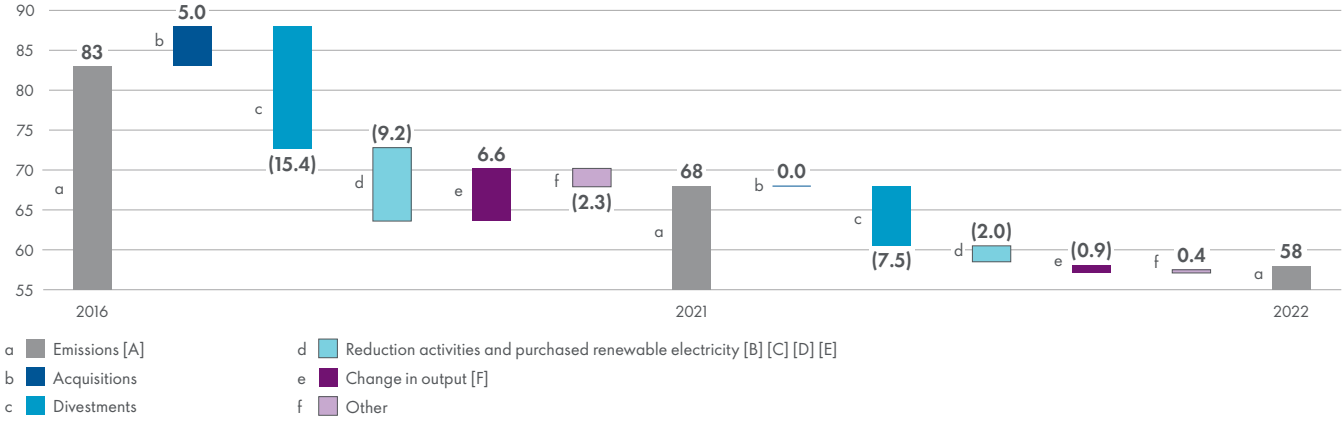

[A] Percentage of delivered energy may not add up to 100% because of rounding.
[B] Total volume of energy products sold by Shell, aggregated on an energy basis, with electricity represented as fossil equivalents. This value is derived from energy product sales figures disclosed by Shell in the Annual Report and the Sustainability Report.
[C] Lower heating values are used for the energy content of the different products and a fossil-equivalence approach is used to account for electrical energy, so that it is assessed on the same basis as our other energy products.
[D] The NCI calculation uses Shell's energy product sales volumes data, as disclosed in the Annual Report and Sustainability Report. This excludes certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are also excluded from the scope of Shell's carbon intensity metric.
[E] Emissions included in the carbon intensity of power have been calculated using the market-based method.
[F] The carbon intensity of biofuels provided in the graph "Share of energy delivered per energy product type" reflects the global average for biofuels sold by Shell for 2022.

We undertake external verification of our GHG emissions annually. Our Scope 1 and 2 GHG emissions from assets and activities under our operational control and emissions associated with the use of our energy products (Scope 3) included in our NCI have been verified to a level of limited assurance by LRQA Group Limited.

### Drivers of absolute Scope 1 and 2 emissions change

## Scope 1 and Scope 2 GHG emissions changes from 2016 to 2021 and from 2021 to 2022

million tonnes carbon dioxide equivalent ($CO_2e$)




[A] Total Scope 1 and Scope 2 emissions, rounded to the closest million tonnes. Scope 2 emissions were calculated using the market-based method.
[B] In addition to reductions from GHG abatement and energy efficiency projects, this category also includes reductions from permanent shutdown of Convent and Tabangao refineries and the impact of transformational activities at our Shell Energy and Chemicals Park in Singapore.
[C] Excludes 5.80 million tonnes of $CO_2$ captured and sequestered by the Shell-operated Quest CCS facility in Canada in 2016-2021. Scope 1 and 2 GHG emissions from operating Quest are included in our total emissions.
[D] Excludes 0.97 million tonnes of $CO_2$ captured and sequestered by the Shell-operated Quest CCS facility in Canada in 2022. Scope 1 and 2 GHG emissions from operating Quest are included in our total emissions.
[E] Of the 2,010 thousand tonnes of reduction activities and purchased renewable electricity in 2022, around 80 thousand tonnes related to purchased renewable electricity.
[F] Change in output relates to changes in production levels, including those resulting from shutdowns and turnarounds as well as production from new facilities.

# Our journey to net zero continued

Our direct GHG emissions (Scope 1) (consolidated using the operational control boundary) decreased from 60 million tonnes of carbon dioxide equivalent ($CO_2e$) in 2021 to 51 million tonnes $CO_2e$ in 2022, driven by several factors including:

- divestments in 2021 and 2022 (e.g. the Deer Park and Puget Sound refineries in the USA) and the handover of operations in OML 11 in Nigeria in 2022;
- shutdowns or conversion of existing assets, including the shutdown of some units at the Shell Energy and Chemicals Park Singapore;
- GHG abatement projects (see examples in the list of energy efficiency projects on page 105) and purchase of renewable electricity.

These decreases were partly offset by the commissioning of Shell Polymers Monaca.

Total routine hydrocarbons flaring reduced from 0.2 to 0.1 million tonnes of hydrocarbon flared from 2021 to 2022.

Around 50% of flaring in our Upstream and Integrated Gas facilities in 2022 occurred in assets operated by the Shell Petroleum Development Company of Nigeria Limited (SPDC) and Shell Nigeria Exploration and Production Company (SNEPCo). We will continue to work in close collaboration with joint-venture partners and the Federal Government of Nigeria to make progress towards the objective of ending the continuous flaring of associated gas.

Our target to keep methane emissions intensity below 0.2% was met in 2022 with Shell's overall methane emissions intensity at 0.05% for facilities with marketing gas and 0.01% for facilities without marketing gas. We believe our methane emissions are calculated using the best methods currently available. This target covers all Shell-operated oil and gas assets in our Upstream and Integrated Gas businesses. Methane emissions include those from unintentional leaks, venting and incomplete combustion, for example in flares and turbines.

Our indirect GHG emissions associated with imported energy (Scope 2) (consolidated using the operational control boundary) decreased from 8 million tonnes $CO_2e$ in 2021 to 7 million tonnes $CO_2e$ in 2022 (using the market-based method), in part, due to divestments.

### Drivers of absolute Scope 3 emissions change in 2022

Emissions associated with the use of energy products sold by Shell account for the majority of our reported carbon emissions. The reported Scope 3 emissions within the NCI boundary have reduced from 2021. The decrease is largely due to a reduction in oil product and gas sales, and a decrease in the intensity of power sold.

There was a decrease in 2020 from 2019 related to volumes associated with additional contracts being classified as held for trading purposes with effect from January 2020. We estimate that netting of oil products sales volumes resulted in a reduction in GHG emissions of 102 million tonnes $CO_2e$.

Our strategy is based on working with our customers to address the emissions from the use of our products and to help them find ways to reduce their emissions to net zero by 2050.

### Targets used by Shell to manage climate-related risks and opportunities and performance against targets

Shell's material climate-related risks and opportunities are set out in the "Climate-related risks and opportunities identified by Shell over the short, medium and long term" section. Our response to the energy transition risk focuses on decarbonising our value chain. Our climate targets are focused on reducing our NCI and our absolute emissions.

#### Setting targets for NCI

There is no established standard for aligning an energy supplier's decarbonisation targets with the temperature limit goal of the Paris Agreement. In the absence of a broadly accepted standard, we have developed our own approach for demonstrating Paris alignment by setting carbon intensity targets within a pathway derived from the IPCC SR 1.5 scenarios. This pathway is aligned with the more ambitious temperature goal of the Paris Agreement to limit global average temperature rise to 1.5 °C above pre-industrial levels by 2100.

When constructing the pathway, we started by filtering out certain scenarios to ensure that Shell's targets are aligned with earlier action, and low-overshoot scenarios. Overshoot refers to the extent to which a scenario exceeds an emissions budget and subsequently relies on sinks to compensate for the excess emissions. Next, we calculated the carbon intensity ($gCO_2e$/MJ of energy) for each of the remaining scenarios by dividing net emissions by total final energy consumption, with electricity represented as a fossil fuel equivalent.

To set a starting point, we then indexed the resulting carbon intensities to a common value of 100 in 2016 to remove the impact of differences between Shell's historical net carbon intensity and the intensities calculated from the IPCC scenarios. Finally, the pathway was constructed using the range of carbon intensity reductions over time. Outlying values at the top and bottom of the range were removed, which had the effect of narrowing the final pathway.

By using the 1.5 °C pathway produced by this approach to set our targets, we aligned them with the necessary reduction in carbon intensity shown in the 1.5 °C scenarios. This is illustrated in the table, which shows that our targets are positioned within the range of the 1.5 °C pathway. The upper and lower limits represent the upper and lower boundaries of the 1.5 °C pathway derived using the approach described above.

| | 2023 | 2024 | 2025 | 2030 | 2035 | 2050 |
|---|---|---|---|---|---|---|
| IPCC derived upper limit | -4% | -5% | -7% | -15% | -34% | -68% |
| IPCC derived lower limit | -10% | -13% | -17% | -36% | -64% | -104% |
| **Shell target range** | **6-8%** | **9-12%** | **9-13%** | **20%** | **45%** | **100%** |

Until 2035, our calculation of the total net emissions of each scenario includes only the expected mitigation actions by Shell, such as CCS and offsetting using natural sinks including any use of offsets included in the carbon-neutral energy products we offer our customers. After that date, we included mitigation actions taken separately by our customers. This is because we expect that customers will need to take action to mitigate their emissions from the use of our products, if society is to achieve the goals of the Paris Agreement.

To account for reductions in emissions across full energy value chains, it is necessary to build new protocols to include mitigation actions by both energy suppliers and users. Energy suppliers report the Scope 3 emissions from the use of their products, which are equivalent to the Scope 1 emissions reported by the users of those products. However, when users of energy products mitigate their Scope 1 emissions by the use of CCS or offsets there is no protocol for reflecting a corresponding reduction in the Scope 3 emissions reported by the energy supplier. We will continue to engage stakeholders on these carbon protocols and will seek to align with new frameworks as they evolve.

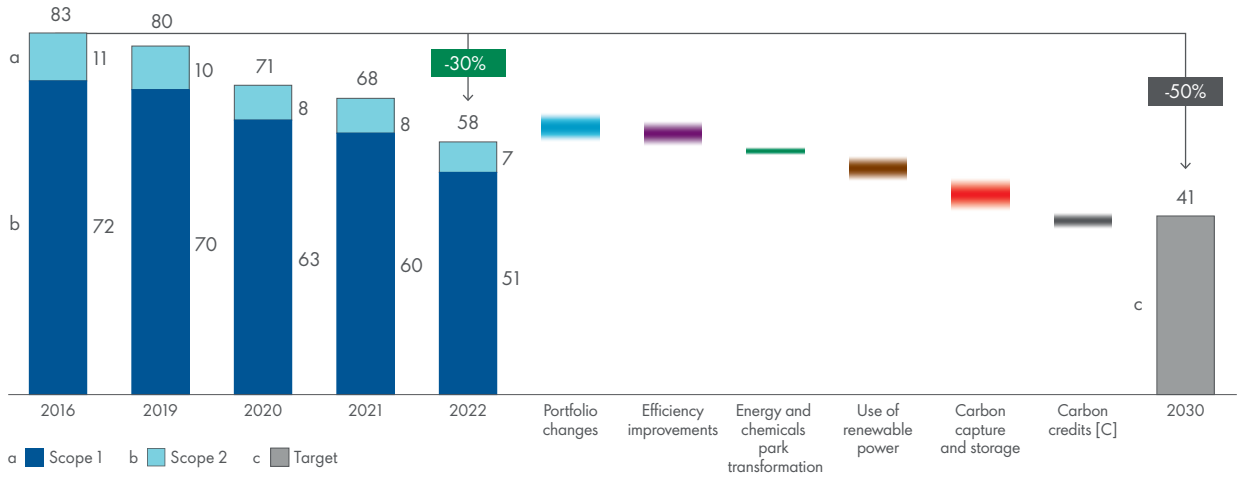
Shell has set a target to reduce the NCI of the energy products it sells by 20% by 2030. We believe this target is aligned with a 1.5 °C pathway derived from the IPCC SR 1.5 scenarios. We also believe that the pace of change will vary around the world by region and by sector, taking into consideration the time needed for energy users to invest in large-scale equipment and the energy infrastructure changes needed for Shell to deliver more low- and zero-carbon energy.

# **Our journey to net zero** continued

The chart below shows our progress since 2016 in reducing our Scope 1 and 2 emissions and gives an indication of how we expect to achieve our target in 2030. The actions we will take to achieve our target will depend on the evolution of our asset portfolio and the continued development of technologies which reduce carbon emissions. Following divestment activity in 2022, we expect that on a net portfolio basis, new investments across our portfolio will increase our Scope 1 and 2 emissions between 2023 and 2030 and that they will exceed reductions associated with planned divestments and natural decline. Our investments in producing low-carbon energy such as biofuels will increase our Scope 1 and 2 emissions, while reducing the net carbon intensity of the products we sell. Subsequent reductions in our emissions are reflected in the mechanisms outlined below and reflect an expected path to meeting our target in 2030.

## Working to reduce our absolute Scope 1 and 2 emissions

Scope 1 and 2 emissions in million tonnes per annum [A],[B]

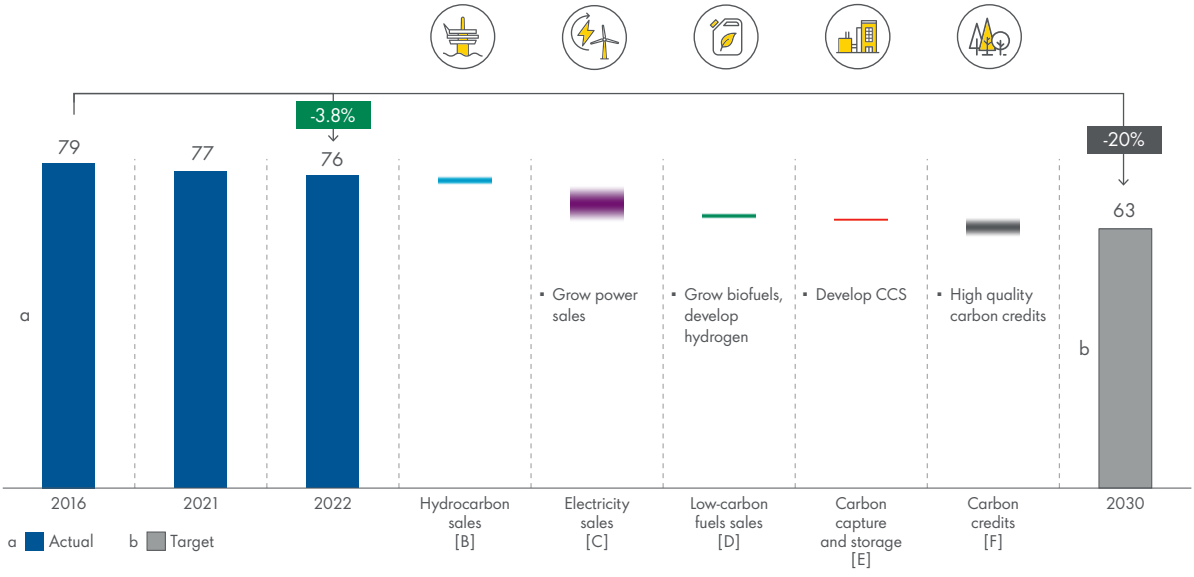



[A] The 2016 Base Year was not recalculated in 2022. The 2016 Base Year may be recalculated in future years if an acquisition or a divestment has an impact of more than 10% on the total Scope 1 and 2 emissions.
[B] Operational control boundary.
[C] Including nature-based solutions.

The biggest driver for reducing our NCI is increasing the sales of and demand for low-carbon energy. The chart below illustrates how changes in the volume of products and services we sell could result in NCI reductions to 2030. The change in our sales of these products and services will also reflect the development and adoption of new technologies and infrastructure, and the adoption of public policies designed to encourage the energy transition.

## Working to reduce our net carbon intensity

Net carbon intensity in $gCO_2e/MJ$ [A]




[A] Grams of carbon dioxide equivalent per megajoule.
[B] Hydrocarbon sales reflect the effect of lower sales of oil products, and higher sales of natural gas. Emissions associated with gas are lower than those of oil products.
[C] Electricity sales show the expected growth of our integrated power business and increasing sales of renewable electricity.
[D] Sales of low-carbon fuels reflect higher sales of biofuels and hydrogen, which are low- and zero-carbon products.
[E] Carbon capture and storage (CCS) reduces carbon emissions by capturing them at source.
[F] Carbon credits such as nature-based solutions can be used to offset remaining carbon emissions, particularly in hard-to-abate sectors such as aviation and industries including cement and steel.

# **Our journey to net zero** continued

### Linking Shell's emissions targets to remuneration policies

We have established remuneration policies which are designed to support us in achieving our net-zero emissions targets:

- Our Performance Share Plan (PSP) and Long-term Incentive Plan (LTIP) are linked to net carbon intensity targets; and
- Our PSP, LTIP and annual bonus scorecard are linked to performance indicators that guide an assessment of our success in delivering our energy transition strategy.

See also "Directors' Remuneration Report" on pages 178-182.

The LTIP and PSP are designed to ensure that remuneration is clearly aligned with Shell's operating plan and longer-term strategic ambitions. The same measures apply to Executive Directors and Senior Management and to a significantly broader employee base.

The LTIP (measured over a three-year performance period) is used to make long-term share incentive awards to Executive Directors, Executive Committee members and Senior Executives.

PSPs are long-term incentives, also measured over a 3 year performance period, designed to retain key employees and ensure they have a greater investment in Shell's future.

### Energy transition performance condition and the vesting of the 2020 LTIP and PSP awards

The following performance outcomes for the energy transition performance condition were considered in the assessment of the 2020 LTIP and PSP vest, covering the performance cycle 2020-2022:

| | Outcome |
|---|---|
| Reduce net carbon intensity | Performance indicator met |
| Grow a material power business | Substantively met |
| Grow low-carbon products | Performance indicator met |
| Develop emissions sinks | Performance indicator met |

In addition to the above, a number of broader indicators of Shell's progress in the energy transition were considered. Overall, it was determined that the energy transition measure (accounting for 10% of the LTIP award and 5% of the PSP award) should vest at 180%.

See also "Annual Report on Remuneration" on pages 188-192.

### Energy transition performance condition in the 2022 LTIP and PSP awards

For LTIP and PSP awards granted in 2022, the energy transition performance condition had a weighting of 10% for the PSP and 20% for the LTIP. The energy transition performance condition for these awards includes a mix of leading and lagging indicators on the following strategic measures:

- Build a valuable power business: our ambition is to expand our power business through selective investments in generation and by reselling power generated by others;
- Grow new lower-carbon energy product offerings: continue to invest in low- and zero-carbon products, such as renewable electricity, hydrogen, biofuels and chemicals;
- Develop emission sinks: invest in carbon capture and storage opportunities, to reduce emissions where there are no currently scalable low-carbon alternatives, and in the development of high-quality nature-based projects, to compensate for emissions; and
- Reduce the NCI of the energy products sold by Shell.

The vesting outcome of the LTIP awards is at the discretion of the REMCO, and will be guided by performance indicators set at the outset of the scheme alongside a more holistic assessment of progress.

### Proposed energy transition performance condition for 2023 LTIP awards

For 2023 LTIP awards, assessment of performance against energy transition measures will be based on NCI reduction, plus supporting strategic themes including:

- Reducing Scope 1 and 2 emissions;
- Building a renewable power business;
- Growing new lower-carbon energy offerings; and
- Developing emission sinks and offsets.

The REMCO assesses progress against the NCI target and Shell's longer-term goals for each strategic theme when making the vesting decision for each reward cycle.

See "Annual Report on Remuneration" on page 201 for more information on the proposed performance framework.

### Energy transition targets in the annual bonus scorecard

Delivering on our net-zero emissions target is a part of the annual scorecard, which helps determine annual performance bonus outcomes for senior management and almost all of Shell's employees.

The energy transition progress measures in our annual scorecard have, until 2022, focused on managing and reducing our operational emissions. However, succeeding in the energy transition requires us to change what we sell. In 2022, we widened the scope of the energy transition progress measures in the annual bonus scorecard:

- Selling lower carbon products – we help customers to reduce their emissions by supplying low-carbon products. We measure our success by the earnings share of our Marketing activities from low-carbon energy products as well as non-energy products and convenience retail.
- Reducing operational emissions – our target is to achieve a 50% reduction by 2030; and this measure is based on reducing our Scope 1 and 2 operational emissions.
- Partnering to decarbonise – we seek to collaborate with our customers to help them reduce their emissions. In 2022, we measured success in this area in terms of our progress in rolling out our electric vehicle charging network.

# Our journey to net zero continued

## 2022 Scorecard: Shell's journey in the energy transition

| | 2022 Target | 2022 Performance | 2022 Status |
|---|---|---|---|
| **Selling lower-carbon products** % of Marketing Adjusted Earnings from lower-carbon products | 60 | 60 | on target |
| **Reducing operational emissions** thousand tonnes of $CO_2$ absolute emissions reduction | 1,700 | 2,010 | outstanding |
| **EV charge points** Number | 130,000 | 138,610 | above the target |

In 2022, the score for operational emission reductions was above the top end of the range. It reflects the cumulative effects of actions taken across the portfolio, including GHG abatement projects, permanent shutdowns and conversions of some facilities such as the shutdown of some units at the Shell Energy and Chemicals Park Singapore, flaring reduction and energy efficiency projects (page 105). The above reductions do not include $CO_2$ reduced by CCS projects.

We have set annual targets measuring our roll-out of electric vehicle charge points, in line with Shell's target of having more than 500,000 by 2025. We outperformed the 2022 target, with a significant increase in the second half of the year.

The full year score for providing lower-carbon products was on target. We will continue to deliver decarbonisation solutions sector by sector enabled by innovation and collaboration.

See also "Annual Report on Remuneration" on page 187.

### Metrics and targets in respect of climate-related environmental risks

We have set targets to reduce our consumption of fresh water in water-stressed areas by 15% by 2025, compared with 2018 levels. We also monitor the level of waste disposed of from our operations, and the amount of plastic waste generated.

See "Respecting Nature" on pages 108-109 and "How we create value" on page 11 for more information.

### Basis of preparation – net carbon intensity

Shell's NCI provides an annual measure of the life-cycle emissions intensity of the portfolio of energy products sold. The intended use of the NCI metric is to track progress in reducing the overall carbon intensity of the energy products sold by Shell. The NCI is calculated on a life-cycle basis and as such includes GHG emissions – on an equity basis – from several sources, including:

- direct GHG emissions from Shell operations;
- indirect GHG emissions from generation of energy consumed by Shell; and
- indirect GHG emissions from the use of the products we sell.

Emissions from other parts of the product life cycle are also included, such as those from the extraction, transport and processing of crude oil, gas or other feedstocks and the distribution of products to our customers. Also included are emissions from parts of this life cycle not owned by Shell, such as the extraction of oil and gas processed by Shell but not produced by Shell; or from the production of oil products and electricity marketed by Shell that have not been processed or generated at a Shell facility.

We also take into account emissions mitigated through various measures, such as by creating carbon sinks by working with nature – including through protecting forests and wetlands – and by using CCS technology.

Refer to scope of NCI on page 96 for details of the supply chains and steps in the product life cycles that are included in the Net Carbon Footprint methodology.

The following GHG emissions are not included in the NCI:

- emissions from production, processing, use and end-of-life treatment of non-energy products, such as chemicals and lubricants;
- emissions from third-party processing of sold intermediate products, such as the manufacture of plastics from feedstocks sold by Shell;
- emissions associated with the construction and decommissioning of production and manufacturing facilities;
- emissions associated with the production of fuels purchased to generate energy on site at a Shell facility;
- other indirect emissions from waste generated in operations, business travel, employee commuting, transmission and distribution losses associated with imported electricity, franchises and investments; and
- emissions from capital goods, defined by the GHG Protocol as including fixed assets or property, plant and equipment (PP&E), and other goods and services not related to purchased energy feedstocks sourced from third parties or energy products manufactured by third parties and sold by Shell.

The NCI calculation uses Shell's energy product sales volume data, as disclosed in the Annual Report and Sustainability Report. This excludes certain sales volumes such as:

- certain contracts held for trading purposes reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded; and
- retail sales volumes from markets where Shell operates under trademark licensing agreements.

### Important notes on the NCF methodology

1. The NCF is not a mathematical derivation of total emissions divided by total energy, nor is it an inventory of absolute emissions.
2. It is a weighted average of the life-cycle $CO_2$ intensities of different energy products, normalising them to the same point relative to their final end-use. The use of a consistent functional unit, grams of carbon dioxide equivalent per megajoule ($gCO_2e/MJ$), allows like-for-like comparisons and the aggregation of individual life-cycle intensities for a range of energy products including renewables.

For further information see our detailed NCF methodology documentation (www.shell.com/ghg).

### Basis of preparation – absolute Scope 1, 2 and 3 emissions

We follow the GHG Protocol's Corporate Accounting and Reporting Standard, which defines three scopes of GHG emissions:

- Scope 1: direct GHG emissions from sources under Shell's operational control.
- Scope 2: indirect GHG emissions from generation of purchased energy consumed by Shell assets under operational control.
- Scope 3: other indirect GHG emissions, including emissions associated with the use of energy products sold by Shell.

GHG emissions comprise carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride, with carbon dioxide and methane being the most significant contributors. Our GHG inventory was prepared in line with the requirements outlined in the ISO 14064-1:2018 Specification with Guidance at the Organisational Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals and the GHG Protocol's Corporate Accounting and Reporting Standard.

# **Our journey to net zero** continued

In line with external standards, Shell aggregates its GHG emissions into tonnes of $CO_2$ equivalent by applying global warming potential (GWP) factors to each greenhouse gas. These factors are taken from the IPCC Fourth Assessment Report (AR4) over a 100-year time horizon, in line with the UK Government GHG Conversion Factors for Company Reporting.

GHG emissions are aggregated using a bottom-up approach: emission source -> asset -> operating unit -> business -> Group. GHG emissions in this Report include emissions from Upstream, Integrated Gas, Renewables and Energy Solutions, Downstream (Chemicals and Products and Marketing), and Projects & Technology, plus Shell's functions. All operated assets are included in the GHG inventory in the reporting period.

**Basis of preparation – Scope 1 emissions**
Sources included in Scope 1 emissions comprised:
- combustion of carbon-containing fuels in stationary equipment (e.g. boilers, gas turbines) for energy generation;
- combustion of carbon-containing fuels in mobile equipment (e.g. trucks, vessels, mobile rigs);
- flares;
- venting and emissions from industrial processes (e.g. hydrogen plants, catalytic cracking units); and
- fugitive emissions, including piping and equipment leaks and non-routine events.

Our Scope 1 emissions follow the GHG protocol guidance. As a result, the following are not included in our reported Scope 1 emissions:
- $CO_2$ emissions from biogenic sources (for example, biofuels, biomass). Instead, they were captured separately. Methane and nitrous oxide emissions from biogenic sources were included in our Scope 1 emissions.
- Captured $CO_2$ that was subsequently sold or otherwise transferred to third parties.
- $CO_2$ captured and sequestered using CCS technologies. However, the emissions from operating CCS were included in our Scope 1 and 2 emissions.
- Carbon credits.

All significant sources were included in the Scope 1 inventory.

**Basis of preparation – Scope 2 emissions**
Sources included in Scope 2 emissions comprised indirect emissions from purchased and consumed electricity, steam and heat. We did not identify any assets with imported cooling or compressed air used for energy purposes.

Scope 2 emissions were calculated using the market- and location-based methods separately as defined by the GHG Protocol Scope 2 Guidance.

All significant sources were included in our Scope 2 inventory.

**Basis of preparation - Scope 3 emissions**
This Report provides Scope 3 emissions included in our NCI. They were consolidated using the equity boundary approach. Under this approach, we reported the Shell share of emissions from energy products sold by Shell to end-users, including those sourced from third parties. Scope 3 categories included in the total number in this Report include the following:

**Scope 3, Category 1: purchased goods and services**
This category includes well-to-tank emissions from purchased third-party unfinished and finished energy products excluding electricity (which was reported separately under Category 3: Fuel and energy-related activities (not included in Scope 1 or Scope 2)).

Emissions in this category were estimated using well-to-tank emission factors for crude oil, natural gas, refined oil products (such as gasoline, and diesel), LNG and biofuels. Because the emission factors include transport, we did not estimate emissions from transport of purchased third-party products separately.

Emissions from purchased non-energy products were not included in this Report.

**Scope 3, Category 3: fuel and energy-related activities (not included in Scope 1 and 2)**
This category includes well-to-wire emissions from purchased third-party electricity sold by Shell, calculated using the market-based method. Emissions were not adjusted for any potential double-counting of sold natural gas that may have been used for generating this electricity.

This category does not include:
- indirect emissions from generation of imported energy (steam, heat or electricity consumed by our assets). These emissions were reported separately as Scope 2 emissions; and
- well-to-tank emissions from purchased electricity, steam and heat consumed by our assets (i.e. Scope 3 emissions from extraction, refining and transport of primary fuels before their use in the generation of electricity or steam).

**Scope 3, Category 9: downstream transport and distribution**
This category includes estimated emissions from transport and distribution of energy products produced or refined by Shell. It does not include the emissions associated with transporting third-party products, which are included in Scope 3, Category 1. In order to avoid double counting the emissions from transport, Scope 1 and 2 emissions from transport included in our equity emissions were subtracted from the total in this category.

**Scope 3, Category 11: use of sold products**
This category includes estimated emissions from the use of sold energy products, such as LNG, GTL, pipeline gas, refined oil products and biofuels. The emissions consist of two sub-categories: products manufactured and sold by Shell, and third-party products sold by Shell.

This category does not include non-energy products that may have been combusted during use (for example, lubricants).

**Biogenic $CO_2$ emissions from combustion of sold biofuels**
Biogenic $CO_2$ emissions from combustion of sold biofuels were estimated and reported separately outside of scopes. Methane and nitrous oxide have been included in Scope 3, Category 11 in line with the ISO 14064-1:2018 and GHG Protocol requirements.

We did not estimate biogenic $CO_2$ emissions in other Scope 3 categories. It is assumed that the presence of biogenic emissions in other categories is negligible at present.

**Other Scope 3 categories**
As noted above, this Report only covers Scope 3 GHG emissions included in the boundary of our NCI metric.

Other Scope 3 GHG emissions can be found on our website: www.shell.com/ghg.

# Our journey to net zero continued

## Other regulatory disclosures

### GHG emissions and energy consumption data - information provided in accordance with UK regulations

Data in this section are consolidated using the operational control approach. Under this approach, we account for 100% of the GHG emissions and energy consumption in respect of activities where we are the operator, irrespective of our ownership percentage.

Reporting on this operational control basis differs from that applied for financial reporting purposes in the "Consolidated Financial Statements". We acknowledge the strong preference of the UK's Financial Reporting Council (FRC) for companies to report the GHG emissions and energy consumption data using the financial consolidation boundary and are working on including the data and information on this boundary in our Annual Report in the future.

See "Basis of preparation – absolute emissions" on page 102.

### GHG emissions in million tonnes of $CO_2$ equivalent

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Total global direct (Scope 1) [A] | 51 | 60 | 63 |
| UK including offshore area [B] | 1.7 | 1.7 | 2.0 |
| **Market-based** | | | |
| Total global energy indirect (Scope 2) [C] | 7 | 8 | 8 |
| UK including offshore area | 0 | 0 | 0 |
| **Location-based** | | | |
| Total global energy indirect (Scope 2) [D] | 8 | 9 | 10 |
| UK including offshore area | 0.04 | 0.05 | 0.06 |
| **Intensity ratio in tonnes per tonne** | | | |
| Intensity ratio of all facilities [E] | 0.27 | 0.27 | 0.25 |

[A] Emissions from the combustion of fuel and the operation of our facilities globally, calculated using global warming potentials from the IPCC's Fourth Assessment Report.
[B] Emissions from the combustion of fuels and the operation of our facilities in the UK and its offshore area, calculated using global warming potentials from the IPCC´s Fourth Assessment Report.
[C] Emissions from the purchase of electricity, heat, steam and cooling for our own use globally, calculated using a market-based method as defined by the GHG Protocol Corporate Accounting and Reporting Standard.
[D] Emissions from the purchase of electricity, heat, steam and cooling for our own use globally, calculated using a location-based method as defined by the GHG Protocol Corporate Accounting and Reporting Standard.
[E] In tonnes of total direct and energy indirect GHG emissions per tonne of crude oil and feedstocks processed and petrochemicals produced in downstream manufacturing, oil and gas available for sale, LNG and GTL production in Integrated Gas and Upstream. For an additional breakdown by segment, see Scope 1 and 2 GHG intensity by segment section below.

The activity data used to calculate GHG intensity ratios at a portfolio level shown in the table above are reported on an operational control basis. As a result, they are not directly comparable with the production data reported elsewhere in this Report, which are reported on a financial control basis. The table below shows the numbers used in the calculation of the intensity:

### Inputs used for calculating the GHG emissions intensity ratio

| | | 2022 | 2021 | 2020 |
|---|---|---|---|---|
| A | 8.1 Scope 1 - Direct GHG emissions [A] | 51 | 60 | 63 |
| B | 8.2 Scope 2 - Energy Indirect GHG emissions [A] | 7 | 8 | 8 |
| **C=A+B** | **Total Scope 1 and 2 GHG emissions [A]** | 58 | 68 | 71 |
| D | 6.5 Total oil and gas production available for sale [B] | 111 | 128 | 149 |
| E | 6.6 Refinery crude and feedstock processed [B] | 63 | 84 | 99 |
| F | 6.3 Chemicals total production [B] | 23 | 25 | 26 |
| G | 6.4 LNG production [B] | 9 | 10 | 8 |
| H | 6.6 GTL production [B] | 6 | 6 | 6 |
| **I=D+E+F+G+H** | **Total Upstream, Integrated Gas and Downstream activity [B]** | **212** | **253** | **288** |
| **J=C/I** | **GHG intensity ratio [C]** | **0.27** | **0.27** | **0.25** |

[A] In million tonnes $CO_2$ equivalent.
[B] In million metric tonnes of production.
[C] In tonnes of $CO_2$ equivalent per tonne of production.

### Energy use in our operations

The energy consumption data provided below comprise own energy, generated and consumed by our facilities, and supplied energy (electricity, steam and heat) purchased by our facilities for our use.

Energy consumption data reflect primary (thermal) energy (e.g. the energy content of fuels used to generate electricity, steam, heat, mechanical energy, etc.). This includes energy from renewable and non-renewable sources. Own energy generated was calculated by multiplying the volumes of fuels consumed for energy purposes by their respective lower heating values. Own energy generated that was exported to third-party assets or to the power grid is excluded. Thermal energy for purchased and consumed electricity was calculated using actual electricity purchased multiplied by country-specific electricity generation efficiency factors (from IEA statistics). Thermal energy for purchased and consumed steam and heat was calculated from actual steam/heat purchased multiplied by a supplier-specific conversion efficiency, or a generic efficiency factor where supplier-specific data were not available.

# Our journey to net zero continued

Our energy consumption decreased from 223 billion kilowatt-hours (kWh) in 2021 to 199 billion kWh in 2022, in line with the decrease in our Scope 1 and 2 GHG emissions. Around 1% of the energy we used in 2022 for our operations came from low-carbon and renewable sources.

**Energy consumption in billion kilowatt-hours**

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| **Own energy generated and consumed** | | | |
| Total energy generated and consumed | 168 | 189 | 205 |
| UK including offshore area | 6.1 | 6.2 | 7.6 |
| **Purchased and consumed energy** | | | |
| Total purchased and consumed energy | 31 | 33 | 36 |
| UK including offshore area | 0.2 | 0.2 | 0.2 |
| **Energy consumption** | | | |
| Total energy consumed | 199 | 223 | 241 |
| UK including offshore area | 6.3 | 6.4 | 7.8 |

In 2022, we implemented a variety of measures to reduce the energy use and increase the energy efficiency of our operations.

Examples of some of the principal measures taken in 2022 (with estimated total savings of around 1,155 million kWh in 2022):

- At our GTL asset in Qatar, we completed several projects to reduce energy use and improve efficiency, e.g. by making improvements to catalyst performance which resulted in reduced generation of off-gas leading to lower energy consumption.
- At our Gulf of Mexico operations in the USA, we have implemented a project to reduce energy use and improve efficiency by using waste heat to generate steam.
- At our Upstream operations in the UK, we have completed several projects to reduce energy use and improve efficiency, for example by implementing an online model at Shearwater to optimise fuel gas usage.
- At our Scotford site in Canada, we have implemented several projects to reduce energy use and improve efficiency, for example by using analysers to optimise fuel usage.
- At our Geismar site in the USA, we have implemented several projects to reduce energy use and improve efficiency, for example by making changes to how some equipment operates.
- At our QGC operations in Australia, we implemented several projects to reduce energy use and improve efficiency, for example by introducing a $CO_2$ / energy performance dashboard for control room operators, which allowed operators to see gap to potential in efficiency savings based on real time operating data.

Examples of some of the principal measures taken in 2021 are listed below (with estimated total savings of around 675 million kWh in 2021):

- At our Scotford upgrader facility in Canada, we completed several projects to minimise energy use and improve efficiency, for example by installing new equipment and making changes to how some equipment operates.
- At our Gannet asset in the UK, we completed a project to enhance the efficiency of the fuel gas compressors by fine-tuning their performance to the specific needs of the platform.
- At our Jurong Island site in Singapore, we installed a second stage flash vessel to recover the heat for reuse in other equipment, and completed a project to minimise power consumption by one of the incinerators.
- At our Rheinland site in Germany, we completed several projects to reduce energy use and improve efficiency, for example, by installing more efficient equipment and changing maintenance schedules to improve efficiency.
- At our Bukom site in Singapore, we completed a project to reduce the consumption of natural gas in flare purge.
- At our Scotford refinery and chemical site in Canada, we completed several projects to reduce energy use and improve efficiency, for example, by enabling the reduction of steam usage.
- At our QGC operations in Australia, we implemented a project to reduce power requirements for gas compression.

The targets in this "Our journey to net zero" section, including those relating to the NCI targets, are forward-looking targets based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

## EU Taxonomy Regulation

The EU Taxonomy Regulation is a classification system that translates the European Union's environmental objectives into criteria for determining when an economic activity can be considered environmentally sustainable for investment purposes. As a UK company with its registered office and headquarters in London, Shell plc is not currently subject to the Taxonomy Regulation. Nevertheless, we elect to report against the taxonomy voluntarily because we recognise the importance of increasing transparency about how companies are progressing in the energy transition, even if the regulation is evolving and not yet mature.

For further information, see "Supplementary Information - EU Taxonomy Disclosure" on pages 327-339.

# Respecting nature

### Our approach to sustainability

Our commitment to contribute to sustainable development has been part of the Shell General Business Principles since 1997. These principles, together with our Code of Conduct, apply to the way we do business and to our conduct with the communities where we operate. We have embedded this sustainability commitment in our Powering Progress strategy, and our business and decision-making processes.

For more information on our Powering Progress strategy, see page 6.

### Sustainability reporting boundary and guidelines

Data in this section are reported on a 100% basis in respect of activities where a Shell company is the operator (unless noted otherwise). Reporting on an operational control basis differs from that applied for financial reporting purposes in the "Consolidated Financial Statements" on pages 237-307. Additional data on our 2022 environmental and social performance can be found in the Shell Sustainability Report.

Our reporting on sustainability follows certain guidelines. For example:

- As a member of the World Business Council for Sustainable Development, we support its updated criteria for membership from 2022, which include requirements for corporate transparency.
- Our reporting is informed by guidelines developed by Ipieca, the global oil and gas association for advancing environmental and social performance across the energy transition.
- We map our disclosures against the Sustainability Accounting Standards Board's Oil & Gas - Exploration & Production Standard.
- In the "Our journey to net zero" section of this Report, we set out our climate-related financial disclosures consistent with all the recommendations and recommended disclosures of the Task Force on Climate-related Financial Disclosures (TCFD).

### United Nations Sustainable Development Goals

The UN's 17 Sustainable Development Goals (SDGs) seek to address the world's biggest challenges, including tackling climate change, ending poverty, improving health and education, and making cities sustainable. Governments are responsible for prioritising and implementing approaches that meet the SDGs, but achieving these tasks will require collaboration and collective action across businesses, governments and civil society. We strive to play our part in helping governments and societies to achieve the SDGs. The goals were one of the considerations in the development of our Powering Progress strategy. We believe the actions we take as part of our strategy can help directly contribute to 13 of the SDGs, while indirectly contributing to others.

See our website shell.com for information on how Shell is contributing to the SDGs.

### Board oversight for sustainability

We describe Shell's overall governance framework on pages 148-149 and provide information on the roles of the Board, its committees, and the Executive Committee. The Safety, Environment and Sustainability Committee (SESCo) is one of the four standing committees of the Board of Directors of Shell plc. The (SESCo) assists the Board in reviewing the policies, practices, targets and performance of Shell, primarily with respect to safety, the environment including climate change, and broader sustainability.

More information on SESCo's role and activities in 2022 is provided on pages 163-164.

The Annual Report on Remuneration (see pages 183-202) provides details of how the Shell scorecard captures key performance indicators for safety, environment and climate.

### Shell General Business Principles

The Shell General Business Principles set out our responsibilities to shareholders, customers, employees, business partners and society. They set the standards for how we conduct business with integrity, care and respect for people. As part of these principles, we commit to contribute to sustainable development, balancing short- and long-term interests and integrating economic, environmental and social considerations into our decision-making. All Shell employees and contractors, and those at joint ventures we operate, are expected to behave in line with our General Business Principles.

### HSSE & SP Control Framework

In Shell, health, safety, security, environment, and social performance (HSSE & SP) are vitally important to generating value. They are indispensable elements of our organisation. The Shell HSSE & SP Control Framework (CF) consists of mandatory manuals, which align with the Shell Commitment and Policy on HSSE & SP. Guidance documents, assurance protocols, and training materials support the implementation of the manuals.

The HSSE & SP CF applies to every Shell entity and Shell-operated venture. It defines requirements and accountabilities at each organisational level, setting expectations for the management of HSSE & SP risks. We aim to ensure that significant HSSE & SP risks associated with our business activities are assessed and managed to minimise them as far as reasonably practicable. Our HSSE & SP functions provide expert advice and support businesses to improve HSSE & SP performance. The applicability of specific HSSE & SP CF requirements to contract staff depends on the defined HSSE & SP risks of the material or services procured as determined by the contracting Shell entity in the context of the HSSE & SP CF. Contractors are required through appropriate contract provisions to adhere to either Shell requirements and standards or applicable industry standards.

We aim to minimise the environmental impact of new projects and existing operations. Shell conducts an environmental, social and health impact assessment for every major project. We engage with local communities and non-governmental organisations (NGOs) in order to understand and respond to their concerns in a timely and suitable manner.

# **Respecting nature** continued

## Health, Safety, Security, Environment & Social Performance Control Framework

**The HSSE & SP Control Framework defines mandatory standards, requirements and accountabilities. The framework applies to Shell entities and Shell-operated ventures, including employees and contractor staff.**

**Mandatory manuals describe:**
- Purpose of the manual
- Accountabilities and responsibilities
- Scope
- Requirements to be met




Shell Commitment and Policy on Health, Security, Safety, the Environment and Social Performance

### Assurance

The Shell Internal Audit & Investigations (SIAI) team is the single independent assurance organisation within Shell. Within SIAI, the HSSE & SP and Asset Management Assurance team provides assurance to the Board on the effectiveness of the HSSE & SP Control Framework (CF) through an audit programme.

We expect joint ventures not operated by Shell to apply standards and principles substantially equivalent to our own. We support these joint ventures in implementing such standards and principles. We also offer to help them review the effectiveness of their implementation. Even if such a review is not conducted, we periodically evaluate HSSE & SP risks faced by the ventures that we do not operate. If a joint venture does not meet our HSSE & SP expectations, we seek to improve performance by working with our partners to develop and implement remedial action plans. We take care to invest responsibly in the energy transition and screen our investments against multiple criteria.

When considering divestments, we collaborate with in-house and external experts, where appropriate, to conduct checks and examine key attributes of potential buyers. These attributes may include their financial strength, operating culture, HSSE policies, and approach to ethics and compliance. We also consider risk- and people-management processes and standards, community liaison practices, and social performance programmes.

Applicable attributes are assessed against Shell's policies and the requirements of relevant local regulations. Divestments are often subject to the approval of regulatory authorities, which may in part depend on potential buyers' HSSE capacity, compliance record, and asset-stewardship capabilities.

See the section "Risk management and controls" on page 20 for more information.

### Decommissioning and restoration

Decommissioning is part of the normal life cycle of every oil and gas structure. We work hard to close and dispose of installations in a safe, efficient, cost-effective and environmentally responsible manner. This includes restoring the surroundings of platforms and facilities in line with relevant legislation, while taking our own standards into account. We have decommissioning and restoration activities under way in Brazil, Brunei, India, the Netherlands, the UK and the USA. We seek to reuse, repurpose and recycle materials in decommissioning. At the end of 2022, we reported $20 billion on our balance sheet for current and non-current decommissioning and other provisions (see Note 24 to the Consolidated Financial Statements on pages 292-293).

Shell invests in innovative technologies for decommissioning and restoration which are developed in-house or by funding third parties. For instance, our Local Expander technology is used throughout the industry to plug unused wells and stop methane and liquids from escaping over time. The expander is easy to deploy and typically reduces greenhouse gas emissions by at least half compared to the alternative method of plugging.

See the business sections on pages 38-77 for more information.

# **Respecting nature** continued

## Respecting Nature

We recognise there is a growing urgency to protect and enhance biodiversity, preserve water quality and availability, improve air quality and use resources more efficiently. Nature loss and climate change are interconnected and need to be tackled together, as recognised at COP27 and COP15.

Respecting the environment has been an integral part of the way we do business for many years, as set out in the Shell General Business Principles and Shell Commitment and Policy on HSSE & SP. Respecting Nature is one of four pillars of our Powering Progress strategy, which we launched in 2021 (see page 6). Our commitments focus on four priority areas: biodiversity (land and marine environments), water, circular economy and waste, and air quality. They set out our ambitions for 2030 and later, as well as shorter-term goals.

We have included our commitments in our performance management and reporting systems and have been working to define baselines and track progress. Our Executive Committee is accountable for delivery of the Respecting Nature goal.

We have made a commitment to include requirements in our purchasing policies that reflect our environmental framework and take the energy efficiency, material efficiency and sustainability of products into consideration in our purchases.

We will continue to seek opportunities to go further. Our environmental ambitions are underpinned by collaboration with our supply chains and transparent reporting.

### Environmental standards

Shell's global environmental standards are set out in our HSSE & SP Control Framework and we seek to apply them wherever we operate. Our approach draws on external standards and guidelines, such as those developed by the World Bank and the International Finance Corporation. Our environmental standards include details of how to manage emissions of greenhouse gases (GHG); consume energy more efficiently; reduce gas flaring and monitor and improve air quality; prevent spills and leaks of hazardous materials; use less fresh water; and conserve biodiversity.

When planning new major projects, we conduct detailed environmental, social and health impact assessments. The Shell HSSE & SP Standards require that we certify our major installations against an internationally recognised independent environmental management system standard if they have significant environmental risks. Major installations are crude oil and natural gas terminals; gas plants; manned offshore and onshore production platforms or flow stations; floating production and storage vessels; refineries; chemicals manufacturing facilities; mines; or upgraders. For the purpose of this Report, we did not count each major installation in Upstream and Integrated Gas separately. They were aggregated into their respective operating unit or operating company, such as Shell Upstream UK or Nederlandse Aardolie Maatschappij (NAM), in line with the scope of their certifications. At the end of 2022, 100% of major installations within that scope and operated by Shell were certified against the ISO 14001:2015 Environmental Management System or were in compliance with equivalent environmental frameworks required by local regulations. In addition, many installations that are not classified as major, such as lubricant plants or supply terminals, are also certified against ISO 14001 but are not included in the data above.

See also "Control Framework" on page 107 and "Our journey to net zero" on page 82 for more information on how we manage our GHG emissions.

### Biodiversity

We aim to minimise the impact of our onshore and offshore projects on biodiversity and ecosystems, whether life on land or life below water.

Since 2021, all projects in critical habitats and nature-based solutions projects must have measures in place to achieve a net-positive biodiversity result. If we decide to go ahead with a project that is in a critical habitat, we develop a biodiversity action plan. This includes applying the mitigation hierarchy, a decision-making framework that involves a sequence of four key actions: avoid, minimise, restore and offset. We assess the potential impact of projects on biodiversity as part of our impact assessment process. If there is an impact on biodiversity, the plan outlines the actions required to help achieve a net-positive outcome for biodiversity. For example, in our recently announced Jackdaw project in the UK, our impact assessment determined there were no significant environmental or socio-economic impacts identified after implementation of mitigation measures.

Our commitments include replanting forests, achieving net-zero deforestation from new activities, while maintaining biodiversity and conservation value. Deforestation occurs when forests are converted to non-forest uses. We use the definition of forest used by the Food and Agriculture Organization of the United Nations.

In 2022, around 145 hectares were deforested as a result of our new activities. Reforestation plans are in development which we intend to implement to help achieve biodiversity and contribute to conservation. We work with partners and stakeholders to create robust and credible plans unique to each reforestation project.

In 2003, we committed not to explore for, or develop, oil and gas resources in natural and mixed World Heritage Sites.

### Circular economy and waste

We are aiming for zero waste by reducing waste generated and increasing reuse and recycling in our businesses and supply chains. In 2022, we completed 19 assessments on waste across our businesses, adding to five that were completed in 2021. These assessments determined a high number of varied waste sources. Further review is required before setting additional waste reduction, reuse and recycling goals. In 2023, we plan to take action to help address reductions across the most significant of Shell's waste streams.

In 2022, we disposed of 1,982 thousand tonnes of hazardous and non-hazardous waste, which is relatively flat compared with 1,993 thousand tonnes in 2021. We also sent 457 thousand tonnes of residual materials for reuse, recycling or beneficial use as a raw material in another process. For example, waste that might otherwise go to landfill can be incinerated to generate energy.

We continue to explore ways to reduce, reuse and recycle packaging across our supply chains, and introduce sustainable packaging. We have also set commitments to work with our suppliers and contractors to help end plastic waste in the environment:

- By 2030, we will increase the amount of recycled plastic in our Shell-branded packaging to 30% and ensure that the packaging we use for our products is reusable or recyclable.
- We will increase the amount of recycled materials used to make our products, starting with plastics. Our ambition is to use 1 million tonnes of plastic waste a year in our global chemical plants by 2025.

We are focusing on chemical recycling where we break down hard-to-recycle plastics into raw materials through a technique called pyrolysis. The technique breaks down hard-to-recycle plastics into raw materials. The pyrolysis oil can then be used as feedstock in our chemical plants, replacing traditional hydrocarbon feedstock. This contributes to our circular economy ambition and prevents waste that would otherwise have gone to landfill or incineration.

# **Respecting nature** continued

At the Shell Chemicals Park Moerdijk in the Netherlands, we are building a new pyrolysis oil upgrader. The plant will have the capacity to process up to 50,000 tonnes of pyrolysis oil per year.

At our Shell Energy and Chemicals Park Singapore, we are also building a pyrolysis oil upgrader, with a capacity of 50,000 tonnes per year.

In 2021, we announced plans - along with our joint-venture partner BlueAlp - to build two hard-to-recycle plastic waste conversion units in the Netherlands. Since the signing, we have worked together to improve the operational set-up and process safety. The plant is expected to convert more than 30,000 tonnes of plastic waste a year into pyrolysis oil.

We are a member of Operation Clean Sweep, a voluntary programme which supports companies in the plastics value chain to put in place measures to prevent pellet loss.

### Water

Managing our impacts on water and ensuring the availability of fresh water for our operations is a growing challenge in some parts of the world. Increasing demand for water resources, growing stakeholder expectations and concerns, and water-related legislation may reduce our access to water.

We manage water use carefully, and tailor our use of fresh water to local conditions and requirements. We sometimes use alternatives to fresh water in our operations. These include water that has been recycled from our operations, processed sewage water and desalinated water. We require that all Shell facilities and projects are assessed to see what risks they might pose to water availability. In places where water is scarce, we develop water-management action plans for using less fresh water, increasing water recycling and closely monitoring water use.

We aim to reduce our consumption of fresh water in water-stressed areas by 15% by 2025 compared with 2018 levels.

At the end of 2022, four of our major facilities were in areas where there is a high level of water stress, based on analysis using water stress tools, including the World Resources Institute's Aqueduct Water Risk Atlas and local assessments. These four facilities are the Pearl GTL (gas-to-liquids) plant in Qatar, the Shell Energy and Chemicals Park in Singapore, the Shell Jurong Island chemical plant, also in Singapore, and the Tabangao Import Terminal in the Philippines. In 2022, these four facilities consumed 18 million cubic metres of fresh water, compared with 22 million cubic metres in 2021 and their baseline of 25 million cubic metres in 2018.

In 2022, we continued to review our water use and stewardship. We are applying procedures across our businesses to improve water efficiency and reduce fresh-water use. This has involved detailed assessments at six Shell sites: QGC upstream and midstream, Australia; Shell MDS, Malaysia; Shell Hazira LNG Terminal, India; Shell Energy and Chemicals Park Rheinland, Germany; and Shell Chemicals Park Moerdijk. The assessments involved desktop analysis and detailed site evaluations conducted with external organisations. A key learning from the assessments was that Water Stewardship principles can be applied to Shell's onshore facilities. We expect to update our approach further in 2023.

In 2022, our overall intake of fresh water decreased to 156 million cubic metres, compared with 166 million cubic metres in 2021, mainly driven by divestments and the shutdown of some units at the Shell Energy and Chemicals Park Singapore, and at Jurong Island Singapore.

Around 85% of our intake of fresh water in 2022 was used for manufacturing oil products and chemicals, with the rest mainly used for oil and gas production. Around 30% of our fresh-water intake was from public utilities, such as municipal water supplies. The rest was taken from surface water such as rivers and lakes (around 55%) and groundwater (around 15%).

Additional information on our 2022 environmental performance is expected to be published in the Shell Sustainability Report in March 2023.

### Air quality

We are helping to improve air quality by reducing emissions from our operations and providing clean ways to power transport and industry. We follow our own standards and those of local regulators to manage airborne pollutants in our oil and gas production and processing, including emissions of nitrogen oxides, sulphur oxides and volatile organic compounds.

Our sulphur oxide (SOx) emissions increased to 36 thousand tonnes in 2022, compared with 32 thousand tonnes in 2021. This increase was mainly because of turnarounds at the Shell Energy and Chemicals Park Singapore, and our Sarnia refinery in Canada.

Our nitrogen oxide (NOx) emissions decreased from 105 thousand tonnes in 2021 to 93 thousand tonnes in 2022, in part because of the handover of OML 11 operations in Nigeria, divestment of our Permian assets in the USA, and fewer ships operated by Shell.

Our emissions of volatile organic compounds (VOCs) decreased to 38 thousand tonnes in 2022 from 45 thousand tonnes in 2021. Reductions were in part due to divestment of Permian assets in the USA, the handover of OML 11 operations in Nigeria, and reduced flaring.

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For more information about our approach to biodiversity, circular economy and plastic waste, and water see our website shell.com.

### Spills

Large spills of crude oil, oil products and chemicals associated with our operations can harm the environment, and result in major clean-up costs, fines and other damages. They can also affect our licence to operate and harm our reputation. We have requirements and procedures designed to prevent spills. We design, operate and maintain our facilities with the intention of avoiding spills. To further reduce the risk of spills, Shell has routine programmes to reduce failures and maintain the reliability of facilities and pipelines. Our business units are responsible for organising and executing spill responses in line with Shell guidelines and relevant legal and regulatory requirements. Our offshore installations have spill response plans for when an incident occurs. These plans set out response strategies and techniques, available equipment, and trained personnel and contracts. We can engage specialist contracted services for oil spill response, including vessels, aircraft or other equipment and resources, if required, for large spills. We conduct regular exercises that seek to ensure these plans remain effective and fit for purpose.

We have further developed our ability to respond to spills to surface water. We have a worldwide network of trained staff to help with this. We also have a global oil spill expertise centre, which tests local capability and maintains our ability to respond to a significant spill into a marine environment.

Spills still occur for reasons such as operational failure, accidents or unusual corrosion. In 2022, there were 54 operational spills of more than 100 kilograms compared with 42 in 2021. The weight of operational spills of oil and oil products in 2022 was 0.06 thousand tonnes, compared with 0.05 thousand tonnes in 2021. In 2022, all of the spills caused by sabotage and theft were in Nigeria. The number

# **Respecting nature** continued

of these spills decreased to 75 in 2022 from 106 in 2021, with the volume also decreasing to 0.6 thousand tonnes from 3.3 thousand tonnes in 2021.

See "Safety" section on page 121 for more information on emergency response.

### Spills in Nigeria

In the Niger Delta, over the last 12 years, the total number of operational hydrocarbon spills and the volume of oil spilled from them into the environment have been significantly reduced.

Most oil spills in the Niger Delta region continue to be caused by crude oil theft, the sabotage of oil and gas production facilities, and illegal oil refining, including the distribution of illegally refined products.

In 2022, the Shell Petroleum Development Company of Nigeria Limited (SPDC), as operator of the SPDC joint venture (JV, Shell interest 30%), reported 10 operational spill incidents of more than 100 kilograms of crude oil, more than the nine reported in 2021. The volume of around 0.01 thousand tonnes was less than the 0.03 thousand tonnes recorded in 2021.

SPDC [A] has an ongoing work programme to appraise, maintain and replace key sections of pipelines and flow lines, in order to reduce the number of operational spills. In 2022, around 27 kilometres of pipelines and flow lines have been replaced. This work is organised through a proactive pipeline and flow line integrity management system. The system installs barriers where necessary, and recommends when and where pipeline sections should be replaced to prevent failures.

[A] Unless otherwise stated, all activities reported for or as relating to Shell Petroleum Development Company Limited (SPDC) in this section should be understood as SPDC acting as the operator of the SPDC joint venture (SPDC JV). SPDC, as the corporate entity, owns 30% of the JV.

### Spills caused by sabotage in 2022

In 2022, about 88% of the oil spills of more than 100 kilograms from the SPDC-operated facilities were caused by the illegal activities of third parties. In 2022, the volume of crude oil spills of more than 100 kilograms caused by sabotage was around 0.6 thousand tonnes (75 incidents), compared with around 3.3 thousand tonnes (106 incidents) in 2021. The decreased number of incidents in 2022 correlates with a shut-down of production for about six months because of an unprecedented increase of crude oil theft from the Trans Niger Pipeline (TNP), which is operated by SPDC on behalf of the SPDC JV. SPDC continues to work with the government security agencies to maintain surveillance and address illegal activities of third parties, primarily along the SPDC JV pipeline and its operational areas.

In 2022, SPDC continued on-ground surveillance of its areas of operation, including its pipeline network, to mitigate third-party interference and ensure that spills are detected and responded to as quickly as possible.

There are daily overflights of the most vulnerable segments of the pipeline network to identify any new spills or illegal activity. SPDC has introduced anti-theft protection mechanisms for key infrastructure such as wellheads and manifolds. The programme to protect wellheads with steel cages continues to help deter theft, and drones have been introduced to inspect pipelines and monitor security of operations.

By the end of 2022, a total of 311 steel cages were installed, including 38 that had been upgraded with CCTV. This compared with a total of 283 installed cages at the end of 2021. In 2022, out of 732 registered attempts, 47 were successful.

### Response and remediation

Regardless of the cause of a spill, SPDC cleans up and remediates areas affected by spills originating from its facilities. In 2022, the time that SPDC needed to complete the recovery of free-phase oil – oil that forms a separate layer and is not mixed with water or soil – remained at around one week. This is the average time it takes to safely access a damaged site, initiate containment to prevent further spread of the spill, and to start joint investigation visits with regulators, affected communities, and in some cases with NGOs, to clean up oil not mixed with water or soil.

Clean-up activities include bio-remediation which stimulates micro-organisms that naturally break down and use carbon-rich oil as a source of food and energy, effectively removing it. Once clean-up and remediation operations are completed, the work is inspected and, if satisfactory, approved and certified by the Nigerian regulators. With operational spills, SPDC also pays compensation to affected people and communities.

SPDC has been working with the International Union for Conservation of Nature (IUCN) since 2012 to enhance remediation techniques and protect biodiversity at sites affected by oil spills in its areas of operation in the Niger Delta. Based on this collaboration, SPDC has launched further initiatives to help strengthen its remediation and restoration efforts. In 2021, SPDC, IUCN, the Nigerian Conservation Foundation, and Wetlands International began working together on the Niger Delta Biodiversity Technical Advisory Group (BTAG), which continues to monitor biodiversity recovery at remediated sites.

SPDC also works with a range of stakeholders in the Niger Delta to build greater trust in spill response and clean-up processes. For example, local communities participate in remediation work for operational spills. Various NGOs have sometimes gone on joint investigation visits with SPDC, government regulators, and members of affected communities to establish the cause and volume of oil spills.

SPDC has sustained efforts to raise awareness of and counter the negative effects of crude oil theft and illegal oil refining. Examples include awareness and education programmes, community-based pipeline surveillance, and promoting alternative livelihoods through Shell's flagship youth entrepreneurship programme, Shell LiveWIRE.

### Bodo clean-up process

In 2015, SPDC and the Bodo community signed a memorandum of understanding (MOU) granting SPDC access to begin cleaning up areas affected by two operational spills that occurred in 2008. The MOU also provided for the selection of two international contractors to conduct the clean-up under the oversight of an independent project director. Engagement with the Bodo community and other stakeholders began in September 2015 and was managed by the Bodo Mediation Initiative. The clean-up project was delayed in 2016 and for most of 2017 because of access challenges from the community.

In September 2017, it was possible to start the first phase of clean-up and remediation activities. The clean-up consists of three phases:
1) removal of oil from shoreline surfaces and mud flat beds;
2) remediation of soil and sediments; and
3) planting mangroves and monitoring.

The first phase was completed in August 2018. Phase two's contract procurement process was completed in 2019. Remediation activities in the field started in November 2019. During 2020, work paused until November because of COVID-19 restrictions.

# **Respecting nature** continued

During 2021 and 2022, the remediation of soil and sediments continued. By the end of 2022, remediation work was completed on more than 87% (about 60% by end of 2021) of about 1,000 hectares that had been designated for clean-up. Remediation is expected to be completed by the end of the third quarter of 2023.

The planting of mangrove seedlings (phase 3) started in 2021. Around two million mangrove seedlings need to be planted and survive to 2025 to fulfil the project's goal. By the end of 2022, close to 340,000 seedlings had been planted. The National Oil Spill Detection and Response Agency (NOSDRA) had completed the certification for the planting on about a third of 722 hectares that have been remediated.

### Ogoniland: commitment to the United Nations Environment Programme

SPDC remains committed to the implementation of the 2011 United Nations Environment Programme (UNEP) Report on Ogoniland which assessed contamination from oil operations in the region and recommended actions to clean it up. Over the last 11 years, SPDC has acted on all and completed most of the UNEP recommendations that were specifically addressed to it as the operator of the joint venture.

The clean-up efforts are led by the Hydrocarbon Pollution and Remediation Project (HYPREP), an agency established by the federal government. The UNEP report had recorded 67 sites, of which two were classified as waste sites without hydrocarbon pollution. This left 65 sites to be remediated, with all completed sites to be certified by NOSDRA. In 2021, for nine sites, remediation and certification was completed, work on 11 sites continued in 2022. In 2022, remediation of another nine sites and certification of four were completed. Work on two sites continues in 2023. Also, for 13 sites, NOSDRA certified that - in contrast to the original report - remediation was not needed. For the 17 sites, contracts have been awarded and field work is expected to commence in 2023. For the remaining 15 sites, remediation plans are being developed.

The UNEP report recommended creating an Ogoni Trust Fund (OTF) with $1 billion capital, to be co-funded by the Nigerian government, SPDC and other operators in the area. SPDC remains fully committed to contributing $900 million to the fund as its share over five years. SPDC contributed the first instalment of $180 million for the clean-up in July 2018, and released the second instalment of $180 million in 2019. HYPREP did not request the release of any funds in 2020. In 2021, HYPREP requested the release of funds for 2020 and 2021 ($360 million). SPDC paid $212 million in 2022, which brought the total contribution to the OTF to $572 million at the end of 2022.

Although remediation works continue to make progress, challenges remain. These include re-pollution, land disputes, environmental issues such as flooding caused by excessive rainfall, and security issues in Ogoniland.

UNEP continues to monitor the progress of the clean-up through its observer status at HYPREP´s Governing Council and the Ogoni Trust Fund. UN agencies such as the United Nations Development Programme and the United Nations Institute for Training and Research provide services to HYPREP in the areas of livelihood programmes, training and project services.

## Hydraulic fracturing

### Onshore Operating Principles

We use five aspirational operating principles which focus on safety, environmental safeguards, and engagement with nearby communities to address concerns and help develop local economies. We are working towards making all of our Shell-operated onshore projects where hydraulic fracturing is used to produce gas and oil from tight sandstone or shale consistent with these principles.

We consider each project – from the geology to the surrounding environment and communities – and design our activities using technology and innovative approaches best suited to local conditions. We also support government regulations consistent with these principles that are designed to reduce risks to the environment and keep those living near operations safe.

## Seismicity

Overall, we believe it is relatively unlikely that hydraulic fracturing or well operations for disposing of produced water will induce seismicity that is felt on the surface. We would also expect any such impact to be limited to a relatively small area. The geology of some places, though, does increase the risk of inducing seismicity that can be felt on the surface. With the production from the Groningen onshore gas field in the Netherlands, seismicity was felt.

Shell assesses the risk profile of each basin before entering and manages operations accordingly, often beyond regulatory requirements. We assess the subsurface formation and surface environment around our operations and have developed appropriate mitigation plans to follow if needed.

For information about our induced seismicity management practices, such as the "Onshore Operating Principles in Action: Induced Seismicity Fact Sheet", see our website Shell.com.

For information on the Groningen onshore gas field in the Netherlands, see "Upstream" on pages 46-47.

## Environmental costs

We are subject to a variety of environmental laws, regulations and reporting requirements in the countries where we operate. Infringing any of these laws, regulations and requirements could harm our reputation and ability to do business, and result in significant costs, including clean-up costs, fines, sanctions and third-party claims. Ongoing operating expenses include the costs of preventing unauthorised discharges into the air and water, and the safe disposal and handling of waste.

For information about our environmental costs, see Note 24 "Decommissioning and other provisions" on pages 292-293.

We place a premium on developing effective technologies that are also safe for the environment. But when operating at the forefront of technology, there is always the possibility that a new technology has environmental impacts that were not assessed, foreseen or determined to be harmful when originally implemented. While we believe we take reasonable precautions to limit these risks, we could be subject to additional remedial, environmental and litigation costs as a result of unknown and unforeseen impacts of operations on the environment.

For information about risk management, see section "Risk management and controls" on page 23.

# Powering lives

## Contribution to society

We work to improve people's lives through our products and activities, and by contributing to local communities and championing inclusion.

Shell's businesses are part of society and contribute to it by buying and selling goods and services in many countries. Our employees, suppliers and contractors are part of the local communities where Shell operates. Our activities also generate revenues for governments through the taxes and royalties we pay and the sales taxes we collect on their behalf. This helps governments fund health care, education, transport and other essential services.

In 2022, Shell paid $68.2 billion to governments (2021: $58.7 billion). We paid $13.4 billion in corporate income taxes and $8.2 billion in government royalties, and collected $46.6 billion in excise duties, sales taxes and similar levies on our fuel and other products on behalf of governments. In 2022, Shell spent $41.5 billion (2021: $37.5 billion) on goods and services from about 24,000 suppliers globally.

## Social and economic impacts

We continue to assess our social and economic impact in a number of countries and regions. To do this, we have enlisted the help of Oxford Economics using its Global Sustainability Model.

In 2021, Shell had published its first report based on 2019 social and economic performance data. It detailed the impacts of our activities in five countries: the Netherlands, UK, USA, Nigeria and India.

In 2023, we are working to complete further reports, based on 2021 social and economic performance data for the 27 European Union member states. This work includes a combined report for Poland, Bulgaria, Hungary, Czech Republic, and Slovakia, as well as individual reports on these five countries.

These new reports aim to provide performance data on Shell's contribution to in-country gross domestic product, job numbers, tax payments to governments, and our spending on social and educational programmes. They also provide details of our operations and our procurement of goods and services in these regions and countries.

### Supply chain engagement

Building strong relationships with our suppliers, including contractors, is essential to delivering new projects and running our operations. Suppliers often play an important part in Shell having a positive impact on local communities and achieving business success.

Shell aims to work with suppliers that behave in an economically, environmentally and socially responsible manner, as set out in our Shell General Business Principles and Shell Supplier Principles. In 2022, we spent around $41.5 billion on goods and services from around 24,000 suppliers globally.

The way we engage with our contractors and suppliers is based on our Shell Supplier Principles, which are embedded in contracts. They require contractors and suppliers:

- to commit to protect the environment in compliance with all applicable environmental laws and regulations;
- to use energy and natural resources efficiently; and
- to continually look for ways to minimise waste, emissions and discharge from their operations, products and services.

We will include requirements in our purchasing policies to reflect our environmental framework, and take the energy efficiency, material efficiency and sustainability of products into consideration in our purchases.

We also work with our partners and industry peers to include worker welfare in industry standards, guidance, and best practice. This helps raise expectations and levels of consistency across the industry. We participate in organisations such as:

- the Building Responsibly group of engineering and construction companies working together to raise the bar in promoting the rights and welfare of workers across the industry;
- the International Association of Oil and Gas Producers (IOGP); and
- Ipieca, the global oil and gas industry association for advancing environmental and social performance across the energy transition.

We also work closely with our key contractors. As a result, by the end of 2022, 23 of our biggest contractors had signed up to the Building Responsibly principles, which cover more than 1 million workers.

### Helping our suppliers decarbonise

We continually work with our suppliers to find ways to reduce greenhouse gas emissions across our supply chains. We seek to understand their energy needs and jointly identify potential low-carbon solutions that are economically sustainable.

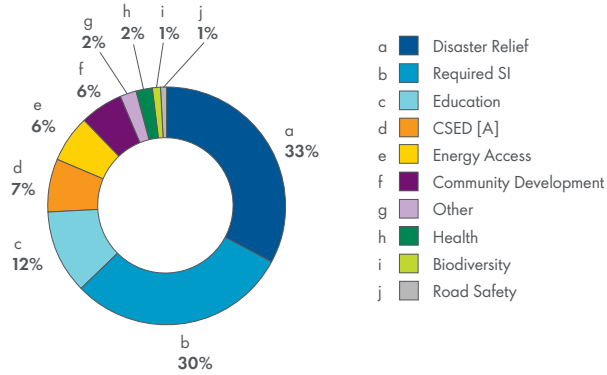
In 2021, we rolled out a new digital platform, the Shell Supplier Energy Transition Hub, free of charge to our supply chain and any other interested company. The platform enables them to set emission ambitions and track performance, share best practice and exchange emissions data with their own supply chains. By the end of 2022, 1,039 of our suppliers had joined the platform, 460 of which have already set emission reduction targets. This is more than a fourfold increase on 2021 in both instances.

See our website shell.com for more information about how we engage with contractors and suppliers.

### Social investment

We make social investments in areas determined by local community needs and priorities. This investment is sometimes voluntary, sometimes required by governments, or part of a contractual agreement. In 2022, we spent almost $260 million on social investment, of which 30% was required by government regulations or contractual agreements. We spent the remaining $182 million (70%) on voluntary social programmes.

### 2022 Social Investment spend by theme

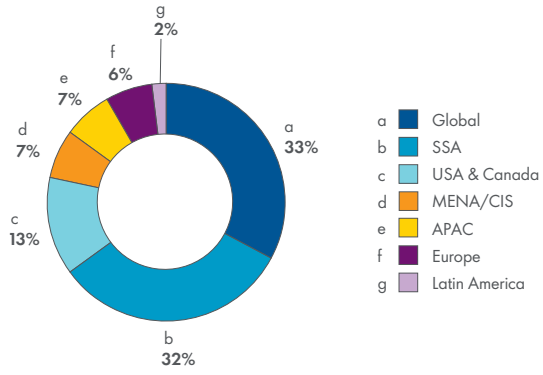



[A] CSED – Community Skills & Enterprise Development.

# **Powering lives** continued

Around $92 million of our total social investment spend in 2022 was in countries that, according to the UN Development Programme's Human Development Index 2021, have a gross national income of less than $15,000 a year per person.

### 2022 Social Investment spend by region




See our website shell.com for more information about our social investment.

## Neighbouring communities

We engage with communities as part of our approach to managing human rights and providing access to remedy. Shell's HSSE & SP Control Framework helps us operate responsibly and avoid or minimise potentially negative social impacts of our operations. The requirements set out in the framework also help us in our aim to be a positive presence in the communities through, for example, local employment and contractual opportunities. When we divest assets or exit areas, we apply well-established processes systematically to guide our risk assessment with the aim of leaving a positive legacy.

The requirements are supplemented by guidance that helps practitioners on the ground to engage with communities around our operations. Major projects and facilities operated by Shell have a social performance plan for managing potentially negative impacts, such as noise pollution, and maximising benefits, such as using local suppliers. These plans typically begin with defining the social environment, focusing in particular on people who may be especially vulnerable to the potential impacts of our operations. In larger facilities, we implement a community feedback mechanism for listening and responding to questions and resolving complaints in a timely manner. We have specific requirements to avoid, minimise or mitigate potential impacts on the traditional lifestyles and cultural heritage of Indigenous Peoples. We also have specific requirements to avoid, minimise or mitigate their involuntary resettlement.

We use our online community feedback tool, launched in 2020, to track and respond to questions, complaints and feedback that we receive. It allows our network of about 121 community engagement practitioners to document feedback and outcomes. They are the face of Shell in the communities and act as a bridge between communities and our activities.

We continually seek to improve our community engagement and to align with the UN Guiding Principles on Business and Human Rights. As part of this we work with selected sites to improve their community feedback mechanisms in the following areas:

- promoting public access to and transparency of the sites' community feedback mechanisms;
- improving written procedures so they are better aligned with global good practice and more reflective of local circumstances;
- providing clear steps for recognising alternative options for communities to seek remedy; and
- respecting people's anonymity and data privacy.

In 2022, we developed new community feedback mechanism procedures for four additional sites, bringing the total number of sites with operational feedback procedures aligned with the effectiveness criteria spelled out in the UN Guiding Principles to 16. Several more sites have procedures in place which are not specifically aligned with those criteria.

In 2022, we used the data in our online reporting tool to analyse how feedback was addressed. We found that most issues were resolved directly by the community engagement practitioners and the remainder were resolved by site management.

See our website shell.com for more information about our work with communities.

## Human rights

Human rights are fundamental to Shell's core values of honesty, integrity and respect for people. Our approach is informed by the UN Guiding Principles on Business and Human Rights. Respect for human rights is embedded in the Shell General Business Principles and our Code of Conduct.

We focus our efforts on four key areas, where respect for human rights is critical to the way we operate and where we have identified the highest risk of potential impact on human rights. These four key areas are the workplace, communities, supply chains and security. In 2022, we continued to take steps to improve our approach to human rights.

We expect joint ventures not operated by Shell to apply standards and principles substantially equivalent to our own. The Shell Supplier Principles outline how we expect our contractors and suppliers to respect the human rights of their workforce, and to manage the social impacts of their activities on Shell's neighbouring communities.

In 2021, we published Shell's Approach to Human Rights, which increases transparency by providing our staff and external stakeholders with important information about our approach and commitment to human rights. The publication includes Shell's position on respecting and promoting worker welfare. It also contains information on how we provide access to remedy. In 2022, supported by an external advisor, we developed recommendations to further improve our approach to human rights. We do this, for example, by expanding the disclosure of our human rights due diligence strategy and salient issues, seeking opportunities to expand the scope of contracting and procurement human-rights-related controls in our supply chain beyond Tier 1 suppliers, and opportunities for a more integrated approach to human rights due diligence.

In 2021, we launched an updated human rights training course and by the end of 2022, about 460 Shell staff had completed the course and the roll-out is expected to continue through 2023. The course is mandatory for selected staff working in higher-risk focus areas, such as social performance, human resources, and contracting. We encourage all staff to do the course, regardless of their role, to build greater understanding of human rights across Shell.

An internal Human Rights Working Group with experts from different functions, including an external adviser, guides Shell businesses on best practice when implementing and reviewing our approach to human rights. In 2022, a committee composed of senior executives, chaired by the Director of Strategy, Sustainability and Corporate Relations, supported the work of the Human Rights Working Group.

# **Powering lives** continued

### Shell Supplier Principles

Human rights due diligence is particularly relevant when it comes to our supply chains. For example, we engage with suppliers who may be at risk of having issues with labour rights to assess their management systems before deciding whether to award a contract. If we are dissatisfied with the results of supplier assessments, we may work with suppliers to help them implement corrective actions. We may also conduct on-site audits or consider terminating contracts if serious or persistent shortcomings are found.

The most common shortcomings found during our supplier assessments typically relate to the following areas:

- freely chosen employment;
- avoiding child labour;
- working hours, wages and benefits;
- dormitory, housing and working conditions;
- equal opportunities and freedom of association; and
- supply chain and performance management.

The Shell Supplier Principles include specific labour and human rights expectations for suppliers, including contractors. Shell companies use a joint industry supplier capability assessment that is delivered in collaboration with other operators. This is intended to support the improvement of working conditions in the participating companies' supply chains.

### Shell's salient human rights issues

Salient human rights are those that are most at risk from a company's operations. We focus on four areas where respect for human rights is particularly critical to the way we operate and where we have identified the highest risk of potential impacts on human rights.

In 2022, we completed a review of our salient human rights issues with the support of an external advisor, Business for Social Responsibility (BSR). As a result, we have grouped Shell's salient human rights issues into the focus areas, reflected in the table alongside.

The exercise of reassessing and identifying our current most salient issues is part of our continued effort to ensure our human rights approach is effective and fit for purpose. As our business evolves, our salient issues profile might change. We will continue to assess risks and adapt our approach as required.

| Human rights focus areas | Salient issues |
|---|---|
| At the workplace | ▪ Health and safety<br>▪ Discrimination<br>▪ Decent living conditions in workers' accommodation<br>▪ Access to adequate and readily available channels to voice concerns |
| In supply chains | ▪ Labour rights in our supply chains, e.g. prevention of forced labour, access to remedy<br>▪ Safe and healthy working conditions<br>▪ Decent living conditions in worker accommodation |
| In communities | ▪ Social impact management<br>▪ Vulnerable persons/communities<br>▪ Land access, livelihoods, and cultural heritage<br>▪ Engagement and access to remedy |
| In security | ▪ Human rights impact on communities by private security and/or government security forces we rely on<br>▪ Security of employee and contract staff in high-risk environments where we work |

See our website shell.com for more information about our approach to human rights.

# **Powering lives** continued

## Our people

Our people play an important role in accelerating Shell's transition to a net-zero emissions business, while also helping us address the energy needs of today. We aim to develop the talent of our people within a diverse and inclusive environment where we can empower them to be their best.

All metrics throughout this section exclude the employees in portfolio companies, except for the metrics reflecting total employee numbers, actual number of employees by geography, percentage of women employees, and mandatory training courses.

### In 2022



**Employees**
93,000
employees at December 31, 2022



**Countries and territories**
>70
countries in which we operate



**Directors**
55%
women on the Board of Directors



**Executive Committee**
22%
women in Executive Committee



**Senior leaders**
30%
women in senior leadership positions



**Women employees**
33%
women employees



**Training**
266,000
formal training days for employees, joint-venture partners, and contractors



**Experienced hires**
10,076
people joined Shell (40% women, 60% men)



**Graduate hires**
332
people joined Shell (49% women, 51% men)

### Employee overview

We employed 93,000 people on a full- or part-time basis at the end of 2022. This compares with 83,000 at the end of 2021 and 88,000 at the end of 2020. The data include people working in Shell subsidiaries, Shell-operated joint ventures and those seconded to non-Shell-operated joint operations, or ventures and associates. The employee numbers for 2021 and 2020 reflect headcount in the Shell HR system and full-time equivalent numbers for portfolio companies, which maintain their own HR systems.

### Changes in headcount

In Shell companies, excluding portfolio companies, headcount fell by 5,000 from 82,000 to 77,000 between 2020 and 2021.

At the end of 2022, after the implementation of our Reshape strategy which saw a reduction of more than 7,300 jobs in Shell, headcount grew by 2,000 to 79,000 people because of the recruitment of employees in Information and Digital Technology and Trading and Supply.

The Reshape job reduction includes 3,500 employees who elected to leave Shell on selective voluntary severance (SVS), thereby reducing the number of enforced redundancies. We have always sought to conduct the job reductions process in accordance with our core values of honesty, integrity, and respect for people. Throughout the Reshape process, we supported those facing job reductions by helping them to find internal and external opportunities to retrain or learn new skills.

In Shell portfolio companies which maintain their own HR system, full-time equivalent employee numbers remained constant between 2020 and 2021. At the end of 2022, the employee headcount in portfolio companies increased by 8,000 to 14,000 people driven mainly by acquisitions, growth in new activities and new disclosure in Mobility, Lubricants, Renewables and Energy Solutions as we continue to implement our Powering Progress strategy.

The table below presents the breakdown of employee numbers by geographical area.

Note 32 to the "Consolidated Financial Statements" on page 306 provides the average number of employees by business segment.

### Actual number of employees by geographical area

Thousand

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Europe | 30 | 27 | 28 |
| Asia | 32 | 30 | 31 |
| Oceania | 3 | 2 | 3 |
| Africa | 4 | 4 | 4 |
| North America | 23 | 18 | 20 |
| South America | 1 | 2 | 2 |
| Total | 93 | 83 | 88 |

Voluntary turnover is a reliable indicator of the effectiveness of Shell's people management policies. In 2022, our voluntary resignations remained low compared with a range of industries. Around 5.0% of all Shell employees voluntarily resigned in 2022. This compared with 4.4% in 2021.

# **Powering lives** continued

The tables below present the breakdown of employees by type of employment contract and age group.

**Percentage of employees by contract types**

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Permanent Contract/ employment at-will [A] | 98% | 98% | 98% |
| Fixed Term Contract | 2% | 2% | 2% |

[A] Employment at-will is used in the USA to describe employment contracts.

**Percentage of employees by age group**

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Under 30 years old | 14% | 13% | 14% |
| Between 30-50 years old | 64% | 65% | 64% |
| Above 50 years old | 22% | 22% | 22% |

Shell aims to be an attractive employer to its existing and prospective employees. Across the more than 70 countries we operate in, we provide competitive remuneration with a range of benefits, such as global minimum maternity leave of 16 weeks. From January 2023, we offer at least eight weeks paid parental leave for non-birthing parents.

People are our most important asset and we believe in developing our employees. Career progression tools, such as an internal job portal, individual development plans, coaching and formal training have been in place for many years. We offer employees the opportunity to develop their careers within Shell, including rotations across different parts of the businesses to advance their skills and progress.

In 2022, 10,300 Shell employees were promoted (40% of which were women and 60% men), compared with 10,000 promotions (44% of which were women and 56% men) in 2021.

People development is a priority in company-wide and leadership communications. We account for learning as part of annual budget planning and we aim to ensure our learning curricula are updated and accessible to all employees.

In 2022, 266,000 formal training days were delivered to employees, joint-venture partners and contractors. This compares with 271,000 in 2021 and 234,000 in 2020. We aim to build the confidence of our employees in their employability throughout the energy transition. Shell has increased learning offerings related to new skills that may be needed. In 2022, around 4,000 Shell employees completed courses on various topics, including hydrogen production, carbon capture and storage, and energy management.

We have focused efforts on expanding access to virtual courses and on a return to in-person training workshops, which were paused due to the pandemic.

Team leadership plays a key role in driving employee engagement. We seek to develop leaders through learning programmes, domestic and international assignments, and project opportunities. In 2022, 25% of team leaders in Shell received access to a classroom learning.

## Employee engagement and support

Hearing from employees provides valuable information for management and contributes to the governance of Shell. Insight into employee needs and perspectives enables Shell to continually learn and improve its policies, processes, and practices.

Management regularly engages with employees, including through internal and external elected employee representatives, and a range of local formal and informal channels. Our employee engagement forums also include webcasts and all-employee messages from our CEO and other senior leaders; town halls and team meetings; virtual coffee/chai connects; interviews with senior management, and internal social platforms. These engagements enable Shell to maintain a locally constructive employee and industrial relations environment.

In June 2022, the Chair of the Board, Sir Andrew Mackenzie, met with representatives of the Shell European Workers Council (SEWC) as part of their annual plenary meeting at Shell Centre in London. Also in 2022, various members of the Board visited sites in Singapore and the UK, where they engaged with Shell employees.

For further information on stakeholder engagement, see "Workforce engagement" on pages 157-158.

The Shell People Survey is one of the key tools we use to measure employee engagement, motivation, affiliation and commitment to Shell. It provides insights into employees' views and has had a consistently high response rate of above 80% since 2016. In 2022, the survey attained its highest ever response rate of 87% (up 3.4 percentage points from 2021). We believe that increased employee engagement can result in better business performance and safety. The Shell People Survey 2022 showed a positive, upward trajectory across all Shell businesses and functions. The average employee engagement score rose three points to 78 from the 2021 level and returned to the level seen in 2019 and 2020, our highest engagement score in the last 10 years, reflecting the resilience of our people during a time of change. Across Shell, employees also have access to senior leaders, local employee forums and employee resource groups. The Shell Global Helpline is available for employees to raise concerns or dilemmas, anonymously if they wish.

## Employee well-being

Shell believes people perform at their best when they feel cared for. We operate in locations with different local regulations and we seek to comply with all applicable local laws and regulations, including on working hours. Across Shell operations, we aim to eliminate discrimination in employment, forced labour, and child labour. We also respect the right to collective bargaining and freedom of association.

We take pride in fostering an environment that provides employees with the flexibility and support to focus on their mental, social, physical, and financial well-being. Shell has implemented initiatives and programmes to raise awareness of well-being at work, such as our Be Well, Care for Self, and I'm Not OK campaigns. We aim to develop individual and team skills, mindsets, and behaviours to create a safe working environment, to nurture a culture of care, and to continuously improve the support Shell offers employees.

## Flexible work

Shell's offices remain essential to business performance. Through them we seek to build a sense of community, foster affiliation, and collaboration, and create a place where employees feel welcomed and valued. Shell wants individuals and teams to perform at their best and key to this is to enable people to balance their work and personal lives. Following the pandemic, Shell launched its Future of Work guide to give employees and teams advice and greater choice in determining how, when and where they work to better meet business and their own needs.

# **Powering lives** continued

We provide our people with what they need to work in our offices and other locations, with flexibility based on their reasonable business and personal needs. We also seek to provide what they need if they are working remotely. In 2022, we continued our home-working ergonomics programme, providing funding for proper office equipment for home use by existing employees and new joiners. We also provided tips on setting up and maintaining good ergonomics, working with others virtually and maintaining productivity. In 2022, more people chose to make use of Shell's flexible working options.

### Mental well-being

At Shell we strive to reduce the stigma related to mental ill health through open conversations, planned campaigns at country and global level, communications from senior leaders, engagement with elected employee representatives, and our experience-sharing portal for employees. In 2022, we developed and piloted our Global Mental Health Strategy and Programme designed to build a culture that promotes good mental health and protects against mental ill-health. The programme includes timely access to quality mental health support through Shell's Employee Assistance Programme, which is available in most locations, and delivers professional counselling services. It also offers resources to help reduce the risk of stress and burnout.

### Financial well-being

In 2022, Shell published its Fair Pay Principle, which provides transparency internally and externally on the criteria Shell uses to pay employees fairly and competitively. The Fair Pay Principle includes our pay adjustment approach, assurance processes for paying a living wage and how we seek to mitigate bias in pay-related decisions. The cost-of-living crisis in 2022 has caused concerns for many people and during the year we have sought to help our employees navigate these challenging times. One of the ways in which we have done this is by sharing pay-related information more frequently in a bid to remove as much uncertainty as possible.

### Diversity, equity and inclusion

Our Powering Lives ambition is to become one of the world's most diverse and inclusive organisations, a place where everyone – including employees, customers, partners and suppliers – feels valued, respected and has a strong sense of belonging. This ambition underpins our strategy and we believe it is the right thing to aspire to, making us a stronger organisation. We have set goals for diversity, equity and inclusion (DE&I), and our CEO and Executive Committee are accountable for our progress. In 2022, we launched new external DE&I content on shell.com/DEI which includes data and proof points to show our progress against our DE&I ambitions.

### Living by our values

Our core values of honesty, integrity and respect for people underpin our DE&I approach. The Shell General Business Principles, Code of Conduct and Ethics and Compliance Manual help everyone at Shell act in line with our values.

All Shell employees and contractors with access to our HR systems are required to complete two mandatory training courses on DE&I, Conscious Inclusion and Respect in the Workplace, which reinforce expected behaviours for a respectful, inclusive workplace and Shell's stance against discrimination and harassment, including bullying and sexual harassment.

Our inclusion strategy is about everyone. In 2022, our Shell People Survey showed a result of 82 points out of 100 for all questions relating to DE&I (up two points from 2021).

We also started rolling out voluntary self-identification for employees in our HR system. Employees now have the option to voluntarily declare their gender, sexual orientation, race and ethnicity, and disability, where relevant and legal. This data can enable us to better track and improve our progress.

We are focusing on removing barriers and taking targeted action to create equity of opportunity in four strategic priority areas: gender; race and ethnicity; lesbian, gay, bisexual and transgender (LGBT+); and enablement and disabilities inclusion. These focus areas are sponsored by various members of the Executive Committee.

### Gender

We strive for gender equality across Shell and we have signed the World Economic Forum declaration on closing the gender gap in the oil and gas sector. We have also endorsed the Catalyst CEO Champions for Change initiative, where more than 70 chief executives seek to accelerate the advancement of women, especially those from ethnic minorities, into senior leadership and board positions.

As at December 31, 2022, 55% of the members of Shell plc's Board were women up from 50% in 2021, with one woman also being the Deputy Chair and Senior Independent Director. This exceeds the FTSE Women Leaders Review target of 40% women on boards by 2025 and is on track with our own ambition. Representation of women on the Executive Committee was 22% at the end of 2022.

At the end of 2022, the representation of women within our Senior Executive [A] positions was 25% compared with 27% in 2021. Our ambition is to improve women's representation in this group every year to achieve gender equality.

[A] Senior Executives include the Executive Committee.

By 2025, we aim to have 35% representation of women in our Senior Leadership [A] and at least 40% representation by 2030. In 2022, 30.4% of Senior Leadership were women, up from 29.5% in 2021.

[A] Senior Leadership is a Shell measure based on compensation grade levels and is distinct from the term "senior manager" in the statutory disclosures in the table below.

**Gender diversity data (at December 31, 2022)**

| Gender diversity data | | Men | | Women |
|---|---|---|---|---|
| Directors of the Company | 5 | 45% | 6 | 55% |
| Senior managers [A] | 827 | 68% | 381 | 32% |
| Employees (thousand) | 62 | 67% | 31 | 33% |

[A] Senior manager is defined in section 414C(9) of the Companies Act 2006 and, accordingly, the number disclosed comprises the Executive Committee members who were not Directors of the Company, and other directors of Shell subsidiaries.

In 2022 the proportion of women amongst experienced hires was 40%, compared with 44% in 2021. Our graduate hires number has consistently been 48% or 49% women, against our 50% ambition since 2019. In 2022, 49% of our graduate hires were women and 51% were men. Our overall representation of women in Shell was 33% at the end of 2022.

# **Powering lives** continued

A crucial element of improving gender balance is addressing any gender pay gap and we are working on this. For example, in the UK, our 2022 average differences of pay of all men and women across all in-scope [A] Shell companies in the UK narrowed to 11.7% - 20.7%, compared with 7.3% - 21.8% in 2021. In parallel, the average differences of bonuses between men and women ranged from -0.2%-54.2% in 2022. In 2021, the top of this range was 54.9%. This gap exists for several reasons, including fewer women in senior leadership positions and fewer women in higher-paid specialist roles. More information about the UK gender pay gap at Shell can be found on our website.

[A] Shell companies in the UK with 250 or more employees in line with UK government requirements on gender pay gap reporting.

We also conduct an annual global gender pay equity review using a robust statistical approach. Countries in this review include Australia, France, the UK and South Africa. We take immediate action if required.

**Race and ethnicity**

We are working to address racial inequity and create an inclusive work environment where everyone feels valued. In 2020, we created the Shell Global Council for Race supported by a 20-member Employee Advisory Board composed of members from a diverse mix of racial and ethnic backgrounds. The Council, which is sponsored by the CEO, aims to advance diversity in our workforce so that it better reflects communities where we work and from which we draw talent, and focuses on the USA, the UK and the Netherlands.

At December 31, 2022, Shell had one director from an minority ethnic group on its Board of Directors. At the time of publication of this report, Shell plc's Board had three members from a minority ethnic background, which exceeds the UK's Parker Review recommendation of at least one. In addition, one of our Executive Committee members identifies as being from a minority ethnic group.

In the USA:

- In 2022, 13.7% of our US employees were Asian, 8.7% Black or African American, 11.9% Hispanic Latino, 63.5% White and 2.2% from other racial and ethnic groups, as reported to the US Department of Labor.

In the UK:

- In 2022, 14.5% of our UK employees identified as Asian, 3.7% Black, 2.4% Mixed, 76.5% White and 3.0% from other ethnic minority background.
  [A] As ethnicity declaration is voluntary, our ethnicity declaration rate is not 100% and all calculations are based on a declaration rate of 82.7% in the UK. The 17.3% of our workforce who have not provided data or have chosen not to declare their ethnicity were not included in our calculations.
- We have set a recruitment ambition to have 8% Black representation in our graduate and experienced hires by 2025, to increase representation in line with UK society through actions such as mentoring and outreach.
- Shell in the UK was one of the first FTSE 100 companies to voluntarily publish its ethnicity pay gap data in November 2020.

In the Netherlands, we continued to implement our first Ethnic Inclusion plan. We launched voluntary self-identification for race and ethnicity for employees in our HR system in 2022.

In addition, Shell is working with key suppliers to ensure they understand Shell's DE&I ambitions and expectations. For more information on our progress in the UK, the USA, and the Netherlands, see our website shell.com/DEI.

**LGBT+**

We are working to advance lesbian, gay, bisexual and transgender plus (LGBT+) inclusion within Shell and the communities where we work. We promote equal opportunity and aim to create an environment where people feel included, regardless of sexual orientation or gender identity. Our approach reinforces respect for people and provides psychological safety for our LGBT+ employees. Most of our work around LGBT+ inclusion happens at a country level in line with local policies, laws and regulations.

In 2022, we published our Global LGBT+ Inclusion Guidelines, which are based on best practice and are designed to help country teams develop their own plans.

We benchmark ourselves externally. In 2022, we were recognised as well advanced in our LGBT+ Workplace inclusion journey in the Workplace Pride Global 2022 Benchmark. We also received a 100% score from the Human Rights Campaign Foundation's Corporate Equality 2022 Index and have earned this 100/100 award every year since 2016.

Shell's LGBT+ forum has 15 chapters globally, with the most recent employee resource groups established in Singapore and Spain.

**Disability inclusion and enABLEment**

We aim to create an inclusive, psychologically safe and accessible environment where people with disabilities can excel. We provide support and make adjustments for people with disabilities during the recruitment process and throughout their careers with Shell. This includes equal access to valuable educational resources, training programmes, and emphasis on personal and professional development.

Our Global enABLEment Coalition, made up of leaders from our Employee Resource Groups, allies and key teams, helps to shape and drive the enABLEment strategy across Shell. The Coalition provides expertise and advice to Shell leaders, our businesses and our employee resource groups for accessibility, disability inclusion and enABLEment.

In 2022, we rolled out our Global enABLEment priorities which set out the actions we intend to deliver in countries around the world to support Disability Inclusion and enABLEment. We now have 15 enABLE employee resource groups around the world.

Our workplace accessibility (WPA) service covers 81 locations around the world to ensure that all employees have access to reasonable workplace adjustments so that they can work effectively. The team is supported by functions such as Shell Health, Human Resources, Real Estate and IT. During the pandemic we combined our home-working ergonomics programme with WPA to help all employees to continue to work from home. In collaboration with Purple Space, a professional development hub for disability network leaders, we piloted a personal development course for our employees with disabilities based in the UK. We also launched a LinkedIn learning path called "Spotlight – Disability Inclusion: A Guide for Line Managers".

We are part of the Valuable500, which connects 500 of the world's most influential global businesses to create a tipping point for large-scale disability inclusion. We are also active members of the Business Disability Forum.

# **Powering lives** continued

## Code of conduct

Shell is committed to prohibiting bribery, money laundering and tax evasion, and to conducting business in line with our Shell General Business Principles and Code of Conduct. We maintain a global anti-bribery and corruption (ABC) and anti-money laundering (AML) programme designed to prevent, detect, remediate, and learn from potential violations. This is in line with the UN Global Compact Principle 10 which states that businesses should work against corruption in all its forms, including extortion and bribery.

We do not tolerate the direct or indirect offer, payment, solicitation or acceptance of bribes in any form, nor the facilitation of tax evasion. Facilitation payments are also prohibited. The Shell Code of Conduct includes specific guidance for Shell employees and contractors on requirements to avoid or declare actual, potential or perceived conflicts of interest, and on offering or accepting gifts and hospitality.

To support the Code of Conduct, we have mandatory risk-based procedures and controls that address a range of compliance risks and ensure that we focus resources, reporting and attention appropriately. By making a commitment to our core values of honesty, integrity and respect for people, and by following the Code of Conduct, employees and contractors help protect Shell's reputation.

The pandemic led to an increase in hybrid working and this has required Shell to focus even more on conduct risk. Managerial duties have increased to maintain oversight of employees more frequently working from locations outside of an office and where information must continue to be safeguarded. All employees and contractors are required to undertake mandatory training courses in the Code of Conduct and Safeguarding Information every four and two years respectively. We continue to reiterate and emphasise that adherence to Shell's compliance requirements is essential to protecting our business.

Our ethics and compliance requirements are articulated through our policies, standards and procedures and supported by the Ethical Decision-Making Framework, a tool to help employees think through and discuss, in a structured way, the potential legal, ethical and external consequences of decisions. They are communicated to Shell employees and contractors and, where necessary and appropriate, to agents and business partners. We monitor and report internally on adherence to select ethics and compliance requirements, such as mandatory training completion and due diligence screening. We pay particular attention to our due diligence procedures when dealing with third parties. We also make our requirements clear to third parties through a variety of measures, such as standard contract clauses. We offer a good practice anti-bribery and corruption e-learning course to third parties that may not have a training programme in place. We have published our Ethics and Compliance Manual on shell.com.

The Shell Ethics and Compliance Office, with assistance from Legal, helps the businesses and functions to implement the ABC/AML and other programmes, assess risks, and monitors and reports on progress. In 2022, lawyers and compliance professionals supported Shell businesses and functions in addressing the implications of the war in Ukraine. They provided legal, and ethics and compliance support, including in relation to Shell's intention to withdraw from Russian hydrocarbons. The Shell Ethics and Compliance Office regularly reviews and revises all ethics and compliance programmes to ensure they remain up to date with applicable laws, regulations and best practices. This includes incorporating results from relevant internal audits, assurance reviews and investigations, and periodically commissioning external reviews and benchmarking.

We investigate all good-faith allegations of breaches of the Code of Conduct, however they are raised. We are committed to ensuring all such incidents are investigated by specialists in accordance with our Investigation Principles. Allegations may be raised confidentially and anonymously through several channels, including a Shell Global Helpline operated by an independent provider. We align with local reporting and investigation channels where required by law.

In 2022, there were 1,790 entries to the Shell Global Helpline: 1,381 allegations and 409 enquiries. The Business Integrity Department is a specialist investigative unit within Shell Internal Audit that is responsible for managing the Shell Global Helpline and the Group level incident management procedures. The Board has delegated the oversight of the functioning of the Shell Global Helpline to the Audit Committee. The Audit Committee is authorised to establish and monitor the implementation of procedures for the receipt, retention, proportionate and independent investigation and follow-up action of reported matters.

Violation of the Code of Conduct or its policies can result in disciplinary action, up to and including contract termination or dismissal. In some cases, we may report a violation to the relevant authorities, which could lead to legal action, fines or imprisonment.

Internal investigations confirmed 183 substantiated breaches of the Code of Conduct in 2022. Disciplinary action was taken against 216 group employees and contractors, including 53 contract terminations. In 2022, most violations of our Code concerned the categories of Harassment, Conflict of Interest and Protection of Assets.

## Employee share plans

We have a number of share plans designed to align employees' interests with our performance through share ownership.

For information on the share-based compensation plans for Executive Directors, see the "Directors' Remuneration Report" on pages 178-182.

### Performance Share Plan, Long-term Incentive Plan and exchanged awards under the BG Long-term Incentive Plan

Under the Performance Share Plan (PSP), 50% of the award is linked to certain indicators described in "Performance indicators" on pages 27-28, averaged over the performance period. For 2019, 12.5% of the award was linked to free cash flow (FCF) and the remaining 37.5% was linked to a comparative performance condition which involves a comparison with four of our main competitors over the performance period, based on three performance measures. For 2020, 11.25% of the award was linked to the FCF measure and 5% was linked to an energy transition measure. The remaining 33.75% was linked to the comparative performance condition. From 2021 and 2022, 10% of the award is linked to the FCF measure and 10% is linked to an energy transition measure. The remaining 30% is linked to the comparative performance condition. From 2023, 12.5% of the award is linked to an organic FCF measure and 12.5% is linked to an energy transition measure. The remaining 25% is linked to the comparative performance condition, which is based on two performance measures.

Under the Long-term Incentive Plan (LTIP) awards made in 2019 and 2020, 22.5% of the award is linked to the FCF measure and 10% is linked to an energy transition measure. The remaining 67.5% is linked to the comparative performance condition mentioned above. From 2021 and 2022, 20% of the award is linked to the FCF measure and 20% is linked to an energy transition measure. The remaining 60% is linked to the comparative performance condition. From 2023, 25% of the award is linked to an organic FCF measure and 25% is linked to an energy transition measure. The remaining 50% is linked to the comparative performance condition, that is based on two performance measures.

# **Powering lives** continued

Separately, following the BG acquisition, certain employee share awards made in 2015 under BG's Long-term Incentive Plan were automatically exchanged for equivalent awards over shares in the Company. The outstanding awards take the form of nil-cost options.

Under all plans, all shares that vest are increased by an amount equal to the notional dividends accrued on those shares during the period from the award date to the vesting date. In certain circumstances, awards may be adjusted before delivery or subject to clawback after delivery. None of the awards result in beneficial ownership until the shares vest.

See Note 27 to the "Consolidated Financial Statements" on page 300.

### Restricted share plan

Under the Restricted Share Plan (and the Free Share Schedule to the Shell Share Plan 2014), free share awards are made on a highly selective basis to senior staff. Shares are awarded subject to a two- or three-year retention period. All shares that vest are increased by an amount equal to the notional dividends accrued on those shares during the period from the award date to the vesting date. In certain circumstances, awards may be adjusted before delivery or subject to clawback after delivery.

### Global Employee Share Purchase Plan

Eligible employees in participating countries may participate in the Global Employee Share Purchase Plan. This plan enables them to make contributions from net pay towards the purchase of the Company's shares at a 15% discount to the market price, either at the start or at the end of an annual cycle, whichever date offers the lower market price.

### UK Shell All Employee Share Ownership Plan

Eligible employees of participating Shell companies in the UK may participate in the Shell All Employee Share Ownership Plan, under which monthly contributions from gross pay are made towards the purchase of the Company's shares. For every six shares purchased by the employee, one matching share is provided at no cost to the employee.

### Powering Progress Share Award

This was a one-off share award granted to all eligible employees of Shell on June 18, 2021. This award supports employee engagement in the Powering Progress strategy. These awards vested on June 20, 2022.

# Safety

## Our approach to safety

Shell's Powering Progress strategy is underpinned by our focus on safety. We aim to do no harm to people and to have no leaks across our operations. We call this our Goal Zero ambition.

We seek to improve safety by focusing on the three areas where the safety risks associated with our activities are highest: personal, process and transport. We strive to reduce risks and to minimise the potential impact of any incident, with a particular emphasis on the risks with the most serious consequences if something goes wrong.

In 2020, we started a multi-year process of refreshing our approach to safety for all employees and contractors. Our updated approach is rooted in a consistent focus on human performance. We aim to better understand the gap between how we anticipate work will be done safely and how the work is actually carried out. We work to prevent incidents by maintaining safety barriers and providing training. We acknowledge that people make mistakes and not all incidents may be preventable. We continue to focus more on installing adequate controls to create capacity to fail safely. With that, we believe that we will enhance our safeguards and reduce the likelihood of serious injuries.

People are key to executing complex tasks and to finding solutions to problems. We aim to apply a learner mindset, by which we mean the belief that we can always improve, enhance individual capabilities, learn from mistakes and successes, and speak up without being punished. We seek to create conditions that encourage employees and contractors to share ideas and concerns without fear of rejection or punishment.

In 2022, as part of our new approach to our safety programme, we focused on conducting detailed change impact assessments across the Group to assess the extent to which our new safety principles are being integrated. These assessments covered all change areas, including mindset and behaviours, pre-work processes, and relationships with third-party contractors. We completed 49 of 52 assessments of assets, projects, functions and businesses within Shell (the remaining assessment to be completed in 2023). In addition, seven non-operated joint ventures (NOVs) elected to embed elements of our approach to safety in their improvement plans.

We work with a large number of our contractors and suppliers so they understand our safety requirements. We strive to help improve safety throughout the energy industry by sharing our safety standards and experience with other operators, contractors and professional organisations. This helps lead to the standardisation of safety practices within the industry, such as the IOGP Life-Saving Rules, Helicopter Recommended Practices, Site Construction Safety, and programmes from the Energy Institute, e.g. Hearts and Minds for fair event handling.

On November 1, 2022, we welcomed safety leaders from BP, Chevron, ExxonMobil, IOGP, TotalEnergies and many others active in the field of capital projects and wells to participate in the first industry Safety Collaboration Forum (SCF) in Houston. Delegates declared their intent to continue to play an active role in making the industry safer and more efficient.

## Personal safety

We continue to strengthen the safety culture and leadership among our employees and contractor staff. This aligns with our focus on caring for people. The set of nine industry Life-Saving Rules came into effect at Shell on January 1, 2022. By the end of 2022, around 126,000 staff and contractors had completed our mandatory e-learning on the new rules.

We expect everyone to consider two aspects when performing their tasks: the hazards that could potentially cause serious harm, and the effectiveness of the barriers in place to avoid serious harm if something goes wrong. We have ongoing safety awareness programmes, and hold an annual global Safety Day to give employees and contractors time to reflect on how to prevent incidents and how to work together to improve performance.

In 2022, our annual Safety Day explored how we are all connected to the work that we do, and how our actions can create a chain of events that can influence the decisions and actions of others, including at the frontline.

We continue to learn from safety incidents. For example, in 2021, six contractor personnel and one government security agent lost their lives after their convoy came under attack on the way to the Assa North Project site in Nigeria. After the investigation into the incident, we shared information materials across Shell to raise awareness and encourage reflection and learning.

In 2022, we completed the construction of the Pennsylvania Petrochemicals Complex in the USA with more than 67 million work hours without fatality. During the building of a floating production storage and offloading vessel for the Shell-operated Penguins field (Shell interest 50%) in the UK North Sea, the China Offshore Oil Engineering Company (COOEC) achieved 16 million hours without fatality or serious injury.

## Process safety

Process safety management is about keeping hazardous substances inside pipes, tanks and vessels, and ensuring that well fluids are contained during well construction and well intervention so that they do not harm people or the environment. It starts at the design and construction stage of projects and continues throughout the life cycle of facilities to ensure they are safely operated, well maintained and regularly inspected.

Our global standards and operating procedures define our expectations for the controls and physical barriers required to reduce the risks of incidents. For example, offshore wells must be designed with at least two independent barriers in the direction of flow, in order to reduce the risk of an uncontrolled release of hydrocarbons. For the event of a loss of containment such as a spill or a leak, our standards require the use of independent recovery measures to stop the release from becoming catastrophic. We regularly inspect, test and maintain these barriers to ensure they meet our standards.

Working with industry stakeholders, customers and suppliers is critically important to achieve our process safety ambitions.

We strive to learn not only from leaks that have happened, but also from potential events that were prevented by our barriers, such as avoided leaks which might have caused significant harm to assets and people.

In 2022, there were no Level 1, or Level 2, well control incidents in Shell-operated ventures.

### Emergency response

We routinely prepare and practise our emergency response to potential incidents, such as a spill or a fire. This involves working closely with local emergency services and regulatory agencies to jointly test our plans and procedures. Shell requires key operating assets to test their emergency response preparedness every three years. In 2022, we held four large-scale emergency response exercises to ensure we have the required preparedness at assets we operate in Brazil, Nigeria, the Philippines and the US Gulf of Mexico.

# **Safety** continued

### Transport safety

Transporting large numbers of people, products and equipment by road, rail, sea and air poses safety risks. We seek to reduce these risks by developing best-practice standards within Shell. We also work with specialist contractors, industry bodies, non-governmental organisations and governments to find ways of reducing transport safety risks.

### Road safety

In 2022, Shell employees and contractors drove around 456 million kilometres on business in more than 50 countries, a decrease of around 3% compared with 2021.

In Pakistan, a contractor colleague died during road transport activities under operational control of Shell. The number of severe motor vehicle incidents increased from nine in 2021 to 14 in 2022.

In 2022, around 40,000 Shell employees and contractors completed some form of in-vehicle or virtual defensive driving training.

In 2022, we installed active fatigue and distraction detection (AFDD) devices in around 2,400 vehicles operated by Shell or our contractors in countries where road transport risks are highest. By end of 2024, we aim to complete the installation of AFDD devices in vehicles operated by Shell, including both contractor and Shell-owned vehicles.



People are key to executing complex tasks and to finding solutions to problems.

### Safety at sea

At the end of 2022, we managed and operated a global fleet of 25 tankers, liquefied natural gas carriers, and the world's first liquefied hydrogen carrier, the Suiso Frontier.

### Air safety

In 2022, for Shell-operated ventures, our owned and contracted aircraft flew more than 35,000 hours and safely carried more than 266,000 Shell employees and contractors to destinations all over the world. In addition, remotely piloted aircraft safely completed close to 1,000 hours of survey and inspection flights.

See our website shell.com for more information on transport safety.

### Safety and technology

Shell has been a pioneer in the development and deployment of digital technologies for decades, including those that help keep people and our operations safe. For example, we use smart sensors, which can be fixed, robot-mounted or carried by personnel, and are inter-connected so that they can gather and share data. Sensors can scan large areas across an asset to help detect leaks. Data analytics can reveal trends, which enables real-time risk assessment and timely interventions. Data analytics can reveal trends, which enables real-time risk assessment and timely interventions.

# **Safety** continued

**Contractor safety**

Executives from Shell and our major contractor companies have collaborated on Shell's contractor safety leadership (CSL) programme since 2014. The programme seeks to identify strategies and practical ways to improve a shared safety culture and achieve our Goal Zero ambition of no harm and no leaks.

## Importance of contractor safety for Shell




We have worked with contractors on standardisation and simplification of safety procedures, and collaborated to develop a contractor safety leadership initiative called Declared Future. We believe these efforts have helped to align our organisations and improve frontline safety.

Our transition to the industry Life-Saving Rules also brings us closer to the standard shared by most of the main contractor companies in our contractor safety leadership programme which was something they had requested of us.

# **Safety** continued

## Safety performance

Regrettably, in 2022, two of our contractor colleagues in Shell-operated ventures lost their lives in the course of their work for Shell. One contractor colleague in Nigeria died from injuries sustained during a fire incident. In Pakistan, a contractor colleague died during road transport activities under operational control of Shell.

On March 3, 2023, in Nigeria at the site of an illegal connection used for crude theft a fire incident occurred on the Rumuekpe - Nkpoku trunk line which was not operational at the time. There are confirmed fatalities and investigations are ongoing.

The Shell organisation feels these losses deeply. We are determined to learn from these incidents and do everything possible to prevent anything similar from happening again. We continue to work closely with our contractors to help build a strong safety culture at the frontline.

Several industry safety leadership groups confirm that serious and high-potential incidents often have different root causes than most lower-consequence events. To improve insights from incident investigations and data analysis, we changed how we report incidents. Since 2021, we measure the number of serious injuries and fatalities per 100 million working hours, instead of the Total Recordable Case Frequency, which measured injuries per million working hours. The Serious Injury, Illness and Fatality Frequency (SIF-F) allows us to focus our investigations on the most serious incidents. The aim is to collect and analyse relevant, high-quality data that can help us improve our efforts to prevent serious injuries and fatalities.

In 2022, the SIF-F was 1.7 injuries and illnesses per 100 million working hours, compared with 6.9 in 2021.

The number of Tier 1 and 2 operational process safety events in 2022 decreased significantly compared with 2021. There were 66 incidents reported during the year compared with 103 in 2021.

For reporting on process safety, in this Report, we combine Tier 1 and 2 events. A Tier 1 process safety event is an unplanned or uncontrolled release of any material from a process, including non-toxic and non-flammable materials, with the greatest actual consequence resulting in harm to employees, contract staff or a neighbouring community, damage to equipment, or exceeding a defined threshold quantity. A Tier 2 process safety event is a release of lesser consequence.

As part of Shell's learner mindset approach, we investigate all serious incidents so we can understand the underlying causes, including technical, behavioural, organisational and human factors. We share what we learn widely, including with contractors. We implement mitigations at the site and in the country and business where the incident occurred. We seek to turn incident findings into improved standards or better ways of working that can be applied widely across similar facilities.

Additional information on our 2022 safety performance is expected to be published in the Shell Sustainability Report in March 2023.

## Security

Our operations expose us to criminality, civil unrest, activism, terrorism, cyber-disruption and acts of war that could have a material adverse effect on our business (see "Risk factors" on page 21). We seek to obtain the best possible information to enable us to assess threats and risks. To help us understand the threats, we build strong and open relationships with government, law enforcement, armed forces, industry peers and specialist security information providers. On the basis of these threat assessments, we identify security risks to staff, assets including information technology equipment, and operations. We then seek to manage the risks so they are as low as reasonably practicable. Risk mitigation includes strengthening the security of sites, reducing our exposure to threats as appropriate, journey management, information risk management and cyber-defence operations, crisis management and business continuity measures. We conduct training and awareness campaigns for staff, and provide them with travel advice and access to 24/7 assistance while travelling. We consistently verify the identity of our employees and contract staff, we control physical access to our sites and activities, and we document access with digital tools.

We take steps to have clear and planned responses to security incidents, so that we are able to react quickly and effectively if they occur.

Shell is a member of the Voluntary Principles on Security and Human Rights initiative. This is a multi-stakeholder initiative of governments, extractive sector industries and NGOs that gives guidance on how to respect human rights while providing security for business operations. Shell implements this guidance across its companies, concentrating on countries where the risks of working with state and private security forces are greatest.

The Board's Safety, Environment and Sustainability Committee (SESCo) has oversight of Shell's security risk management activities. In the Executive Committee, accountability for security matters sits with the Chief Human Resources and Corporate Officer.

# Principal decisions and stakeholders

## Section 172(1) statement

The Companies (Miscellaneous Reporting) Regulations 2018 (2018 MRR) require Directors to **explain** how they considered the interests of key stakeholders and the broader matters set out in Section 172(1) (a) to (f) of the Companies Act 2006 (S172) when performing their duty to promote the success of the Company under S172.

This includes considering the interests of other stakeholders which may affect the long-term success of the company. This S172 statement explains how Shell's Directors:

- have engaged with employees, suppliers, customers and others; and
- have considered employee interests, the need to foster business relationships with suppliers, customers and others, and the effects of those considerations, including on the principal decisions taken during the financial year.

The S172 statement focuses on matters of strategic importance to Shell, and the level of information disclosed is consistent with the size and the complexity of Shell's businesses.

### S172 Statement by Shell's Directors

After due and careful consideration of the requirements set out in S172, and having regard to long-term consequences and the interests of stakeholders in relation to Board decision-making, the Directors, during the financial year ending December 31, 2022, have acted in a way that they consider, in good faith, would be most likely to promote the success of the Company for the benefit of its members as a whole.

### General confirmation of directors' duties

Shell's Board has a clear framework for determining the matters within its remit and has approved Terms of Reference for the matters delegated to its Committees. Certain financial and strategic thresholds have been set, in order to identify matters requiring Board consideration and approval. The Manual of Authority sets out the delegation and approval process across the broader business.

More information on Shell's controls and procedures can be found in "Other regulatory and statutory information" from pages 211-219.

All Directors upon joining Shell have participated in induction training and are provided with ongoing guidance covering regulatory requirements of their role, including, but not limited to, S172.

More information on Directors' induction and training can be found from page 152.

Board decision-making is predicated on the appropriateness of information provided to Directors which is subject to review as part of the wider board evaluation process. The most recent board effectiveness review is detailed on page 153. In particular, board materials are assessed as to their suitability in relation to assisting and facilitating Directors' decision-making in accordance with S172.

When making decisions, each Director ensures that (s)he acts in the way he or she considers, in good faith, would most likely promote Shell's success for the benefit of its members as a whole, and in doing so has regard (among other matters) to the issues set out below.

### S172(1) (a) "The likely consequences of any decision in the long term"

The Directors understand the business and both the evolving and challenging environment in which we operate, including the challenges of continuing to navigate through the energy transition and also the geopolitical tensions associated with Russia, which have, amongst other things, resulted in Shell's withdrawal from Russian oil and gas activities (see Note 6 to the Consolidated Financial Statements on pages 262-264). Based on Shell's established purpose to power progress together by providing more and cleaner energy solutions, the ongoing strategy set by the Board is intended to accelerate the transition of our business to net-zero emissions, purposefully and profitably. We continue to have a strong, resilient business including focus on energy security, by putting customers at the centre of our strategy, innovating the products and solutions customers need on our journey to net zero by 2050.

In 2022, the Board continued with its oversight of Shell's Powering Progress strategy, which combined our ambitions under four goals: generating shareholder value, achieving net-zero emissions, powering lives and respecting nature. The Board focused on financial strength and discipline with a dynamic approach to our portfolio of assets and products. Our new CEO has confirmed his support for Shell's strategy set out in the 2021 Annual Report with further strategy updates expected to be provided at the next scheduled Capital Markets Day in June 2023. See pages 6-14 for more on our Powering Progress strategy.

The Directors recognise there are significant complexities in relation to Board decision-making, given differing societal and stakeholder views about our operations and the intricacies associated with the evolving energy transition. Accordingly, the Directors have considered S172 and made their decisions in good faith relating to Shell's strategy having regard to the long-term sustainable success of the Company.

### S172(1) (b) "The interests of the Company's employees"

The Directors recognise that Shell employees are fundamental and core to our business model and the safe delivery of our strategic ambitions. The success of our business depends on attracting, retaining, developing and motivating talented employees. The Directors consider and assess the implications of relevant decisions on employees and the wider workforce. The Directors seek to ensure that Shell remains a responsible employer, including with respect to pay and benefits, fairness (including gender pay gap reporting, see page 118), diversity (information on Shell's Diversity, Equity and Inclusion is detailed on page 117), health and safety issues, and the workplace environment. The Directors regularly engage with employees and the wider workforce (a summary of engagements is provided on pages 157-158) as well as consider annual employee surveys (the most recent is detailed on page 116).

The Directors recognise that our pensioners also remain important stakeholders.

More information on this can be found in "Workforce engagement" on pages 157-158.

### S172(1) (c) "The need to foster the Company's business relationships with suppliers, customers and others"

Delivering our strategy requires strong mutually beneficial relationships with suppliers, customers, governments, national oil companies and joint-venture partners. Shell seeks to promote and apply certain general principles in such relationships. The Board continues to review Shell's approach to suppliers, which is set out in the Shell Supplier Principles. In 2022, the Board reviewed steps taken with suppliers and supply chains to combat modern slavery and human trafficking. More detail on Shell's Modern Slavery Act statement is set out on page 212. The

# Section 172(1) statement continued

businesses continually assess the priorities related to customers and those with whom we do business, with the Board engaging with the businesses on these topics, for example, within the context of business strategy updates and investment proposals.

The Directors also receive updates on a variety of topics that indicate how these stakeholders have been engaged. These updates include information provided by the Projects & Technology function on suppliers and joint-venture partners, with respect to items such as project updates and supplier contract management. Businesses also provide information, as relevant, on customers and joint-venture partners in relation to business strategies, projects, and investment or divestment proposals.

The CEO provides a comprehensive update to the Board on material business and external developments at each main Board meeting. These include: i) a report on safety performance; ii) significant operational updates relating to each of the business segments, e.g. partnerships, investments, divestments, flagship projects, commercial highlights and achievements; iii) the development of new technologies and innovation via collaborations with partners, suppliers and others; and iv) political or regulatory developments. The CEO also summarises his own external engagements and any changes of senior executive staff.

### S172(1) (d) "The impact of the Company's operations on the community and the environment"

This aspect continues to be integral to our strategic ambitions. The Board receives information on various topics to help it make decisions. The topics can include, for example, the Net Carbon Footprint target, proposals to invest or divest, and business strategy reviews. The information also goes into Group-level overviews, such as updates on safety and environment performance, reports from the Chief Ethics and Compliance Officer, and reports from the Chief Internal Auditor. In 2022, certain Board committees and Non-executive Directors conducted site visits of various Shell operations and overseas offices and held external stakeholder engagements. In contrast to 2021, visits were made in person with restrictions relating to the COVID-19 pandemic being largely removed in most countries. This enabled the Board to maintain and strengthen the interface with businesses and staff, with virtual engagements additionally used when appropriate, making the best use of technology available.

More information can be found in "Understanding and engaging with our stakeholders" on pages 154-156, and in the reports of each Board committee.

### S172(1) (e) "The desirability of the Company maintaining a reputation for high standards of business conduct"

Shell aims to meet the world's growing need for more and cleaner energy solutions in economically, environmentally, and socially responsible ways. The Board periodically reviews and approves clear frameworks, such as The Shell General Business Principles, Shell's Code of Conduct, specific Ethics and Compliance manuals, the Ethical Decision-Making Framework, and its Modern Slavery Statement, to ensure that high standards are maintained in Shell businesses and in Shell's business relationships. Complemented by the ways the Board is informed and monitors ethics and compliance with relevant governance standards, this helps to ensure that Board decisions and the actions of Shell companies both promote and maintain high standards of business conduct.

### S172(1) (f) "The need to act fairly as between members of the Company"

After weighing up all relevant factors, the Directors consider which course of action best enables delivery of our strategy in the long-term interests of the Company, taking into consideration the effect on stakeholders. In doing so, our Directors act fairly as between the Company's members but are not required to balance the Company's interests with those of other stakeholders. This can sometimes mean that certain stakeholder interests may not be fully aligned.

### Culture

The Board plays an important role in establishing, assessing and ongoing monitoring of our desired culture and how it is embedded in our values, attitudes and behaviours, including in our activities and stakeholder relationships. The Board has established honesty, integrity and respect for people as Shell's core values. The General Business Principles and Code of Conduct help everyone at Shell to act in line with these values and comply with relevant laws and regulations. The Shell Commitment and Policy on Health, Safety, Security, Environment & Social Performance applies across Shell and is designed to help protect people and the environment. Under the industry Life-Saving Rules, we have simplified and standardised our approach and adopted a broader risk scope that focuses on potential for harm to people, creating a greater sense of individual and team responsibility to avoid fatalities and life-changing injuries. The result is a strengthened foundation with an increased and deliberate focus on human performance, the way people work, culture, equipment, work systems and processes interact as a system. Our ambition remains unchanged: **achieve Goal Zero, no harm and no leaks across all our operations**.

To achieve our strategic goals, we need to adapt our mindset and behaviours as we navigate the increasing complexity in the world around us. At Shell we seek to have a culture that encourages the attitudes and behaviour that we believe will help us succeed. We seek to encourage:

- **Applying a learner mindset:** everyone has the ability to grow, learn from mistakes and successes, and speak up openly in a safe environment. We encourage curiosity, humility, openness, helping each other to make better decisions and create more value;
- **Maximising our performance:** we collaborate across boundaries and speak up when we see things that can be improved. We enable people to deliver, and we work in an integrated way with discipline, clear focus on priorities, and tangible outcomes in order to reach our full potential;
- **Increasing trust in Shell:** we aim to be a valued member of the communities in which we operate, and to make a positive contribution to society. We seek to listen carefully and with humility and we have a strong desire to understand, and, where possible, adapt to the changing needs and expectations of society, especially as they relate to the environment. We build strong and trusted relationships with customers and partners which are fundamental to our collective success;
- **Living by our values and Goal Zero:** we live by our values and do the right things with respect to ethics, safety, and the environment; and
- **Inspiring and engaging:** we aspire to a situation where everyone feels connected to what we stand for. We build trusting and effective teams where everyone feels ownership and has a voice in how work gets done. We strive to maintain a diverse and inclusive culture.

The Board considers the Shell People Survey to be an important tool for measuring employee engagement, motivation, affiliation, and commitment to Shell. With consistently high response rates, it provides valuable insights into employee views. It also helps the Board understand how the survey's outcomes are being used to strengthen Shell culture and values.

# Section 172(1) statement continued

## Stakeholder engagement (including employee engagement)

The Board recognises the important role Shell has in many societies and is deeply committed to public collaboration and stakeholder engagement. The Board strongly believes that Shell will only succeed by working together with customers, governments, business partners, investors, and other stakeholders.

Continuing to work together with stakeholders is critical, particularly at a time when we and society, including businesses, governments, and consumers, face issues as complex and challenging as climate change, energy security and affordability.

We continue to build on our long track record of working with others, such as investors, industry and trade groups, universities, governments, non-governmental organisations (NGOs) and, in some appropriate instances, our competitors through our joint-venture operations or industry bodies. We believe that working together and sharing knowledge and experience with others offers us greater insight into our business. We also appreciate our long-term relationships with our investors and acknowledge the positive impact of ongoing engagement and dialogue.

The guidance on preparing information, proposals or discussion items for the Board asks for these materials to include considerations of the views, interests, and concerns of stakeholders and how management addressed them. This helps to strengthen the Board's knowledge of how the broader business undertakes significant levels of stakeholder engagement. Board minutes have also reflected key points on stakeholder considerations, where appropriate. The Terms of Reference for our Safety, Environment and Sustainability Committee also include, within the Committee's remit, the review and consideration of external stakeholder perspectives and how major issues of public concern that could affect Shell's reputation and licence to operate were or are being addressed.

The Board also engaged with certain stakeholders directly, to understand their views. The Board draws upon Shell's substantial in-house expertise by periodically receiving input from economics and policy experts on key political and economic themes, with some updates being presented to the Board each quarter.

More on this engagement is provided in "Understanding and engaging with our stakeholders" on pages 154-156.

Information on how the Directors have engaged with employees can be found on pages 157-158 and in the "Powering lives" section on page 116. The tables below include examples of how Directors have considered the interests of Shell employees and the resulting outcomes.

## Principal decisions

In the table below, we outline some of the principal decisions made by the Board over the year. We explain how the Directors have engaged with or in relation to key stakeholder groups and how stakeholder interests were considered in decision-making.

To remain concise, we have categorised our key stakeholders into seven groups. Where appropriate, each group is considered to include both current and potential stakeholders. The groups are:

- investor community;
- employees/workforce/pensioners;
- our customers;
- regulators/governments;
- NGOs/civil society stakeholders/academia/think-tanks;
- communities; and
- suppliers/strategic partners.

### Board decisions

We define principal decisions taken by the Board as decisions taken in 2022 that are of a strategic nature and significant to any of our key stakeholder groups. As outlined in the UK Financial Reporting Council (FRC) Guidance on the Strategic Report, we include decisions related to capital allocation and dividend policy.

### How were stakeholders considered

We describe how regard was given to the likely long-term consequences of the decision, including how stakeholders were considered during the decision-making process.

### What was the outcome

We describe which accommodations or mitigations were made, if any, and how Directors have considered different interests, and what factors they took into account.

## Strategic updates

### Powering Progress strategy

Shell's Powering Progress strategy was launched in 2021, and is outlined within this Annual Report. As part of the Board's continuing oversight of strategy, the Directors receive and discuss regular strategy updates including feedback from stakeholder engagements by management, investors, the media, climate activists and internal staff.

### How stakeholders were considered

**Energy Transition Progress Report**

In 2021, Shell produced a report (the Shell energy transition strategy (ETS)) with the aim of helping investors and society obtain a better understanding of how Shell is addressing the risks and opportunities of the energy transition. The ETS was put to shareholders for approval at the 2021 Annual General Meeting (AGM) for an advisory vote, and the Board committed to provide an advisory vote on the progress against this strategy in 2022 and 2023, with the ETS itself coming back to shareholders in 2024. The ETS is outlined within this report on pages 83-91, as is the progress against that strategy. During the year the Board have been provided with updates on Shell's energy transition commitments.

### What was the outcome

**Energy Transition Progress Report**

There are differing societal views about Shell's energy transition ambitions, targets and strategy and the Board recognise that some decisions taken today may not align with all stakeholder interests. The Board continues to listen, learn and adapt as it frames delivery against its strategy on the long-term success of the Company.

Feedback from the stakeholder discussions is considered during the drafting and formal approval stages of the energy transition progress report. We strive to provide clear information on Shell's progress, along with the clarifications our stakeholders are seeking. The feedback received from when the ETS was first published, along with that from our progress reports will be later utilised as the business moves to focus on updating its ETS ahead of putting it to a shareholder vote in 2024.

More information on the results of the AGM vote is provided on pages 145 and 154.

# Section 172(1) statement continued

## Strategic updates

At the 2022 AGM, almost 80% of shareholders that voted supported our progress in this strategy, and shareholders will be asked again with the same resolution being put to the 2023 AGM.

Both before and after the 2022 AGM, the Chair, CEO and some members of the Executive Committee engaged with key stakeholders to understand their views and opinions on Shell's progress on its ETS. Differing views were shared by these groups and were later shared with the Board.

In 2024, our ETS will come back to shareholders for an advisory vote and we will be engaging on this strategy through the latter part of 2023.

**Board Strategy Days**
In June 2022, the Board held in-person strategy meetings over the course of three days in Singapore, providing for a number of engaging and interactive events with both internal and external stakeholders. A summary of the event is on page 150. The key areas of focus related to accelerating the energy transition.

**Staff engagements**
Virtual and in-person staff engagements were held with Directors which enabled them to speak directly with staff on themes including the benefits of working in Upstream. For further information on the engagement with our workforce see "Board activities" and "Workforce engagement" on pages 150-151 and pages 157-158.

**Board Strategy Days**
Through multiple engagements with stakeholders the Board:
- considered geopolitical contexts on accelerating the energy transition and engaged with Shell leaders from across the Asian region;
- considered feedback from a cross-section of Shell's staff on the energy transition;
- discussed core elements of the Powering Progress strategy with key customers, government officials, and other stakeholders in the region.

The stakeholder engagements were considered as part of driving Shell's energy transition in Asia, and framing discussions on both Shell's Operating Plan and Financial Framework.

## Financial strength, cash allocation including shareholder distributions

The Board considered cash flow, the macro environment and business performance in 2022 compared with 2021. The Board also considered management's view of the outlook for the Group's performance, and reviewed the Financial Framework with specific focus on shareholder distributions. Directors approved several proposals with the aim of delivering value to shareholders and increasing shareholder distributions through a combination of progressive dividends and share buybacks.

**How stakeholders were considered**
A number of considerations underpinned each proposal, with proposals discussed and reviewed at certain points throughout the year. These considerations took account of the macro environment, robust business performance and outlook, the strength of the balance sheet, capital discipline, feedback from advisers and feedback from other stakeholders. The Financial Framework was reviewed as part of the Board's strategy event held in June 2022 in Singapore.

**What was the outcome**
In relation to the decisions to increase distributions to shareholders, the Board and management considered the views of stakeholders, the strength of the Company's balance sheet and the need to continue to invest for the future of energy. The form and timing for distributing funds to shareholders were announced throughout 2022.

Subject to Board approval, Shell aims to grow the dividend per share by around 4% every year, and Shell will target the distribution of a minimum of 20% and, subject to Board approval, and prevailing market conditions, potentially more than 30% of its cash flow from operations to shareholders.

## Approval of Shell's detailed Operating Plan 2023-2025 (OP22)

The approval of OP22 followed an in-depth review by the Board of proposals on capital allocation, capital investment outlook, competitive outlook, operating expenses, return on average capital employed and shareholder distributions. This included reviews in numerous Board meetings leading up to the December 2022 Board meeting in which OP22 was approved.

**How stakeholders were considered**
OP22 discussions included a full review against Shell's Powering Progress strategy, the macroeconomic environment, and the financial strength of the organisation. The Directors and Executive Committee balanced the priorities in the financial framework including capital and operating expenditure commitments towards the energy transition alongside increased shareholder distributions, maintaining balance sheet strength, aspired credit ratings and greenhouse gas target tracking. The plan was discussed extensively and reviewed thoroughly. Responses from investors and discussions with equity and debt market analysts were also presented to the Board for consideration. The Board asked questions of management on the flexibility of OP22 to be as agile as feasible in the event of various energy transition scenarios.

**What was the outcome**
Following extensive review and discussion, the overall outcome of this decision was an Operating Plan that the Board believes is robust against various scenarios and features strong optionality if needed. In particular, the Board assured itself that, as decisions are taken by the Board over the Plan period, OP22 flexibly demonstrates pathways to enable delivery of Shell's absolute Greenhouse Gas (GHG) emissions and GHG intensity targets by 2030.

While stakeholder opinions differ on Shell's approach, OP22 is based on society's demand for products and services. OP22 also supports Shell in maintaining a reputation for high standards on business conduct and health, safety, security, and environment issues. It maintained the approach to employee remuneration and benefits to pensioners. OP22 also seeks to reward our investors with returns and maintain the long-term financial strength of the Company to invest in more and cleaner forms of energy and meet the current and future needs of society.

# Section 172(1) statement continued

## Investing in new business, acquisitions and divestments, and closures

Over the course of the year, the Board considered and approved new opportunities and projects and proposed divestments or closures. The Board also considered and approved Shell's exit from Russia, with more details in this section relating to particular divestments in Russia.

### How stakeholders were considered

The Board considered the impact of decisions related to new business opportunities and divesting from existing opportunities in the context of sustainability, supply, regulations, and carbon intensity. Critically, the Board reviewed the various proposals' alignment with Shell's strategy. Particular focus was given to potential benefits of certain divestments, including their potential to: create returns for shareholders; further strengthen the balance sheet; de-risk future cash flow; and avoid significant additional capital investment. As part of the discussions, the Board considered the strategic drivers for the intended divestments, including the Scope 1 emissions of each asset, anticipated regulatory changes expected to lead to value erosion, and any value opportunities afforded by the macro environment.

As part of each proposal, the respective business unit will undertake effective due diligence on prospective purchasers from a financial, reputational as well as operating philosophy standpoint to ensure future obligations are met or suitable mitigating measures are in place to protect Shell and its people.

Within each divestment proposal, the Board considered if the Company was being a responsible seller of its assets and if the purchasers have the capability to manage our assets/people appropriately. Staff matters are explicitly considered during negotiations and the due diligence process for acquisitions and divestments. Comprehensive engagement plans are developed as appropriate in parallel to the negotiations.

As part of Shell's intercompany approval process, the following investments / divestments were discussed and supported by the Board.

**Purchase of renewables platform in India**
The acquisition of Sprng Energy group and the associated solar and wind assets triples Shell's present renewables capacity in operation and helps deliver on Shell's Powering Progress strategy.

**Purchase of fuel and convenience retail sites in the USA**
The Landmark group of companies.

**Production-sharing contract in Brazil**
This acquisition consisted of a 25% stake of the Atapu field, Brazil, facilitating the delivery of Shell's Powering Progress strategy.

**Investment in Jackdaw gas field in the UK North Sea**
The investment in Jackdaw gas field in the UK North Sea, following regulatory approval.

**Investment in Rosmari-Marjoram fields in Malaysia**
The development of the Rosmari-Marjoram gas project, together with PETRONAS Carigali Sdn Bhd (20%).

**Sale of interest in Aera Energy in the USA**
The divestment of Shell's interest in In Aera Energy LLC.

### What was the outcome

**Purchase of renewables platform in India**
This acquisition was considered by the Board as an important part of Shell's Powering Progress strategy to develop an integrated power business, which will help Shell reach its target of becoming a profitable net-zero emissions energy business by 2050 to the benefit of all our key stakeholders.

**Purchase of fuel and convenience retail sites in the USA**
The Board considers that this acquisition advances Shell's Powering Progress strategy in three ways: by growing its retail footprint in a core market, by providing opportunities to offer customers expanded fuelling options (including electric vehicle charging, hydrogen, biofuels and lower-carbon premium fuels) and by allowing for the growth of non-fuel sales through an enhanced convenience offering.

**Production-sharing contract in Brazil**
The Board considers this acquisition supports our Powering Progress strategy to deliver the stable, secure energy resources the world needs today while investing in the energy of the future. Shell's Powering Progress strategy includes increasing investment in lower-carbon energy solutions, while continuing to pursue the most resilient, competitive, and highest-return Upstream investments to sustain material cash delivery into the 2030s, to support our dividend and fund Shell's transformation.

**Investment in Jackdaw gas field in the UK North Sea**
Jackdaw is part of Shell UK's broader intent to invest £20-£25 billion in the UK energy system in the next decade, subject to Board approval and stable fiscal policy, with the aim of investing 75% in the development of low- and zero-carbon products and services. Hundreds of millions of pounds are expected to be spent in the UK supply chain during Jackdaw's construction, which is a significant boost to companies, jobs and the prosperity of communities.

The Board considers that projects like Jackdaw will help ensure that the overall decline in UK North Sea production is gradual rather than too steep, matching a gradual drop in hydrocarbon demand as the energy transition takes place. Gas from the Jackdaw field will come ashore at St Fergus, where Shell is involved in the development of the Acorn Carbon Capture and Storage project, which could sequester carbon dioxide ($CO_2$) from industrial clusters in Scotland, the UK and northern Europe. The Acorn project could also reform natural gas into low-carbon hydrogen, by capturing and storing the $CO_2$.

**Investment in Rosmari-Marjoram fields in Malaysia**
The Board considers that this investment will help to deliver a secure and reliable supply of energy, responsibly and efficiently. This demonstrates our Powering Progress strategy - powering lives, generating value, and reducing emissions by using renewable energy to power Rosmari-Marjoram.

**Sale of interest in Aera Energy in the USA**
This Board considers that this divestment supports Shell's strategy to create a resilient and competitive Upstream portfolio by focusing on positions with high growth potential and a strong integrated value chain.

# **Section 172(1) statement** continued

## Investing in new business, acquisitions and divestments, and closures

**Exiting equity partnerships held with Gazprom entities in Russia**
In February 2022, the Board announced its intention to exit its joint ventures with Gazprom and related entities, including its 27.5% stake in the Sakhalin-II liquefied natural gas facility, its 50 percent stake in the Salym Petroleum Development; and also the Gydan Energy venture. In addition, the Board also announced its intention to end its involvement in the Nord Stream 2 pipeline project.

**Sale of retail and lubricants business in Russia**
On March 8, 2022, Shell announced its intent to withdraw from its involvement in all Russian hydrocarbons, including crude oil, petroleum products, gas and liquefied natural gas (LNG) in a phased manner. Following this announcement, the Board approved, as part of our internal approval process, the sale of Shell Neft LLC, Shell's retail stations and lubricants business in Russia, to PJSC LUKOIL. The sale included 411 retail stations, mainly located in the Central and Northwestern regions of Russia, and the Torzhok lubricants blending plant, around 200 kilometres north-west of Moscow.

In relation to Russian divestments, the Board received regular updates and engaged with both internal and external stakeholders throughout the year to ensure a controlled and measured exit from Russia.

**Sale of interest in Shell Philippines Exploration B.V (SPEX) to Malampaya Energy XP Pte Ltd (MEXP)**
Following consent from the joint venture partners and regulatory approval, Shell sold its 100% shareholding in Shell Philippines Exploration B.V.

**What was the outcome**

**Exiting equity partnerships held with Gazprom entities in Russia**
The divestments were considered by the Board with an immediate focus on the safety, security and well-being of Shell personnel. The Board considered discussions with governments around the world, working through the detailed business implications, including the importance of secure energy supplies to Europe and other markets, in compliance with relevant sanctions.

At the end of 2021, Shell had around $3 billion in non-current assets in these ventures in Russia. The Board expected that the decision to start the process of exiting joint ventures with Gazprom and related entities would impact the book value of Shell's Russia assets and lead to impairments. Subsequently, these impairments were reflected in the first quarter 2022 results statement.

Further to the divestments, Shell's Powering Progress strategy and financial framework remain unchanged, with the Board reiterating Shell's progressive dividend policy and intent to distribute 20-30% of CFFO to shareholders in the form of dividends and share buybacks while targeting a strong balance sheet with long-term AA credit metrics.

**Sale of retail and lubricants business in Russia**
The Board prioritised the well-being of Shell employees, with more than 350 people being transferred to the new owner of the business. The agreement with LUKOIL follows Shell's announcement in early March of its intention to withdraw from all Russian hydrocarbons in a phased manner, with all divestments being carried out in full compliance with applicable laws and regulations.

**Sale of interest in Shell Philippines Exploration B.V. (SPEX) to Malampaya Energy XP Pte Ltd (MEXP)**
The Board considers the Philippines as an important country for Shell after over a century of successful operations Shell will continue to pursue opportunities in the Philippines where it can leverage its global expertise in line with its Powering Progress strategy.

# Section 172(1) statement continued

## Investing in new business, acquisitions and divestments, and closures

**Building Europe's largest renewable hydrogen plant in the Netherlands**
Shareholder approval to build Holland Hydrogen I, which will be Europe's largest renewable hydrogen plant once operational from 2025.

**Investment in Crux project in Western Australia**
Shareholder approval for the development of the Crux natural gas field, off the coast of Western Australia. Crux will provide further supplies of natural gas to the existing Prelude floating liquefied natural gas (FLNG) facility.

**Partnering in the North Field South LNG project in Qatar**
Shareholder approval for participation in the next wave of Qatar's LNG expansions – the North Field South project (NFS). Shell obtains a 9.375% participating interest in the 16-Mtpa NFS project, out of a total 25% interest available for international partners.

**Investment in offshore wind farm at Hollandse Kust (west) in the Netherlands**
Shareholder approval to build and operate a joint-venture offshore wind farm with a capacity of 750 MW to be completed in 2026.

**Shell acquired renewable natural gas producer Nature Energy**
Shareholder approval for the acquisition of 100% shareholding of Nature Energy Biogas A/S (Nature Energy) with the acquisition completing in February 2023. The acquisition will be absorbed within Shell's current capital range, which remains unchanged.

**What was the outcome**

**Europe's largest renewable hydrogen plant in the Netherlands**
The Board considers that this investment demonstrates how new energy solutions can work together to meet society's need for cleaner energy. This investment additionally contributes to Shell's efforts and commitment to become a net-zero emissions business by 2050 with renewable hydrogen playing a pivotal role in the energy system of the future and this project being an important step in helping hydrogen fulfil that potential.

**Investment in Crux project in Western Australia**
This project is considered by the Board to be an important part of Shell's integrated gas portfolio. Natural gas from Crux will play a key role in helping Asian customers move from coal to gas as a cleaner-burning fuel. The project will help Shell to meet the increasing demand for liquefied natural gas (LNG) as the energy market transitions to a lower carbon future.

The project will also boost Shell's customers' security of supply, which is becoming a significant consideration for global consumers.

Developing the Crux project reinforces Shell's commitment to Australia, including boosting the regional economy, creating jobs and providing training opportunities.

**Partnering in the North Field South LNG project**
The Board considers that LNG has a key role in ensuring energy system reliability and this investment will support the energy transition and energy security.

**Investment in offshore wind farm at Hollandse Kust (west) in the Netherlands**
The Board considers that this investment will grow Shell's offshore wind portfolio while making a positive contribution to biodiversity. This project accelerates the large-scale wider roll-out of offshore wind and fits well with Shell's Powering Progress strategy to deliver more and cleaner energy to our customers, at home, on the road and at work.

**Shell to acquire renewable natural gas producer Nature Energy**
The Board considers that this acquisition fits with the Powering Progress strategy to accelerate its energy transition and supports Shell's ambition to profitably grow its low-carbon offerings to customers across multiple sectors.

Strategic Report signed on behalf of the Board

**/s/ Caroline J. M. Omloo**

**Caroline J. M. Omloo**
Company Secretary
March 8, 2023

# Governance



**Directors' Report**


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# The Board of Shell plc



## Sir Andrew Mackenzie
**Chair**

**Tenure**
Chair - One year and nine months (appointed May 18, 2021)
On Board - Two years and five months (appointed October 1, 2020)

**Board committee membership**
Chair of the Nomination and Succession Committee

**Outside interests/commitments**
Fellow of the Royal Society (FRS); Chair of UK Research and Innovation (UKRI)

**Age**
66

**Nationality**
British

**Career**
Sir Andrew Mackenzie was appointed Chair of the Board of Shell plc with effect from May 18, 2021. Prior to joining Shell, Sir Andrew joined BHP in 2008, and served as Group CEO from 2013 to 2019, during which time he simplified and strengthened the business. He also made BHP the first miner to pledge to tackle emissions caused when customers use its products.

From 2004 to 2007 at Rio Tinto, he was Head of Industrial Minerals, then Head of Industrial Minerals and Diamonds. Prior to this, Sir Andrew spent 22 years with BP, joining in 1982 in research and development, followed by international operations and technology roles across most business streams and functions – principally in exploration and production, and petrochemicals, including as Chief Reservoir Engineer and Chief Technology Officer. Latterly he was Group Vice President for Chemicals in the Americas, then Olefins and Polymers globally.

From 2005 to 2013 Sir Andrew served as a Non-executive Director of Centrica. He has also served on many not-for-profit boards, including public policy think-tanks in the UK and Australia. He was knighted in 2020 for services to business, science, technology and UK-Australia relations.

**Relevant skills and experience**
Sir Andrew is a highly experienced leader who has managed major international FTSE 100 businesses, and has more than 30 years' experience in the oil and gas, petrochemicals and minerals industries. Following early academic distinction, Sir Andrew made important contributions to geochemistry, including groundbreaking methods for oil exploration and recovery. He was recognised as "one of the world's most influential earth scientists" and made a Fellow of the Royal Society in 2014.

Having lived and worked on five continents, Sir Andrew has applied his deep understanding of the energy business and geopolitical outlook to create public-private partnerships and advise governments around the world. As an earth scientist, Sir Andrew has consistently pursued sustainable action on climate change in the interests of access to affordable energy and global development. Sir Andrew has brought the wealth of his experience and insights to Shell, where his expertise is helping Shell navigate the energy transition. Sir Andrew is also a committed champion of gender balance, the rights of Indigenous Peoples, and of the power of large companies to support social change – all of which align closely with Shell's purpose, strategy and values.

In June 2021, Sir Andrew was appointed the chair of UK Research and Innovation. Sir Andrew has been tasked with driving forward the government's ambitious research and innovation agenda.



## Euleen Goh
**Deputy Chair and Senior Independent Director**

**Tenure**
Eight years and six months (appointed September 1, 2014). Euleen was appointed Deputy Chair and Senior Independent Director on May 20, 2020.

On February 1, 2023, the Board announced that Euleen would not be seeking re-election at the 2023 AGM, and would step down from the Board of Shell plc, having reached a tenure of almost nine years.

**Board committee membership**
Member of the Nomination and Succession Committee and member of the Remuneration Committee

**Outside interests/commitments**
Chair of SATS Ltd; Trustee of the Singapore Institute of International Affairs Endowment Fund; Chair of the Singapore Institute of Management Pte Ltd; and Non-executive Director of Singapore Health Services Pte Ltd, both of which are not-for-profit organisations; Member of the Singapore Public Service Commission

**Age**
67

**Nationality**
Singaporean

**Career**
Euleen Goh is an Associate of the Institute of Chartered Accountants in England and Wales, a Fellow of the Singapore Institute of Chartered Accountants, and has professional qualifications in banking and taxation. Euleen has held various senior management positions within Standard Chartered Bank and was Chief Executive Officer of Standard Chartered Bank, Singapore, from 2001 until 2006. She is also a Fellow of the Singapore Institute of Directors.

She has also held non-executive appointments on various boards including Aviva plc, MediaCorp Pte Ltd, Singapore Airlines Ltd, Singapore Exchange Ltd, Standard Chartered Bank Malaysia Berhad, Standard Chartered Bank Thai plc, CapitaLand Ltd, Temasek Trustees Pte Ltd, DBS Bank Ltd and DBS Group Holdings Ltd. She was previously Non-executive Chair of the Singapore International Foundation, and Chair of International Enterprise Singapore and the Accounting Standards Council, Singapore.

**Relevant skills and experience**
Euleen's current roles as chair of the board of directors of various international organisations provide significant experience in the area of strategy development and international businesses. She is highly regarded both externally and within Shell as a champion of diversity. She consistently, but constructively challenges the Board and management to continue to progress in this area.

Based in Singapore and having been Chair of the Risk Committee of the largest bank in South-east Asia, Euleen is close to key emerging/growth markets for our business. Euleen's risk management expertise has elevated the Board's deep deliberations around risk governance, and her voice is regularly heard on discussions regarding appropriate risk appetite. Her extensive travel around the world through her various executive and non-executive roles has equipped her with broad geopolitical insight and significant knowledge of operating in the Asian markets.

Euleen uses her financial acumen and advocacy for diversity to pose probing and insightful questions, both in and beyond the boardroom. This contributes to well-rounded, incisive and inclusive Board discussions.

# The Board of Shell plc continued



## Wael Sawan
**Chief Executive Officer**

**Tenure**
Two months (appointed January 1, 2023)

**Board committee membership**
N/A

**Outside interests/commitments**
No external appointments

**Age**
48

**Nationality**
Lebanese and Canadian

**Career**
Wael Sawan was appointed CEO at the start of 2023. He was previously Shell's Director of Integrated Gas, and Renewables and Energy Solutions, and has been a member of the Executive Committee since 2019, when he was appointed Upstream Director. Wael joined Shell in 1997.

Prior to being appointed Upstream Director, he was Executive Vice President of Deep Water, driving its transformation into a leading business for Shell, and Managing Director and Chairman of Shell Qatar, where he oversaw Shell's business in Qatar, including its liquefied natural gas (LNG) and gas-to-liquids (GTL) divisions.

**Relevant skills and experience**
Wael holds an MEng from McGill University in Montreal and an MBA from Harvard Business School. During his Shell career, spanning more than 25 years, he has worked in Europe, Africa, Asia and the Americas, and has held roles across all of Shell's businesses. He has led several major commercial transactions, including mergers, acquisitions and divestments as well as New Business Development projects.

His track record of commercial, operational and transformational success reflects not only his broad, deep experience and understanding of Shell and the energy sector, but also his strategic clarity. He combines these qualities with a passion for people. He has been a trustee of Shell Foundation since 2019.



## Sinead Gorman
**Chief Financial Officer**

**Tenure**
11 months (appointed April 1, 2022)

**Board committee membership**
N/A

**Outside interests/commitments**
No external appointments

**Age**
45

**Nationality**
British

**Career**
Sinead Gorman joined Shell in 1999 and has held key leadership roles in Finance. She started her Shell career in the Shell International Trading and Shipping Company (STASCO) based in London, UK, and then moved to the Coral Energy joint venture, in Houston, Texas, USA. She worked in Mergers and Acquisitions and Treasury, based in the Netherlands, before moving back to Houston as Vice President Finance for Shales.

In recent years, Sinead has held the position of Executive Vice President (EVP) Finance for Projects & Technology, and Integrated Gas and New Energies. Most recently, she was the EVP Finance for Upstream.

Sinead has an MEng in Engineering, Economics and Management from the University of Oxford, and an MSc in Finance from London Business School.

**Relevant skills and experience**
Sinead has more than two decades' experience of working for Shell. She has built a deep understanding of finance across the industry, spanning a wide range of businesses, and possesses a breadth of experience in trading, new business development and capital projects.

Sinead has held regional and global finance leadership roles across Europe and the USA, and latterly, in Shell's Upstream, Integrated Gas and Renewables and Energy Solutions businesses, and in Projects & Technology and Corporate.

Highly regarded for her commercial abilities and external focus, Sinead has a strong track record in cost leadership, principle-based decision making, detailed capital stewardship and paying close attention to the performance of the bottom line.

# The Board of Shell plc continued



## Dick Boer
**Independent Non-executive Director**

**Tenure**
Two years and nine months (appointed May 20, 2020).

On February 1, 2023, the Board announced that Dick would be appointed Deputy Chair and Senior Independent Director from the conclusion of the 2023 AGM.

**Board committee membership**
Member of the Audit Committee and member of the Nomination and Succession Committee. Dick will also become a member of the Remuneration Committee from the conclusion of the 2023 AGM.

**Outside interests/commitments**
Non-executive Director of Nestlé, and SHV Holdings; Chair of the Supervisory Board of Royal Concertgebouw; Chair of Rijksmuseum Fonds and Chair of the Supervisory Board of Just Eat Takeaway.com

**Age**
65

**Nationality**
Dutch

**Career**
Dick Boer was President and Chief Executive Officer of Ahold Delhaize from 2016 to 2018. Prior to the merger between Ahold and Delhaize, he served as President and CEO of Royal Ahold from 2011 to 2016. From 2006 to 2011 he was a member of the Executive Board of Ahold and served as Chief Operating Officer of Ahold Europe from 2006 to 2011.

Dick joined Ahold in 1998 as CEO of Ahold Czech Republic and was appointed President and CEO of Albert Heijn in 2000. In 2003, he also became President and CEO of Ahold's Dutch businesses.

Prior to joining Ahold, Dick spent more than 17 years in various retail positions, for SHV Holdings N.V. in the Netherlands and abroad, and for Unigro N.V.

**Relevant skills and experience**
Dick is a highly regarded, retired chief executive, who has a deep understanding of brands and consumers, and extensive knowledge of the US and European markets, from his time leading one of the world's largest food retail groups. He brings a career's worth of experience at the forefront of retailing and customer service, which extended in more recent years to e-commerce and the digital arena. This experience is most timely as Shell focuses on the growth of our marketing activities and increasing consumer choices in energy products.

Dick is a balanced leader with sound business judgement and a proven track record in strategic delivery, evidenced by the combination of Ahold and Delhaize. He also has a passion for sustainability and is well aware of the importance of the various stakeholder interests in this area.



## Neil Carson OBE
**Independent Non-executive Director**

**Tenure**
Three years and nine months (appointed June 1, 2019)

**Board committee membership**
Chair of the Remuneration Committee and member of the Safety, Environment and Sustainability Committee

**Outside interests/commitments**
Non-executive Chair of Oxford Instruments plc

**Age**
65

**Nationality**
British

**Career**
Neil Carson is a former FTSE 100 chief executive. After completing an engineering degree, Neil joined Johnson Matthey in 1980 where he held several senior management positions in the UK and the USA, before being appointed Chief Executive Officer in 2004. Since retiring from Johnson Matthey in 2014, Neil has focused his time on his non-executive roles. He was Chair of TT Electronics plc from 2015 until May 2020.

**Relevant skills and experience**
Neil is highly experienced, and has a broad industrial outlook and a thorough commercial approach combined with a practical perspective on businesses. He brings a track record of strong operational exposure, familiarity with capital-intensive business and a first-class international perspective on driving value in complex environments. Neil was awarded an OBE for services to the chemical industry in 2016.

Neil uses his current and past experience in non-executive positions to bring fresh insight and industry understanding to Board discussions. He has also provided valuable insight based on his former executive position and operational experience. Neil was appointed Chair of the Remuneration Committee in May 2020.

# The Board of Shell plc continued



## Ann Godbehere
**Independent Non-executive Director**

**Tenure**
Four years and nine months
(appointed May 23, 2018)

**Board committee membership**
Chair of the Audit Committee and member of the Nomination and Succession Committee

**Outside interests/commitments**
Non-executive Director and Audit Committee Chair of Stellantis; Fellow of the Institute of Chartered Professional Accountants and a Fellow of the Certified General Accountants Association of Canada.

**Age**
67

**Nationality**
Canadian and British

**Career**
Ann Godbehere started her career with Sun Life of Canada in 1976 in Montreal, Canada. She joined M&G Group in 1981, where she served as Senior Vice President and Controller for both life and health, and property and casualty businesses throughout North America. She joined Swiss Re in 1996, after it acquired the M&G Group, and served as Chief Financial Officer from 2003 to 2007. From 2008 to 2009, she was interim Chief Financial Officer and an Executive Director of Northern Rock bank in the initial period following its nationalisation.

Ann has also held several Non-executive Director positions at Prudential plc, British American Tobacco plc, UBS AG, and UBS Group AG. Ann served as a Non-executive Director of Rio Tinto plc and Rio Tinto Limited until May 2019, and she was also Senior Independent Director of Rio Tinto plc. In January 2021, Ann joined the Board of the newly formed Stellantis N.V., and she chairs its Audit Committee.

**Relevant skills and experience**
Ann is a former CFO, a Fellow of the Institute of Chartered Professional Accountants, and has more than 25 years of experience in the financial services sector. She has worked her entire career in international business and has lived in or served on boards in nine countries. Ann makes significant contributions and adds exceptional value by bringing both her extensive experience and a global perspective to Board discussions.

Ann's long and varied international business career powered by her financial acumen is reflected in the insights and constructive challenges she brings to the boardroom. As Audit Committee Chair, Ann leverages her background to ensure robust discussions are consistently held as the Audit Committee delivers its remit.



## Jane Holl Lute
**Independent Non-executive Director**

**Tenure**
One year and nine months
(appointed May 19, 2021)

**Board committee membership**
Member of the Safety, Environment and Sustainability Committee. Jane will become a member of the Remuneration Committee with effect from the close of the 2023 AGM.

**Outside interests/commitments**
Non-executive Director of Marsh & McLennen and the Union Pacific Corporation; Strategic Director of Sicpa Securink Corp.

**Age**
66

**Nationality**
US Citizen

**Career**
Jane Holl Lute was President and Chief Executive Officer of the North American operations of SICPA security inks from 2017 to 2021, when she assumed the role of Non-executive Strategic Director. From 2018 to 2021, Jane was a Non-executive Director of Atlas Air Worldwide Holdings Inc. In 2013 Jane established and led the Council on CyberSecurity, an independent, expert not-for-profit organisation with a global scope, committed to the security of an open internet. From 2015 to 2016, Jane held the role of Chief Executive Officer of the Center for Internet Security, an independent not-for-profit organisation that works to improve cyber security worldwide.

Before this, from 2009 to 2013 Jane served as Deputy Secretary of the US Department of Homeland Security, functioning as the Chief Operating Officer for the third-largest US Federal department. From 2003 to 2009 she held various roles at the United Nations, including Acting Under-Secretary and Assistant Secretary-General for Peacekeeping, Field Support and Peacebuilding. She also served as Executive Vice President and Chief Operating Officer of the United Nations Foundation and Better World Fund. In recent years, Jane has returned to working with the United Nations, serving as a Special Adviser to the Secretary-General.

Jane started her career in the US Army in 1978, serving in Berlin during the Cold War, on the US Central Command Staff during Operation Desert Storm, and on the National Security Council Staff under Presidents George H.W. Bush and William J. Clinton. After retiring from the Army in 1994, she joined the Carnegie Corporation as an Executive Director of its Commission on Preventing Deadly Conflict.

**Relevant skills and experience**
Jane is a proven and effective leader, who has held significant leadership roles in public service, the military and the private sector. She brings a wealth of expertise in matters of public policy, cyber security and risk management to our Board. She has also made significant contributions to strategic discussions and overseeing the day-to-day business and management of a significant public security department.

Jane is an experienced board director, having served on the boards of large-market-capitalisation companies since 2016. These appointments have provided her with wide experience and given her business perspectives across different sectors and geographical regions. She has also served on various committees including those which focus on audit, environmental and sustainability, nomination and governance issues.

# The Board of Shell plc continued



## Catherine J. Hughes
**Independent Non-executive Director**

**Tenure**
Five years and nine months
(appointed June 1, 2017)

**Board committee membership**
Chair of the Safety, Environment and Sustainability Committee and member of the Remuneration Committee. Catherine will become a member of the Audit Committee from the conclusion of the 2023 AGM, and stand down from the Remuneration Committee on the same date.

**Outside interests/commitments**
Non-executive Director of Valaris Limited

**Age**
60

**Nationality**
Canadian and French

**Career**
Catherine Hughes was Executive Vice President International at Nexen Inc. from January 2012 until her retirement in April 2013, where she was responsible for all oil and gas activities including exploration, production, development and project activities outside Canada. She joined Nexen in 2009 as Vice President Operational Services, Technology and Human Resources.

Prior to joining Nexen Inc., she was Vice President Oil Sands at Husky Oil from 2007 to 2009 and Vice President Exploration & Production Services, from 2005 to 2007. She started her career with Schlumberger in 1986 and held key positions in various countries, including France, Italy, Nigeria, the UK and the USA, and was President of Schlumberger Canada Ltd for five years.

Catherine has also held several Non-executive Director positions at SNC-Lavalin Group Inc, Statoil ASA and Precision Drilling Inc.

**Relevant skills and experience**
Catherine contributes through her knowledge of industry and the ease with which she engages with other Directors and managers in the boardroom. With over 30 years of oil and gas sector experience, she brings a geopolitical outlook and deep understanding of the industry. An engineer by training, she has also spent a significant part of her career working in senior human resources roles. The Board highly regards her perspectives on our industry and our most important asset, our people.

Catherine has a strong track record of executing operational discipline with a focus on performance metrics and a continual drive for excellence. Her knowledge of the technology underpinning oil and gas operations, logistics, procurement and supply chains benefits the Board greatly as it considers various projects and investment or divestment proposals.

She also uses her industry knowledge – combined with her commitment to the highest standards of corporate governance and safety, ethics and compliance – in her role as Chair of our Safety, Environment and Sustainability Committee, while using her human resources experience in her membership of the Remuneration Committee.



## Martina Hund-Mejean
**Independent Non-executive Director**

**Tenure**
Two years and nine months
(appointed May 20, 2020)

On February 1, 2023, the Board announced that Martina had decided to not seek re-election at the 2023 AGM, and would step down from the Board of Shell plc.

**Board committee membership**
Member of the Audit Committee

**Outside interests/commitments**
Non-executive Director of Prudential Financial Inc.; Colgate-Palmolive Company, and Truata Ltd

**Age**
62

**Nationality**
German and US Citizen

**Career**
Martina Hund-Mejean was Chief Financial Officer of Mastercard Inc. from 2007 to 2019. From 2002 to 2007 she was Senior Vice President, Corporate Treasurer at Tyco International Ltd. and from 2000 to 2002 she was Senior Vice President, Treasurer at Lucent Technologies.

Prior to this, Martina spent 12 years with General Motors, undertaking a number of senior roles within their finance operations.

**Relevant skills and experience**
Originally from Germany, Martina has spent more than 30 years in the USA and is an experienced global executive. Her financial and operational leadership of technology-focused companies is extremely relevant as Shell explores new technology-enabled business models. Martina also brings diverse sector experience to the Board, most recently from operating at a large global organisation in the highly regulated finance industry.

Martina is known for her straightforward and direct approach. She maintains the highest standards of leadership, strategic thinking and financial stewardship. She also has a strong track record as a mentor and in promoting diversity.

Martina's deep financial knowledge and unique perspective also enable her to make robust, demanding and constructive challenges to our investment considerations to help ensure that our projects are aligned with our strategic intent.

# The Board of Shell plc continued



## Abraham Schot
**Independent Non-executive Director**

**Tenure**
Two years and five months
(appointed October 1, 2020)

**Board committee membership**
Member of the Safety, Environment and Sustainability Committee and member of the Remuneration Committee

**Outside interests/commitments**
Non-executive Director of Signify.

**Age**
61

**Nationality**
Dutch

**Career**
Abraham ("Bram") Schot has been a member of the group Board of Volkswagen AG, responsible for the Premium Car Group, CEO of Audi AG, Chair of Lamborghini and Ducati, responsible for the VW group Commercial Operations and Vice-Chair of Porsche Holding Salzburg.

From 2011 to 2016, he was a Member of the Board of Volkswagen CV, Executive Vice President responsible for Global Marketing, Sales & Services, New Business Models. In 2017 he became a member of the Board of Audi AG. From 2006 to 2011, Bram was President & CEO of Daimler/ Mercedes-Benz Italia & Holding S.p.A. From 2003 to 2006, he was President & CEO of DaimlerChrysler in the Netherlands.

Prior to this, Bram held a number of Director and senior leadership roles within Mercedes-Benz in the Netherlands, having joined the business in 1987 on an executive management programme.

**Relevant skills and experience**
Bram has over 30 years' experience working in the automotive industry at all levels of the business.

He gained a wealth of knowledge on far-reaching cost optimisation programmes at Audi AG. These helped transform the car company into a provider of electric vehicles that could offer sustainable mobility and succeed in the energy transition. He is well placed to leverage this knowledge in the Shell boardroom as Shell navigates its own transformation and pathway through the energy transition.

Bram has strong principles and regards integrity and compliance as the basis for doing business.

His studies have encompassed innovation and organisational effectiveness, geopolitical environments, shareholder value, corporate social responsibility and risk management, in several countries, which are all highly valued management tools and are evident in the questions he raises in the boardroom.



## Cyrus Taraporevala
**Independent Non-executive Director**

**Tenure**
Appointed March 2, 2023

**Board committee membership**
Member of the Audit Committee

**Outside interests/commitments**
Board member of Bridgepoint Group plc.

Board member of The Trustees of Reservations

**Age**
56

**Nationality**
US Citizen

**Career**
Cyrus Taraporevala was President and Chief Executive Officer of State Street Global Advisors from 2017 to 2022. Prior to his joining State Street, Cyrus held numerous leadership roles in asset management including at Fidelity, BNY Mellon, Legg Mason, and Citigroup. Earlier in his career Cyrus was a partner at McKinsey & Company, based in New York and Copenhagen.

Cyrus was a founding member of the New York Stock Exchange Board Advisory Council, which proactively addresses the critical need for inclusive leadership on corporate boards by connecting diverse candidates with companies seeking new directors. He serves as a Board member of The Trustees of Reservations, a Massachusetts-based non-profit conservation organisation, and chaired the investment committee of the trustees for seven years. Cyrus previously served as a trustee on the WK Kellogg Foundation Trust, one of the world's largest endowments and foundations.

**Relevant skills and experience**
Cyrus is a highly regarded, recently retired chief executive, with a unique mix of strategic perspectives and execution skills. He has deep experience in driving organic and inorganic growth, transformations, and turnarounds. He is one of the most senior professionals in the asset management industry and has successfully led and grown global businesses of scale. He played a critical role in affirming State Street's reputation as both a stalwart and pioneer within the sector, and, at times, was implementing changes in the context of market uncertainty caused by geopolitical friction and an evolving regulatory environment.

Cyrus also possesses a unique vantage point on core board-related issues impacting public companies including ESG, and has spoken and published multiple articles on climate risk and other aspects of ESG. He is credited with strengthening the ESG credentials of State Street Global Advisors and is highly credible in providing perspectives on these topics. A true citizen of the world, over the course of his career Cyrus has worked and lived on three continents.

# The Board of Shell plc continued



## Caroline J.M. Omloo
**Company Secretary**

**Tenure**
Seven months (appointed August 1, 2022)

**Age**
53

**Nationality**
Dutch

**Career**
Caroline Omloo worked in private practice with law firm Nauta Dutilh before joining Shell in 1999. She has held various positions in Shell, including Secretary to the Audit Committee, Associate General Counsel Corporate Finance NL, Chief Privacy Officer and Head of Legal and management team member of the Downstream Operating Company in the Netherlands. She has also been a member of the board of Stichting Shell Pensioenfonds, one of Shell's Dutch pension funds.

Caroline took up her previous role as Head of Legal and Compliance of Shell Asset Management Company in 2017 and was a board member of this company from 2018 to 2022. From 2009- 2019, Caroline sat on the board of Stichting Beroepsopleiding Bedrijfsjuristen, the foundation providing education for in-house lawyers in the Netherlands. She also served as a board member of Missie Verkeersmiddelen Actie, a Dutch charitable organisation, from 2007 to 2017.

**Relevant skills and experience**
Caroline is Shell's Company Secretary and also plays an important role overseeing the Corporate Secretariat and the Group Securities Counsel in the UK, USA and the Netherlands.

The various roles Caroline has undertaken have provided her with a strong understanding of our global operations and people. Her experience of engaging with the Board in previous roles, coupled with her broad understanding and engagement across Shell's businesses, functions and her legal background, helps to ensure that the right matters come to the Board at the right time.

## Retirements in 2022

### Ben van Beurden (CEO)
Retired: December 31, 2022 (appointed January 2014).

### Jessica Uhl (CFO)
Retired: March 31, 2022 (appointed March 2017).

### Gerrit Zalm (Non-executive Director)
Retired: May 24, 2022. In line with best practice, Gerrit chose not to seek re-election at the 2022 AGM after serving nine years on the Board.

### Linda M. Coulter (Company Secretary)
Retired: August 1, 2022 (appointed January 2017).

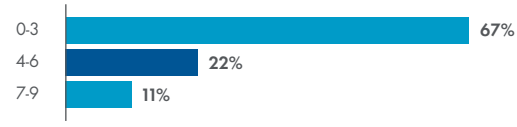
# The Board of Shell plc continued

## Board diversity

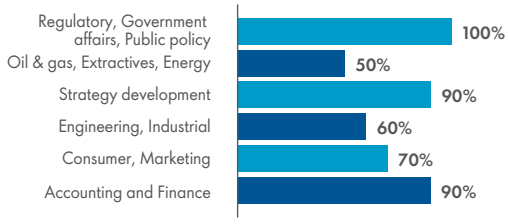
### Gender diversity



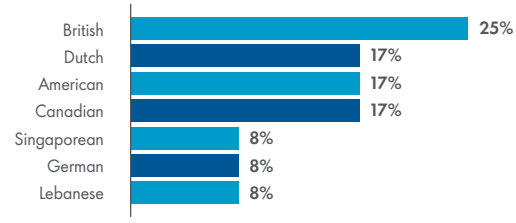

### Non-executive Director tenure (years)




### Non-executive Director sector experience




### Director nationality




The graphs above capture board diversity data as at the date of publication, being March 9, 2023.

## Attendance

The Board met eight times during 2022. Seven of the eight meetings were held physically, one meeting in Singapore and six in London, United Kingdom. One meeting was held via videoconference. Attendance during 2022 for all Board meetings is given in the table [A].

[A] For attendance at Committee meetings during the year, please refer to individual Committee Reports.
[B] Sinead Gorman was appointed as Chief Financial Officer (CFO) with effect from April 1, 2022.
[C] Jessica Uhl retired from her role as Chief Financial Officer (CFO) with effect from March 31, 2022.
[D] Gerrit Zalm retired from the Board following the conclusion of the AGM in May 2022.

| Board member | Meetings attended |
|---|---|
| Ben van Beurden | 8/8 |
| Dick Boer | 8/8 |
| Neil Carson | 8/8 |
| Ann Godbehere | 8/8 |
| Euleen Goh | 8/8 |
| Sinead Gorman [B] | 6/6 |
| Jane Holl Lute | 7/8 |
| Catherine J. Hughes | 8/8 |
| Martina Hund-Mejean | 8/8 |
| Sir Andrew Mackenzie | 8/8 |
| Bram Schot | 7/8 |
| Jessica Uhl [C] | 2/2 |
| Gerrit Zalm [D] | 2/2 |

## Director independence

All the Non-executive Directors are considered by the Board to be independent in character and judgement. The Chair is not subject to the Code's independence test other than on appointment.

## Ethnic diversity

The Board is satisfied that it currently exceeds the recommendation from the Parker Review.

# The Board of Shell plc continued

## Directors joining the Board

On February 1, 2023 the Board announced that the following Directors will be joining the Board on March 13, 2023.



### Sir Charles Roxburgh

**Independent Non-executive Director**

**Tenure**
Appointment effective March 13, 2023

**Board committee membership**
Member of the Audit Committee

**Outside interests/commitments**
Board member of Folger Shakespeare Library

**Age**
63

**Nationality**
British

**Career**

Sir Charles has most recently held the position of Second Permanent Secretary, one of the most senior positions within His Majesty's Treasury (HMT). As Second Permanent Secretary at HMT he was responsible for all issues relating to growth, productivity, infrastructure, financial services and financial stability.

Prior to his career at HMT, Sir Charles spent over 25 years at McKinsey & Company, and holds an MBA from Harvard Business School. Whilst at McKinsey, he held positions including but not limited to a Director of the McKinsey Global Institute, the Head of the UK Financial Institutions Group and the Co-Head of McKinsey's Global Investment Banking Practice. Sir Charles has serviced large banks, insurance companies, hedge funds and private-equity investors in strategy, risk management, and organisation. Sir Charles also led a number of major research efforts at McKinsey and authored a number of articles on strategy and scenario planning.

On leaving the private sector, Sir Charles became Director General, Financial Services at HMT and led the legislative process for the biggest reforms in the UK banking sector in a generation, before being appointed Second Permanent Secretary. During his time as Second Permanent Secretary, Sir Charles was responsible for policy and oversight across a range of functions within HMT including financial services, financial stability, infrastructure, energy, science/R&D, business investment, venture and growth capital, transport, and culture/creative industries and was Chair of the HMT Operating Committee.

**Relevant skills and experience**

Sir Charles' succession of roles placed him at the nexus between industry and government, and most recently included his active participation in forging and delivering energy policies. He was an influential figure within the HMT in pioneering energy policy, including for COP26, and providing funding for innovative organisations to support the energy transition.

A former executive board member for one of the world's pre-eminent consultancies, Sir Charles continued to drive innovation whilst deftly navigating the intricate stakeholder landscape of UK government.



### Leena Srivastava

**Independent Non-executive Director**

**Tenure**
Appointment effective March 13, 2023

**Board committee membership**
Member of the Safety, Environment and Sustainability Committee

**Outside interests/commitments**
Board member of Climate-KIC

**Age**
62

**Nationality**
Indian

**Career**

Leena Srivastava has devoted a significant part of her career to research and policy matters in sustainability and has already sat on several boards of scale.

Until recently, Leena was the Deputy Director General for Science of the International Institute for Applied Systems Analysis (IIASA). Prior to this, she was an Executive Director, then the Vice Chancellor of the School of Advanced Studies, at The Energy and Resources Institute (TERI), a not-for-profit policy research organisation working in energy, environment and sustainable development. Leena has also previously served on the sustainability advisory boards of various multinational companies such as The Coca Cola Company, Caterpillar Inc and Suez Environment and as a non-executive director of companies, including those involved in manufacturing and infrastructure.

Leena has served various committees and organisations both at the international and national levels, with prior roles including energy and climate advisor for the United Nations and the Co-Chair of the Advisory Committee at Future Earth.

**Relevant skills and experience**

Leena recognises the challenges large organisations face in managing different stakeholder priorities and in particular the challenges in balancing business, government and societal needs, while pursuing a sustainability agenda.

Leena was a research associate at TERI during a time when the first serious discussions on climate change were emerging. Later, as a member of the Cement Sustainability Initiative of World Business Council for Sustainable Development, she provided a pragmatic perspective on how to support the sector through its decarbonisation journey. With a strong network of relationships in multiple global institutions focused on sustainability and an understanding of the issues the energy sector faces in pursuing decarbonisation while serving the energy needs of the society, Leena believes she can contribute to the organisation during this period of transformation.

# Senior management

**The Senior management of the Company comprises the Executive Directors, Wael Sawan and Sinead Gorman, and those listed below. All are members of the Executive Committee (see "Governance Framework" on page 148).**



## Harry Brekelmans
**Projects & Technology Director**

**Tenure**
Eight years and five months
(appointed October 2014)

**Age**
57

**Nationality**
Dutch

**Career**
Harry was previously Executive Vice President Upstream International Operated, based in the Netherlands. He joined Shell in 1990 and has held various management positions in Exploration and Production, Internal Audit, and Group Strategy and Planning. From 2011 to 2013, he was Country Chair Russia and Executive Vice President for Russia and the Caspian region.



## Donny Ching
**Legal Director**

**Tenure**
Nine years and one month
(appointed February 2014)

**Age**
58

**Nationality**
Malaysian

**Career**
Donny was previously General Counsel for Projects & Technology, based in the Netherlands. He joined Shell in 1988 based in Australia and then moved to Hong Kong and later to London. In 2008, he was appointed Head of Legal at Shell Singapore, having served as Associate General Counsel for Gas & Power in Asia-Pacific.



## Ronan Cassidy
**Chief Human Resources and Corporate Officer**

**Tenure**
Seven years and two months
(appointed January 2016)

**Age**
56

**Nationality**
British

**Career**
Ronan previously served as EVP HR for both the Downstream and Upstream International businesses in turn. He joined Shell in 1988 and has held various HR positions across the Shell value chain, including regional roles in Europe and NE Asia/China, and global roles in HR Strategy & Regional Coordination, Retail and LPG.



## Ed Daniels
**Strategy, Sustainability and Corporate Relations Director**

**Tenure**
One year and one month
(appointed February 2022)

**Age**
57

**Nationality**
British

**Career**
Ed was previously Executive Vice President Strategy, Portfolio & Sustainability. He joined Shell in 1988 and has held roles in Shell's Upstream, Integrated Gas, and Downstream businesses and our Projects & Technology organisation. He previously served as Shell's UK Country Chair.

# Senior management continued



## Huibert Vigeveno
**Downstream Director**

**Tenure**
Three years and two months
(appointed January 2020)

**Age**
53

**Nationality**
Dutch

**Career**
Huibert was previously Executive Vice President Global Commercial. He joined Shell in 1995 as a business analyst and led many Downstream businesses across Shell in Europe, Africa, North and South America as well as Asia. In 2009, Huibert was appointed Vice President Supply & Distribution, Europe and Africa. In 2012 he became Executive Chair of Shell in China, and in 2016 led the integration of BG Group.



## Zoë Yujnovich
**Upstream Director**

**Tenure**
One year and five months
(appointed October 2021)

**Age**
47

**Nationality**
Australian

**Career**
Zoë has held various management positions in Downstream, Integrated Gas and Upstream. Most recently, she served as Executive Vice President Conventional Oil & Gas and was previously Chair and Executive Vice President Shell Australia Pty Ltd. She joined Shell from Rio Tinto in 2014 to lead Shell's Oil Sands business in Canada.

## Changes to the Executive Committee (Senior Management)

As announced on January 30, 2023, Shell is to reduce the size of its Executive Committee from nine to seven members in a decisive move designed to simplify the organisation further and improve performance as we continue to deliver our Powering Progress strategy.

Under the changes, which are expected to take effect on July 1, 2023, Shell's Integrated Gas and Upstream businesses will be combined to form a new Integrated Gas and Upstream Directorate led by current Upstream Director, Zoe Yujnovich. The Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate led by current Downstream Director, Huibert Vigeveno.

Separately, the Strategy, Sustainability and Corporate Relations (SSCR) Directorate will be discontinued and its Director, Ed Daniels, will step down from the Executive Committee (effective July 1, 2023), and leave Group service thereafter. Strategy will be brought together with New Business Development and, alongside Sustainability, will report directly to Sinead Gorman, Chief Financial Officer, enabling more streamlined planning and better capital allocation decisions. Corporate Relations will report directly to Wael Sawan, Chief Executive Officer. We thank Ed for his distinguished service over more than 34 years and wish him well for the future.

# Introduction from the Chair

**Looking back on 2022, I am heartened by the drive and resolve of our people. Their ingenuity when managing complex problems, their enthusiasm in the face of challenge, and their industry-leading innovations. I am confident that they are positioning Shell effectively to be successful through the energy transition and the challenging journey we face ahead.**

We are at the start of a new leadership chapter in Shell's history. Early in 2022, following the move of our headquarters from the Netherlands to the UK, Jessica Uhl, who at the time was Chief Financial Officer, took the decision that a long-term relocation to the UK was not sustainable for her and her family. She therefore stepped down from her role and Sinead Gorman was appointed CFO from April 1, 2022. The Board is immensely grateful to Jessica for her tremendous contribution to Shell over many years. In September 2022, we announced that Ben van Beurden, at the time Chief Executive Officer (CEO), would retire from the Board. Ben has been succeeded by Wael Sawan, who took the role of CEO from January 1, 2023. During the last decade, Ben has been in the vanguard for the transition of Shell to a net-zero emissions energy business by 2050. He has become a leading industry voice on some of the most important issues affecting society today. Ben's legacy will frame Shell's success for decades to come.

Both Wael and Sinead are very clear on the challenges that Shell faces to secure the supply of affordable energy for all parts of society, and encourage investment into forms of energy and solutions that help reduce emissions, whilst maintaining a profitable business that is cash flow positive. Making the most of the opportunities, risks and rewards confronting the business is a complex task, and as we move forward, the way in which we manage, govern and operate our business will evolve.

Our recent independent Board evaluation has provided some thought-provoking discussion in this area, and more on this can be found on page 153.

As I reflect on the financial results of 2022, I do so with mixed emotions. Across the business, the performance of our people has been exceptional. They are each settling into their new normal for living with COVID-19, and many of our office-based staff now adopt a more flexible way of working, splitting their working week between the office and their homes. The macroeconomic uncertainty around prices and demand for oil and gas products, which had impacted Shell in 2020, generating losses of some $21.5 billion has now contributed, in part, to the 2022 income. Our robust earnings in 2022 have underpinned the return of $25.8 billion to shareholders through share buybacks and dividends. Capital expenditure of $22.6 billion was invested for the future of the organisation and net debt is now down to $44.8 billion.

However, a factor driving some of this macroeconomic uncertainty is the Russian invasion of Ukraine, which has generated a humanitarian disaster, population displacement and heightened concern from neighbouring countries in the region. As well as being a human tragedy, the war has led to rising energy prices and deep uncertainty about supplies. This disruption in the global energy markets has contributed to a painful increase in the cost of living and highlighted that affordable, secure and reliable energy cannot be taken for granted. Although higher oil and gas prices have contributed to Shell's performance, we must also recognise that Shell is now generating better value on the volumes that it produces, helped by the significant operational transformation of the organisation over the past 10 years. This transformation has helped us to achieve our highest ever adjusted earnings of $40 billion, which is around $17 billion higher than in 2014, when Brent prices were at a similar level as that in 2022.

As Wael shared earlier in this report, as the issues in Ukraine unfolded, our actions were guided by continuous discussions with governments about the need to disentangle society from Russian energy flows, while maintaining energy supplies. Our immediate focus was the safety of our people in Ukraine and supporting our people in Russia. In discussion with governments around the world, we worked through the detailed business implications, including the importance of secure energy supplies to Europe and other markets, in compliance with relevant sanctions. Throughout this crisis Shell has continued to focus on the support it can provide to the Ukrainian people.

The energy supply issues seen throughout Europe, as a result of the Russia/Ukraine conflict, have highlighted that the solution to the climate challenges confronting society is not as simple as stopping the extraction of oil and gas and wholly shifting capital investment into other areas. Crucially, the cash flows from oil and gas also help fund Shell's investments in energy businesses and energy solutions that contribute to reducing emissions. These help Shell, our customers and entire sectors to cut emissions and accelerate the energy transition. The cash generated by Shell's oil and gas operations provide returns to our investors, which include global pension funds, governments, insurance companies and investment products through which the general public invest. Society remains heavily reliant on oil and gas, and it is all too clear that the reduction in supply is driving up market prices and contributing to a cost-of-living crisis in many areas of the world.

The situation in Europe has encouraged society to work together to deliver change, and it is promising to see governments, companies and society working more closely to determine what is needed to drive this change. Our detailed policies serve as a global framework for Shell's advocacy with governments, international organisations, industry associations, coalitions, and other stakeholders globally, regionally and within countries. The energy transition will require many billions of dollars of investment. When governments provide clear direction and regulation with a stable tax environment, companies can invest more in this transition.



**Sir Andrew Mackenzie**
Chair

# Introduction from the Chair continued

## Energy transition strategy

In February 2021, Shell announced its intention to put its energy transition strategy to shareholders for an advisory vote every three years, with the first vote being a resolution at the 2021 AGM. This was an important step for Shell and the first time that an energy company asked shareholders to vote on its energy transition strategy. Shareholders endorsed the energy transition strategy, with 89% voting in favour of this resolution. At the 2022 AGM, almost 80% of shareholders that voted supported our progress in this strategy, and shareholders will be asked again with the same resolution being put to the 2023 AGM. In 2024 our energy transition strategy itself will come back to shareholders for an advisory vote and we will be engaging on this strategy through the latter part of 2023. Our target to become a net-zero emissions energy business by 2050 stands strong and shareholder support is important as our business changes.

## Board leadership and Shell's purpose

The UK Corporate Governance Code (the "Code") provides that the board should promote the long-term sustainable success of the company, generating value for shareholders and contributing to wider society. The Board believes that Shell's efforts give it an effective framework to play its part in the energy transition as a growing, successful, commercial organisation. In the Board's view, this framework will allow Shell to provide the energy solutions that consumers will want and buy in this period of uncertain change. The Board also thinks that Shell will be able to deliver against its recently published targets and reduce the carbon intensity of the energy products it sells.

Shell's purpose is set out in the early pages of this Annual Report. Throughout this Governance report we will focus on how Shell's governance operates in practice, and why we believe this is the best approach for us.

The Governance report is structured around the key themes of the Code. Our narrative seeks to explain how governance supports and protects Shell and our stakeholders.

Although Shell applies the principles and the spirit of the Code, there is one instance where we adopt an approach slightly different from that suggested by one of the Code's provisions, namely Provision 5 which concerns workforce engagement. We explain this on page 147. We consider our governance processes are appropriate, given the specific circumstances and range of factors particular to Shell, such as its global nature, size, complexity and history.

The last couple of years have encouraged and challenged society to become more accepting of technology to facilitate virtual engagement. For our business, this has led to significant cost savings in the area of travel, and helped our people to spend more time with their families. For our stakeholders, we now have the ability to engage more, and reach a wider audience. For shareholders, our AGM is a hybrid meeting, allowing our global shareholder base to easily participate in proceedings.

Information on how the Board discharges its duty in relation to key stakeholder interests, including those of our workforce, and an explanation of how it considered these when making principal decisions are set out on page 125. On page 150 we provide information about our Board activities and highlight which stakeholders we considered.

Our workforce engagement methods remain unchanged from those previously disclosed. As we moved out of the parameters of COVID-19 restrictions, the Board was able to undertake a greater level of face-to-face engagement with Shell people during the year. More on this can be found on page 157. We continue to believe that constructive relationships built on mutual respect and transparency help Shell attract and retain employees while supporting greater productivity and operational safety and efficiency. Ensuring that the employee voice is heard on relevant matters in the boardroom in practical ways is key to understanding the broader impact of business decisions, including with respect to organisational culture.

The Board recognises the importance of culture in delivering Shell's purpose and strategy. Shell's culture reflects the values of the organisation – honesty, integrity and respect for people. These underpin all the work we do and are embedded in our strategy and purpose. We make sure that the voices of employees are heard on relevant matters so that we understand the impact of business decisions on organisational culture. The Board will continue to increase its focus on Shell's culture to make sure it aligns with the broader business strategy.

## Division of responsibilities

More information on how the Board and its Committees support business operations is provided on page 148. Further detail is contained within the Terms of Reference for each Committee, and the Matters Reserved for the Board, which are provided on our website. Each year the Committees' Terms of Reference are reviewed and updated, as required.

## Composition, succession and evaluation

For biographies of current Board members see pages 133-141.

For how the Board, Committees and Directors appraised their performance see page 153.

An overview of the CEO succession process is included on page 159.

During the year Jessica Uhl stepped down as Chief Financial Officer (CFO) of Shell plc, effective March 31, 2022. Sinead Gorman was appointed CFO of Shell plc, effective April 1, 2022. Ben van Beurden stepped down from his role as Chief Executive Officer (CEO) at the end of 2022, his successor was Wael Sawan. Wael's appointment as CEO was effective January 1, 2023. Wael is an exceptional leader, with all the qualities required to drive Shell safely and profitably through its next phase of transition and growth.

# Introduction from the Chair continued

The 2022 AGM was Gerrit Zalm's last day with Shell, after nine years' service as a Non-executive Director. Gerrit is a highly regarded and seasoned leader. He provided insightful counsel and deep understanding of global business and we thank him for his nine years of valuable contribution to the business.

Following Gerrit's departure, Committee memberships were reviewed. Jane Holl Lute stepped down from the Audit Committee and joined the Safety, Environment and Sustainability Committee and Bram Schot joined the Remuneration Committee.

In October 2022, we announced the appointment of Cyrus Taraporevala as a Non-executive Director of the Company, effective March 2, 2023. Cyrus became a member of the Company's Audit Committee on the same date.

In February 2023, we announced that:

- Euleen Goh will stand down from her role as Deputy Chair and Senior Independent Director at the 2023 AGM after nearly nine years' service. She has provided invaluable advice to me as Chair, and I wish her all the best for her future endeavours;
- Following the departure of Euleen, Dick Boer will become Deputy Chair and Senior Independent Director with effect from the conclusion of the 2023 AGM;
- Martina Hund-Mejean will stand down from her role as Non-executive Director from the conclusion of the 2023 AGM. She leaves with our best wishes and we thank her for her valuable contributions;
- Sir Charles Roxburgh and Leena Srivastava were appointed as Non-executive Directors of the Company, with effect from March 13, 2023. Their biographies are provided on page 141; and
- Changes were made to the membership of our Board Committees. These changes are reflected in the biographies of the respective Directors.

## Audit, Risk management and Internal control

Throughout the year the Audit Committee assisted the Board in maintaining a sound system of risk management and internal control and oversight over Shell's financial reporting. A variety of standing matters and more specific topics are discussed by the Audit Committee throughout the year. As part of the year-end reporting process, the Audit Committee advises the Board on the adequacy of the system of risk management and internal control, the appropriateness of the viability statement and going concern basis of accounting. The Audit Committee also advises on whether this Annual Report, taken as a whole, is fair, balanced and understandable and provides the information necessary for stakeholders to assess Shell's position and performance, business model and strategy.

More information on the Audit Committee's activities, highlights and priorities can be found in its report on pages 165-177.

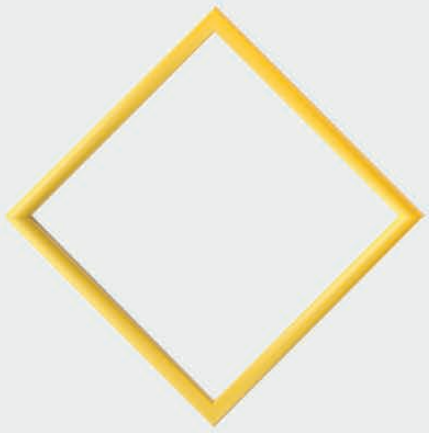
## Looking ahead

Shell has already started to evolve its business. Some of the steps are more visible, such as investment in new business operations, acquisitions and divestments, other steps less visible, like internal organisational changes or policy change. We are very aware that the steps of our transformation will be intensely scrutinised by society and the environment in which we operate will continue to change rapidly. Under our renewed leadership, Shell will be steadfast, agile and sensitive to the opportunities, risks and rewards confronting the business.

We are cognisant, yet accept, that not all of our stakeholders will be fully supportive of the decisions that we take, and these stakeholders will have differing methods of communicating their views and their concerns. However, we will continue to engage with stakeholders, and we will have the humility to listen, learn and adapt as we focus and frame our strategy on the long-term success of the Company.

I, my fellow Directors on the Board, and our colleagues across the business, remain confident that Shell is up to the task ahead.

**Sir Andrew Mackenzie**
Chair
March 8, 2023



# Statement of compliance with the UK Corporate Governance Code

The Board confirms that, throughout the year, the Company has applied the principles, both in spirit and in form, and complied with the provisions set out in the UK Corporate Governance Code issued by the Financial Reporting Council (FRC) in July 2018 (the "Code"), with the exception of Provision 5 noted below. A copy of the Code can be found on the FRC's website: www.frc.org.uk.

Shell's governance arrangements have been considered alongside the Code. The information set out in the Directors' report, including the Board Committee reports on (pages 159-202), is intended to provide an explanation of how the Code's principles were applied practically throughout the year. We also provided clear and meaningful explanation below where we believe stakeholders may benefit from more specific information on a particular Code provision.

## Workforce engagement (Provision 5)

The size and diversity of our employee base and wider workforce have complicated the feasibility of implementing any of the three specific workforce engagement methods recommended in the Code. The Board believes that its current approach to workforce engagement continues to be pragmatic and effective, particularly when considered against the required coverage needed for a global organisation such as Shell. Elsewhere in this Annual Report, we explain how our people are essential to the successful delivery of the Shell strategy, and how the Board recognises the importance of understanding their views through engagement. In previous Annual Reports, we communicated the Board's desire and intention to increase its direct engagements, when the Board, Committees and individual Directors visit our sites across the world. As we moved through 2022, the ongoing travel restrictions associated with the COVID-19 pandemic eased, which helped the Board engage with parts of the workforce more closely again. While some engagements could be held physically, others were held virtually, and there were opportunities for the Board to speak with our stakeholders and obtain feedback. The Board also intends to keep the effectiveness of the engagements under review. Stakeholder engagement also continues to be enhanced in management reporting.

More information on the current approach and a description of the channels used by the Board, its committees, and the Executive Committee are outlined in "Workforce engagement" on pages 157-158.

## AGM voting (Provision 4)

At the 2022 AGM, 20.29% of shareholders supported a resolution which the Board had recommended voting against. Shareholders also voted 20.09% against a resolution proposed by the Board. Provision 4 of the Code requires certain actions to be undertaken if 20% or more of shareholders vote in a way which is different to what the Board recommended. There are three stages to these actions. First, explain when announcing the voting results what actions the Company intends to take to consult shareholders to understand the reasons behind the voting result. Shell included this explanation with its voting results, published on May 24, 2022. Second, an update on the engagement with shareholders should be published no later than six months after the shareholder meeting. This statement was added to the Shell website in October 2022. Third, a final summary of the engagement and the actions taken should be included within the Annual Report. This information is provided on page 154.

## Corporate governance requirements outside the UK

In addition to complying with applicable corporate governance requirements in the UK, the Company complies with the rules of Euronext Amsterdam as well as Dutch securities laws because of its listing on that exchange. The Company likewise adheres to US securities laws and the New York Stock Exchange (NYSE) rules and regulations because its securities are registered in the USA and listed on the NYSE.

# Governance framework

## Board of Directors

The Company has a single-tier Board of Directors headed by a Chair, with executive management led by the Chief Executive Officer. The names of the Directors who held office during the year can be found on pages 133-141. Information on the Directors who are seeking appointment or reappointment is included in the Notice of Annual General Meeting.

There is no fixed amount of times that the Board may meet in one year. During 2022, the Board met eight times (12 times during 2021) and, as detailed throughout our Strategic Report, including the Section 172 statement and activities undertaken throughout the year, worked hard to promote the long-term sustainable success of the Company, generating value for shareholders and contributing to wider society. Further information on the Board's work and assessments in relation to strategy, culture, engagement with stakeholders, and its workforce can be found as follows:

The Board's responsibilities are governed by a formal schedule of matters reserved to it and include:

- Approval of overall strategy and oversight of management;
- Changes to the corporate and capital structure;
- Approval of financial reporting and controls (including approval of the Annual Report and Accounts, approval of the Annual Report on Form 20-F, and interim dividends);
- Oversight of risk management and internal control;
- Approval of significant contracts;
- Determining succession planning and new Board appointments;
- Remuneration for the Chair and Executive Directors; and
- Corporate governance matters.

### Board Committees

**Audit Committee**

- Carries out certain oversight functions on behalf of the Board; and
- Assists the Board in fulfilling its responsibilities in relation to internal control and financial reporting.

**Safety, Environment and Sustainability Committee**

- Carries out certain oversight functions on behalf of the Board; and
- Assists the Board on safety, the environment including climate change, and Shell's overall sustainability performance.

**Nomination and Succession Committee**

- Leads the process for appointments to the Board;
- Recommends Board appointments and re-appointments;
- Provides oversight on the diversity and inclusion strategy;
- Reviews and makes recommendations on succession planning; and
- Reviews and makes recommendations on corporate governance guidelines.

**Remuneration Committee**

- Determines and agrees with the Board the remuneration policy for the Chair, Executive Directors and Senior Management of the Company;
- Within the terms of such agreed policy, determines individual remuneration packages for the Chair, and Executive Directors; and
- Monitors and makes recommendations regarding the level and structure of remuneration for senior executives, if appropriate.

More information on the composition of each of the Board Committees, their roles and activities during the year is provided on the following pages:


| | | | |
|---|---|---|---|
| Audit Committee | 165-177 | Safety, Environment and Sustainability Committee | 163-164 |
| Nomination and Succession Committee | 159-162 | Remuneration Committee | 178-182 |

# Governance framework continued

## Board of Directors continued

### Division of responsibilities

The roles of the Chair, a non-executive role, and the CEO are separate and clearly defined. The Board has agreed on their respective responsibilities and set these out in writing. These documents are available on request from the Company Secretary.

### Chair

- Responsible for ensuring that the Board and its Committees function effectively. One way in which this is achieved is by ensuring Directors receive accurate, timely and clear information; and
- Responsible for making sure that there is an adequate induction and training programme followed by all Directors (see page 152), with assistance from the Company Secretary.

### Deputy Chair/Senior Independent Director

- Sounding board for the Chair;
- Serves as an intermediary for the other Directors and shareholders; and
- Leads the annual appraisal of the Chair's performance.

### Non-executive Directors

- Appointed by the Board or by shareholders at general meetings and, in accordance with the Code, seek re-election by shareholders on an annual basis;
- Letters of appointment refer to a specific term of office, the provisions of the Code and the Company's Articles of Association;
- Upon appointment, Non-executive Directors confirm they are able to allocate sufficient time to meet the expectations of the role. Appointments are subject to a minimum of three months' notice of termination, and there is no compensation provision for early termination;
- The Non-executive Directors bring a wide range and balance of skills and international business experience. Through their contribution to the Board and Board Committee meetings, respectively, they are expected to challenge and help develop proposals on strategy and bring independent judgement on issues of performance and risk; and
- At every Board meeting, time is set aside for the Chair and Non-executive Directors to meet without the Executive Directors being present. The Non-executive Directors discuss, among other matters, the performance of individual Executive Directors. A number of Non-executive Directors also meet major shareholders over the course of the year.

## Executive Management

### Chief Executive Officer

- Has overall responsibility for the implementation of the strategy approved by the Board, the operational management of the Company and the business enterprise connected with it; and
- Is supported in this by the Executive Committee that he chairs.

### Executive Committee

- Operates under the direction of the Chief Executive Officer (CEO) in support of his responsibility for the overall management of Shell's business. The CEO has final authority in all matters of management that are not within the duties and authorities of the Board or of the shareholders' general meeting; and
- Executive Committee members are listed in the Senior Management biographies on pages 142-143.

## Governance documents available on www.shell.com/investor:

- Articles of Association
- Matters Reserved for the Board
- Board Committee Terms of Reference
- Modern Slavery Act Statement
- Shell General Business Principles
- Shell Code of Conduct
- Code of Ethics for Executive Directors and Senior Financial Officers

# Board activities

## Board activities

The Board is responsible for establishing the Group's purpose, values and strategy and ensuring that these and Group culture are aligned. Accordingly, the Board works to a yearly meeting plan with corresponding agendas and pre-read papers, provided digitally. Agenda items include reports from the Chief Executive Officer, the Chief Financial Officer and each Board committee. Other updates throughout the year came from various businesses and key functions, including Investor Relations; Health and Safety, Security and Environment; Information Technology; Human Resources; and Legal, as well as the Company Secretary. The Board also considers and approves the quarterly, half-year and full-year financial results, shareholder distributions and the associated announcements, and, at most meetings, considers investment, divestment and/or financing proposals, as well as conducting post-investment reviews and performance tracking, as and when required. Additionally, the Board reviews the Group's annual operating plan, including activities to ensure the Group's carbon reduction targets are met. To enable purposeful debates and focus on particular aspects of agenda topics, including the impact on key stakeholders, Directors have an opportunity to specify information they require to be provided in advance of Board meetings.

During the year, where possible, certain Non-executive Directors conducted site visits. The visits were designed to provide Directors with a deeper insight into certain business operations.

More detail on these can be found in the table below and on pages 151 to 152.

Some of the activities and areas of Board focus over the year are summarised in the table below. The information below is not exhaustive. Information on other topics discussed by the Board and details of the resulting decisions are covered elsewhere, primarily in the Section 172 statement provided earlier in this report on pages 125-131. In some cases, a brief outline has been provided below, and page references are provided for additional and more comprehensive information.

## Board Strategy Days

In contrast to 2021's virtual June Strategy Days, for 2022, in-person meetings were held in Singapore over the course of three days. This was the first time both the Board and Executive Committee were able to spend time together in person since the COVID-19 pandemic started in early 2020. The programme for the event aimed at having engaging and interactive sessions (with deep dives and break-outs), with both internal and external stakeholders (including staff, customer, supplier, regional country chairs and other key stakeholders).

The event, under the headline "Onwards Together", focused on Shell's role in energy transition in country and how this is implemented, by tying together not only individual pieces of the portfolio but connecting Shell's heritage with its future. Around this theme, the event provided for the following key discussion and engagement opportunities:

- An in-depth discussion on strategy and business implementation, with an emphasis on the added value of Shell's integrated portfolio in accelerating energy transition in country;
- Review of the role of Upstream in driving the energy transition;
- Review of the continuing demand for gas, and its decarbonisation journey;
- Review of Financial Framework;
- Review of safe operations and digitalisation as an enabler;
- Deep dives on low-carbon fuels, Aviation, Chemicals, Renewables and Energy Solutions, and carbon capture and storage;
- An Asian perspective on the energy transition and its geopolitical context, including engagement with Shell leaders from across the region;
- Review of growing our sustainable future safely and competitively where presenters included a cross-section of business and site staff;
- A visit to Shell operations, notably the Shell Energy and Chemicals Park on Pulau Bukom focusing on readying the site for growth;
- Engagements with a cross-section of Shell's approximately 3,000 staff in Singapore who work across six work sites in a range of key businesses and functions;
- Consistent with the customer back strategy, discussions with key customers and stakeholders in the region; and
- Discussion of core elements of the Powering Progress strategy.

| Topic | Discussion/activity/updates included | Examples of outcome/progress | Stakeholders considered |
|---|---|---|---|
| **Board leadership and company purpose** | | | |
| **External business environment** | • Received updates on and discussed regional geopolitical issues and market outlook. | • Considered feedback from investor community on quarterly financial performance, including business segment results. | A, B, C, D, E, F, G |
| **Strategy** | • Reviewed and discussed progress of strategy including management recommendations.<br>• Directors participated in Board Strategy Days.<br>• Reviewed and discussed the Group's annual operating plan for 2022. | • Alignment on outcomes from Board Strategy Days.<br>• Shell energy transition strategy and AGM vote.<br>• Provided with a forward-looking overview of the business, projected investments and opportunities, as well as key parameters in delivering carbon reduction targets. | A, B, C, D, E, F, G |
| **Country exits** | • Considered exits from certain countries, based on an examination of proposals from management and businesses.<br>• Considered impact of Shell's withdrawal from Russia. | • Approved proposals, after a review of the following in each relevant country: business situation; legal risks; reputation and investor considerations; country, regional and geopolitical landscape; and security situation. | A, B, C, D, E, F, G |
| **Culture** | | | |
| **Shell People Survey (2022 results)** | • In December 2022, the Board reviewed the results of the 2022 Shell People Survey. | • The Board considered the improved scores on reputation within the context of broader societal challenges, noting significant regional and country-level variations.<br>• The Board reflected on the likely resilience of the results in the event of further cultural or business change and, noting the strong scores on team leadership, the potential for further simplification, focus and accountability to bring improvements in metrics such as workload. | B |

A – investor community B – employees/workforce/pensioners C – regulators/governments D – NGOs/civil society stakeholders/academia/think-tanks
E – communities F – customers G – suppliers/strategic partners

# Board activities continued

| Topic | Discussion/activity/updates included | Examples of outcome/progress | Stakeholders considered |
|---|---|---|---|
| **Culture** continued | | | |
| **Staff updates** | ▪ Received updates from management and Board Committees on senior executive staff movements.<br>▪ Engagement through various sources such as Shell People Survey results, talent information, conduct and culture risk dashboard, Chief Ethics and Compliance Officer Report, cultural information embedded in investment proposals. | ▪ The Board was provided with regular updates and obtained informal feedback on the post-Reshape environment and on topics such as health, safety and the environment. | B |
| **Board staff engagements** | ▪ Directors participated in staff engagements on site visits (both in person and virtual).<br>▪ Received updates from management on staff achievements and outstanding contributions made by our people supporting communities, promoting social justice or intervening in challenging circumstances to uphold ethics and compliance standards. | ▪ Gained first-hand insight into the development and culture of operations and maintenance teams, as well as staff perspectives on other matters of interest to our people.<br>▪ Received practical examples of ways in which staff members were exhibiting Shell's core values and contributing to society. | B |
| **Audit, risk and internal control** | | | |
| **Safety and Environment** | ▪ Received regular updates from management on safety and environment performance.<br>▪ Throughout the year, Directors shared reflections and insights on topics related to core values and safety.<br>▪ Received regular updates from the Safety, Environment and Sustainability Committee, including site visit reports and engagement with stakeholders. | ▪ Provided with commentary and examples of how safety continues to be upheld as important by staff.<br>▪ Gained perspective and brought diversity of thought to Board discussions by using learnings and insight gained outside Shell.<br>▪ Provided with insights into the views and priorities of NGOs, communities and other stakeholders. | B, D, E, F, G |
| **Risk management and internal control** | ▪ Reviewed risk reports, covering cyber-security risk, external trends, emerging risks, proposed changes to the Group's strategic, operational and conduct and culture risk profiles.<br>▪ Received updates on risk strategy, operational risks and culture and conduct risk.<br>▪ Received update from the Audit Committee relating to site visits (including application of Shell Control Framework)<br>▪ Received recommendation on reappointment of external auditors. | ▪ Considered the effectiveness of the risk management and internal control system.<br>▪ Reflected on progress regarding risk management and controls, adoption of new technology, enhancements to management of climate risk and disclosures.<br>▪ Reappointment of external auditors submitted to shareholders for approval. | A, E, F |
| **Composition, succession and evaluation** | | | |
| **Succession planning** | ▪ Received recommendations from the Nomination and Succession Committee (NOMCo) regarding succession plans and Board and committee composition, as well as the appointment of a new Non-executive Director, Chief Executive Officer, Chief Financial Officer and Company Secretary.<br>▪ Received updates from the Nomination and Succession Committee (NOMCo) on Diversity, Equity and Inclusion. | ▪ Kept regularly informed about succession planning arrangements.<br>▪ The Board considered metrics on internal and external customer satisfaction, and on staff retention as part of assessing leadership strength, with the Board reflecting on the work done to drive sustained improvements in the quality of team leadership.<br>▪ The Board considered diversity, including scope for further improvements in ethnic and gender diversity in senior leadership roles.<br>▪ The Board considered the role of Country Chairs, noting scope for further clarity in coordinating country responses to energy transition.<br>▪ Approved recommendations regarding the appointment of new Directors and Officers.<br>▪ Please see the "Nomination and Succession Committee" section for further details. | A, B, D, E |
| **Board and committee effectiveness reviews** | ▪ Examined the evaluation report after the assessment conducted by an independent external third party on the effectiveness and performance of the Board, its committees and the Chair. | ▪ Concluded that throughout the year, the Board, its committees and the Chair continued to operate effectively.<br>▪ Please refer to Board evaluation on page 153 for further details. | A, B, D, E, F, G |
| **Board membership, other appointments** | ▪ Reviewed Directors' tenure, external commitments, conflicts of interests, composition/membership of Board committees and appointments. | ▪ Approved committee membership changes, approach to conflicts of interest and appointments to the Board, following recommendations made by the NOMCo.<br>▪ Approved a renewal of the Directors' terms and tenure, where relevant.<br>▪ Please see "Nomination and Succession Committee" for further details. | A, B, D, E |

A – investor community B – employees/workforce/pensioners C – regulators/governments D – NGOs/civil society stakeholders/academia/think-tanks
E – communities F – customers G – suppliers/strategic partners

# Board activities continued

| Topic | Discussion/activity/updates included | Examples of outcome/progress | Stakeholders considered |
|---|---|---|---|
| **Composition, succession and evaluation** continued | | | |
| **Talent overview and senior succession review** | ▪ Received updates on senior succession strategy. | ▪ Enhanced insight into Shell talent and future leaders, assurance of robust succession and contingency plans. | B |
| **Remuneration** | | | |
| **Remuneration and reward matters** | ▪ Oversight of matters reviewed and considered by the Remuneration Committee. | ▪ Received regulatory, political and investor insights and updates relating to reward matters. | A, B, C |
| **Governance matters** | | | |
| **Governance** | ▪ Provided with emerging corporate governance developments and updates relating to ethics and compliance matters.<br>▪ Modern Slavery Statement and assurance, and considered other regulatory and legislative requirements.<br>▪ Reviewed Matters Reserved for the Board and Board Committee Terms of Reference. | ▪ Provided with insight of consultations and projects relating to governance and legislative requirements and Shell's participation.<br>▪ Approved a single Group Modern Slavery Act Statement. | A, B, C, D, E, F |
| **Ethics & Compliance** | ▪ Reviewed the Chief Ethics and Compliance Officer's annual report. | ▪ Received insight and observations that Shell's ethical processes were robust. Also received confirmation that interaction with Shell staff was positive and reflective of Shell's values. | A, B, C, D, E, F |

A – investor community B – employees/workforce/pensioners C – regulators/governments D – NGOs/civil society stakeholders/academia/think-tanks
E – communities F – customers G – suppliers/strategic partners

## Director induction and training

After being appointed to the Board, Directors receive a comprehensive induction tailored to their individual needs. This normally includes site visits and meetings with Senior Management to enable them to build up a detailed understanding of Shell's business and strategy, and the key risks and issues that Shell faces. Existing Directors are also able to join these visits to keep abreast of business developments and progress. With the abnormal COVID-19 circumstances in 2020 and 2021, the induction programme was quickly adapted to a completely virtual induction. In 2022, as society moved to better understand and live with COVID-19, we saw restrictions ease in many countries. More travel became possible, allowing directors to visit some of Shell's operations. For new directors joining the Board in 2023, our induction programme will build on the learnings from 2020 through 2022 and adopt a more hybrid format, making the best use of the directors time through virtual and physical engagements. Onboarding will continue to be phased and prioritised based on forthcoming Board agenda items to help ensure the new Non-executive Directors hit the ground running.

A digital onboarding book is provided to each new Non-executive Director. These onboarding books complement the existing digital Directors' Handbook and feature:

- Overviews of scheduled briefing meetings customised to the Non-executive Directors' needs and linked to upcoming Board agenda items;
- Hyperlinks to key Shell publications (external and internal);
- Lists of common Shell acronyms;
- Key current materials on:
  - Shell's safety and core values;
  - Board governance;
  - Group strategy and portfolio;
  - Key businesses and functions; and
  - Climate change and energy transition;
- Biographies of key executives.
- Other elements of the onboarding programme for Non-executive Directors include:
  - Briefing meetings with key executives (both business and functional) customised to Non-executive Directors' needs and phased based on forthcoming Board agenda items;
  - Pairing up new Non-executive Directors in onboarding briefings to optimise learning while also providing opportunities for collegial relationship-building and increasing efficiencies for the executives; and
  - Virtual and physical site visits (either specifically for onboarding or by inviting the new Directors to committees' site visits).

# Board evaluation

## Board Review process

**Note:** The below activities were undertaken by Jan Hall of No.4.

[A] Jan Hall also attended the Board discussion.




### Board Review Process

The 2022 Board evaluation looked to support the discussion on the way ahead as Shell faces its biggest challenge, managing the business through the energy transition.

As required by the Code every three years, the 2022 evaluation was conducted differently from that in 2021 and 2020. First, the evaluation was an externally facilitated self-evaluation by an external provider, Jan Hall of No 4, through one-on-one interviews with the Board and key individuals, as opposed to a questionnaire approach for 2020 and 2021. Second, the 2022 evaluation process guided a more strategic review of the Board and its operation to consider not merely how the Board might make improvements to an already well-functioning Board but also how to be the most effective Board it can be for Shell over the next 3-5 years. The evaluation was conducted according to the guidance in the Code. Jan Hall and No 4 have no connection or relationship to the Company or to any Director.

### Selecting the facilitator

The tender process to select the individual/company that would facilitate the 2022 Board Evaluation was led by Euleen Goh, Deputy Chair and Senior Independent Director, supported by Caroline Omloo, Company Secretary. Euleen Goh presented a short list of providers to the Nomination and Succession Committee for discussion and selection of the provider.

### Planning for the evaluation

The process started with briefing meetings where Jan Hall met the Chair, CEO, Deputy Chair/Senior Independent Director, Company Secretary and previous Company Secretary. These meetings helped Jan Hall understand the Board, how it operates, the strategic priorities for Shell and she then formulated a comprehensive brief for the evaluation process. Jan Hall then prepared a discussion guideline which formed the basis of her one-on-one meetings. The discussion guideline was sent to the individuals who participated in the Board evaluation ahead of her meetings with them.

### Discussion and Observation (Stage 1)

In October and November 2022, detailed interviews were conducted with every Board member, the Company Secretary and prior Company Secretary, the External Audit partner, all members of the Executive Committee, the Committee Secretaries and the Chief Internal Auditor. All participants were interviewed by Jan Hall who facilitated an open, confidential, unattributed conversation with each person. She observed the Board and Committee meetings in October and a Committee meeting in December. In addition, she reviewed the materials presented to Directors ahead of these meetings.

### Analysis (Stage 2)

A report synthesising and summarising feedback from all of the input, and making recommendations was prepared and shared with the Chair and CEO for comment.

### Outcomes (Stage 3)

Draft conclusions were discussed with the Chair and subsequently discussed with the whole Board at a dedicated meeting held in January 2023, which was also attended by Jan Hall. This format provided a freer and unconstrained discussion. She highlighted key findings from the evaluation, facilitated discussion and answered any questions. Jan Hall separately discussed the report on the Chair's performance with Euleen Goh, the Senior Independent Director. A separate discussion in relation to the performance of the Chair was led by Euleen Goh (in the absence of the Chair). Individual feedback was provided to each director by the Chair.

Overall the Board was found to be functioning well, with a high level of commitment from both the Non-executive and Executive Directors. Improvements identified were merely to fine-tune an already effective Board. There is a collegiate spirit and good personal relationships with a high degree of mutual respect, with people able to speak up and feel that they are listened to. The agenda has been broad ranging and the Committees have complemented the Board agenda to ensure that the Board has covered the areas viewed to be key.

At the time of the evaluation process, the Nomination and Succession Committee was undertaking a recruitment process for new Non-executive Directors in preparation of anticipated departures in 2023. Therefore, no changes were found to be necessary to the Board composition as a result of the evaluation.

### Feedback on the themes from the Board discussion

The Board intends to continue to focus on being a well functioning Board, spending additional time on strategic matters, and placing an even greater focus on Shell's key stakeholders around the world. In line with this the Board will refresh its agendas to better support its priorities on strategy and utilise its time as effectively as possible. Further, the Board confirmed its continued support to help the CEO deliver Shell's goals in the short, medium and long term, with specific focus on driving greater accountability throughout the organisation; evolving Shell's culture to become more agile and to move at greater pace; building on his newly announced changes to the Executive Committee, to focus on developing the leadership across Shell and optimising people development and talent management.

### Feedback themes for the Committees

The Committees were considered to be well chaired and well operated. It was agreed that the Board would undertake a more strategic review of the Committees' agendas and remit to ensure alignment with the Board's future priorities and longer term aspirations. In addition, there was wide recognition of the value of greater involvement of all Board members in matters of Board and Executive succession, as had been facilitated for the appointment of the new CEO and recent changes to the Executive Committee. It is therefore anticipated that this format will also be adopted going forward.

### Chair evaluation

The Chair was considered to have the respect of his Board colleagues who all feel he had led the Board very well through a year of change, and is leading the Board to focus on the right areas and issues. His accessibility and support were highly valued and he was considered to bring a wealth of relevant knowledge which he is able to deploy in a strategic way in the context of the challenges Shell is facing.

# Understanding and engaging with our stakeholders

The Board continues to value and recognise the importance of engagement and co-operation with our stakeholders. Time is dedicated to listening to different stakeholder views and our commitment to stakeholder engagement is built upon the understanding that knowledge-sharing, widening of experiences and adopting a learner mindset will help us achieve our commercial, environmental and social objectives.

The Board's and Shell's commitment to public collaboration and stakeholder engagement has not wavered despite the challenges in recent years due to COVID-19 restrictions. We remain grateful for the opportunities that we have had, including the 2022 AGM which included physical attendance on a larger scale than since May 2019.

The Directors have continued to consider stakeholders' views in Board discussions and decision-making, as described on page 125.

Engagement with our stakeholders also goes beyond the Board and is continuous. Our broader businesses regularly engage with stakeholders throughout the year, and in the build-up to or during many Shell projects or activities. This engagement is often governed by formulated policies, control frameworks, regulation and legislation. It may differ by region.

**Site visits**

The Chair, certain Board committees and Non-executive Directors traditionally visit a number of Shell operations and overseas offices. The visits are designed to provide Directors with:

- first-hand insights into portfolio positions; and
- opportunities to engage directly with stakeholders including employees, partners, communities and NGOs.

In previous years, and as part of the Board evaluation process, the Directors have reflected on the use of site visits for improving the Board's oversight of risk and concluded that the best way to determine if risks are being properly managed is to visit sites and talk to local management. Similarly, some Directors have used site visits as a way to monitor and assess culture first-hand. Site visits play an important part in the induction process for new Board members and provide good opportunities for Board members to get to know each other better.

**Shareholders**

The Chair, the Deputy Chair, the Chief Executive Officer, the Chief Financial Officer and the Executive Vice President Investor Relations each meet regularly with major shareholders and report the views of such shareholders to the Board. Committee chairs also seek engagement with shareholders on significant matters related to their areas of responsibility. Over the year and following his appointment as Chair, Sir Andrew Mackenzie met with 77 major shareholders, including at roadshows. A variety of topics were discussed with the Chair including energy transition, available and affordable cleaner energy, capital discipline and allocation, returns on investment, cost and governance and controls. The Remuneration Committee Chair met with 47 shareholders over the course of the year and discussed 2021 pay outcomes and considered Remuneration Committee policy changes ahead of the 2023 AGM.

Shareholders can contact Shell directly via the "Contact us" section of the Shell website. This allows investors' questions to be directed to the appropriate Shell team that can assist. Shareholders are also able to make use of our automated question response tool. Investors can also access information via the frequently asked questions section of the Shell website.

The Shell website also provides contact details for our registrar, Equiniti, shareholder queries, our media team, requests for copies of the Annual Report, and general customer enquiries.

The Company's registrar operates an internet access facility for registered shareholders, providing details of their shareholdings. Facilities are also provided for shareholders to lodge proxy appointments electronically. The Corporate Nominee service, facilitated by Equiniti, provides a facility for investors to hold their shares in the Company in paperless form.

**Stakeholder engagement on AGM resolution**

At the 2022 AGM shareholders voted on two climate related resolutions: (i) Resolution 20, which was an advisory vote on Shell's Energy Transition Progress – shareholders showed strong endorsement, with 79.91% of shareholders which voted casting votes in favour of our progress; and (ii) Resolution 21, a shareholder resolution, submitted by an organisation called Follow This on behalf of a small group of shareholders, requesting certain actions that the Board believes are not in the best interest of the Company. This resolution received support from 20.29% of shareholders which voted. Shell is aware that some shareholders voted in support of both resolutions, despite their conflicting content.

In 2022, the Chair, Chief Executive Officer and Chief Financial Officer hosted meetings with some of our large shareholders. These meetings covered many topics. Shareholders were asked for specific feedback on dividends, share buybacks, predictability in financial results, energy macro outlook, business activities in Russia, capital discipline, business performance and Powering Progress implementation.

We recognise and value the importance of stakeholder engagement when considering our energy transition progress. The Board is grateful for the time and contribution of all those stakeholders who provided feedback, and for the overall indications of support for Shell's strategy.

Following the AGM, we engaged with our largest shareholders offering further opportunities to discuss the progress made against Shell's energy transition strategy and to understand the reasons behind various voting decisions. The Chair subsequently had an opportunity to engage directly with our large institutional shareholders during his roadshow in September 2022.

These discussions showed that our large shareholders that did not vote in line with the Board recommendation on Resolution 20 and Resolution 21 were predominantly focused on Shell's energy transition strategy and not the 2021 progress, which is what Resolution 20 related to. Some shareholders indicated that societal pressure, potential media coverage as well as expectations from beneficial owners were reasons for not following the Board's recommendations. Others raised questions related to medium-term targets including a desire for a Scope 3 absolute emissions target.

This stakeholder feedback was added to the ongoing internal considerations of the Company's climate targets, along with the outcome of the Dutch court case, the Powering Progress strategy and the commitments that Shell had made within its energy transition strategy.

# Understanding and engaging with our stakeholders continued

## Engagements in 2022

Information on engagements the Board has held during the year is summarised below. Information on engagement with other stakeholders including the workforce is provided on pages 157-158. The way in which stakeholder interests were considered in principal decision-making by the Board in 2022 (Section 172 statement) can be found on pages 125-131. Further insight into our engagement with stakeholders can be found within our Sustainability Report, scheduled for publication in March 2023.

| Engagement before event | Event/activity | Director attendance | Outcome/insight |
|---|---|---|---|
| **Remuneration Roadshow – Q1 2022 Engagement** | | | |
| Engagement was undertaken before the meetings so that the Directors were provided with understanding and insight on particular topics of interest. | In March 2022, Neil Carson, Chair of the Remuneration Committee, presented the 2021 remuneration outcome and 2022 remuneration plans to investors. The presentation included summaries on:<br>▪ reflections on the Company's financial performance, portfolio and launch of the Powering Progress Strategy;<br>▪ 2021 pay decisions;<br>▪ changes of Directors;<br>▪ remuneration for 2022; and<br>▪ forward-looking agenda. | Remuneration Committee Chair | Shareholders were provided with context and an explanation of the Remuneration Committee deliberations in arriving at the 2021 pay outcomes and setting the pay framework for 2022 and had the opportunity to ask questions and provide feedback. |
| **Remuneration Roadshow – Q4 2022 Engagement** | | | |
| Engagement was undertaken before the meetings so that the Directors were provided with understanding and insight on particular topics of interest. | In November 2022, Neil Carson, Chair of the Remuneration Committee, presented the 2023 remuneration considerations to investors. The presentation included summaries on:<br>▪ the appointment terms for new CFO and CEO;<br>▪ ongoing review for 2023 remuneration policy proposals;<br>▪ 2022 performance update; and<br>▪ a questions and answers session. | Remuneration Committee Chair | Shareholders had the opportunity to understand and discuss the Remuneration Committee's considerations in developing its proposals for the 2023 policy update and provided useful perspective and feedback. |
| **Annual ESG Update 2022** | | | |
| Discussion with the Chair of the Safety, Environment and Sustainability Committee to ensure that key topics would be covered. | This annual engagement took place in May 2022 in London with investors. It included an update on ESG matters of significance, including Shell's progress with its targets to become a net-zero emissions business by 2050. | CEO<br>CFO<br>Strategy, Sustainability and Corporate Relations Director | Any questions requiring follow-up were addressed outside the presentations. In some cases, follow-up meetings were held with stakeholders and the Chair of the Safety, Environment and Sustainability Committee. |
| **Visit to LNG Canada - Safety, Environment and Sustainability Committee engagement with external organisation** | | | |
| Discussion with the Chair of the Safety, Environment and Sustainability Committee on key topics for inclusion in the visit agenda. | The site visit was focused on safety, environment including climate change, and broader sustainability. The main elements on the visit included a site tour at Kitimat and local community engagements with the Chief of the Haisla Nation and Mayor of Kitimat. In Vancouver, the Committee held further meetings with LNG Canada management and engaged with the Premier of British Columbia and relevant Ministers. | Safety, Environment and Sustainability Committee | The Committee was particularly impressed with the major project management activity under way at LNG Canada and the significant work completed to address worker welfare, manage environmental issues and ensure strong community relations. It also noted the strong relationships and trust built with key local and regional stakeholders which have made LNG Canada a wanted project. |
| **Nature-Based Solutions - Safety, Environment and Sustainability Committee engagement with external stakeholders** | | | |
| Discussion with the Chair of the Safety, Environment and Sustainability Committee to ensure that key topics would be covered. | The purpose of this engagement with two external stakeholder organisations was to assist the Committee in its role of overseeing Shell's strategy and approach to Nature-Based Solutions (NBS). | Safety, Environment and Sustainability Committee | The overarching main message was that credibility remains key to Shell's success with NBS. Shell should continue to pursue its strategy, execute the strategy well, and be sure to communicate effectively. |

# Understanding and engaging with our stakeholders continued

| Engagement before event | Event/activity | Director attendance | Outcome/insight |
|---|---|---|---|
| **2022 AGM** | | | |
| The Board sought feedback from the investor community and other stakeholder groups prior to the AGM. | This was the first time since the pandemic that large-scale physical attendance had taken place at a General Meeting of the Company since 2019. | Board | Support from shareholders for the resolutions proposed by the Board, including the advisory vote on the Shell Energy Transition Strategy progress. |
| **Chair Roadshow** | | | |
| 26 meetings were held between the Chair of the Board and shareholders during 2022. | The dialogue was typically strategic in nature and included ESG topics as well as the energy transition and business outlook.<br><br>During the first-quarter roadshow, the discussions predominantly focused on business activities in Russia following the invasion of Ukraine, as well as capital discipline approach.<br><br>During the fourth-quarter roadshow, the Chair had an opportunity to engage directly with our large institutional shareholders where capital discipline was discussed. | Chair | Provided the Chair with an opportunity to listen to key institutional shareholders as well as providing Board perspective on topics such as governance, energy transition, business and management performance. |
| **The Institutional Investors Group on Climate Change (IIGCC) meetings** | | | |
| We have a continuing dialogue with this group throughout the year. Moreover, meetings with the IIGCC are held with the CEO, and another with a member of the Executive Committee twice a year as part of our engagement and collaboration with the IIGCC and Climate Action 100+. | In March 2022, the IIGCC members were cordially invited to a bi-annual dialogue between Shell and Climate Action 100+. The meeting was hosted by the CEO, who provided an update on the energy situation in Europe and energy transition progress in Shell.<br><br>In August 2022, an Executive Committee member hosted an energy transition visit to our Shell Energy and Chemicals Park Rotterdam. The meeting included several presentations, opportunities to ask questions and a tour around the site. | CEO<br><br>Projects & Technology Director | The meetings were well attended and gave investors a good insight into both the significant progress and scale of the energy transition in a key asset in our portfolio.<br><br>We continue to value and appreciate the collaboration with Climate Action 100+ and their large institutional investor base. |
| **Audit Committee visits** | | | |
| Engagement prior to the visits helped to formulate the agenda and refine the areas of focus for the respective visits. | In 2022, Audit Committee members visited Shell Recharge Fulham Road and the Audit Committee also conducted a site visit to the London trading floor. Further details are provided on page 169 of the Audit Committee Report. | Audit Committee | The visits provided Committee members with opportunities to engage with a diverse range of the workforce. |
| **Director visits** | | | |
| Discussions were held with the respective Directors ahead of the visit to formulate the agenda and encourage a natural, open dialogue in the group sessions. | In May 2022, the Chair, two Directors and an Executive Committee member visited the Energy Transition Campus in Amsterdam. The Board received a technology organisation and Portfolio overview and a Digitalisation innovation at Shell session. The Directors then had an informal engagement with select Chief Scientists and Senior Principal Science Experts, followed by lab visits. The visit concluded with a close-out discussion covering the Technology Portfolio pivot towards energy transition.<br><br>In December 2022, one Director visited the Energy Transition Campus in Amsterdam. | Directors | The Board gained an insight into the development and culture of the operations and maintenance teams. The use and impact of digitalisation tools were highlighted, and the future environmental capabilities of the site were discussed. |

# Workforce engagement

The Board recognises merit in the Code's three mechanisms for engaging with the workforce. As with all the Code's provisions, boards must consider the size and structure of their business, including its international scope, and select an approach that most practically delivers the underlying spirit and ambition of the Code, even if the chosen approach differs from what the Code outlines. The Code does note that alternative methods for workforce engagement are supported where an explanation is provided.

The Code states that its use of the term "workforce" is not meant to align with legal definitions of workforce, employee, worker or similar terms. But for a global organisation bound by the laws of more than 70 countries, blurring the clearly prescribed legal definitions that affect complex issues (such as local health, safety, security and environment (HSSE) requirements, work contract terms, legal accountability, employment rights) or merging two definitions of the same term could have a notable impact on the business, its operations and its stakeholder relationships (including with suppliers). As a result, Shell considers its workforce to be employees of companies in the Shell Group. The Board also engages with others outside this group (for example, on site visits), and some of this engagement is shared on page 154.

Although our reporting and formal engagement focuses predominantly on our employees, all individuals working on Shell sites (including Shell offices) are required to undertake certain Shell training (for example, on matters relating to HSSE and the Code of Conduct). Adhering to the Life-Saving Rules and the Code of Conduct compliance obligations is included within our contracts with suppliers. The Shell Global Helpline is available for all workers to report matters of concern.

For many years, Shell has recognised the importance of engaging with its workforce. Engagement is especially important in maintaining strong business delivery in volatile times of change. We strive to maintain a dialogue between management and our workforce – both directly and where appropriate, through employee representative bodies. Management regularly engages with the workforce through a range of formal and informal channels, including via webcasts and emails from the Chief Executive Officer (CEO) and other senior executives, webcasts, town halls, team meetings, face-to-face gatherings, interviews with Senior Management, internal social platforms and online publications via our intranet.

The Board considers effective engagement a key element of its understanding of the Company's ability to create value, because it recognises that our people are our greatest asset. Workforce views can help inform the Board on matters such as operational effectiveness, Shell culture, diversity, equity and inclusion, identifying risk and developing and delivering strategy.

The Board considers the current workforce engagement approach effective. The information provided in the following table gives examples of various methods of Board engagement.

## Board's direct engagements with the workforce

### Informal engagement – Board

Nomination and Succession Committee members met with various senior leaders and high-potential individuals throughout the year.

### Off-site visits

People engagements during Board and/or meetings off site.

Meeting talent/leadership teams.

The Chair engaging with various individuals.

Through these more formal engagements, the Chair and other Non-executive Directors (either individually or with their Committees) have deepened their understanding of how the Company's purpose, strategy and values are embedded in particular businesses, sites and countries. This gives insight into progress made, risks and opportunities. The benefits are mutual. The Board obtains direct insight into local business operations and projects, and local strengths and challenges. Our people have a chance to better understand the Board and to provide direct feedback on topics of importance to them, their business or function and their location.

### Employee network and related sessions

The Nomination and Succession Committee was joined by representatives (which included the Chair) of the UK enABLE network to discuss enablement and disability inclusion. The discussion covered Shell's progress and achievements against the building blocks through which we drive our DE&I agenda, including communication, policies and processes (e.g., workplace accessibility), and learning and development. It was noted that while we have a solid support infrastructure the discussion recognised the role of the team and the line manager of persons with disabilities in ensuring that the support resources are utilised in combination with the inclusive behaviours required to make the work environment barrier-free.

### Employee representatives and related sessions

In June, the Chair met with representatives of the Shell European Workers Council (SEWC) at Shell Centre London, as part of SEWC's annual plenary meeting.

The objective of the informal engagement was to discuss Shell's Powering Progress strategy, the investor perspective on the Energy Transition, Diversity, Equity, Inclusion, and the Future of Work for the 15 countries in SEWC's domain.

The two-way dialogue offered participants the opportunity to ask questions and provide feedback. Feedback received indicates the SEWC delegates enjoyed the informal engagement with the Chairman of Shell's Board of Directors.

### Shell Singapore

The Board and Executive Committee (EC) visited Shell Singapore in June for their annual off-site visit and Board meeting. The visit provided significant opportunities for workforce engagement over three days.

On the first day, the Board and EC hosted a dinner for a cross-section of approximately 140 employees, representing all businesses and functions and with approximately a third of employees in management roles, a third emerging talent and a third frontline employees. Feedback received after the event suggested that employees enjoyed the opportunity to engage informally with the Board and EC members.

On the second day, the Board and EC visited the Shell Energy and Chemicals Park Singapore on Bukom Island. During the visit to the facility, they met with 23 site leaders and presenters before a small group tour of key assets led by 37 employees at the site, giving an opportunity for workforce engagement in the field. Thereafter, the Board and EC met in person with four leaders from across the Upstream business globally, rotating through four booth sessions in small groups.

Lastly, on the third day, over lunch, the Board and EC met 13 Country Chairs and Corporate Relations professionals from across the Asia-Pacific region.

### Shell United Kingdom

Board members including the Chair, CEO and CFO attended the Powering Progress UK Summit in June 2022 - a hybrid engagement for all UK staff - with the CEO and CFO participating in a panel discussion and question and answer session respectively. Together with the Board, employees also got the opportunity to hear directly from external partners.

# Workforce engagement continued

## Formal reports and information updates to the Board

### Shell People Survey (anonymous survey facilitated externally)

The Board was provided with an update on the outcomes and employee engagement levels and the quality and resilience of leadership across Shell's workforce. As well as a broad range of subjects, the Board was informed of principal metrics, with particular focus on rewards, working conditions/workload and reputation.

The Board considers the Shell People Survey to be one of its principal tools for measuring employee engagement, motivation, affiliation and commitment to Shell. It provides insights into employee views and has a consistently high response rate. In 2022 the response rate was 87%, (up 3.4% from 2021) which is the highest ever. The Board also considers this engagement to understand, for example, how Shell is using the survey outcomes in: i) data analytics, for example, to identify potential correlative relationships between employee engagement and safety or ethics and compliance incidents; and ii) strengthening Company culture and values.

### Senior Succession and Resourcing Review

The annual Senior Succession and Resourcing Review focused on the strength of senior leadership and plans for its development and succession, while highlighting the breadth, depth and diversity of its pipeline, the developing profile of the leadership cadre, and recruitment and attrition levels.

The Nomination and Succession Committee noted the effectiveness of succession planning, the impact of its associated execution, and the professional, data-driven, integrated approach to leadership and leadership development. It welcomed the continued focus on performance management, proactive management of Shell's talent pipeline, and the focus on advancing Shell's diversity agenda with increased attention on gender, race, LGBT+ and disabilities.

### Assessment of key trends and material incidents

Presented by Chief Ethics and Compliance Officer. This is based on the established channels for staff and others to file complaints or report on suspected breaches in relation to the Shell General Business Principles (SGBP), the Code of Conduct or any breaches of laws or regulations, including accounting control and auditing concerns.

The update covers Shell employees and our wider stakeholder base. The Board (also via the Audit Committee and the Safety, Environment and Sustainability Committee) obtains insight into incidents and reporting levels and remediation. These provide indicators of conduct risks and, together with the related Board reports noted below, suggest the strength of embedding and awareness of the Code of Conduct and SGBP obligations and employees' comfort levels in raising incidents.

### Risks

The Board (also via the Audit Committee and the Safety, Environment and Sustainability Committee) reviews strategic, operational and conduct/culture risks during the year to assess current business activities against risk appetite.

### Organisational culture

The Board has continued its discussion on the Powering Progress strategy, including powering lives. The Board also focused on diversity, equity and inclusion commitments.

### Chief Ethics and Compliance Officer Report

Data and insights include information from the Global Helpline, the Shell Ethics and Compliance organisation and the Shell People Survey. The Safety, Environment and Sustainability Committee continues to strongly support the work of the Chief Ethics and Compliance Officer, including the efforts to ensure a safe working environment where staff feel confident to raise any concerns in good faith.

The Audit Committee is kept updated when matters highlighted through the Global Helpline are investigated. The Audit Committee is also informed about the associated remediation. For more information see page 174 of the Audit Committee Report.

### Assurance activities

Assurance activities, including items raised by businesses and functions (through the Group Assurance Letters process) and assurance (from Internal Audit, HSSE, Ethics and Compliance, Reserves Assurance and Reporting), provide additional evidence to the Board of the commitment to high standards of risk management and internal control. The assurance activities ensure that work can be done safely, within regulatory frameworks.

The information provided within these reports further supports the Board's annual review of the effectiveness of the Group's system of risk management and internal control and feeds into the Group scorecard, against which staff bonuses are calculated.

### The Shell Control Framework

Significant HSSE, Ethics and Compliance, and more broadly, business control incidents are brought to the attention of Senior Management and the Board through regular reporting.

During these discussions the Board seeks to learn more from incidents and ensure that the business continues to drive safety performance.

# Nomination and Succession Committee

### Focus areas for 2022

- Non-executive Director and Executive Committee succession;
- Continued talent engagements with key staff and succession candidates; and
- Maintain proactive oversight over Shell's ambition to become one of the most diverse and inclusive organisations in the world.

### Priorities for 2023

- Support the changes proposed from the 2022 Board/ Committee evaluation;
- Non-executive Director and Executive Committee succession;
- Continued talent engagements with key staff and succession candidates; and
- Support an increased level of disclosure with regard to Shell's diversity targets and maintain proactive oversight over Shell's ambition to become one of the most diverse and inclusive organisations in the world.

### Committee membership and attendance for 2022



**Sir Andrew Mackenzie**



**Dick Boer**



**Euleen Goh**



**Ann Godbehere**

| Committee member | Member since | Maximum possible meetings | Number of meetings attended | % of meetings attended |
|---|---|---|---|---|
| Sir Andrew Mackenzie (Chair of the Committee) | October 1, 2020 | 5 | 5 | 100% |
| Dick Boer | May 19, 2021 | 5 | 5 | 100% |
| Ann Godbehere | October 27, 2021 | 5 | 5 | 100% |
| Euleen Goh | July 1, 2019 | 5 | 5 | 100% |



**Sir Andrew Mackenzie**
Chair of the Nomination and Succession Committee

## Purpose

The Nomination and Succession Committee (the "Committee") leads the process for appointments to the Board and Senior Management [A] positions, ensures plans are in place for orderly, well-planned succession, and oversees the development of a diverse succession pipeline of candidates. It also reviews the Company's policy and strategy on diversity, equity and inclusion (DE&I), and monitors the effectiveness of these initiatives. It makes recommendations to the Board on corporate governance guidelines, as referred to in the Chair's introduction.

[A] "Senior Management" refers to the Executive Committee and the Company Secretary.

## Talent management and succession

The Committee is fully engaged with the end-to-end talent management and senior succession planning approach that is deployed within Shell. It plays a key role in senior succession and resourcing. Retaining in-depth knowledge of the individuals within the talent pipeline is a Committee priority. The Committee makes time to personally meet and engage with numerous individuals within the pipeline. The Committee's oversight and input extend from recruitment to leadership identification and from leadership development to leadership appointment, all of which are underpinned by clearly articulated talent priorities and a commitment to advancing diversity, equity and inclusion across Shell.

The Committee manages Board and Senior Management succession under a structured, proactive methodology. The processes have clear and agreed selection principles for short-, medium- and long-term succession and are aligned with Shell's strategic priorities.

For Non-executive Director succession, the Committee continues to follow its Principles for the Strategic Composition of the Board, adding factors as they evolve. These principles function much like a policy and include both quantitative and qualitative principles, considering:

- the overall aspired Board composition and diversity of gender, race and ethnicity, nationality, background, experience and desired skill sets that align with the Company's strategy and purpose; and
- the values, attitudes, and behaviours expected of Directors.

# Nomination and Succession Committee continued

Over the coming year the Principles for the Strategic Composition of the Board will be reviewed and the Committee will support the business in aligning with its Powering Progress diversity ambition, of becoming one of the most diverse and inclusive organisations in the world, into firmer targets for the Board and Senior Management. In addition, Shell's external reporting against these targets will be enhanced. Shell's Board and Senior Management diversity metrics are already well positioned against the new UK Listing Rules requirements.

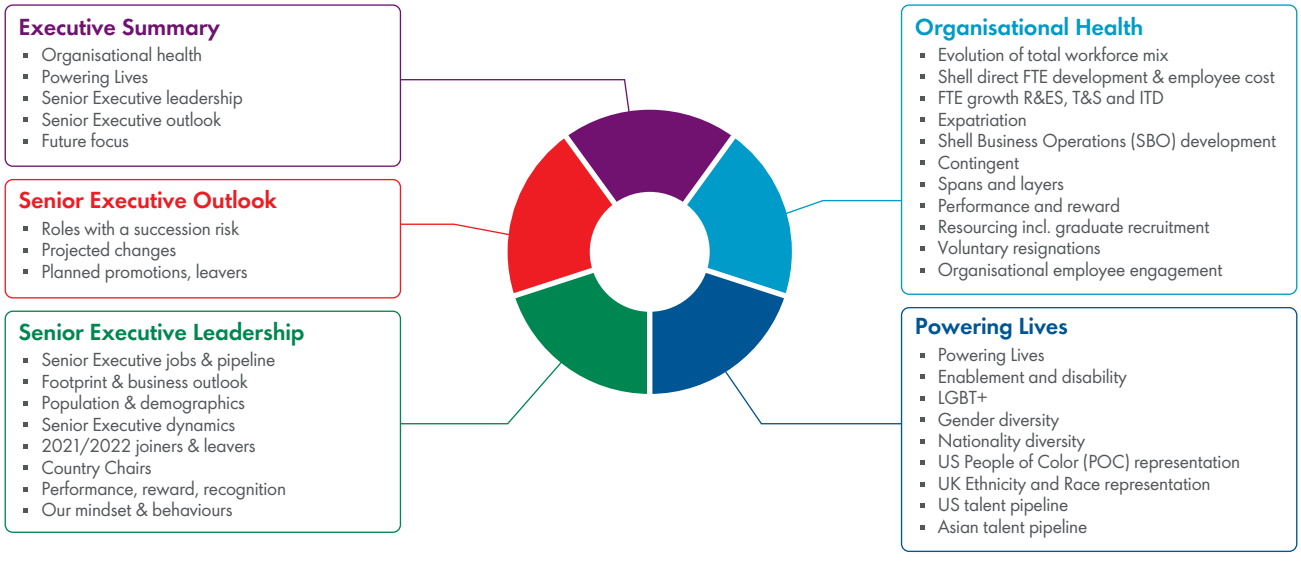
This information can be found on page 140.

For Senior Management succession, the selection principles include process-specific elements, such as a clear and proactive approach to identifying and developing succession candidates. The principles also outline the long-term structured nature of the succession planning process. There is also great focus on ensuring that the principles reflect the leadership qualities required for future business success and that they advance the progress of diversity in all its forms.

Senior Management principles feature in the Committee's review of the succession plans which occurs in every Committee meeting. Using the principles, the Committee implements any changes through a well-defined and diligent process with overall Board engagement. The Committee agrees on candidate profiles and meets prospective candidates well ahead of any selection decision being necessary. It also engages the Board early in the process to ensure all Directors have an opportunity to meet and assess prospective candidates. Consequently, some of the leaders whom the Committee and Board have engaged with extensively in the past are now members of the Board or the Executive Committee.

In 2022, the Committee undertook its annual in-depth look at the status and succession plans for Senior Management within Shell and reviewed the talent pipeline in line with the business outlook. The engagement focused on the organisational health of our workforce; Powering Lives (covering areas such as enablement and disability and LGBT+ inclusion, gender diversity in leadership roles, nationality and ethnicity and race representation), the depth and breadth of the senior executive leadership pipeline including progress in enhancing diversity, the skills, behaviours and development support required for future success, and an evolving outlook on senior executive roles. Following the Committee's review, the findings were reported to the Board.

**Senior Succession and Resourcing Review**




## Diversity of leadership

The Committee recognises that continuing to improve all types of diversity at each level of the Shell Group is crucial. Shell aims to be an inclusive workplace where everyone feels valued and respected and has a strong sense of belonging. The Committee's review of diversity objectives and strategies for the Shell Group as a whole also monitors the impact of diversity and inclusion initiatives.

In February 2021, Shell published its aspirations for diversity, equity and inclusion under the "Powering Lives" goal, with a focus on four areas of gender, race and ethnicity, LGBT+ and disability inclusion. When looking at our progress against our ambitions, female representation has steadily improved in recent years. Among experienced recruitment in 2022, Shell companies recruited 40% females, and among graduates 49%. Female representation in the top 1,250 roles ("Senior Leadership" positions) has strengthened by 1% during 2022 to 30.4%, and we continue to progress towards our aim of achieving 35% female senior leadership representation by 2025. Nationality diversity, such as Asian and American talent, continues to be managed in accordance with the business outlook and we have a strong focus on progressing race and ethnic minority representation, beginning in the UK and the USA and followed by the Netherlands. The representation of people of colour among Shell's senior leaders in the USA has been actively tracked for many years. It stood at 26% at the end of 2022, compared with 17.3% in 2016. In the UK, race and ethnic minority representation among senior leaders was 18.2% [A].

[A] As ethnicity declaration is voluntary, our ethnicity declaration rate is not 100% and all calculations are based on a declaration rate of 71.5%. The 28.5% of our workforce who have not provided data or chosen not to declare their ethnicity were not included in our calculations.

# Nomination and Succession Committee continued

Senior Leadership is a Shell-specific measure and different from that which we are required to report under the Code, being female representation in Senior Management and their direct reports, where the percentage is 28%.

Although the Committee monitors Shell's organisational diversity, equity and inclusion strategies and initiatives, it also holds itself accountable for the Board's own diversity and inclusion. By the end of 2020, the Board's diverse composition met the Hampton Alexander and Parker Reviews' objectives by reflecting 38.5% female representation with one person meeting BAME criteria. Following the 2021 AGM, 50% of the Board were women. However, in October 2022 we announced the appointment of Cyrus Taraporevala effective March 2, 2023 and in February 2023 we announced further changes to the Board, with the retirement of Euleen Goh and Martina Hund-Mejean and the appointments of Leena Srivastava and Sir Charles Roxburgh effective March 13, 2023. Therefore, following the 2023 AGM, scheduled for May 2023, if all directors proposed for appointment/reappointment are approved by shareholders, female representation will be 42%, and the Board will exceed the BAME criteria, with three members from an ethnic minority background.

More information on diversity, equity and inclusion in Shell is provided in the Powering lives section on pages 117.

**The People Strategy and diversity, equity and inclusion**

During the year, the Committee continued an in-depth examination into our approach on diversity, equity and inclusion building on the deep dive held on LGBT+ inclusion and extending this into disability and enablement inclusion, with participation from both employee representatives and Human Resources professionals. This followed the format of the examination of the Shell People Strategy that the Committee undertook in 2020, which placed particular emphasis on our Mindset and behaviours. The Committee will be conducting further engagements in 2023 to maintain proactive oversight over Shell's ambition to become one of the most diverse and inclusive organisations in the world, where everyone feels valued and respected, with a focus on race and ethnicity and gender representation.

## Committee activity

In addition to its considerations regarding succession (some of which were in the early part of 2023), the Committee made recommendations on corporate governance guidelines, monitored compliance with corporate governance requirements and made recommendations on corporate governance-related disclosures.

The Committee continues to monitor and review this area, considering whether and how current Company governance matters should be strengthened. Further insight on some of the Committee's areas of consideration in 2022 is provided below.

| Topic of discussion/example of Board activity | |
|---|---|
| **Succession [A]** | |
| Recommendation | ▪ Appointment of Sinead Gorman (CFO), Wael Sawan (CEO), Cyrus Taraporevala (NED), Sir Charles Roxburgh (NED) and Leena Srivastava (NED).<br>▪ Appointment of Dick Boer as Deputy Chair/Senior Independent Director.<br>▪ Changes to the composition of the Board Committees. |
| Review and oversight | ▪ Shell Senior Succession and Resourcing Review and ongoing succession planning.<br>▪ Supported the appointment of Ed Daniels to the Executive Committee as Strategy, Sustainability and Corporate Relations Director. |
| Oversight | ▪ Shell diversity, equity and inclusion. |
| Engagement | ▪ Talent engagements. |

| Topic of discussion/example of Board activity | |
|---|---|
| **Talent overview and senior succession review** | |
| Shell Senior Succession and Resourcing Review covering Executive Director and Executive Committee (EC) succession, EC direct reports, the senior executive group and the overall talent pipeline | ▪ Enhanced insight on Shell talent and future leaders.<br>▪ Assurance of robust succession and contingency plans. |

| Topic of discussion/example of Board activity | |
|---|---|
| **Board membership and other appointments** | |
| Directors' tenure, external commitments, conflicts of interests and succession planning | ▪ Non-executive Director appointments and changes to Committee membership. |

| Topic of discussion/example of Board activity | |
|---|---|
| **Governance** | |
| Governing the Board and its committees | |
| Regulation, legislation and other governance-related guidance | ▪ Reviewed its Terms of Reference, and the Terms of Reference for other Board committees and the Matters Reserved for the Board. |
| Shell plc matters | ▪ Considered any potential conflicts of interest and the independence of the Non-executive Directors.<br>▪ Review of additional external appointments requested by Directors, with specific focus on the time allocated to all commitments. For Executive Directors, the benefit/relevance to the business of the Director undertaking the additional role is also a key consideration.<br>▪ Determined the process and the provider for the 2022 external Board Evaluation (see page 153 for an overview of the process and the outcome of the evaluation). |

[A] The Committee was assisted during the year by Russell Reynolds Associates ("Russell Reynolds"), an external global search company whose main role was to propose suitable candidates. Russell Reynolds does not have any connection with the Company other than that of search consultants. The Chair does not participate in discussions regarding his own succession. Russell Reynolds is a signatory to The Voluntary Code of Conduct for Executive Search Firms, which aims to improve board diversity.

# Nomination and Succession Committee continued

## Board succession

During the year the Committee's robust and effective succession planning supported the appointment of a new Chief Financial Officer (Sinead Gorman), who joined the board on April 1, 2022, and a new Chief Executive Officer (Wael Sawan), who joined the Board on January 1, 2023. Some of the Committee activities in supporting these appointments are outlined below.

**The Committee undertakes comprehensive engagement** to understand who the candidates are for senior roles, what personally drives them and how they will ensure Shell achieves its strategic ambitions.

**The Committee plans well in advance for succession and reviews plans regularly.** Succession planning is a crucial, ongoing consideration and not just an area of focus when a Director is nearing the end of their tenure. The Board oversees a rigorous and sophisticated Shell succession planning process in which selection is the final step of a considered well-planned process.

For Executive Director and Executive Committee appointments, the Committee has set a structured process:

- Before any potential decision on resourcing, it explicitly describes the requirements of the role and the candidate profile.
- By working in a planned consistent manner, last-minute surprises are avoided and well-considered decisions are made in line with evolving business requirements. We saw this in action in 2022.
- It also plans for the unexpected and maintains a list of candidates capable of stepping into senior roles to provide cover if necessary.

**The Committee spends time getting to know the candidates** to ensure that the pipeline is robust, diverse and adaptive. The Committee ensures it has visibility of today's and tomorrow's leaders. Over the last few years, the Committee has met many leaders and had extensive engagements with each of them. Some of these leaders now sit on the EC, others were appointed to the Board (Sinead Gorman and Wael Sawan).

**The Committee engages across the Executive talent pipeline** to ensure it interacts with and becomes familiar with talent at different levels of the organisation; for example, on a regular basis informal engagements are held with employees from a range of businesses, functions and backgrounds prior to a Board meeting. Not only does this engagement support senior succession, it also provides a helpful element of the Committee's workforce engagement.

The Board is proud that candidates for the most senior leadership roles have primarily come from within the business, proving that the leadership development and succession process remains effective.

## CEO succession

Although the process was initially led by the Nomination and Succession Committee, the Board was fully engaged throughout the process. All Non-executive Directors provided input into the candidate profile and role specification and outlined what they saw as the challenges facing the business over the next five to ten years. They helped map out leadership and personal qualities needed to be effective, ranked these in order of importance and shared their views of the current culture within the business. Throughout the process the Board was supported by Shell Human Resources executives in tandem with external professional executive assessment and search support.

Both internal and external candidates were considered for the position. The list of preferred qualities and functional focus elements included leadership experience at a large, complex global business; leadership/track record of substantial transformation/change; strong customer orientation; from an industry with a complex supply chain (industrial, engineering or technology); experience of managing substantial stakeholder pressure (with differing views); understanding of large capital projects (not necessarily oil and gas sector), along with certain character requirements.

Updates were provided to the Board and potential candidates discussed. In the final stages of the process, the potential candidates presented to, and were interviewed by, the full Board.

In Wael Sawan we believe that we have found the required qualities and more. Wael Sawan is an exceptional leader, with all the qualities needed to drive Shell safely and profitably through its next phase of transition and growth. His track record of commercial, operational and transformational success reflects not only his broad, deep experience and understanding of Shell and the energy sector, but also his strategic clarity. He combines these qualities with a passion for people, which enables him to get the best from those around him. The outcome of the Board's managed succession process resulted both in the appointment of an outstanding CEO and proved the strength and depth of Shell's leadership talent.

# Safety, Environment and Sustainability Committee

### Focus areas for 2022

- Safety and environmental performance;
- Assurance programme;
- Progress against energy transition targets;
- Non-financial elements of Shell's strategy; and
- Sustainability metrics for remuneration.

### Priorities for 2023

- Shell's sustainability performance;
- Net Zero Emissions;
- Respecting Nature;
- Powering Lives; and
- Emerging non-financial risks.

"The SESCo focused on Shell's safety and environmental performance and assurance programme in 2022, as well as targets for the energy transition and sustainability elements of Shell's Powering Progress strategy."



**Catherine J. Hughes**
Chair of the Safety, Environment and Sustainability Committee

### Committee membership and attendance for 2022



**Catherine J. Hughes**



**Neil Carson OBE**



**Bram Schot**



**Jane Holl Lute**

| Committee member | Member since | Maximum possible meetings | Number of meetings attended | % of meetings attended |
|---|---|---|---|---|
| Catherine J. Hughes (Chair) | November 1, 2017 | 5 | 5 | 100% |
| Neil Carson OBE | June 1, 2019 | 5 | 5 | 100% |
| Bram Schot | October 1, 2020 | 5 | 4 | 80% |
| Jane Holl Lute | May 24, 2022 | 3 | 3 | 100% |

## Purpose

The Safety, Environment and Sustainability Committee (SESCo) assists the Board in reviewing the policies, practices, targets and performance of Shell, primarily with respect to safety, environment including climate change, and broader sustainability.

## Overview

The Committee meets regularly to review and discuss a wide range of important topics. These include the safe condition and responsible operation of Shell's assets and facilities, environmental protection and greenhouse gas emissions, any major incidents that impact or had the potential to impact safety and environmental performance, and progress towards meeting Shell's energy transition targets.

The Committee endorses the areas of the Shell annual assurance plan that are relevant to its Terms of Reference, which include Safety, Environment, Asset Management, and the non-financial elements of Shell's Powering Progress strategy. The Committee also reviews the execution of these areas of the assurance plan and discusses audit outcomes.

The Committee assesses Shell's overall sustainability performance and provides input to Shell's annual reporting and disclosures on sustainability. It also advises the Remuneration Committee on metrics relating to safety and energy transition that apply to the Executive Committee annual scorecard and Long-term Incentive Plan.

# Safety, Environment and Sustainability Committee continued

The Committee reviews and considers external stakeholder perspectives in relation to Shell's business, as well as how Shell addresses issues of public concern that could affect its reputation and licence to operate.

In line with the strategic importance of the Committee's agenda, the Chair of the Board of Directors and the Chief Executive Officer of Shell plc regularly attend Committee meetings for discussions on specific topics.

Shell's Chief Executive Officer and the Executive Committee hold overall accountability for sustainability within Shell.

## Activities

During 2022, the Committee focused on the areas of greatest operational and strategic importance to Shell, in line with its Terms of Reference. This allowed the Committee to oversee effectively and thoroughly the practices and performance of the Company with respect to safety, environment including climate change, and broader sustainability.

The topics discussed in particular depth by the Committee included personal and process safety, a range of environmental topics, Shell's energy transition targets, and remuneration metrics. The Committee also reviewed in detail Shell companies' operations and the challenges faced in Nigeria.

The Committee reviewed the progress made against the non-financial elements of Shell's Powering Progress strategy, including progress against the targets and commitments under the goals of Net-Zero Emissions, Respecting Nature, and Powering Lives. The Committee reviewed in particular the sustainability issues associated with Shell's renewable energy businesses.

The Committee believes the Powering Progress strategy demonstrates Shell's determination to play its full role in the energy transition. The Committee has conducted in-depth discussions with senior management about how Shell's energy transition targets for the near term, medium term and longer term will be met through a combination of developing low-carbon energy businesses, transforming existing assets into energy and chemicals parks, carbon abatement programmes, portfolio actions, the use of nature-based solutions, and the development of carbon capture, utilisation, and storage. The Committee reviewed Shell's Energy Transition Progress Report in depth before its publication.

Following the Committee's review of remuneration with management, the safety and energy transition metrics and targets have been enhanced for the 2023 Executive Committee annual scorecard and the 2023-25 Long-term Incentive Plan in order to drive further performance improvements.

The Committee also reviewed wider matters of public concern during 2022 such as plastic waste, methane emissions, the flaring of natural gas, water scarcity, just transition, human rights, diversity and inclusion, and access to energy in low- and middle-income countries. The Committee engaged with external stakeholders on the topic of nature-based solutions and gained valuable insights on how Shell's approach is perceived.

The Committee continued to monitor Shell's approach to the health of its employees and contractors, in terms of mental well-being in particular. The Committee also continued to review the security risks faced by Shell and how these risks are being proactively managed.

The Committee Chair held meetings throughout the year with senior leaders to discuss specific topics, including safety performance and enhanced assurance protocols.

For further details on SESCo and how Shell manages sustainability see www.shell.com

## Site visits

The Committee visited the LNG Canada joint-venture project in British Columbia, Canada, in September 2022. The visit included a site tour at Kitimat, meetings with staff, and local community engagements with the Chief of the Haisla Nation and Mayor of Kitimat. In Vancouver, the Committee held further meetings with LNG Canada management and engaged with the Premier of British Columbia and relevant Ministers.

| Activities performed | Frequency |
|---|---|
| Review Shell's practices and performance relating to safety, including the safe condition and responsible operation of Shell's assets (Shell-operated ventures and non-Shell-operated ventures), with a focus on both employees and contractors. | Every meeting |
| Review Shell's practices and performance relating to environment, including environmental protection and greenhouse gas emissions. | Every meeting |
| Review any major incidents that impact, or had the potential to impact, Shell's safety and environmental performance. | As necessary |
| Review progress towards meeting the Powering Progress ambitions, including its energy transition targets for net carbon intensity and becoming a net-zero emissions energy business by 2050. | Most meetings |
| Endorse Shell's annual assurance plan for Health, Security, Safety, Environment and Social Performance (HSSE & SP) and Asset Management. | Annually |
| Review execution of Shell's assurance plan and discuss audit outcomes, and review relevant findings from Shell's broader internal audit and investigations programme. | Most meetings |
| Assess Shell's overall sustainability performance and provide input to Shell's annual reporting and disclosures regarding sustainability. | Annually |
| Review how Shell addresses major issues of public concern that could affect Shell's reputation and licence to operate. | Most meetings |
| Review and consider external stakeholder perspectives regarding Shell's business. | Periodically |
| Advise the Remuneration Committee on metrics relating to safety and energy transition. | Annually |

# Audit Committee Report

**Dear Shareholders,**
I am pleased to present our Audit Committee Report for 2022.

I begin this report by thanking Gerrit Zalm and Jane Holl Lute for their contributions as members of the Audit Committee (AC) since March 2017 and July 2021, respectively. I am also delighted to welcome new Committee member, Cyrus Taraporevala, who joined the AC on March 2, 2023. I also welcome Sir Charles Roxburgh, who has been appointed as a Non-executive Director of Shell plc, effective March 13, 2023 and will become a member of the AC as of the same date.

The AC's primary role is to assist the Board in fulfilling its oversight responsibilities in areas such as the integrity of financial reporting, the effectiveness of the risk management framework and system of internal controls as well as consideration of ethics and compliance matters. We are responsible for assessing the quality of the audit performed by, and the independence and objectivity of, the external auditor. The AC also makes a recommendation to the Board on the appointment or reappointment of the external auditor. In addition, we oversee the work and quality of the internal audit function.

Our work programme over the course of a year focuses on a variety of matters that involve a high degree of judgement and/or are significant to Shell's consolidated financial statements. We review with management the sources of estimation uncertainty and other key assumptions in light of economic and market uncertainty, volatility, climate risk and the energy transition and evolving stakeholder expectations. In addition, we consider the robustness of the risk and internal control framework, results of internal control testing performed throughout the year and remediation activities.

Topics addressed in 2022 included the impact of Russia's invasion of Ukraine and Shell's announced withdrawal from Russian oil and gas activities; the potential impacts of climate change on Shell's consolidated financial statements; deferred taxes and tax exposures; the impact on tax balances and disclosures as a result of new windfall and minimum taxes around the world; significant portfolio developments; litigation; impairment trigger assessments; charges and reversals; accounting for complex contracts; dividend distribution capacity; and mark-to-market derivatives accounting, including the impact of volatile gas and power markets.

We received briefings from the Chief Internal Auditor on the effectiveness of Shell's risk management and internal control system and on the outcomes of significant audits and notable control matters.

The impacts of climate change and the energy transition continue to touch on many aspects of the AC's work. The AC's focus areas for 2022 included several discussions on the financial statement impacts of climate change and energy transition, and the increasing expectations around expanded climate-related information. In order to obtain feedback to continuously improve carbon-related disclosures, management engaged with Sarasin & Partners and Carbon Tracker during 2022. The quarterly reports reviewed by the AC from Ernst & Young LLP (EY), our external auditor, and the Chief Internal Auditor, also continued to include specific steps they have taken to incorporate climate change considerations into all facets of their work.

The AC commends Shell's financial reporting team on feedback received from the Financial Reporting Council (FRC) which carried out a limited scope review [A] of TCFD disclosures and the disclosures of climate in Shell's financial statements for the year ended December 31, 2021. The FRC confirmed that, based on their review, there were no questions or queries which they wished to raise at this stage. In its "CRR Thematic review of TCFD disclosures and climate in the financial statements" published in July 2022, the FRC referenced what they regarded as better practice disclosures with a number of examples from Shell's 2021 Annual Report.

[A] The FRC noted that their review is based solely on the annual report and accounts and does not benefit from detailed knowledge of Shell's business or an understanding of the underlying transactions entered into, but that it is, however, conducted by staff of the FRC who have an understanding of the relevant legal and accounting framework.

The AC, recognising the ever-evolving nature of climate change risks and responses, concluded that climate change has been appropriately considered by management in key judgements and estimates and agreed with the disclosure made by management.



**Ann Godbehere**
Chair of the Audit Committee

"The primary role of the AC is to assist the Board in fulfilling its oversight responsibilities in areas such as the integrity of financial reporting, the effectiveness of the risk management framework and system of internal controls as well as consideration of ethics and compliance matters."

# Audit Committee Report continued

The AC was briefed on Shell's Carbon Management Framework and its Carbon Reporting Committee, including future priorities. The AC was also briefed in relation to the Shell Performance Framework which is scheduled to replace and enhance the current Shell Control Framework. Other focus topics for 2022 included non-operated ventures controls and governance.

As part of its oversight of compliance with applicable legal and regulatory requirements, including monitoring ethics and compliance risks, the AC discussed with the Chief Ethics and Compliance Officer activities undertaken in the ethics and compliance programme related to conduct risks stemming from Russia's invasion of Ukraine, and steps taken to manage those risks.

During the year, AC members visited Shell Recharge Fulham Road, our first UK all-electric vehicle charging hub and the AC also conducted a site visit to Shell's London trading floor. As part of Board Strategy Days, AC members also visited Singapore in June 2022 (see Board Strategy Days on page 150). During 2023, the AC plan to visit a number of operations in the USA, including Shell Polymers Monaca and Shell Convent. These site visits deepen the AC's understanding of the risks and opportunities arising as well as its understanding of how the Company's Powering Progress strategy is being implemented.

On a final note, the AC acknowledges the financial reporting team's substantial work during 2022. The AC conveys its gratitude and appreciation for their strong commitment and dedication.

**Ann Godbehere**
Chair of the Audit Committee
March 8, 2023

### Focus areas for 2022

- Impact of Russia's invasion of Ukraine and Shell's withdrawal from Russian oil and gas activities;
- Non-operated ventures controls and governance;
- Climate change and energy transition, including impact on financial statements as well as sustainability and non-financial reporting;
- Resegmentation;
- Carbon management, including GHG reporting and assurance framework;
- Trading and Supply; and
- Introduction and implementation of windfall taxes such as the EU solidarity contribution and Energy Profits Levy in the UK.

### Priorities for 2023

- Risk management, including cyber security;
- Regulatory developments, mainly those in relation to climate change and energy transition;
- Trading and Supply; and
- Shell Performance Framework.

### Committee membership and attendance for 2022



**Ann Godbehere**



**Dick Boer**



**Martina Hund-Mejean**

During 2022, the members and meeting attendance of the AC were as follows:

| Committee member | Member since | Maximum possible meetings | Number of meetings attended | % of meetings attended |
|---|---|---|---|---|
| Ann Godbehere (Chair) | May 23, 2018 | 6 | 6 | 100% |
| Dick Boer | May 20, 2020 | 6 | 6 | 100% |
| Jane Holl Lute [B] | July 28, 2021 | 3 | 3 | 100% |
| Martina Hund-Mejean | May 20, 2020 | 6 | 6 | 100% |
| Gerrit Zalm [C] | March 8, 2017 | 3 | 3 | 100% |

[A] In addition to the six meetings, as part of its activities, the AC conducted two deep-dive sessions, a site visit to the London trading floor and members of the AC also visited Shell Recharge Fulham Road.
[B] Jane Holl Lute stepped down from the AC with effect from May 24, 2022.
[C] Gerrit Zalm retired from the Board and the AC with effect from May 24, 2022.

# Audit Committee Report continued

All AC members are financially literate, independent Non-executive Directors. In respect of the year ended December 31, 2022, for the purposes of the UK Corporate Governance Code, Ann Godbehere and Martina Hund-Mejean both qualify as: a person with "recent and relevant financial experience" and competence in accounting, and, for the purposes of US securities laws, an "audit committee financial expert".

The experience of the AC members outlined on pages 133-141 demonstrates that the AC as a whole has competence relevant to the sector in which Shell operates, and the necessary commercial, regulatory, financial and audit expertise required to fulfil its responsibilities. The AC members have gained further knowledge and experience of the sector as a result of their Board membership and through various in-person and virtual site visits since their respective appointments.

The AC invites the Chief Financial Officer, the Legal Director, the Chief Internal Auditor, the Executive Vice President (EVP) Taxation and Controller (as of October 1, 2022, this role was divided into two roles: EVP Taxation and EVP Controller), the Vice President Group Reporting and the external auditor to attend each meeting. The Chief Executive Officer attends each meeting where the quarterly, half-year and year-end financial results are discussed. The Chair of the Board also regularly attends AC meetings. Other members of management attend when requested on specific topics or to provide input on more detailed technical matters that may arise. The AC regularly holds private sessions separately with the Chief Internal Auditor and the external auditor without members of management, except for the Legal Director, being present. Outside of the formal AC meetings the Chair of the AC meets regularly with each of the following: the Chief Financial Officer, EVP Taxation, EVP Controller, the Chief Internal Auditor, the external auditor, and the Chief Information Officer.

## AC remit

The roles and responsibilities of the AC, as set out in its Terms of Reference, are reviewed annually taking into account relevant regulatory changes and recommended best practice. The key responsibilities of the AC include, but are not limited to:

### Risk Management and Internal Control

- evaluating the effectiveness of the system of risk management and internal control;

### Financial Reporting

- reviewing the integrity of the financial statements, including annual reports, half-year reports, and quarterly financial statements;
- reviewing the potential impacts on the consolidated financial statements of the implementation of the Company's strategy, climate change and the energy transition;
- advising the Board whether, in the AC's view, the Annual Report taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's position and performance, business model and strategy;
- reviewing and discussing with management the appropriateness of judgements involving the application of accounting principles and disclosure rules;

### Compliance and Governance

- reviewing the functioning of the Shell Global Helpline and reports arising from its operation;
- overseeing compliance with applicable legal and regulatory requirements, including monitoring ethics and compliance risks;

### Internal Audit

- monitoring the qualifications, expertise, resources and independence of the internal audit function;
- approving the internal audit function's remit and the annual internal audit plan to ensure alignment with the key risks of the business;
- reviewing the significant matters arising from internal audits with the Chief Internal Auditor and assessing management's response to significant internal audit findings and notable control weaknesses. This includes discussing with management potential improvements and agreed actions;
- assessing internal audit's performance and effectiveness each year;

### External Audit

- reviewing and monitoring the qualifications, expertise, resources and independence and objectivity of the external auditor;
- considering the annual external audit plan and approving related remuneration, including fees for audit and non-audit services;
- assessing the performance and effectiveness of the external auditor and the audit process, including an assessment of the quality of the audit; and
- recommending to the Board for it to put to the Company's shareholders for approval at the Annual General Meeting (AGM) to appoint, reappoint, or remove the external auditor.

# Audit Committee Report

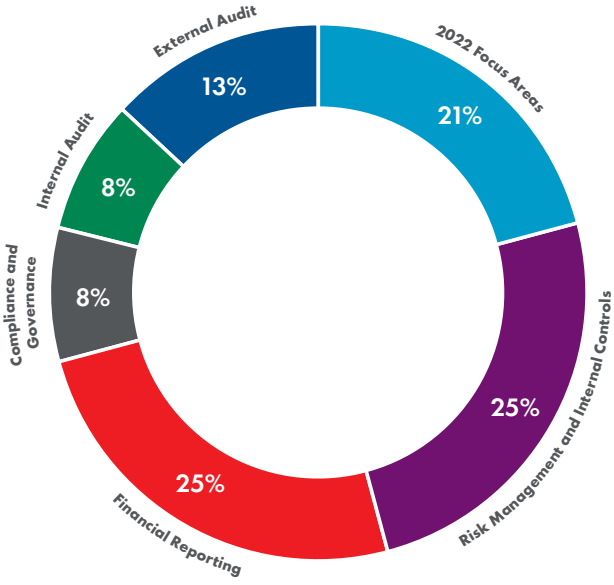
These responsibilities form the basis of the AC's annual work plan, which is adjusted as necessary throughout the year. In addition, the AC annually identifies certain business and function areas to focus on during that year. The focus areas generally encompass aspects of risk management and internal control, financial reporting and compliance. The AC is authorised to seek any information it requires from management and external parties and to investigate issues or concerns as it deems appropriate. The AC may also obtain independent professional advice at the Company's expense. No such independent advice was requested in 2022.

The AC keeps the Board informed of its activities and recommendations, and the Chair of the AC provides an update to the Board after every AC meeting. The AC discusses with the Board if it is not satisfied with or believes that action or improvement is required concerning any aspect of financial reporting, risk management and internal control, compliance or audit-related activities.

A copy of the AC's Terms of Reference can be found at www.shell.com.

## AC topic coverage in 2022

The pie chart below shows the percentage of time the AC spent on various activities during 2022.




## Focus areas for 2022




of AC time and activities

The AC met with senior leaders from various business and function areas to discuss the adequacy, design and operational effectiveness of risk management and controls related to the critical activities carried out by their respective business or function. The discussions included information on any enhancements to strengthen controls and how areas identified for improvement had been addressed; the monitoring of activities around key risks; and the steps being taken to identify new or emerging areas of risk.

In addition to the significant accounting and reporting considerations discussed on page 172 the business and function areas reviewed by the AC in 2022 included the following:

- Impact of Russia's invasion of Ukraine and Shell's announced withdrawal from Russian oil and gas activities - Management and the AC discussed the management of the crisis including the establishment of the Group Crisis Team which was set up to assess the situation, consider potential scenarios of how events could develop and co-ordinate Shell's responses. The AC reviewed management's approach to impairments of Russian assets; the potential total carrying value of all exposures to Russia (including Russian assets, obligations related to Russia (e.g. taxes and/or royalties due) and credit exposures related to the Group's Russian activities); contracts; insurance implications; and sanctions. Throughout the year, the AC and management discussed the actions taken and their impacts. The AC also reviewed disclosures in relation to the situation, including the notes to the quarterly and year-end results announcements.
- Non-operated ventures (NOVs) controls and governance - Management provided the AC with an overview of the strategic decisions for when management decides to utilise a NOV structure; the population of NOVs by size; which NOVs had adopted Shell's control framework or implemented scalable control frameworks and the associated risks for those NOVs that have yet to adopt or implement such controls; and a self-assessment tool used to assess risks and the compliance status of NOVs. Management and the AC also discussed the pace of NOVs in progressing the energy transition and their approach to risk management.

## Focus areas for 2022 continued

- Climate change and energy transition, including impacts on financial statements as well as relevant sustainability and non-financial reporting and other regulatory developments – the AC was regularly updated in relation to developments and their potential implications for Shell including in relation to sustainability-related financial reporting standards, the TCFD guidance, the UK government's response to the Department for Business, Energy & Industrial Strategy (BEIS) "Restoring trust in audit and corporate governance" consultation and the FRC consultation on minimum standards for audit committees.
- Carbon management, including GHG reporting and assurance framework – the AC was provided with an update in relation to the Carbon Management Framework (CMF) and the Carbon Reporting Committee (CRC). The role of the CMF is to ensure that targets are achievable, have assurance and that performance can be measured. The purpose of the CRC is to ensure that GHG emissions targets, including both absolute emissions and carbon intensity and associated financial metrics, comply with legal and regulatory requirements and that data is timely, complete and accurate. The CRC focuses on methodology, standards, processes and assurance. Management provided the AC with an overview of processes, systems and assurances in relation to Scope 1, 2 and 3 emissions. The AC and Management also discussed potential future regulatory assurance requirements for the financial statements.
- Resegmentation – the AC reviewed the appropriateness of the financial disclosure improvements made during the first quarter of 2022 including disclosures of the Renewables and Energy Solutions business following resegmentation and further transparency through the split of downstream businesses into Marketing and Chemicals and Products.
- Trading and Supply – the AC was provided with a number of updates in relation to Trading and Supply activities, particularly in the light of market volatility. The AC also visited the trading floor in London during which the AC members received a number of briefings, including in relation to the trading platforms used by the Trading and Supply team and an overview of gas storage management during 2022.
- Introduction and implementation of windfall taxes such as the EU solidarity contribution and the Energy Profits Levy in the UK – the AC was provided with updates in relation to this topic and also reviewed the disclosures in the financial statements.

**Site visits**

During the year, AC members visited Shell Recharge Fulham Road, Shell's first UK all-electric-vehicle charging hub and the AC also conducted a site visit to the London trading floor. As part of Board Strategy Days, AC members also visited Singapore in June 2022 (see Board Strategy Days on page 150). During 2023, the AC plan to visit a number of operations in the USA.

Site visits are a welcome addition to the AC's annual work plan, as they provide the opportunity for the AC to gain a deeper understanding of the various businesses and functions at each location, the local external environment within which those activities take place and how they contribute to Shell achieving its strategic ambitions. In addition to in-depth examinations of specific business areas, site visits enable the AC members to interact with a diverse group of staff and learn about their experiences, challenges they face and their opportunities for career development. The AC is also briefed on the impact of the energy transition at a local level, how risks associated with climate change are managed, and the results of the Shell People Survey.

## Risk Management and Internal Control




of AC time and activities

The AC assists the Board in fulfilling its responsibilities in relation to risk management and internal control. In order to monitor the effectiveness of the procedures for internal control over financial reporting, compliance and operational matters, the AC reviews reports on risks, controls and assurance, including the annual assessment of the system of risk management and internal control. This annual assessment includes the AC's review of outcomes from the Group Assurance Letter process. The Group Assurance Letter process involves each Executive Director conducting a structured internal assessment of compliance with legal and ethical requirements and the Shell Control Framework. The AC also reviews the Company's evaluation of the internal control over financial reporting as required under Section 404 of the Sarbanes-Oxley Act (SOX 404). The AC updated the Board on compliance with internal controls across the Shell Group and on any major matters for which action or improvement was recommended.

| Activities performed | Frequency |
|---|---|
| **Risk Management and Internal Control** | |
| Review the policies and practices and monitor the effectiveness relating to Shell's risk management and internal control system. | P |
| Receive briefings on regulatory developments. | P |
| Review management's SOX 404 assessment. | A |
| Discuss significant matters arising from completed internal audits with the Chief Internal Auditor, management and the external auditors. | Q |
| Assess management's responses to significant audit findings, recommendations and notable control weaknesses, including potential improvements and agreed actions. | P |
| Review significant legal matters with Shell's Legal Director. | Q |
| Review the oil and gas reserves control framework. | A |
| Review Shell's information risk management. | P |
| Review Shell's tax function, key tax risks and Shell's approach to the evolving area of tax transparency. | P |

A = Annually, Q = Quarterly, P = Periodically

Throughout the year, the AC and management discuss Shell's overall approach to risk management and internal control, including compliance, tax, and information risk management matters and the adequacy of disclosure controls and procedures. The AC receives regular reports from the EVP Taxation and Controller (EVP Controller with effect from October 1, 2022) on the status of actions to address control weaknesses identified via business control incidents and the trends in other measures used to monitor the robustness of the risk management framework and internal control systems.

The AC is also briefed on litigation matters (see "Other regulatory and statutory" on page 211 and Note 31 to the "Consolidated Financial Statements" on page 303.

The AC regularly reviews the status of management's SOX 404 testing of controls and remediation actions to address any identified weaknesses. For 2022, these reviews included consideration of how the volatile external environment, including the impacts of the Russian invasion of Ukraine, affected the controls and assurance landscape, including the financial reporting process. The AC and management discussed the steps taken to maintain an effective control environment, to demonstrate "management in control" during the year and to address any new or emerging risks due to hybrid working. The AC was also briefed on how management was monitoring and addressing any continuing impacts on the control environment from the organisational restructuring from Reshape.

It is important that the AC monitor and learn about evolving external developments in a timely fashion. Accordingly, the AC is regularly briefed on developments in the legal, regulatory and financial reporting landscape that could affect the Company.

In 2022, the AC dedicated time to the following topics:

- Tax risks – In addition to the regular review of Shell's tax provisions, the AC and management discussed the tax implications stemming from the Simplification that took place in early 2022. Management also briefed the AC regarding developments in the external tax landscape, including the new windfall and minimum taxes and different types of taxes when entering new markets and businesses. Management outlined for the AC the steps being taken to manage tax risks and exposures arising from differing viewpoints on complex tax laws. The AC and management discussed proposed changes to Shell's "approach to tax" which were being made to align with Shell's Powering Progress strategy and Simplification.
- Information risk management –The Chief Information Officer briefed the AC on the various actions under way to strengthen Shell's IT systems and cyber-security framework in response to the changing risk landscape and diverse forms of external threats observed. The AC and management discussed the use of dashboards in monitoring assets and compliance and enabling the deployment of actions when required. The AC and management discussed tracking of projects, including the utilisation of clear milestones and value assessments as projects develop. The AC and management also considered the impact of Russia's invasion of Ukraine and Shell's announced withdrawal from Russian oil and gas activities from an information risk management perspective, including the separation of information systems from Russia and monitoring of cyber-security risk.
- Oil and gas reserves control framework – The AC annually reviews the framework that supports Shell's internal reporting and external disclosures of oil and gas reserves. The AC also reviews the processes and controls that prevent and/or mitigate the risks of non-compliance with regulatory reporting requirements. This annual review of Shell's oil and gas reserves control framework supports the AC's review of Shell's reported proved oil and gas reserves discussed later in this report.

In addition to the above, the AC also had quarterly discussions with the Chief Internal Auditor regarding the Company's risk management and internal control system, significant matters arising from the internal audit assurance programme and management's response to significant audit findings and notable control weaknesses, including planned improvements and agreed actions.

The AC similarly holds discussions with EY on a quarterly basis regarding how risks to audit quality are addressed, key accounting and audit judgements, results from audit procedures and management's response to any significant audit findings and any material communications between EY and management.

# Audit Committee Report continued

## Financial Reporting




of AC time and activities

The AC receives comprehensive reports from management and the external auditor on quarterly financial reporting, accounting policies and significant judgements and reporting matters.

| Activities performed | Frequency |
|---|---|
| **Financial Reporting** | |
| Review Shell's accounting policies and practices, including compliance with accounting and reporting standards. | Q |
| Assess the appropriateness of key judgements and the interpretation and application of accounting principles. | Q |
| Review the potential impact on the consolidated financial statements of the implementation of the Company's strategy, climate change and the energy transition. | Q |
| Consider the integrity of the year-end financial statements and recommend to the Board whether the audited financial statements should be included in the annual and statutory reports. | A |
| Consider the integrity of the half-year report and quarterly financial statements. | Q |
| Review management's assessment of going concern and longer-term viability. | Q |
| Review Shell's policies with respect to earnings releases; financial and non-financial performance information and earnings guidance; and significant financial reporting matters. | Q |
| Review Shell's policies with respect to oil and gas reserves accounting and reporting including the outcome of the oil and gas reserves booking/debooking process. | A |
| Review the internal controls for financial reporting. | P |
| Advise the Board of the AC's view on whether, taken as a whole, the Annual Report is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy. | A |

A = Annually, Q = Quarterly, P = Periodically

The AC reviewed the Company's 2022 quarterly unaudited interim financial statements, half-year report, Annual Report and Form 20-F with management and the external auditor.

Shell uses alternative performance measures (APMs) to provide greater insights into its financial and operating results. The AC regularly considers the APMs used in Shell's reporting, the reconciliations to IFRS financial statements and explanations for changes from the previous quarter and year. The AC reviews the overall presentation of APMs with management to ensure they are not given undue prominence. The AC discusses adjusting items with management including any changes to methodology.

The APMs disclosed by Shell are subject to the same internal control process as applied for other financial reporting.

### Fair, balanced and understandable assessment

The AC advised the Board that in its view the 2022 Annual Report including the financial statements for the year ended December 31, 2022, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy (see "Governance" on page 211). To arrive at this conclusion, the AC critically assessed drafts of the 2022 Annual Report including the financial statements and discussed with management the process undertaken to ensure that the relevant requirements were met. This process included: verifying that the contents of the 2022 Annual Report are consistent with the information shared with the Board during the year to support their assessment of Shell's position and performance; ensuring that consistent materiality thresholds are applied for favourable and unfavourable items; considering observations from the external auditor; and receiving assurance from the Executive Committee (EC).

### Going concern and viability statement

The AC reviewed and considered the Directors' half-year and full-year statements with respect to the going concern basis of accounting. As noted in the viability statement, the Board also reviews the strategic plan which takes account of longer-term forecasts and a wide range of outlooks. Key assumptions included: the impact of commodity prices; exchange rates; future carbon costs; agreements such as liquid natural gas contract renewals; production levels, product demand and schedules of growth programmes; the financial framework; Shell's business portfolio developments including consideration of the impacts of various possible energy pathways and scenarios for changes in societal expectations in relation to climate change and Shell's commitment to the Paris Agreement goals; the project funnel to support future growth; and using severe but possible scenarios to run models of the financial impact if certain of Shell's principal risks materialised. The AC considered the mitigating measures and sensitivities that management had applied to the modelling of scenarios when evaluating the viability statement and noted that assumptions do go well beyond the three-year period and do take into account climate change and energy transition. The AC also considered the merits of extending the viability statement beyond a period of three years and concluded that the three-year period selected by the Board for the review of Shell's prospects, in line with the operating plan, remained appropriate. The AC supported the going concern basis of accounting and the inclusion of Shell's viability statement in "Other regulatory and statutory" on page 211 and considered such statement to be in line with best practice guidance issued by the Financial Reporting Council (FRC).

## Financial Reporting
continued

### Significant accounting and reporting considerations

The AC assessed the following significant accounting and reporting areas, including those related to Shell's 2022 Consolidated Financial Statements. The AC was satisfied with how each of the areas below was addressed. As part of this assessment, the AC received reports, requested and received clarifications from management, and sought assurance and received input from the internal and external auditors.

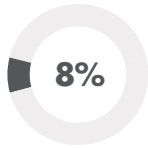
| Issue | AC activity and outcome |
|---|---|
| **Climate change and energy transition** | |
| Risks related to climate change and energy transition are continually monitored to ensure impacts are reflected within Shell's financial statements.<br><br>The external landscape related to non-financial disclosures continues to change at unprecedented speed. In the absence of one global standard for climate-related reporting there are growing demands from various regulatory and voluntary bodies all with their own expectations for disclosures. | The AC was briefed on key regulatory requirements including (but not limited to) the FRC, SEC and EU disclosure requirements and their implications for Shell's external disclosures. The AC also received an update on the outcome of management's engagement with Sarasin & Partners and Carbon Tracker.<br><br>The AC reviewed Note 4 to the Consolidated Financial Statements summarising the key climate risks impacts on the Consolidated Financial Statements as well as the impairment sensitivity disclosures using price outlooks based on different climate change scenarios, including external scenarios.<br><br>See Note 4 to the "Consolidated Financial Statements" on pages 252-260.<br><br>The AC was briefed on the non-financial reporting external landscape developments and regulatory requirements. In this connection, the AC considered the potential implications required for Shell's external disclosures going forward. The AC reviewed the TCFD disclosure in the "Our journey to net zero" section and other non-financial disclosures as part of the Annual Report review and was briefed on the EU taxonomy voluntary disclosures included as supplementary information to the Annual Report.<br><br>Updates regarding climate change and energy transition have been included in the risk factors section on page 16. |
| **Resegmentation and improved financial disclosures** | |
| In line with IFRS 8 - Operating Segments and the Powering Progress strategy, Shell's reporting segments were revised from the first quarter of 2022.<br><br>To further improve the quality of insights provided by Shell's financial disclosures, improvements were made during the year, for example enhanced data disclosures and APMs. | The AC received updates on the implementation readiness, including restatement of prior period comparatives and assurance activities performed over the resegmentation prior to the publication of the first quarter 2022 quarterly results announcement.<br><br>The AC undertook its regular monitoring and assessment in the use of APMs, for example Adjusted Earnings (including identified items during the quarters), Adjusted EBITDA, CFFO excluding working capital, and Net debt and Gearing.<br><br>The AC reviewed the appropriateness of the financial disclosure improvements made during the first quarter 2022 including the changes to the Management Discussion & Analysis in the quarterly results announcement (QRA) and the enhanced disclosures in the Quarterly Data Book, for example the separate disclosure of the Renewables and Energy Solutions business following resegmentation and further transparency through the split of downstream businesses into Marketing and Chemicals and Products. |
| **Withdrawal from Russian oil and gas activities** | |
| Following Russia's invasion of Ukraine, Shell announced its intent to withdraw from: its ventures in Russia; service stations and lubricant operations; and involvement in all Russian hydrocarbons.<br><br>The diverse nature of the Russian activities, including consolidated subsidiaries, proportionally consolidated ventures, equity-accounted ventures, long-term loans, vessel leases, and offtake contracts, required an in-depth review to determine the accounting and reporting implications. | In the first quarter of 2022, management provided the AC with a detailed analysis of the different accounting and reporting implications for each business and asset in Russia. The AC reviewed the disclosure note in the first quarter 2022 QRA which included comprehensive disclosures on individual assets and the associated pre-tax charges recognised in the first quarter results.<br><br>In each subsequent QRA during 2022, the disclosure note was updated for changes in the respective periods and was included in the quarterly results announcements.<br><br>The AC has continued to receive updates on the withdrawal from Russian oil and gas activities throughout 2022 including remaining assets at risk and the implications for the interim financial statements.<br><br>See Note 6 to the "Consolidated Financial Statements" on pages 262-264. |
| **Taxation** | |
| The determination of tax assets and liabilities requires the application of judgement as to the ultimate outcome, which can change over time. In particular, uncertain tax treatments require management to assess the more likely than not outcome, and the recognition of deferred tax assets require management to make assumptions regarding future profitability. As a result, they are inherently uncertain. | The AC considered the uncertain tax positions and discussed management's assumptions of future taxable profits. The AC also evaluated the appropriateness of the recognition of deferred tax assets and tax liabilities. The AC recognises that assumptions regarding future taxable profits are inherently uncertain because they involve assessing factors such as the potential impacts of climate change and energy transition. The AC deemed the assessments of uncertain tax exposures and the recognition of deferred tax assets and tax liabilities to be reasonable. The AC also assessed the accounting judgements made regarding the treatment of tax provision releases relating to Nigeria.<br><br>The AC also reviewed the impact on tax balances and disclosures as a result of new windfall and minimum taxes around the world, in particular those related to the EU solidarity contribution and the Energy Profits Levy in the UK.<br><br>See Notes 2 and 22 to the "Consolidated Financial Statements" on pages 242-252 and 283-285. |

## Financial Reporting
continued

| Issue | AC activity and outcome |
|---|---|
| **Gas & Power markets and derivatives accounting** | |
| External events during the year, such as the Russian war in Ukraine and uncertainties over Russian gas supplies, have seen unprecedented movements in gas and power markets during 2022 affecting trading activities. The impacts on financial outcomes of Integrated Gas and Renewable and Energy Solutions included, for example, significant derivatives movements. | The AC was briefed on Trading and Supply activities and developments. The AC reviewed the impacts of volatile gas and power markets including the impact on mark-to-market valuation of derivatives, IFRS and Adjusted Earnings, as well as the resulting cash flow movements.<br>See Note 25 to the "Consolidated Financial Statements" on pages 293-299. |
| **Impairment and impairment reversals** | |
| The carrying amount of an asset should be tested for impairment or impairment reversal whenever events or changes in circumstances indicate that the carrying amount for that asset may have changed, for example if there is a change in the outlook for commodity prices or refining margin assumptions, or in the event of revisions to future activity plans and developments. On classification as held for sale, the carrying amounts of property, plant and equipment (PP&E) and intangible assets must also be reviewed. | The AC reviewed the impairment assessments that were performed each quarter, and the methodology applied in conducting impairment assessments.<br>The AC considered the updated oil and gas price outlooks against market developments and benchmarks. The 2022 commodity price outlook was reassessed and triggered an impairment reversal review in the second quarter 2022. The AC reviewed the outcomes of the review and the resulting impairment reversals which have been recognised in the 2022 Consolidated Financial Statements.<br>The AC also reviewed other impairment triggers, including for exploration an evaluation assets and held-for-sale classification for asset disposals, and the impairment of goodwill, including for new acquisitions.<br>The AC review of impairments covered a significant proportion of the balance sheet.<br>See Notes 2, 11, 12 and 13 to the "Consolidated Financial Statements" on pages 242-252, 270-271, 271-274 and 275. |
| **Portfolio activities** | |
| In implementing the Powering Progress strategy, several portfolio developments occurred in 2022. | The AC discussed the accounting implications of these developments and the recognition of: (i) decommissioning and restoration provisions; (ii) deferred tax balances; (iii) impairment; and (iv) assets held for sale. The AC also considered the complex accounting treatments, including the Savion and Fulcrum acquisitions. The AC provided support for projects to develop detailed accounting guidance for these types of transaction.<br>See Notes 2 and 24 to the "Consolidated Financial Statements" on pages 242-252 and 292-293. |
| **Provisions** | |
| Provisions, including decommissioning and restoration provisions, are one of the main components of the balance sheet liabilities. The quantification of these provisions requires judgements on input parameters which include, but are not limited to, discount rates and estimated future decommissioning and restoration costs. | The AC was briefed on provisions throughout the year, including onerous contracts and litigation. The AC also reviewed the input parameter assumptions and judgements used in arriving at the decommissioning and restoration provisions.<br>The discount rate is reviewed regularly and the AC considered the change in discount rate to be applied from September 30, 2022. The impact of the change in discount rate on non-current decommissioning and other provisions was disclosed in the Q3 2022 QRA. |
| **Retirement benefit obligations** | |
| Retirement benefits are an important component of both assets and liabilities on the balance sheet. The quantification of these assets and liabilities requires judgements on input parameters which include, but are not limited to, actuarial assumptions and discount rates. | The AC was briefed on the management of risks in relation to retirement benefits in 2022, including financial, operational, and regulatory developments. The AC reviewed the key assumptions (including discount rates and inflation) and sensitivities as part of the Annual Report review and the enhanced disclosures made in this Report.<br>See Note 23 to the "Consolidated Financial Statements" on pages 285-291. |

### Other matters
The AC reviewed: the year-end reported proved oil and gas reserves, including management judgements and adjustments made to reflect changes in geological, technical, contractual and economic information (including yearly average price assumptions) and the effectiveness of financial controls.

## Compliance and Governance




of AC time and activities

| Activities performed | Frequency |
|---|---|
| **Compliance and Governance** | |
| Monitor the receipt, retention, investigation and follow-up actions of complaints received, including those from the Shell Global Helpline. | P |
| Review with the Chief Ethics and Compliance Officer the implementation and effectiveness of the ethics and compliance programme and function. | A |
| Consider compliance with applicable external legal and regulatory requirements. | P |
| Perform an evaluation of the AC's performance and effectiveness and report the results to the Board. | A |
| Review and, if required, update the AC's Terms of Reference. | A |
| Review the Chief Financial Officer's significant business and investment transactions for potential conflicts or related party transactions. | A |
| Assess the Chief Financial Officer's performance. | A |

A = Annually, Q = Quarterly, P = Periodically

### Ethics and compliance

In 2022, the AC received an update from the Chief Ethics and Compliance Officer on how a range of macro factors and external trends and developments, including Russia's invasion of Ukraine, were affecting conduct risk at Shell. The Chief Ethics and Compliance Officer summarised the specific emerging ethics and compliance risks, with a particular focus on trade compliance and data privacy, and management's actions to manage and mitigate them. The Chief Ethics and Compliance Officer briefed the AC on communications to staff from both senior leaders and mid-level management reinforcing the importance of adherence to and affirming Shell's commitment to the Ethics and Compliance framework and Code of Conduct throughout the year.

As part of the annual assessment of the system of risk management and internal control, the AC discussed with the Chief Ethics and Compliance Officer his annual report on compliance matters. The report included an overview of the effectiveness of the Shell ethics and compliance programme in managing ethics and compliance risk in Shell's business activities, regulatory developments and compliance activities. The AC also reviewed investigations of cases involving ethics and compliance concerns. The AC discussed management's findings in such cases to satisfy itself that a rigorous process had been followed, with appropriate disciplinary action being taken where necessary, and that management had embedded learnings into Shell's systems and controls.

### Whistleblowing investigations

The AC is responsible for establishing and monitoring the implementation of procedures for the receipt, retention, investigation and follow-up actions of complaints received, including those from the Shell Global Helpline. The AC reviewed whistleblowing reports and internal audit reports and considered management's responses to the findings in these reports. In 2022, 1,790 allegations and inquiries were received through the Shell Global Helpline (2021: 1,479), of which approximately 41% were submitted anonymously (2021: 42%). In 2022, a total of 412 investigations were closed (2021: 369), of which 44% were found to have some level of substantiation (2021: 49%) and were primarily in the areas involving harassment, conflicts of interest and protection of assets.

### Regulatory developments

The AC was briefed on regulatory developments in areas including sustainability and climate-related disclosures (in particular management's responses to proposals from the International Sustainability Standards Board and the US Securities Exchange Commission in this area and FRC/EU disclosure requirements); the UK government's response to the consultation on strengthening the UK's audit, corporate reporting and corporate governance systems, and potential implications for the Company, the Board and the AC; accounting and reporting; environmental liabilities; and treasury activities.

### AC annual evaluation

The AC undertakes an annual evaluation of its performance and effectiveness. Consistent with the requirements of the UK Corporate Governance Code, the performance evaluation was externally facilitated in 2022, and an overview of the evaluation process and the feedback themes for the Committees can be found on page 153. It was concluded that the AC's performance in 2022 had been effective and that the AC had fulfilled its role in accordance with its Terms of Reference.

In preparing its work plan for 2023, the AC has included the following focus areas in addition to the standing items: risk management, including cyber security; regulatory developments, mainly those in relation to climate change and energy transition; Trading and Supply; and the Shell Performance Framework. As noted earlier, the AC also plans to visit a number of operations in the USA in 2023.

# Audit Committee Report continued

## Internal Audit




of AC time and activities

| Activities performed | Frequency |
|---|---|
| **Internal Audit** | |
| Evaluate the quality, efficiency and effectiveness of the internal audit function including the competence, qualifications, expertise, compensation and budget. | A |
| Review and approve the internal audit function's remit, charter and audit plan. | A |
| Assess the performance of the Chief Internal Auditor. | A |

A = Annually, Q = Quarterly, P = Periodically

Each quarter, the AC discusses with the Chief Internal Auditor the Company's risk management and internal control system, any significant matters arising from the internal audit assurance programme and management's response to significant audit findings and notable control weaknesses including planned improvements and agreed actions. The AC also regularly holds private sessions separately with the Chief Internal Auditor without members of management, except for the Legal Director, being present. The AC's time for these activities is included in Risk Management and Internal Control described earlier in this report. Outside of the formal AC meetings, the Chair of the AC meets regularly with the Chief Internal Auditor.

### Internal audit remit

The internal audit function is an independent assurance function which supports Shell's continuous efforts to improve its overall control framework. The internal audit function contributes to the maintenance of a systematic and disciplined approach to evaluate and improve the design and effectiveness of Shell's risk management, and control and governance processes. The primary role of the internal audit function's assurance and investigation activities is to safeguard value by protecting Shell's assets, reputation and sustainability in relation to the organisation's defined goals and objectives.

The AC defines the responsibility and scope of the internal audit function and approves its annual plan. The Chief Internal Auditor reports functionally to the Chair of the AC and administratively to the Chief Financial Officer. The Chair of the AC approves, in consultation with the Chief Financial Officer, all decisions regarding the performance evaluation, appointment or removal of the Chief Internal Auditor.

### Annual internal audit plan and assessment of internal audit's effectiveness

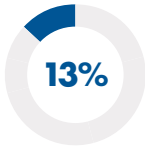
The AC considered and approved the internal audit function's annual audit plan, including focus areas for 2022 consisting of:

- talent and capability (professional audit development and technical capabilities);
- quality (developing first-line staff competence and clarity on self-verification and supervisory controls);
- alignment (improved integration of risk management and alignment of assurance processes across Shell); and
- engagement (mainly in the area of keeping staff and Shell stakeholders engaged and informed on effective risk management and internal control).

Beginning August 2021, audits of the Health, Safety, Security, Environment and Social Performance (HSSE & SP) Control Framework were added to internal audit's remit, creating a unified internal audit function. The Chief Internal Auditor updated the AC quarterly on the approved 2022 internal audit plan and discussed whether the plan remained fit for purpose in addressing the most critical areas of risk in a year of transition. The AC assessed the performance of the internal audit function as effective. The AC also assessed the performance of the Chief Internal Auditor as effective.

The Chief Internal Auditor periodically assesses whether the purpose, authority and responsibilities of the internal audit function continue to enable it to accomplish its objectives. The results of this periodic assessment are communicated to the EC and AC. The Chief Internal Auditor also confirms to the AC the continued validity of the charter of the internal audit function or puts forward proposals for updates to it. The Chief Internal Auditor maintains an internal quality assurance and improvement programme, including an annual assessment of the effectiveness and efficiency of the internal audit function's activities and evaluations of conformance with the standards of the Chartered Institute of Internal Auditors (CIIA). The Chief Internal Auditor discusses the results of this annual assessment with the EC and AC. At least every five years, the effectiveness and quality of the internal audit function are independently assessed externally, and the Chief Internal Auditor reviews the report with the EC and the AC. An independent assessment of the internal audit was conducted at the end of 2022, following up on the previous review in 2018. The assessment confirmed that the internal audit conforms with the CIIA standards and the 2020 Internal Audit code of practice. Strengths were highlighted with respect to the clarity on management ownership of the actions in response to the audit findings, and the integration of learning and improvement into the scope of effective risk management and internal control. Opportunities to further improve were identified with respect to efficient quality assurance and having clarity on the internal audit strategic roadmap, how it links to Powering Progress and the plan for technology, skills and staffing. The roadmap will be discussed with the EC and AC during 2023.

## External Auditor




of AC time and activities

| Activities performed | Frequency |
|---|---|
| **External Audit** | |
| Review and approve the engagement letter for EY's annual audit of the Company's consolidated and parent company financial statements. | A |
| Approve the remuneration for audit and non-audit services, including pre-approval of permissible non-audit services. | Q |
| Consider the annual external audit plan and monitor the execution and results of the audit. | P |
| Monitor the qualifications, expertise, resources and independence of EY. | A |
| Review the Company's representation letter prior to signing by management. | A |
| Assess the performance, objectivity and effectiveness of EY, the audit process, the quality of the audit, EY's handling of key judgements, and EY's response to questions from the AC. | P |
| Recommend to the Board that the reappointment of the external auditor be put to the Company's shareholders for approval at the AGM. | A |

A = Annually, Q = Quarterly, P = Periodically

### Annual external audit plan and assessment of external audit's effectiveness

EY reviewed with the AC its audit strategy, scope and plan for the 2022 audit, highlighting any areas which would receive special consideration. In particular, the AC and EY discussed how the audit would take into consideration risks associated with:

- Trading and Supply deal complexity;
- Revenue recognition (unauthorised trading and risk of fraud or management override);
- Climate change considerations;
- Russia;
- Oil and gas reserves;
- Renewables and Energy Solutions;
- Exploration assets; and
- Compliance with laws and regulations.

EY defines significant audit risks as those areas where there is a higher likelihood of a material error and therefore require special audit attention. In EY's view, the significant audit risks are Trading and Supply complexity and the risk of unauthorised trading or management override.

The AC considered the annual audit plan, which included assessing whether the planned materiality levels and proposed resources to execute the audit plan were consistent with the scope of the audit, particularly in light of the Russian invasion of Ukraine. During the year, EY provided regular updates to the AC on the envisaged separation of its businesses into two multidisciplinary organisations. EY provided assurances that it would be able to continue to perform a high-quality audit should the split of businesses proceed.

EY regularly updated the AC on the status of its procedures and preliminary findings, providing an opportunity for the AC to monitor the execution and results of the audit. The AC and EY discussed how risks to audit quality were addressed, key accounting and audit judgements, material communications between EY and management and any issues arising from them. At least quarterly, the AC met privately with EY representatives without management being present in order to encourage open and transparent feedback from both parties. In addition, the Chair of the AC meets separately with the external auditor on a regular basis.

As part of its oversight of the external auditor, the AC annually assesses the performance and effectiveness of the external auditor and the audit process. This includes assessing the quality of the audit, how the auditor handled key judgements, and the auditor's response to the AC's questions. The assessment also involves the AC evaluating the objectivity and independence of EY and the quality and effectiveness of the external audit process.

The AC's evaluation of the performance and effectiveness of the external auditor and the audit process includes the following key criteria:

- professionalism, competence, integrity and objectivity during the audit, including handling of areas involving judgement and estimates;
- EY's quality assurance procedures and internal quality control procedures;
- audit quality priorities and actions taken as part of maintaining a sustainable audit quality programme;
- constructive challenge of management and key judgements;
- efficiency, covering aspects such as service level and innovation in the audit process, use of data analytical and digital audit tools, and opportunities for improvement;
- quality of the audit team's leadership;
- the most recent EY Transparency Report;
- thought leadership and actions, especially in the areas of climate change; and
- compliance with relevant legislative, regulatory and professional requirements.

In addition to reflecting on its own experiences, including interactions with the external auditor throughout the year, the AC considered and discussed the results of management's internal survey relating to EY's performance over the financial year 2022, which reflected a broadly comparable performance to 2021 and the views and recommendations from management and the Chief Internal Auditor.

Taking into account the above, the AC is satisfied that EY continued to provide a high-quality and effective audit in its seventh year as auditor and maintained its objectivity, integrity and impartiality. As required under UK and US auditing standards, the AC received a letter on independence related matters from EY. EY also informed the AC in writing of any significant relationships and matters that may reasonably be thought to affect its objectivity and independence. The AC and EY discussed such relationships and matters and determined that they did not impair EY's objectivity, integrity and impartiality.

During 2022, there was no review of EY's audits of Shell's Consolidated Financial Statements by the Audit Quality Review (AQR) team of the FRC.

## External Auditor
continued

### Reappointment
The AC is responsible for considering whether there should be a rotation of the independent registered public accounting firm in order to ensure continuing auditor quality and/or independence, including consideration of the advisability and potential impact of conducting a tender process for the appointment of a different independent public accounting firm. The AC is also responsible for recommending to the Board whether it should ask the Company's shareholders to appoint, reappoint or remove the external auditor at the AGM.

At the AGM in May 2022, the shareholders approved a resolution to reappoint EY as external auditor until the conclusion of the next AGM. EY was first appointed at the AGM in May 2016 after a competitive tender process. This means that 2022 represents EY's seventh year as the Company's external auditor. Under UK legal requirements, the Company may retain EY as its external auditor for 20 years. For the 2022 financial year, the Company has complied with The Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014.

In its oversight of the external audit, the AC considered whether it would be appropriate to conduct an audit tender at this time. The AC took into account:
- its continued satisfaction with the quality and independence of EY's audit;
- any new external auditor would need a transition period to develop sufficient understanding of the business given Shell's size and complexity;
- frequent changes of external auditor would be inefficient and could lead to increased risk and the loss of cumulative knowledge;
- a change in auditor would be expected to have a significant impact on Shell, including on the Finance function; and
- any change in auditor should be scheduled to limit operational disruption.

The AC also considered EY's leadership and activities in the area of climate change.

After due consideration the AC determined that it would not be appropriate to re-tender for the external audit at this time. The AC has recommended to the Board that at the 2023 AGM the Board should propose that EY be reappointed as the external auditor of the Company for the year ending December 31, 2023. The AC's recommendation is free from third-party influence and there are no contractual obligations that restrict the AC's ability to make such a recommendation.

The AC acknowledges the UK legal requirements relating to mandatory audit rotation (maximum 20-year engagement) and audit tendering under which the Company will be required to tender for the audit no later than the financial year 2026. The AC regularly reviews auditor performance and may decide to conduct the tender earlier than the financial year 2026 if it considers this to be in the interests of the Company's shareholders.

### Non-audit services
The AC maintains an auditor independence policy (AIP) in respect of the provision of services by the external auditor. Under the AIP, the AC will only approve services to be carried out by the external auditor or its affiliates where such services do not present a conflict of interest risk in fact or in appearance. The AC regularly reviews this policy for necessary changes in response to changes in related standards and regulatory requirements.

This policy is designed to safeguard auditor objectivity and independence. It addresses the provision of audit services, audit-related services and other non-audit services and stipulates which services require specific prior approval by the AC.

The policy also defines prohibited services in line with applicable rules and regulations. Our external auditors are not allowed to provide prohibited services due to independence concerns. For certain non-prohibited services, because of the knowledge and experience of the external auditor and/or for reasons of confidentiality, it may be more efficient or prudent for the external auditor to provide such services.

The AC reviews quarterly reports from management on the audit and non-audit services reported in accordance with the policy or for which specific prior approval from the AC is being sought. Under the AIP, no prior approval by the AC is required for any additional audit service contract not individually exceeding $500,000. All non-audit services where the fee for an individual contract exceeds $100,000, including audit-related services, require individual prior approval by the AC. For audit or non-audit service contracts that do not exceed the relevant threshold, the matter is approved by management by delegated authority from the AC and is subsequently presented for approval by the AC at the next quarterly AC meeting. The AC is mindful of the overall proportion of fees for audit and non-audit services in determining whether to approve such services.

The scope of the non-audit services contracted with the external auditor in 2022 consisted mainly of interim reviews and other audit-related assurance services. The associated compensation for these audit-related services and other non-audit services amounted to 5% and 5%, respectively, of the external auditor's audit and audit-related remuneration.

### Fees
After due consideration, the AC approved the auditor's remuneration, satisfying itself that the level of fees payable in respect of the audit and non-audit services provided was appropriate and that an effective, high-quality audit could be conducted for such fees.

Note 34 to the "Consolidated Financial Statements" on page 307 provides details of the auditor's remuneration.

# Directors' Remuneration Report

"2022 has been a year full of challenge, but also of significant financial, operational and strategic achievements."

## This Report

This Directors' Remuneration Report for 2022 has been prepared in accordance with relevant UK corporate governance and legal requirements, in particular Schedule 8 of The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 (as amended). The Board has approved this report.

This report consists of two further sections:

- the Annual Report on Remuneration (describing 2022 remuneration and the planned implementation of the Directors' Remuneration Policy (Policy) in 2023); and
- the Policy, which is subject to a binding shareholder vote at the 2023 AGM.



**Neil Carson**
Chair of the Remuneration Committee

**Dear Shareholders,**

Shell delivered a very strong set of financial results in 2022, with income of $43 billion and record Adjusted Earnings of $40 billion, and generated more than $68 billion of cash flow from operations (CFFO) and $46 billion of free cash flow (FCF). This level of financial performance undoubtedly reflects macro-environmental conditions, but is enabled by disciplined operational delivery and the ongoing work to create a resilient and profitable portfolio. From a shareholder perspective Shell has made almost $26 billion of shareholder distributions for 2022 through dividends and share buybacks, including the increased fourth quarter 2022 dividend.

However, financial outcomes must be placed in a much wider context. Two of our contractor colleagues in Shell-operated ventures sadly died in the course of their work for Shell. We reflected on these incidents, as we always do, when we determined the final pay outcomes for 2022, as set out over the page.

Shell embraces the challenges and opportunities presented by the necessary transition of the world's energy system to a low-carbon future. We also seek to play our part in meeting today's energy needs against the backdrop of soaring energy demand as the world recovers from COVID-19 and the disruption caused by Russia's invasion of Ukraine. This has resulted in inflationary and cost-of-living pressures for many, particularly when it comes to the supply of energy, and has often had a significant impact on the most vulnerable members of society. The REMCO, therefore, has also paid close attention to the impact on a wide group of stakeholders of these events and factors, including:

- The response to the Russian invasion of Ukraine, with Shell announcing, in early March 2022, its intended withdrawal from its involvement in all Russian hydrocarbons, including crude oil, petroleum products, gas and liquefied natural gas (LNG). This is accompanied by the ongoing efforts to support our Ukrainian operations, employees and contractors;
- Shell's role in helping to ensure the security of energy supplies, as we build a resilient portfolio to address short- and long-term energy needs. In 2022, this included final investment decisions on the Jackdaw field in the UK, Rosmari-Marjoram in Sarawak, Malaysia, the Crux Field in Australia which will supply gas to Prelude (the floating LNG facility), and the North Field East expansion in Qatar. As the world's largest supplier of LNG, Shell continues to supply energy where it is needed most. Part of this was the announcement that Shell UK intends to invest £20-25 billion in the UK energy system over the next 10 years, subject to Board approval and a stable policy framework, to ensure the continuity of an energy supply that is affordable and secure. More than 75% of this is intended for low- and zero-carbon products and services, including offshore wind, hydrogen, carbon capture utilisation and storage (CCUS) and electric mobility;
- Initiatives to support customers and those in society facing fuel poverty; and
- The impact on Shell's employees, where alongside its usual evaluation of markers such as the UK diversity pay gap, the REMCO took particular note of the planned salary increases for 2023 for employees. The REMCO also noted the exceptional reward to employees in 2022, including the vesting of an extraordinary award of Shell shares made in June 2021 to the broader employee population to give them an equity stake in the delivery of the Powering Progress strategy and a one-off Special Recognition Award of 8% of salary to around 81,000 individual employees (excluding Executive Directors and the Executive Committee) globally. This was to recognise and thank them for their collective delivery through a challenging period to keep Shell running safely, reliably and profitably. The Special Recognition Award reflects management's desire to share Shell's success with employees, as well as shareholders.

# Directors' Remuneration Report continued

On April 1, 2022, Sinead Gorman succeeded Jessica Uhl as CFO as part of an accelerated management succession process. This was because a long-term relocation from the Netherlands to the UK was unsustainable for Jessica Uhl on account of family circumstances. On January 1, 2023, Wael Sawan succeeded Ben van Beurden as CEO. This was a proactively managed succession that enabled Shell to appoint a new CEO with the proven acumen and experience to guide us through the next stage of our energy transition journey. See page 133 for further details of the Executive Director changes, the incoming Directors' remuneration packages, and the treatment of the outgoing Directors' remuneration.

At the May 2023 Annual General Meeting (AGM) shareholders will have the opportunity to vote on the revised Directors' Remuneration Policy (Policy). The REMCO has spent much time over the past year reviewing the Policy. Our conclusion is that, on the whole, the Policy is robust and well aligned with best governance practice. However, we are proposing a small number of changes to maintain that strong governance framework and support the delivery of our Powering Progress strategy. In this report, I share the REMCO's thinking on a number of the key proposed developments.Further information on shareholder engagements may be found on page 154.We will also be seeking shareholder approval for a revised Long-term Incentive Plan (LTIP) at the AGM. The revised plan remains largely unchanged from before, save for minor amendments to align with market practice. Further information is provided in the Notice of AGM.

## 2022 remuneration outcomes

### 2022 annual bonus

The overall mathematical outcome of the annual bonus scorecard was above target, at 1.46. The REMCO also paid close attention to the two fatalities which occurred in 2022. One contractor colleague in Nigeria died from injuries sustained during a fire incident. In Pakistan, a contractor colleague died during road transport activities under operational control of Shell. After reflecting on Shell's overall performance in 2022, and particularly on safety performance (see below), the REMCO decided not to use any discretion in determining the final outcome for Executive Directors. This brings our 10-year average scorecard outcome to 1.04.

The complete scorecard with all targets, ranges and weightings, and a detailed discussion of performance against targets are set out on page 187.

### REMCO reflections on safety

Safety is Shell's number one priority and our Powering Progress strategy is underpinned by this. It is critical that our operations run safely every day and that we strive to ensure the well-being of all our people.

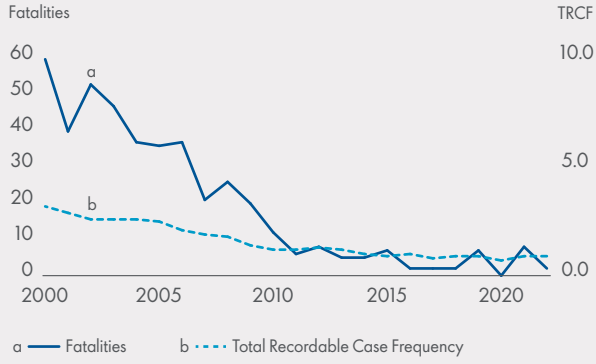
Shell uses Serious Injury and Fatality Frequency (SIF-F) as our scorecard measure for assessing personal safety performance. SIF-F tracks the frequency at which injuries with life-changing consequences occur under Shell operational control. We also assess process safety using the number of Tier 1 and 2 process safety events. This tracks the frequency of unplanned or uncontrolled releases of materials from Shell's operations.

Some shareholders have asked how we approach target-setting for the SIF-F metric. To be clear, our ultimate target is zero harm to people. As a business, we have made good progress in reducing the number of personal safety events over a long period of time, with reductions in the number of fatalities and injuries (see chart to the right).

### REMCO reflections on safety continued

The REMCO believes the SIF-F metric is an important tool to help drive further improvement in safety and take us closer to our ultimate goal of zero harm. The metric focuses management and organisational attention on those incidents with the potential to cause most damage. To assess performance, the REMCO set clear performance ranges based on historic outcomes, our understanding of the industry and taking into account our planned activities for the year.

**Personal safety performance 2000-2022**




With both fatality incidents in 2022, the root causes have been identified as design and human factors while operating physical assets. These incidents continue to serve as a reminder of the need to always focus on safety and be aware of the gravity of impact when things do not go as planned. Notwithstanding these tragic incidents, the outcome on the safety-related performance metrics was strong in 2022.

In 2022, both the personal safety (SIF-F) and process safety (number of Tier 1 and 2 process safety events) was much better than expected. There were significant reductions in both the number of serious injuries and process safety events compared with Shell's performance in the previous year. Eight SIF events were recorded in 2022, down from 32 in 2021. There were 66 process safety events compared with 103 in the prior year. The REMCO also evaluated performance against external benchmarks, noting that performance had been strong against industry standards. For process safety, Shell reached top quartile compared to our industry peer group, in the third quarter of 2022, with lowest number of Tier 1 and 2 process safety events on record. Beyond the metrics, the REMCO also noted the ongoing work by management to embed the safety refresh in Shell assets and businesses. Shell's refreshed approach to safety, based on promoting a learner mindset through deeper understanding of human performance principles and destigmatising errors, is seen as a key contributor to improvement.

After careful consideration of Shell's holistic safety performance in 2022, including the two fatalities, the outcome of the formal metrics, Shell's long-term progress on safety, and management's work on the safety refresh, the REMCO determined not to make any adjustment to the scorecard outcome for safety.

Safety incidents that occur in 2023 will be assessed as part of the REMCO's considerations of performance outcomes for 2023.

# Directors' Remuneration Report continued

### Vesting of the 2020 LTIP awards

Overall, the mathematical outcome of the LTIP was 81%. For the avoidance of doubt, no LTIP targets were adjusted as a result of the COVID-19 pandemic or for any other reason. In addition, the REMCO was satisfied that no windfall gain had arisen. Further information is on page 188.

The REMCO believes the vesting outcome to be representative of Shell's performance over the period and that no adjustment was required. This brings the 10-year average vesting outcome to 87% of target. This is broadly aligned with our target grant, although there have been a number of high and low vesting outcomes over the last 10 years. The REMCO believes this illustrates the fundamental effectiveness of the LTIP and the close alignment between pay and performance that the structure has provided over time.

Full details of LTIP targets and weightings, and a discussion of performance against targets, are set out on page 188.

### Finalising the 2022 pay outcomes

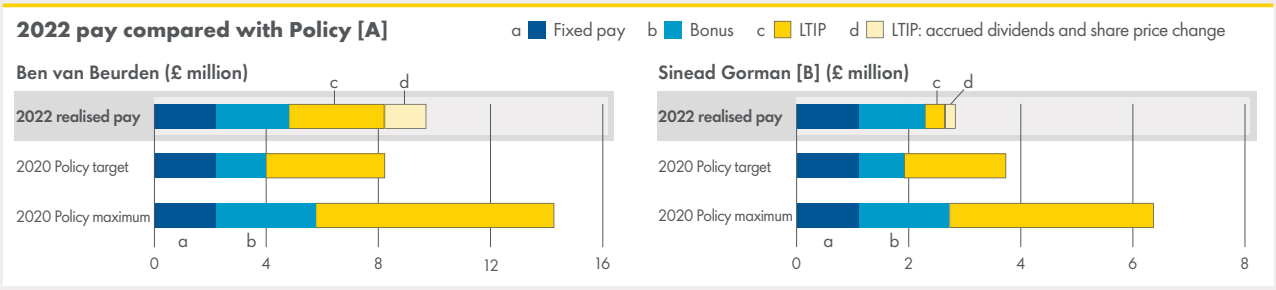
In finalising pay outcomes, the REMCO considered the wider performance of Shell and the broader context during 2022 and over the LTIP performance period, paying particular attention to:

- The strong financial performance in 2022, with more than $68 billion of CFFO, including working capital, and $46 billion of FCF generated in the year, which has enabled Shell to continue to pay down debt, and return $26 billion to shareholders in the form of share buybacks and dividends;
- The ongoing work to transform Shell as part of the energy transition, including the completion of the simplification of the Shell Group with the assimilation of the A and B shares into a single class of shares effective as of January 29, 2022, and the ongoing work to strengthen and simplify the portfolio;
- Adjusted Earnings for 2022 was $17 billion higher than for 2014, when the Brent price was similar, evidencing strong management performance in addition to price tailwinds;
- The shareholder experience, including total shareholder distributions over the LTIP performance period of $44 billion, with almost $26 billion for 2022 alone;
- Shareholders' views on remuneration, as shared with the REMCO during engagements in March and November 2022;
- The employee experience, where the REMCO noted the discretionary uplift applied to the 2021 bonus for below-Board employees, the vesting of the Powering Progress share award to all employees, the Special Recognition Award of 8% of salary made to employees below senior executive level in August in recognition of the contribution staff made to Shell's strong operational performance in a challenging period, the Group scorecard outcome of 1.46, and the Performance Share Plan, used to make discretionary share awards below senior executive level, which vested at 115% of target, and the average employee salary increases;
- The year-on-year comparison between single figure outcomes in 2021 and 2022; and
- The 10-year average outcomes of the annual bonus scorecard (1.04) and LTIP (87% of target), which demonstrate the effectiveness of the current reward structures in aligning pay outcomes with targets over the longer term.

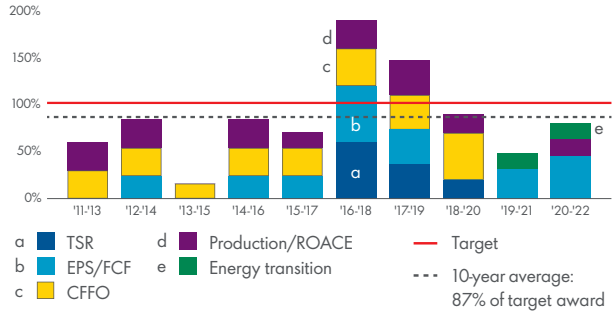
This resulted in a single figure outcome of £9.7 million for the CEO, an increase of 53% from 2021. The CFO's single figure outcome was £2.9 million, noting that this is the first single figure of remuneration disclosed for her, and that her LTIP award which has just vested was made prior to her appointment as an Executive Director. The REMCO was satisfied that the prevailing shareholder-approved Policy had operated as intended, and these outcomes were appropriate in the context of Company performance and the target pay opportunity under the Policy.

## 2022 pay outcomes summary

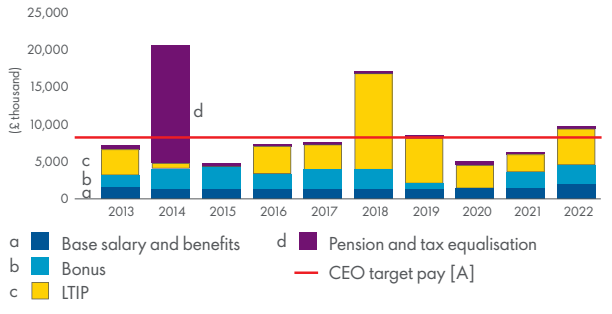
### 2022 pay compared with Policy [A]




### Ten-year LTIP vesting




### Ten-year CEO single figure outcomes




[A] Policy target and maximum based on the shareholder-approved 2020 Remuneration Policy in respect of the annual bonus and the LTIP. Salary, pension and benefits are based on 2022 data.
[B] Policy target and maximum for Sinead Gorman have been pro-rated to relate to the period April 1, 2022 to December 31, 2022, to allow comparison with her 2022 realised pay.

## 2023 remuneration

### 2023 salaries

Wael Sawan was appointed as CEO on January 1, 2023, on a salary of £1,400,000. No increases are anticipated during 2023. Effective January 1, 2023, Sinead Gorman received an increase of 2.8% and her salary for 2023 is £925,000. In reviewing the CFO's salary, the REMCO considered carefully the external environment, and the increases provided to the general workforce in the key markets of the UK, the USA, and the Netherlands (average 5.8%). The CFO's increase for 2023 was positioned below this level and the REMCO recognised the "multiplier effect on total remuneration".

### 2023 LTIP performance conditions

In terms of variable pay, the REMCO reviewed alternative reward mechanisms such as restricted shares as part of the Policy review. However, we believe that the focus on pay-for-performance provided by the existing design of an annual bonus and performance-based long-term incentive remains the best mechanism to support the achievement of Shell's strategic objectives under Powering Progress.

The REMCO focused extensively on the LTIP performance metrics during the Policy review and intends a number of changes to ensure strong alignment with delivering Powering Progress and meeting the challenges of the coming years. Shell's strategy is based on generating cash from its existing businesses to fund the investment necessary to accelerate the transition of Shell's businesses to net zero, while creating shareholder value. To support this, the REMCO is proposing a simplified set of LTIP performance metrics that incentivise and reward the key priorities of:

- Financial delivery;
- Disciplined capital spending;
- Generating shareholder returns; and
- Developing Shell's business for the energy transition.

The REMCO has a strong track record of ensuring reward outcomes are appropriate (note that the 10-year average vesting outcome of the LTIP is close to target at 87% of target) and will provide a full disclosure of all factors taken into account in making the vesting decision at the conclusion of each vesting cycle.

#### Cash generation and disciplined capital expenditure

- Absolute organic free cash flow (OFCF) provides a marker of the cash available for financing activities, including shareholder distributions and debt servicing, after investment in maintaining and growing our business. To date, the existing FCF performance has been assessed on a total basis, including net divestment proceeds and cash flows from acquisitions. This reflects the strategic priority in delivering the divestment programme necessary since the acquisition of BG Group Plc in 2016. Under the proposed Policy, the REMCO intends to shift to a measurement of organic FCF (i.e. excluding net divestment proceeds and cash flows from acquisitions) in order to place greater emphasis on the operational outcomes. Performance will be assessed on an absolute basis to support an alignment between pay outcomes and the shareholder experience.
- Relative cash generation (defined as CFFO/average capital employed) provides a measure of Shell's ability to generate the top-line cash flows to finance investment in our business and shareholder distributions. Performance will be assessed on a relative basis, measuring how efficiently Shell generates cash relative to our peers. This is designed to ensure an ongoing tight alignment with strategy as Shell concentrates on developing a higher-value and more resilient portfolio, and replaces the existing CFFO metric which was based on relative growth.
- The REMCO also considered the overall balance of the LTIP metrics and intends to remove the current ROACE performance metric from the 2023 performance assessment framework. Capital discipline remains a key consideration, particularly as Shell enters a period which may require an investment in new forms of business models for the energy transition. It is critical that this investment is done in a disciplined manner which generates shareholder value. The REMCO believes capital discipline is adequately incentivised through the LTIP by both FCF and relative cash generation (which takes account of capital employed).

#### Shareholder returns

Relative total shareholder returns (TSR): there is no change to this measure, with performance measured on a relative basis against the peer group to provide an assessment of value created for shareholders relative to our closest peers.

#### Energy transition

Growing Shell's future business: in 2019, Shell introduced the Energy Transition performance condition to the LTIP. We were the first major energy company to introduce such a condition, which directly tied reward outcomes to Shell's success in reducing net carbon emissions from all energy products sold, measured against our Net Carbon Intensity (NCI) target, as well as the delivery of the key strategic initiatives that will get us there. For the 2023 LTIP awards, we are increasing the weighting of this condition to 25%.

As we explained when the performance condition was introduced, we expected that we had much to learn about the transition to low-carbon energy as it evolved and therefore also much to learn about how to measure progress. There is no right answer, and it was important that we got started on this journey and developed that understanding of how to best measure performance as we proceeded. In our LTIP metrics to date, we have tracked NCI reduction and rewarded participants for getting going on a range of the strategic levers for energy transition. We agreed a number of performance indicators for each strategic theme, with a target outcome range supported by strong discretionary overlay, rather than seeking to maximise output in specific remuneration periods or in precise ways that do not match non-linear business development.

Even so, in the context of a changing energy system which requires agility from Shell's businesses as they identify and capitalise on the opportunities presented by the energy transition, we have found that detailed performance indicators and targets can quickly become outdated. Assessing progress requires, in turn, agility from the REMCO as we ensure the right behaviours and actions are rewarded.

Going forward, we will continue to track progress against performance indicators for the essential strategic levers for the energy transition, with the focus of the REMCO's performance assessment shifting to an approach which emphasises a more holistic view of achievement of strategic intent, using performance indicators as guidance. This approach is intended to support experimentation and learning what will deliver net zero in a profitable way.

For the 2023 LTIP awards, an assessment of performance will continue to be based on those things that matter most: NCI reduction and supporting strategic themes of reducing Scope 1 and 2 emissions; building a renewable power business; growing new low-carbon energy offerings; and developing emission sinks and offsets.

The REMCO will make an assessment of progress against the NCI target and Shell's longer-term performance indicators for each strategic theme when making the vesting decision for each reward cycle. This approach will maintain a clear quantitative target through the NCI target.

We have noted strong support for a more holistic assessment of progress in our engagement with shareholders. The REMCO is also aware that some shareholders have a preference for fixed targets set upfront for all LTIP metrics. This is something the REMCO intends to evolve towards over time. However, at this time, the optimal design is to support management in delivering our strategy and capturing value from the opportunities presented by the energy transition.

### Other LTIP considerations

Comparator group: the REMCO has given much consideration to the appropriate peer group for assessing relative performance as part of the Policy review. For many years, this has consisted of BP, Chevron, ExxonMobil and TotalEnergies. Changing strategies for the energy transition, including differing timeframes and level of ambition, prompt a regular reconsideration of this group. The REMCO has evaluated a number of alternative peer companies, including smaller European energy producers with similar strategic ambitions, power and pure-play renewables companies, and smaller oil and gas producers. Following this, the REMCO has determined that the existing comparator group remains the appropriate reference point for assessing relative performance for the TSR and cash generation metrics. Despite strategic differences, these companies remain Shell's closest peers in terms of scale and business model. Critically, they are also similarly tasked with reinventing legacy positions. While they have the financial capability that comes from those positions, they also have the constraints of growth from existing scale and supply responsibilities to society. The REMCO intends to keep this under review.

The REMCO also considered the threshold vesting level for the relative metrics and determined not to make any changes.

Further information is provided on page 200.

## 2023 Policy

The REMCO believes the 2020 Policy is robust and well aligned with reward governance best practice. But the REMCO is proposing adjustments to maintain the strong governance framework and support the delivery of the Powering Progress strategy. We consulted with shareholders on the proposed changes and have taken into account a diverse range of shareholder views in our decision-making. It is worth noting that as a result, we have not proceeded with all of our initial proposals but believe there is majority support for those changes we are choosing to take forward. The full proposed Policy is set out from page 203 onwards. To highlight some of the key changes:

Severance policy: under Wael Sawan and Sinead Gorman's service contracts, both the employee and the employer can terminate employment by giving 12 months' written notice, replacing the previous policy which accounted for Dutch statutory provisions.

Pension: Shell's long-standing policy has been to provide Executive Directors with pension benefits aligned with those for the wider workforce in their home country. To enhance transparency and ensure retirement benefits are consistent with the UK headquarters of Shell, Executive Director pensions (including for Wael Sawan and Sinead Gorman) will be aligned with defined contribution pension arrangements offered to Shell's UK employees (currently 20% of salary).

TSR underpin: the existing LTIP has the added complexity of an underpin, whereby the vesting outcome is capped at 100% should the TSR performance condition fail to rank in a vesting position. This was introduced as a mechanism to support alignment between pay outcomes and the shareholder experience at a time when the LTIP was wholly based on relative performance. However, this provision adds complexity to the plan and is not market-aligned, with the REMCO not being aware of any similar examples of a TSR-based underpin being used by any other FTSE30 company. Nor has experience proven it a necessary Policy feature as the underpin has not been invoked to date. Therefore, in the interests of simplifying the plan, the REMCO are proposing to remove the TSR underpin from the 2024 awards onwards.

## Looking ahead

The year ahead brings the vote on the proposed Policy at the AGM and I look forward to ongoing dialogue with our shareholders in the coming months.

**Neil Carson**
Chair of the Remuneration Committee
March 8, 2023

# Annual Report on Remuneration

## Remuneration at a glance

### 2022

#### Fixed pay and shareholding

**Base salary**

| Ben van Beurden (CEO) | Sinead Gorman (CFO) |
|---|---|
| **£1,420,000** | **£900,000** |

**Pension**
Following their relocation to the UK, Ben van Beurden and Sinead Gorman's pensions were aligned to the Shell UK defined contribution pension arrangements offered to new employees, which have an employer contribution of 20% of salary.

**Benefits**
Following their relocation to the UK, Ben van Beurden and Sinead Gorman received support with temporary commuting costs such as travel and accommodation until their families relocated. They also received relocation support for their families' move to the UK, and housing allowances which will not extend beyond 2023.

**Shareholding**

| | Target levels,% of base salary | Actual levels, % of base salary at December 31, 2022 |
|---|---|---|
| CEO | 700% | 1433% |
| CFO | 500% | 102% |

#### Annual bonus

**2022 annual bonus**

| Ben van Beurden | Sinead Gorman |
|---|---|
| **£2,590,000** | **£1,180,000** (pro rata) |

**2022 bonus scorecard outcome**

Overall scorecard outcome: **1.46**

No individual performance factor used in bonus calculation

**Bonus delivery**



50% delivered in cash — 50% delivered in shares

Shares are subject to a three-year holding period which extends beyond an Executive Director's tenure.

#### Long-term Incentive Plan

**2020 – 2022 LTIP vesting outcome**

| Ben van Beurden | Sinead Gorman |
|---|---|
| **£4,914,397** | **£552,291** |

**Vesting outcome**

| Measures | Outcome | Vesting |
|---|---|---|
| TSR | ① ② ③ **④** ⑤ | 0% |
| CFFO growth | ① ② ③ **④** ⑤ | 0% |
| ROACE growth | ① ② **③** ④ ⑤ | 18% |
| FCF | | 45% |
| Energy transition | | 18% |
| | | 81% (out of a 200% maximum) |

Shares are subject to a three-year holding period which extends beyond an Executive Director's tenure.

### 2023

#### Fixed pay and shareholding

**Base salary**

| Wael Sawan (CEO) | Sinead Gorman (CFO) |
|---|---|
| **£1,400,000** | **£925,000** ↑ **2.8%** |

**Pension**
Wael Sawan and Sinead Gorman's pensions are aligned to the Shell UK defined contribution pension arrangements offered to new employees, which have an employer contribution of 20% of salary.

**Benefits**
Following his relocation to the UK, Wael Sawan received relocation support for his family's move to the UK, and a housing allowance. Sinead Gorman continues to receive a housing allowance. Neither Executive Director's housing allowance will extend beyond 2023.

**Shareholding**

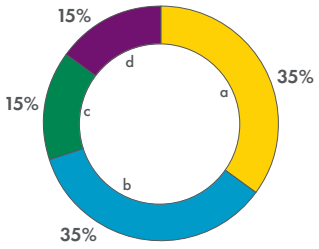
| | Target levels, % of base salary | Actual levels, % of base salary at March 6, 2023 |
|---|---|---|
| CEO | 700% | 389% |
| CFO | 500% | 177% |

#### Annual bonus

**Target % of base salary**

| | Wael Sawan | Sinead Gorman |
|---|---|---|
| Target | 125% | 120% |
| Maximum | 250% | 240% |

**Scorecard architecture**




a **Cash flow from operations** (weighted 35%)

b **Operational excellence** (Asset management excellence 15%, project delivery excellence 10%, customer excellence 10%)

c **Shell's journey in the energy transition** (Selling lower-carbon products 5%, reducing operational emissions 5%, partnering to decarbonise 5%)

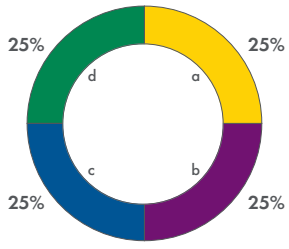
d **Safety** (SIF-F 7.5%, Tier 1 and 2 process safety 7.5%)

#### Long-term Incentive Plan

**Target awards % of base salary**

| | Wael Sawan | Sinead Gorman |
|---|---|---|
| Target | 300% | 270% |
| Maximum | 600% | 540% |

**Performance conditions**




a **Relative cash generation (CFFO/average capital employed)** (weighted 25%)

b **Relative TSR** (25%)

c **Absolute OFCF** (25%)

d **Absolute energy transition** (25%)

Performance against the relative metrics is assessed against other energy majors (BP, Chevron, Exxon and TotalEnergies).

# Annual Report on Remuneration continued

**The Annual Report on Remuneration sets out:**


- remuneration at a glance, page 183;
- the REMCO's responsibilities and activities, page 184;
- Directors' remuneration for 2022, page 185; and
- the statement of the planned implementation of Policy in 2023, page 199.


The base currency in the Directors' Remuneration Report is British pound sterling (GBP), as this is the currency of the base salary of the Executive Directors to December 31, 2022. Where amounts are shown in other currencies, an average exchange rate for the relevant year is used, unless a specific date is stated, in which case the average exchange rate for the specific date is used.

**Committee membership and attendance for 2022**


**Neil Carson OBE**


**Euleen Goh**


**Catherine J. Hughes**


**Bram Schot**


**Gerrit Zalm**

Biographies are given on pages 133-141; and the REMCO meeting attendance is set out below:

| Committee member | Member since | Maximum possible meetings | Number of meetings attended | % of meetings attended |
|---|---|---|---|---|
| Neil Carson (Chair) | June 1, 2019 | 5 | 5 | 100% |
| Euleen Goh | May 20, 2020 | 5 | 5 | 100% |
| Catherine Hughes | July 26, 2017 | 5 | 5 | 100% |
| Bram Schot [A] | May 24, 2022 | 3 | 2 | 67% |
| Gerrit Zalm [B] | May 21, 2014 | 2 | 2 | 100% |

[A] Bram Schot was unable to attend the December 2022 meeting due to another scheduled business commitment.
[B] Gerrit Zalm stepped down from the Committee and from the Board with effect from May 24, 2022.

The REMCO's key responsibilities include determining:

| | Senior Management | | |
|---|---|---|---|
| | Executive Directors | Executive Committee | Company Secretary and EVP Controller |
| Performance framework | ✓ | × | × |
| Remuneration Policy | ✓ | ✓ | × |
| Actual remuneration and benefits | ✓ | ✓ | ✓ |
| Annual bonus and long-term incentive measures and targets | ✓ | ✓ | × |

The REMCO is also responsible for determining the Chair of the Board's remuneration. The REMCO monitors the level and structure of remuneration for senior executives below Senior Management and makes recommendations if appropriate to ensure consistency and alignment with Shell's remuneration objectives. When setting the Policy for Executive Director remuneration, the REMCO reviews and considers workforce remuneration and related policies, and how pay and benefits align with culture. In exercising its responsibilities, the REMCO takes into account a variety of stakeholder considerations.

The REMCO operates within its Terms of Reference, which are reviewed annually, and are available on www.shell.com. As part of the Board evaluation, it was agreed that the Board would undertake a more strategic review of the Board Committees' agendas and remit to ensure alignment with the Board's future priorities and longer-term aspirations.

Advice from within Shell was provided by:
- Chief Executive Officer (CEO);
- Chief Human Resources and Corporate Officer and Secretary to the REMCO; and
- Executive Vice President Performance and Reward.

The Chair of the Board was consulted on remuneration proposals affecting the CEO. The CEO was consulted on proposals relating to the Chief Financial Officer (CFO) and Senior Management.

The REMCO met five times in 2022 and its activities included:
- determining vesting of the 2019 LTIP award for Senior Management;
- determining 2022 target bonus opportunities and 2022 LTIP awards for Senior Management;
- setting 2022 annual bonus and LTIP performance measures and targets;
- approving the 2021 Directors' Remuneration Report, conducting a comprehensive review of the Policy and incentive structures;
- reviewing 2023 bonus and LTIP performance measures and targets;
- consulting with major shareholders and proxy bodies on the proposed 2023 Policy;
- setting exit and appointment remuneration for Executive Director changes, and changes in the Executive Committee; and
- monitoring external developments and assessing the impact on remuneration decisions.

After a competitive tender process during the year, Ellason and PWC were chosen to provide external advice on Shell's remuneration structures and developments in market practice around remuneration. The choice of Ellason and PWC was based on their ability to assess the risk profile of policies, knowledge of investors' expectations, and familiarity with UK and international market practices. Both Ellason and PWC are members of the Remuneration Consultants Group and operate according to the group's code of conduct when advising clients. The REMCO is satisfied that the advice provided was objective and independent. The total fees in relation to the advice were £12,650 to Ellason and £75,168 to PWC (excluding value-added tax). During the year, PWC also provided other professional consulting services to Shell, including, for example, in relation to finance, payroll, tax, and sustainability projects. The REMCO also reviewed benchmarking data and analysis prepared by Shell's internal HR function on market developments in executive pay.

# Annual Report on Remuneration continued

## Directors' Remuneration for 2022

### Single figure of total remuneration for Executive Directors (audited)

£ thousand

| | Ben van Beurden | | Sinead Gorman [A] | | Jessica Uhl [B] | |
|---|---|---|---|---|---|---|
| | **2022** | 2021 | **2022** | 2021 | **2022** | 2021 |
| Salaries [C] | **1,420** | 1,365 | **675** | – | **230** | 890 |
| Taxable benefits [D] | **490** | 15 | **327** | – | **146** | 278 |
| Pension [E] | **284** | 346 | **135** | – | **33** | 242 |
| Total fixed remuneration | **2,194** | 1,726 | **1,137** | – | **410** | 1,409 |
| Annual bonus [F] | **2,590** | 2,201 | **1,180** | – | **–** | 1,376 |
| LTIP [G] | **4,914** | 2,418 | **552** | – | **–** | 1,193 |
| Total variable remuneration | **7,504** | 4,619 | **1,732** | – | **–** | 2,569 |
| **Total remuneration** | **9,698** | 6,344 | **2,869** | – | **410** | 3,978 |
| in US Dollars | **11,995** | 8,728 | **3,549** | – | **507** | 5,473 |
| in Euros | **11,377** | 7,380 | **3,366** | – | **480** | 4,627 |

[A] Sinead Gorman was appointed as CFO and a Board Director effective April 1, 2022. Accordingly, her remuneration for 2022 as shown in the table relates to the period April 1 to December 31, 2022. Sinead's LTIP amount reflects the full award granted in 2020 prior to her appointment to the Board, and is shown here for transparency; the performance measures are the same as those applying to LTIP awards made to Executive Directors.

[B] Jessica Uhl stepped down from her role as CFO and from the Board on March 31, 2022, and left Group service on June 30, 2022. Accordingly, her remuneration for 2022 as shown in the table relates to her service as an Executive Director over the period January 1 to March 31, 2022. Full details of Jessica Uhl's remuneration in respect of the period April 1, 2022 to June 30, 2022 are set out in the "Payments for loss of office" and "Payments to past Directors" sections.

[C] Base salary: Ben van Beurden and Jessica Uhl's base salaries for 2022 were set at £1,420,000 (+3.5% from 2021) and £921,000 (+3% from 2021), respectively. Sinead Gorman's base salary was set at £900,000 on her appointment to the Board.

[D] Benefits: in respect of 2022, Ben van Beurden's benefits included time-limited relocation-related costs (£403,368), motoring allowance (£29,998), and grossing costs (£48,897). Sinead Gorman's benefits included time-limited relocation-related costs (£268,621), motoring allowance (£22,417), and grossing costs (£30,560). Jessica Uhl's benefits included time-limited relocation-related costs (£77,573), motoring allowance (£7,553), and grossing costs (£52,716).

[E] Pension: Ben van Beurden and Sinead Gorman received cash in lieu of pension contributions equal to 20% of base salary in 2022. Jessica Uhl was a member of the Shell US retirement benefit arrangements, as set out on page 197. The amount reported consists of a defined contribution amount of $30,000 (£24,254) and a defined benefit pension accrual of $10,929 (£8,836).

[F] Annual bonus: the full value of the bonus in respect of performance in 2022, comprising both the 50% delivered in cash and 50% bonus delivered in shares. For 2023, the market price of shares on February 23, 2023 for London-listed shares (£24.82) was used to determine the number of shares delivered, resulting in 27,273 ordinary shares for Ben van Beurden and 12,426 ordinary shares for Sinead Gorman, net of tax.

[G] LTIP: the amounts reported for 2022 relate to the 2020 LTIP award, which vested on March 3, 2023, at the market price of €29.37 and £26.04 for Amsterdam-listed and London-listed ordinary shares, respectively. The value in respect of the LTIP is calculated as the product of: the number of shares of the original award multiplied by the vesting percentage; plus accrued dividend shares; and the market price of ordinary shares at the vesting date. The market price of the Amsterdam-listed shares is converted into GBP using the exchange rate on the vesting date. Share price appreciation accounted for €912,309 for Ben van Beurden and £112,430 for Sinead Gorman. The amount shown for Sinead Gorman relates to an award made prior to her appointment to the Board, and is shown here for transparency.

### Notes to the table: Single figure of total remuneration for Executive Directors (audited)

**Pension**

During the year, Ben van Beurden and Sinead Gorman were eligible to participate in the defined contribution UK Shell Pension Plan with an employer contribution rate of up to 20% of salary, or take this as a pension cash alternative. They chose the latter. The UK Shell Pension Plan or associated pension cash alternative is available to new Shell employees in the UK at the same contribution levels and currently around half of UK employees participate in these arrangements. The majority of the remainder participate in a legacy defined benefit plan, which closed to new members in March 2013. Sinead Gorman was a member of this plan prior to her appointment as CFO.

Jessica Uhl was a member of the Shell US retirement benefit arrangements, which included the Shell Pension Plan (a defined benefit plan), and a defined contribution plan where she received an employer contribution of 10% of salary. This was the same as the average employer contribution rate for US employees. As for all other pre-2013 members of the Shell Pension Plan, she had an annual choice of two accrual formulas with different forms of benefits, one in the form of a lifetime annuity and the other allowing for a lump-sum payment. She elected to accrue benefits for 2022 under the former. Around 7,700 out of 13,000 Shell US employees have the option of choosing between the two formulas. These arrangements are the same for all employees who joined Shell US before 2013. The difference in Jessica Uhl's pension provision, compared with other employees who joined before 2013, is that because she was an Executive Director her bonus was not pensionable. For other relevant US employees the bonus is pensionable.

The REMCO believes these pension arrangements are aligned with best practice guidance in the UK which focuses on the alignment of Executive Directors' pension arrangements with those for the general employee population.

# Annual Report on Remuneration continued

**Annual bonus**

The annual bonus is intended to reward the delivery of short-term targets derived from the operating plan. The REMCO reviewed performance against the scorecard, as follows:

Financial delivery (35% weighting): in a turbulent economic environment, robust operational performance and a resilient portfolio have enabled Shell to deliver CFFO (including working capital) of $68 billion. This exceeded our outstanding performance threshold of $45 billion, leading to a maximum outcome on this measure. It is worth repeating that the REMCO has long had a policy of not adjusting remuneration measures to take account of changes in energy prices and currency fluctuations, which supports alignment between pay outcomes and the shareholder experience. In engagements with our largest shareholders, many have appreciated the transparency that this brings.

Operational excellence (35%): delivery of our Powering Progress strategy is underpinned by Shell's ability to operate its assets efficiently, deliver major projects on time and on budget, and leverage its strong customer relationships to create value:

- Asset management excellence: Upstream controllable availability was below threshold, and Midstream availability was below target. Refining and Chemicals availability was on target against the plan.
- Project delivery excellence: project delivery was at target.
- Customer excellence: customer satisfaction was above target, as the collective effort and resilience of our teams, together with proactive customer engagements, helped reduce the impact on customers from supply chain challenges that continue to negatively impact some businesses. However, our Brand Share of Preference (BSP) was below threshold.

Overall the outcome for operational excellence was below target.

Shell's journey in the energy transition (15%): Powering Progress sets out a strategy to accelerate Shell's transition to net-zero emissions; this means changing the products we sell and reducing our emissions. For 2022, the REMCO introduced three new metrics designed to more fully reflect Shell's role in the energy transition:

- Selling lower-carbon products: we are evolving our business models to include lower-carbon energy products (thereby reducing emissions), as well as non-energy products and convenience retail. Performance is measured based on the proportion of earnings in the Marketing segment coming from lower-carbon energy products, as well as non-energy products (see page 187 for the list of products included in this metric). In 2022, the REMCO set a target of 60% of earnings from these products, which was met.
- Reducing our emissions as an energy user: performance is assessed based on GHG abatement projects that result in ongoing Scope 1 and 2 GHG reductions such as flare reduction and energy efficiency projects, site closures, decommissioning and transformations, and increasing the use of renewable electricity in our operations. This metric is about the delivery of projects which result in sustained emission reductions. It does not include the impact of divestments and acquisitions. The 2022 outcome was outstanding, with total emissions reductions of 2,010 Kt of $CO_2$ well ahead of our target of 1,700 Kt of $CO_2$.
- Partnering to decarbonise: we have set annual targets measuring our roll-out of electric vehicle charging points, in line with Shell's target of having more than 500,000 electric vehicle charging points by 2025. The target for 2022 was to achieve 130,000 charging points by the end of the year, and 138,610 charging points were in operation by the end of 2022, resulting in above-target performance.

Overall the score on the Shell's journey in the energy transition measure was above target.

Safety (15%): Powering Progress is underpinned by a focus on safety. It is critical that Shell runs its day-to-day operations safely and ensures the well-being of all our people.

- Process safety continues to be measured through the number of Tier 1 and 2 operational safety incidents and was above maximum, with 66 events recorded compared with 103 in 2021.
- Personal safety SIF-F performance is assessed based on the number of serious incidents which might occur in Shell's businesses based on the work plan for the year and our knowledge of industry incident rates. Our ultimate goal is zero harm to people working for Shell. Shell has made tremendous improvements to safety performance over a long period of time. Measures such as SIF-F are important tools to give focus to those incidents with the most serious consequences and continue to drive improvement. Overall, in 2022, we had fewer serious safety incidents, recording eight incidents in 2022, down from 32 in 2021, which is testament to the ongoing focus of our employees in keeping colleagues safe.

Overall, the score on the safety measure was at maximum. As noted in the REMCO Chair's introduction, the REMCO reflected carefully on safety particularly in light of the two fatalities, and determined not to make any adjustments.

Further information is provided in the "REMCO reflections on safety" section on page 179.

# Annual Report on Remuneration continued

The table below summarises the 2022 annual bonus scorecard measures including their weightings, targets and outcomes. The scorecard outcome for 2022 was 1.46.

## 2022 annual bonus scorecard measures and weightings

| Performance Measures | | Weighting | Unit | Threshold (score of 0 out of 2) | Target (score of 1 out of 2) | Outstanding (score of 2 out of 2) | Outcome | Score (out of 2) |
|---|---|---|---|---|---|---|---|---|
| **Financial delivery (35%)** | Cash flow from operations [A] | 35% | $bn | 35 | **40** | 45 | 68 | **2.00** |
| **Operational excellence (35%)** | Asset management excellence [B] | 15% | % | | **See note B** | | | **0.43** |
| | Project delivery excellence [C] | 10% | % | | **See note C** | | | **1.04** |
| | Customer excellence [D] | 10% | Index | | **See note D** | | | **0.70** |
| **Shell's journey in the energy transition (15%)** | Selling lower-carbon products [E] | 5% | % | 50 | **60** | 70 | 60 | **1.00** |
| | Reducing operational emissions | 5% | Thousand tonnes $CO_2$ | 1,530 | **1,700** | 1,870 | 2,010 | **2.00** |
| | Partnering to decarbonise | 5% | Number of EV charge points | 104,000 | **130,000** | 156,000 | 138,610 | **1.33** |
| **Safety (15%)** | Personal safety | 7.5% | Serious Injury & Fatality Frequency (SIF-F) cases per 100 million working hours | 7.5 | **6.0** | 4.5 | 1.7 | **2.00** |
| | Process safety | 7.5% | Number of events | 120 | **96** | 72 | 66 | **2.00** |
| | | | | | **Overall scorecard outcome** | | | **1.46** |

[A] Including working capital adjustments.
[B] Upstream controllable availability: 84.7% (Threshold 85.0%, Target 87.0%, Outstanding 89.0%); Midstream availability: 89.3% (Threshold 88.7%, Target 90.7%, Outstanding 92.7%); Refinery and chemical plant availability: 95.5% (Threshold 94.5%, Target 95.5%, Outstanding 96.5%). Performance assessment is equally weighted between Upstream, Midstream, and Refining and Chemicals.
[C] Projects delivered on schedule: 69% (Threshold 30%, Target 65%, Outstanding 100%); project delivery on budget: 103% (Threshold 110%, Target 103%, Outstanding 96%). Performance assessment is equally weighted between projects delivered on schedule and on budget.
[D] Customer satisfaction: 8.3 (Threshold 7.6, Target 8.1, Outstanding 8.6); Brand Preference: 13.8% (Threshold 13.8%, Target 14.2%, Outstanding 14.6%). Performance assessment is equally weighted between customer satisfaction and brand recognition.
[E] Based on the percentage of Adjusted Earnings in the Marketing segment from lower-carbon energy products (on a life cycle basis), defined as biofuels and EV charging, as well as non-energy products, defined as lubricants, bitumen, sulphur (agriculture and forestry), and earnings from convenience retail. The name of this category has been amended from "Progress in the energy transition" (as disclosed in the 2021 Directors' Remuneration Report) to "Shell's journey in the energy transition" to more precisely reflect the nature of this metric.

Accordingly, the REMCO decided the final bonus outcome should be 146% of target and 73% of maximum. This results in a bonus of £2,590,000 for Ben van Beurden and £1,180,000 for Sinead Gorman for the period she was CFO during 2022.

## 2022 bonus outcome calculation

**Ben van Beurden**

**Target bonus:** £1,420,000 (base salary) x 125% = **£1,775,000** × 2022 scorecard result 1.46 = **£2,590,000** [A]

**Sinead Gorman**

**Target bonus:** £900,000 (base salary) x 120% = **£1,080,000** × 2022 scorecard result 1.46 × Pro rata factor 9/12th = **£1,180,000** [A]

[A] Rounded down to the nearest £5,000. Half was delivered in shares subject to a three-year holding period which extends beyond the Executive Director's tenure.

# Annual Report on Remuneration continued

**Long-term Incentive Plan vesting: 2020 LTIP**

In 2020, Ben van Beurden was granted a conditional share award under the LTIP of 300% of salary. Sinead Gorman's 2020 award is also disclosed for transparency, notwithstanding that she was not an Executive Director at the time. The awards were made prior to the onset of COVID-19 in March 2020, meaning there was no possibility of windfall gains from the subsequent fall in share price. While there was a 13% reduction in share price since the 2019 award, this was below the threshold at which an adjustment would be considered, and therefore no adjustment was made to the award size.

In determining the vesting outcome, the REMCO considered Shell's performance over the three-year period January 1, 2020 to December 31, 2022:

- Relative CFFO: in absolute terms, 2022 performance was strong with CFFO at $68 billion (including working capital). On a relative basis as compared against the 2019 base year when Shell also generated strong CFFO of $42 billion, Shell ranked fourth, resulting in 0% vesting for this measure.
- Relative TSR: over the performance period, Shell returned around $44 billion to shareholders in the form of dividends and share buybacks, whilst TSR was 14.3%. Relative to the other energy majors, Shell's TSR ranked fourth, resulting in 0% vesting for this measure.
- Relative ROACE: Shell's absolute 2022 ROACE for LTIP purposes was 15.9% (note that ROACE for the LTIP calculation is based on disclosed net income and is not adjusted for the after-tax interest expense and therefore differs from disclosed ROACE). On a relative growth basis compared against 2019 when Shell's ROACE was 5.80%, Shell ranked third, resulting in a 80% of target vesting outcome.
- Absolute FCF: strong performance in 2021 and 2022 resulted in total FCF of $107.1 billion being generated over the three years, above our maximum threshold of $80 billion. This resulted in a 200% of target vesting outcome on this measure. Note that FCF for the first three quarters of 2022 is 3.5x higher than the equivalent in 2013, when Brent price was similar, evidencing strong management performance in addition to price tailwinds.
- Absolute energy transition: the outcome of this measure is determined holistically by the REMCO, taking account of Shell's performance against defined performance indicators and also Shell's wider performance in accelerating its transition to a net-zero emissions business. Overall, the REMCO determined the vesting outcome as 180% of target. Commentary on energy transition performance is provided below.

## 2020 LTIP vesting outcomes – performance measures

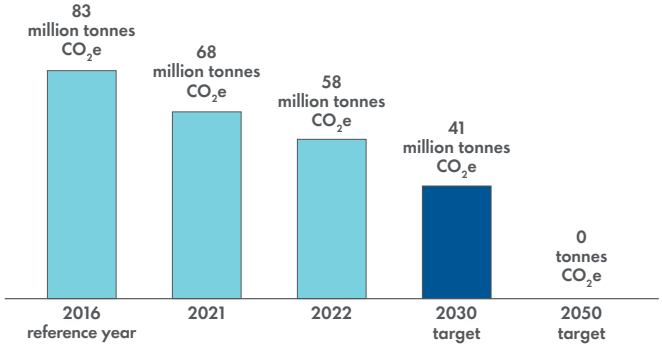
| Performance Measures | | Weighting | Threshold | Target | Maximum | Outcome (out of the maximum 200%) | | Vesting outcome (% of target award) |
|---|---|---|---|---|---|---|---|---|
| **Relative** Performance ranked against the other energy majors: BP, Chevron, ExxonMobil and TotalEnergies | CFFO | 22.5% | Third | | First | ① ② ③ **④** ⑤ | 0% | 0% |
| | TSR | 22.5% | Third | | First | ① ② ③ **④** ⑤ | 0% | 0% |
| | ROACE | 22.5% | Third | | First | ① ② **③** ④ ⑤ | 80% | 18% |
| **Absolute** Performance assessed against internal financial and strategic targets | FCF | 22.5% | $56bn | $65bn | $80bn | $107bn | 200% | 45% |
| | Energy transition | 10% | | See below | | | 180% | 18% |
| | | | | | | | | **81%** |

The 2020 LTIP energy transition metrics focused on those elements that we understood at the time would make the most impact in achieving our goals over the three-year performance period relating to net carbon intensity, the growth of our power business, the growth of lower-carbon products, and the development of systems to absorb, capture and store carbon. The approach to the LTIP allows us to experiment and learn what is effective and which behaviours and actions will deliver net zero in a profitable way. Accordingly, the REMCO uses the performance indicators as guidance, rather than applying a formulaic vesting outcome, when making its decisions.

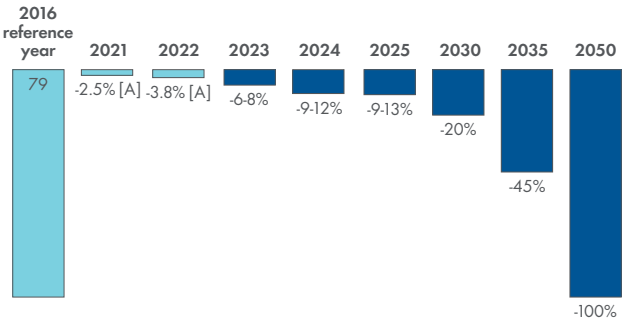
## Our carbon targets

In 2022 we continued our progress on our path to net zero by 2050. At the end of 2022, we reduced our Scope 1 and 2 emissions by 30%, and the net carbon intensity of our energy products by 3.8% from our 2016 reference year.

**Net carbon emissions** – Scope 1 & 2 operational emissions




**Net carbon intensity (NCI)** ($gCO_2e/MJ$)




[A] 2021 target 2-3% reduction, 2022 target 3-4% reduction, both achieved.

# Annual Report on Remuneration continued

## 2020 energy transition performance condition: outcome

To help to transform the energy system, Shell's strategy is to develop a portfolio that will:

- provide more electricity to customers, while also driving a shift to renewable electricity;
- develop low- and zero-carbon alternatives to traditional fuels, including biofuels and hydrogen; and
- address any remaining emissions from conventional fuels with solutions such as carbon capture and storage and nature-based solutions.

Progress against these strategic goals is assessed under the LTIP, alongside the reduction in the total net emissions of all energy products sold, as measured by Shell's net carbon intensity (NCI) target.




**Net carbon intensity (NCI) - Performance indicator met**

We have medium-term targets to reduce our NCI by 20% by 2030, 45% by 2035 and a long-term target of 100% by 2050, compared with 2016 levels. Our short-term NCI targets are consistent with these medium-term targets.

We achieved our short-term target for the 2020-22 LTIP cycle to reduce our NCI by 3-4% compared with the 2016 base year, with a 3.8% reduction by 2022.



**Growing a material power business - Performance indicator substantively met**

As with much of the early stages of the energy transition journey, we have been in a phase of piloting and learning and we expect that to continue for some time as we create the foundations on which a valuable power business can be built. We are doing this by entering new markets to access customers and developing new commercial pathways by creating a funnel of renewable power capacity options and then converting these options to realised investments. Over the performance cycle, the Power business has developed, learning how to manage risk and execute projects that can leverage Shell's existing strengths, with the key challenge remaining to identify and act on opportunities that deliver appropriate returns.

- We set out in 2020 with a goal to enter three new markets, aligned with the target markets under our 2019 strategy for the power business for direct power sales to end-consumers (applying a materiality threshold of 1 terawatt hour (TWh) of power sold per annum) cumulatively since 2019. We achieved two new entries with the ERM acquisition in Australia (now trading as Shell Energy) and our growing power business in Germany which reached the materiality threshold in Q4 2022. While our initial target markets were aligned with the 2019 power strategy, this business has evolved rapidly and the REMCO also took account of market entries in India, Japan and Italy which while not aligned with the original strategy, are consistent with the objectives of entering new markets and creating a customer base. Alongside these the REMCO noted other milestones of progress in establishing our customer base such as the acquisition of Inspire, a USA-based renewable energy residential retailer, and Powershop, an online energy retailer serving more than 185,000 customers in Australia. We have also refined our thinking on this metric as the Power business has evolved, and from the 2021 LTIP have moved to assessing progress based on the total power sales measured in TWh of power sold and the proportion of those sales which are from renewables.
- We also set out to secure renewable power generation capacity options of 5–10 GW and are well beyond target at 47 GW over the LTIP cycle. Investments, such as Sprng Energy group (a $1.55 billion investment, completed in August 2022), a solar and wind platform in India which brought significant operational renewable power generation capacity and a pipeline of new projects, and Savion (completed in December 2021), a US solar and energy storage developer, are key to enabling us to continue to learn where we can be competitive with the strength of our integrated value chain and generate attractive returns.
- A target of post-FID capacity of 2-4 GW from renewables was set for the LTIP, which was met with 3.6 GW of post-FID capacity achieved. Notable investments towards building this capacity include the Sprng acquisition and the Crosswinds development in the Netherlands which began construction in 2022. In total, Shell has invested £7 billion in renewable power projects cumulatively since 2019.
- Emerging economies present some of the fastest-growing power markets in the world. Focusing on Africa and South-east Asia, Shell is aiming to build an integrated sustainable power business, helping customers access electricity from cleaner sources. Shell intended to invest $200 million in energy access customers over the LTIP period. By the end of 2022, we had completed $190 million, falling slightly short of the initial target. The most notable investment was the acquisition of Daystar Power (completed in December 2022), a West African provider of hybrid solar power solutions to businesses. Daystar was an important growth milestone for Shell's emerging market power business, and can help address a critical energy gap for many businesses that currently rely on diesel generators for back-up power. Investments such as Daystar give Shell platforms to develop our customer propositions in dynamic and growing markets for renewable energy, as we look to expand the renewables business away from mature markets.

One of the key challenges we have experienced over the LTIP cycle has been volatility and lower-than-expected returns. This has sharpened our focus on prioritisation of value over volume. In the power space that means a shift in our focus to compete in a way that utilises the unique nature and skills of Shell's integrated business to give us the competitive advantage and deliver appropriate returns on this energy transition journey.



**Growing lower-carbon products - Performance indicator met**

Shell is investing in low- and zero-carbon products such as renewable electricity, hydrogen and biofuels, working closely with our customers to identify the products they need to decarbonise. Shell's biofuels strategy is to develop and invest in the projects and technologies to develop a profitable manufacturing business converting sustainable feedstocks to low-carbon fuels across three main categories: Hydroprocessed Esters and Fatty Acids (HEFA)/Hydrotreated Vegetable Oil (HVO), Renewable Natural Gas (RNG), and advanced biofuels. In the years ahead we also aim to be a leading player in a global hydrogen economy, developing integrated hydrogen hubs to serve industry and heavy-duty transport. The 2020 LTIP cycle supported this by setting a number of performance indicators which were aimed at de-risking advanced biofuels technologies and the overall abatement of $CO_2$ from Shell's investment in low-carbon fuels.

- Over the LTIP performance period we took equity positions in two advanced biofuels projects (Lanzajet (USA) and Enerkem Varennes (Canada)), ahead of the performance indicator which was set for the LTIP of one investment in a commercial biofuels project. Shell together with its partners has agreed to a revised allocation of equity in the Enerkem Varennes Carbon Recycling (VCR) project and over time Shell expects to reduce its long-term percentage holding in the VCR project. Therefore, the REMCO determined that it would count only one project.
- For the LTIP we also set a performance indicator of 1,500 Tonnes a day (T/d) of carbon equivalent abated through HVO biofuels and RNG from waste sources, which was met with 8,894 T/d abated, largely through the Shell Rotterdam biofuels facility, which Shell took final investment decision on in September 2021. Once built this will be among the largest biofuels facilities in Europe, producing enough renewable diesel to avoid 2,800,000 tonnes of $CO_2$ per year. The start-up of our first US RNG plant (Oregon) in January 2022 and final investment decisions on three further RNG plants (Kansas, Idaho) also support this target.
- The REMCO set a performance indicator to identify a number of lead projects for Shell's proprietary biomass to liquids technology, iH2, for delivery once the technology development release is issued. While no FIDs were taken, two priority iH2 projects (Norway and US) are progressing.

# Annual Report on Remuneration continued



**Growing lower-carbon products - Performance indicator met** continued

Beyond the set targets, the REMCO also considered some of the wider developments that Shell undertook which demonstrate how Shell can help meet society's need for cleaner energy through low-carbon fuels. This included the final investment decision on Holland Hydrogen I in July 2022, which will be Europe's largest renewable hydrogen plant when operational from 2025. The 200 MW electrolyser will produce up to 80 tonnes of renewable hydrogen a day, with power coming from the offshore wind farm Hollandse Kust (noord), with some of the hydrogen produced used to replace grey hydrogen at the Shell Energy and Chemicals Park Rotterdam.

The ultimate proof of the strategy and the contribution that low-carbon fuels can make in reducing emissions is being able to produce and sell these at scale, and the REMCO noted that Shell is one of the world's largest traders and blenders of biofuels. The Brazilian joint venture Raízen, in which Shell has a 44% interest, is one of the world's largest biofuels producers and in November 2022, Shell announced an agreement to buy 3.25 billion litres of sugar-cane ethanol under a long-term agreement with Raizen. In December 2022, Shell reached an agreement to acquire Nature Energy, the largest producer of renewable natural gas in Europe (with the acquisition completed in February 2023), supporting Shell's ambitions to grow its low-carbon fuels production.



**Develop emissions sinks - Targets met**

The development of systems that capture and store or absorb carbon is required as part of the global response to climate change to reduce and compensate for emissions where there are not currently scalable low-carbon alternatives. The 2020-22 LTIP energy transition performance condition focused on getting started on developing the commercial value chains and capacity for future projects, with metrics based on taking FID on a number of the projects.

In 2020, we intended to progress nature-based solutions verified by recognised carbon credit standards. Carbon credits generated by high-quality nature-based projects may be used to offset emissions in line with the mitigation hierarchy of avoid, reduce and offset.

- Over the LTIP performance cycle we have taken FID on 15 projects, well ahead of the 4-8 FID set as a performance indicator in 2020, reflecting both the growth in the market for carbon credits and the development of capability within Shell as the business matures.
- In 2020, we set a performance indicator to mature one carbon capture and storage project to post-FID. In 2020, we took FID on Northern Lights, our Norwegian CCS joint venture (Shell interest 33.3%). We continue to have a healthy number of projects we are developing on CCS at a global level.
- By the end of 2022, our Quest project in Canada (Shell interest 10%) had captured and safely stored more than 7.5 million tonnes of $CO_2$ since it began operating in 2015. In Australia, the Gorgon project (Shell interest 25%, operated by Chevron), which started operating in August 2019, had stored more than 7 million tonnes of $CO_2$ by the end of 2022.

There are also a number of broader indicators of Shell's progress in the energy transition that the REMCO considered when making its overall vesting determination.

During 2020, Shell:

- Announced its target to become a net-zero emissions energy business by 2050.
- Published the Industry Associations Climate Review update, including Shell's updated climate-related policy positions and our payments to keep industry associations.

During 2021, Shell:

- Launched its Powering Progress strategy to transition of our business to net-zero emissions, including targets to reduce the carbon intensity of energy products we sell by 6-8% by 2023, 9-12% by 2024, 9-13% by 2025, 20% by 2030, 45% by 2035 and 100% by 2050.
- Offered an advisory vote on Shell's energy transition strategy to our shareholders for the first time, achieving support of 89%.
- Put in place a simpler, more cost-effective organisation needed to implement Powering Progress.
- Published the 2021 Industry Associations Climate Review, extending our coverage to 36 industry associations.
- Formed more than 50 collaborations with other leading companies aiming to be at the forefront of the energy transition.

During 2022, Shell:

- Completed the Simplification of Shell plc, aligning its tax residence with its country of incorporation and established a single line of shares, allowing Shell to respond to the challenges of the energy transition by managing its portfolio with greater agility.
- Published its first Energy Transition Progress Report and offered an advisory vote on Shell's progress to our shareholders for the first time, achieving support of 79.9%.

Overall, the REMCO determined that the energy transition measure (accounting for 10% of the award) should vest at 180% of target.

The REMCO reviewed Shell's broader performance over the performance period (see page 192 for detailed discussion), and also reflected on the share price at award and on vesting, noting that the share price had increased by 24%, and that appreciation accounted for 16% of the total value of the CEO's LTIP at vest, and was satisfied that no windfall gain had arisen.

The REMCO decided that the LTIP outcome was consistent with the target opportunity and intended operation of the plan under the Policy and appropriate, and therefore no adjustment to the vesting outcome was required. Accordingly, the REMCO decided that the LTIP should vest at 81% of target (equivalent to 41% of maximum).

The overall LTIP vesting outcome, including an illustration of the impact of share price movements and accrued dividends, is set out below. The CEO's and CFO's vested awards are subject to a further three-year holding period which extends beyond their tenure as Executive Director.

# Annual Report on Remuneration continued

## 2020 LTIP vesting outcome

### Ben van Beurden

| Vesting outcome: [A] | | Change in share price: [B] | | Accrued dividends: [C] | | Total LTIP Vesting: |
|---|---|---|---|---|---|---|
| 200,589 x 81% = 162,477 ordinary shares **€3,858,831** | + | 162,477 x €5.62 **€912,309** | + | 26,313 ordinary shares **€772,687** | = | 188,790 ordinary shares **€5,543,827** £4,914,397 [D] |

### Sinead Gorman

| Vesting outcome: [A] | | Change in share price: [B] | | Accrued dividends: [C] | | Total LTIP Vesting: |
|---|---|---|---|---|---|---|
| 22,500 x 81% = 18,225 ordinary shares **£362,058** | + | 18,225 x £6.17 **£112,430** | + | 2,988 ordinary shares **£77,804** | = | 21,213 ordinary shares **£552,291** |

[A] Based on the share price at award of €23.75 for Ben van Beurden and £19.87 for Sinead Gorman. For details of Jessica Uhl's 2020 LTIP, see the "Payments to past Directors" section.
[B] Calculated based on the opening share price on March 3, 2023 minus the share price at the date of award. For Ben van Beurden: €29.37 – €23.75 = €5.62; for Sinead Gorman: £26.04 – £19.87 = £6.17.
[C] Based on the opening share price on March 3, 2023 of €29.37 for Ben van Beurden and £26.04 for Sinead Gorman.
[D] Converted from EUR to GBP using a spot exchange rate on March 3, 2023.

### Consideration of 2022 final pay outcomes

In determining the final pay outcomes for 2022, the REMCO also considered the personal performance of the Executive Directors.

## Personal performance

It has been an unprecedented period for the energy sector. The exceptionally strong financial performance in 2022 is attributable in part to the macro environment, but also, in the view of the REMCO, reflects the outstanding personal contributions and teamwork from management in recent years. Over the last three years, the Executive Directors have demonstrated strong and compassionate leadership navigating the Company through the pandemic and volatility in energy prices. They also implemented a new organisational structure (Project Reshape), simplified the share structure and aligned the Company's tax residence with its country of incorporation to strengthen Shell's competitiveness and accelerate both shareholder distributions and delivery of strategy to become a net-zero emissions energy company.

### CEO: Ben van Beurden

The REMCO acknowledges the fundamental role the CEO's strategic and operational leadership has played in enabling Shell to achieve financial outcomes to deliver on our commitment to increase shareholder distributions, while we reduce net debt. Key successes are noted throughout this report and in particular in discussions of the 2022 annual bonus and 2020 LTIP vesting outcomes on pages 186 and 188. By the end of 2022, the CEO had led delivery of:

- Strong financial results with net income of $43 billion and Adjusted Earnings of $40 billion, and CFFO (including working capital) of $68 billion against plan targets of $40 billion, reflecting continuous high-grading of our upstream assets and the strength of our trading businesses;
- Delivery of $26 billion of shareholder distributions in 2022, representing a return, in absolute terms, to pre-pandemic levels (2019 was around $25 billion);
- Net debt at $45 billion, down from $79 billion at the end of 2019;
- Launching the Powering Progress strategy including Shell's intent to become a net-zero emissions business and achieving 89% support in a shareholder advisory vote on the proposed energy transition strategy;
- Implementing a new organisational structure;
- Simplifying the share structure and aligning the Company's tax residence with its country of incorporation allowing Shell to respond to the challenges of the energy transition by managing its portfolio with greater agility;
- Material upstream divestments and downstream portfolio rationalisation, as well as new acquisitions in direct support of our net-zero goals. These actions have protected and strengthened the balance sheet, enabling Shell to advance the Powering Progress strategy in a highly volatile macro environment.

The CEO has continued to play a leading role in the energy transition, both internally in driving performance against our strategic objectives and externally in directing conversations with policymakers, industry groups, shareholders and other key stakeholders towards the practical measures needed to transform the energy system.

Under the CEO's personal leadership, Shell took decisive early action to announce its intent to withdraw from Russian oil and gas. The CEO has been strong and principled in his position, and the Company has worked hard to support the safety of our staff and contractors in Ukraine, Russia, and neighbouring countries. We also support relief efforts, and take action when we need to do so.

The CEO's relentless focus on safety during the period has seen remarkable improvement in safety scores. The safety refresh, which focused on applying a learner mindset and psychological safety, has encouraged employees to learn from mistakes and successes and speak up freely.

People survey scores further increased during 2022, including the achievement of the best "employee engagement" result in the last 12 years and the highest ever "organisational leadership" and "team leadership" scores across Shell.

**CFO: Jessica Uhl (until March 31, 2022); Sinead Gorman (April 1, 2022 onwards)**

Maintaining discipline on capital, operating and lease expenditure and the implementation of an updated capital allocation framework to balance growth and shareholder distributions was a key focus for the CFO during a particularly turbulent period. The Company's financial success during 2022 was underpinned by the finance function's disciplined capital stewardship and the effective management of our financial framework, allocating higher cash flows from high commodity prices towards debt reduction, capex and shareholder distributions. Optimising business risk management has allowed us to respond with agility to the volatile energy market.

A key achievement over the last three years has undoubtedly been the successful delivery of the simplification of Shell plc. The successful completion of the establishment of a single line of shares, and the alignment of Shell's tax residence with its country of incorporation in the UK was hugely complex and challenging, and the REMCO recognises the pivotal role that the CFO played in its success.

The CFO supported the CEO in managing Shell's continued withdrawal from Russian hydrocarbons following an escalation in the war in Ukraine. This included external reporting, and managing the Company's responses to fast-changing regulations and sanctions, and their impact on the Company's ability to meet contractual obligations in the exit of our Russia ventures in our Upstream, Integrated Gas, and Downstream businesses. The CFO also oversaw the introduction of new segments of reporting (introduction of Renewables and Energy Solutions, Marketing, and Chemicals and Products segments), with improved external financial and operational quarterly disclosures, promoting transparency for shareholders and other stakeholders.

The CFO led delivery of publication of the Shell Energy Transition Strategy and enhanced climate change disclosures in the Annual Report, which is part of our continuing work to implement the recommendations of the Task Force on Climate-related Financial Disclosures. Tax contribution reporting has also been expanded to include total tax contribution data on 21 countries and a summary of key tax issues in relation to the energy transition.

A highlight from 2022 has been the digitalisation of internal financial planning processes, enabling a step change in the quality, process and experience of internal processes, in particular in forecasting and business planning.

The REMCO considered the single figure outcomes for the CEO and the CFO. It noted that the overall remuneration outcome was higher than last year for the CEO. The REMCO was satisfied that these single figure outcomes represented a fair level of remuneration. In finalising its remuneration decisions for 2022, the REMCO considered a range of factors, including:

- Shell's performance in 2022 and over the LTIP performance period 2020-2022 and the formulaic outcomes of the bonus and the LTIP performance condition;
- The impact of fatalities on the formulaic scorecard outcome;
- Absolute and relative TSR performance over the period;
- A range of other factors that take account of Shell's performance beyond the formulaic outcomes of the variable pay structures, including safety, reputation, ethics and compliance, and feedback from the Audit Committee and the Safety, Environment and Sustainability Committee (SESCo);
- The macro-economic environment and wider stakeholder experience, and shareholders' expectations with regard to executive pay decision-making;
- The Executive Directors' remuneration compared with the variable pay outcomes for the general workforce;
- The alignment of the Executive Directors with the shareholder experience through their high shareholding requirements;
- The Executive Directors' remuneration compared with historical outcomes; and
- The personal performance of the Executive Directors.

After reflecting on the above factors, the REMCO was satisfied that the Policy had operated as intended.

## 2022 LTIP

### Scheme interests awarded to Executive Directors in 2022 (audited)

In 2022, the Executive Directors were granted conditional share awards under the LTIP as set out in the table below. In approving the awards, the REMCO considered Shell's historical share price, including the share price over the prior year, and noted that the share price at grant was not lower than average historical levels for both Executive Directors and was higher than in 2021. The REMCO determined that the risk of windfall gain was limited, and therefore no adjustment was made to the award size.

| Scheme interest type | Type of interest awarded | End of performance period | Target award [A] | Potential amount vesting: Minimum performance (% of shares awarded) [B] | Potential amount vesting: Maximum performance (% of shares of the target award) [A] |
|---|---|---|---|---|---|
| LTIP | Performance shares | December 31, 2024 | Ben van Beurden: 209,131 London-listed ordinary shares, equivalent to 3.0x base salary or £4,260,000<br>Sinead Gorman: 105,675 London-listed ordinary shares, equivalent to 2.7x base salary or £2,430,000 | 0 | Maximum number of shares vesting is 200% of the shares awarded, before dividends. |

[A] The award for Ben van Beurden was based on the closing market price on the date of grant, February 4, 2022, for ordinary shares of £20.370. The award for Sinead Gorman was based on the closing market price on the date of grant, May 6, 2022, for ordinary shares of £22.995. Jessica Uhl did not receive an LTIP award in 2022.
[B] Minimum performance relates to the lowest level of achievement, for which no reward is given.

The measures and weightings applying to LTIP awards made in 2022 were: CFFO (20% weighting), TSR (20%), ROACE (20%), FCF (20%), and energy transition (20%).

**Relative measures**

The relative measures are based on our performance on a number of key financial and external measures against our closest comparators. For each measure, we rank growth based on the data points at the end of the performance period compared with those at the beginning of the period.

- As in prior years, the CFFO metric is based on point-to-point growth in CFFO from the base year to the final year of the performance period.
- TSR is based on the change in share price plus dividends, and is calculated in US dollars using a 90-day averaging period (based on 45 days either side of the start and end date of the performance period).
- The ROACE metric is defined as point-to-point growth in ROACE from the base year to the final year of the performance period, where ROACE is net income as a percentage of the average capital employed for the period. Capital employed consists of total equity,

current debt and non-current debt. To facilitate comparison, our calculation of Shell's ROACE for the purpose of the LTIP differs from that described in "Performance indicators" on page 27-28 in that there is no adjustment for after-tax interest expense.

Vesting under each relative measure is assessed independently, with the vesting outcome ranging from 0% to 200% of the target award in respect of the measure, in accordance with the following vesting schedule:
- Ranking first equals 200% vesting;
- Ranking second equals 150% vesting;
- Ranking third equals 80% vesting; and
- Ranking fourth or fifth equals 0% vesting.

Outperforming Shell's closest competitors on key financial metrics is challenging. The REMCO is aware that vesting for median performance is generally set at a limit of 25% of maximum for other UK companies, but notes that this is typically applied against a larger comparator group. A vesting outcome of 80% for median performance (40% of maximum) in a small comparator group is considered appropriate by the REMCO.

### Absolute measures

#### FCF

The FCF performance condition supports the delivery of our cash flow priorities, which are to service and reduce debt, pay dividends, buy back shares and make future capital investments.

The performance targets for FCF will be set by reference to Shell's annual operating plans, based on the aggregate of plan FCF targets over the three-year performance period. Given that FCF is heavily influenced by the volatility of oil and gas prices, the annual operating plans are updated each year to set an annual target to reflect a changing oil price premise. As a result, FCF targets are set annually for each annual operating plan and will be disclosed in aggregate retrospectively after the three-year period. The REMCO has considered setting a three-year target at the outset, but it believes such an approach would require adjustments for the oil and gas price premise and other matters at the end of the period, given the unpredictability and volatility in oil and gas prices. The REMCO has a long-standing no-adjustments policy which leads it to believe that a more appropriate approach is to set the target based on the aggregation of the annual operating plans.

Under the FCF measure, achievement of threshold performance will result in 40% of the target award (20% of maximum) in respect of the FCF measure vesting, increasing to full vesting for achievement of outstanding performance. A straight-line vesting schedule will apply for performance between threshold and outstanding.

#### Energy transition

For the 2022 award, the energy transition element comprised a number of strategic measures that laid the foundation for Shell to achieve our longer-term ambitions in the energy transition. There are four main categories, a mix of leading and lagging indicators, each comprising a number of quantitative and qualitative performance indicators. Performance in each category is reviewed independently; together, it provides a guiding framework for the REMCO's holistic assessment of energy transition performance over the three years. In determining the final vesting outcome between 0% and 200% of the target level, the REMCO takes account of Shell's wide progress in the energy transition beyond the defined measures.

The four measures are as follows:
- Build a valuable power business: our ambition is to expand our power business through selective investments in generation and by reselling power generated by others;
- Grow new low- and zero-carbon energy product offerings: continue to invest in low- and zero-carbon products such as renewable electricity, hydrogen, biofuels and chemicals;
- Develop emission sinks: invest in carbon capture and storage opportunities, to reduce emissions where there are no currently scalable low-carbon alternatives, and in the development of high-quality nature-based projects, to compensate for emissions; and
- Net Carbon Intensity: reduce NCI of the energy products Shell sells.

Progress in the energy transition is not expected to be linear because it will reflect the pace of change of society as a whole and the speed at which Shell makes progress with its strategic business objectives. As a result, performance indicators have been set as ranges. The quantitative performance indicators are commercially sensitive, so they will not be disclosed until the end of the performance period (or until they are no longer considered commercially sensitive).

Further information on the energy transition performance measure is provided on page 189.

For an update on Shell's energy transition, see the Shell Energy Transition Progress Report from www.shell.com.

### TSR underpin

If Shell's TSR ranking is fourth or fifth, the level of the award that can vest on the basis of the other measures will be capped at 50% of the maximum.

### Performance update on FCF

#### 2021 LTIP award

At December 31, 2022, FCF performance was above target, with a strong outcome of $40.3 billion for 2021 (target $9 billion), and $46 billion for 2022 (target $18 billion). As one year of FCF performance remains, and 80% of the award is subject to relative and energy transition performance conditions, this does not reflect the potential vesting of the award.

#### 2022 LTIP award

At December 31, 2022, FCF performance was above target, based on $46 billion for 2022 (target $18 billion). As two years of FCF performance remain, and 80% of the award is subject to relative and energy transition performance conditions, this does not reflect the potential vesting of the award.

## Executive Director changes

The previous CFO, Jessica Uhl, began working in the UK effective December 31, 2021. In early 2022, we announced that given her family circumstances, a long-term relocation to the UK was not sustainable, and the Company accelerated the managed succession plan and Jessica Uhl stepped down as CFO and as a Director of Shell plc on March 31, 2022, and left Group service on June 30, 2022. Details of Jessica Uhl's remuneration for 2022 may be found in the single figure table on page 185, and the "Payments for loss of office" and "Payments to past Directors" sections.

As disclosed in last year's Directors' Remuneration Report, Sinead Gorman was appointed to the Board as CFO effective April 1, 2022. On appointment, her salary was £900,000 per annum, and during 2022, she received salary and benefits in line with the Policy, and her pension is aligned to the UK defined contribution pension arrangements offered to new Shell employees. Sinead Gorman was also eligible to receive a pro rata annual bonus of up to 240% of salary and a target LTIP award of 270% of salary, in line with the Policy. The remuneration paid to Sinead Gorman in respect of her service as an Executive Director during 2022 is disclosed in the single figure table.

# Annual Report on Remuneration continued

As a result of a managed succession process led by the Chair of the Board, Ben van Beurden stepped down as CEO on December 31, 2022. He will continue working as a full-time adviser to the Board, focusing on matters related to the cost-of-living crisis, energy security, and supporting advice to governments and regulators until June 30, 2023, after which he will leave the Group. Ben van Beurden will be eligible for a pro-rated annual bonus in relation to the performance year 2023, and his outstanding LTIP awards will be reduced to reflect time served, and vest at the normal time subject to performance. Ben van Beurden will not receive a 2023 LTIP award.

Ben van Beurden's contract was a rollover of the Dutch end-of-employment arrangements under which cessation of employment was by mutual agreement and not by notice. Accordingly, the 2020 Policy provided for a maximum loss of office payment of one year's annual pay (base salary plus target bonus), in line with Dutch statutory end-of-employment compensation.

Following relocation to the UK, the Dutch statutory provisions are no longer the appropriate point of reference and in determining the appropriate compensation for loss of office the REMCO took into consideration UK market norms and acted in the best interests of Shell and shareholders as a whole. Ben van Beurden will receive a payment of £1,420,000, equivalent to one times base salary (which, for the avoidance of doubt, does not include target bonus), to be phased in six equal monthly instalments between July 1, 2023 and December 31, 2023, and outstanding payments will be reduced by 50% if he secures a paid position (excluding Non-executive Directorships) in that period.

While Ben van Beurden was under a four-month notice period as a legacy of his Dutch arrangements, his cessation of employment is by mutual agreement and therefore notice has neither been given nor received. Had cessation of employment been by notice, it would have commenced from the date of announcement of his stepping down as an Executive Director. Going forward, the 2023 Policy proposes alignment to UK market practice (i.e. a 12-month notice period).

Ben van Beurden and Jessica Uhl are subject to post-employment shareholding requirements for a period of two years post termination, and their share awards remain subject to holding periods.

As previously announced, Wael Sawan was appointed as CEO effective January 1, 2023. His salary is £1,400,000, and he receives benefits and pension (in the form of pension cash allowance of 20% of salary) in line with the Policy. He is eligible for a target annual bonus of 125% of salary, and he received a target award under the LTIP of 300% of salary in February 2023.

## Single figure of total remuneration for Non-executive Directors (audited)

£ thousand

| | Fees | | Taxable benefits [A] | | Total | |
|---|---|---|---|---|---|---|
| | **2022** | 2021 | **2022** | 2021 | **2022** | 2021 |
| Dick Boer | **153** | 144 | **4** | – | **157** | 144 |
| Neil Carson | **171** | 165 | **2** | – | **173** | 165 |
| Ann Godbehere | **184** | 182 | **7** | 1 | **191** | 183 |
| Euleen Goh | **211** | 193 | **6** | 1 | **217** | 194 |
| Jane Holl Lute [B] | **154** | 85 | **14** | 1 | **168** | 86 |
| Catherine J. Hughes | **182** | 159 | **9** | 1 | **191** | 160 |
| Martina Hund-Mejean | **154** | 142 | **3** | 1 | **157** | 143 |
| Sir Andrew Mackenzie [C] | **785** | 500 | **4** | 15 | **789** | 515 |
| Bram Schot [D] | **144** | 131 | **2** | – | **146** | 131 |
| Gerrit Zalm [E] | **62** | 152 | **5** | – | **67** | 152 |

[A] UK regulations require the inclusion of benefits where these would be taxable in the UK, on the assumption that Directors are tax residents in the UK. On this premise, the taxable benefits include the cost of a Non-executive Director's occasional business-required partner travel. Shell also pays for travel between home and the head office, where Board and Committee meetings are typically held, and related hotel and subsistence costs. For consistency, business expenses for travel between home and the head office are not reported as taxable benefits because for most Non-executive Directors this is international travel and hence would not be taxable in the UK.
[B] Appointed as a Director with effect from May 19, 2021.
[C] Appointed Chair of the Board with effect from May 18, 2021.
[D] Appointed as a Director with effect from May 24, 2022.
[E] Stepped down as a Director with effect from May 24, 2022.

## Statement of Directors' shareholding and share interests (audited)

### Shareholding guidelines

The REMCO believes that Executive Directors should align their interests with those of shareholders by holding shares in Shell plc (the Company). The CEO is expected to build a shareholding with a value of 700% of base salary, and the CFO 500%. The shareholding requirement extends post employment, such that Executive Directors will be required to maintain their shareholding requirement, or the number of shares actually held if this is less than the shareholding requirement, for a period of two years post employment.

Only unfettered shares count towards an Executive Director's shareholding. Shares delivered that are subject to holding requirements also count towards the guidelines. The CEO and the CFO have five years from their respective appointment to the Board to achieve their respective shareholding requirements.

There is a Company-sponsored nominee account which allows for restrictions to be applied on the sale or transfer of shares that are subject to holding periods. The restrictions remain in force beyond the Executive Director's employment.

Non-executive Directors are encouraged to hold shares with a value equivalent to 100% of their fixed annual fee and to maintain that holding during their tenure.

### Directors' share interests

The interests, in shares of the Company or calculated equivalents, of the Directors in office during 2022, including any interests of their connected persons, are set out in the table over the page.

# Annual Report on Remuneration continued

## Directors' share and scheme interests (audited)

| | Ordinary shares held at January 1, 2022 | Ordinary shares held at December 31, 2022 | Unvested and subject to performance conditions [A] | Shareholding guideline as % of salary | Current shareholding as % of salary [B] |
|---|---|---|---|---|---|
| **Executive Directors** | | | | | |
| Ben van Beurden | 973,533 | 874,531 | 695,978 | 700% | 1433% |
| Sinead Gorman | 38,566 [C] | 39,660 | 168,634 | 500% | 102% |
| Jessica Uhl | 299,283 [D] | 342,099 [E] | 94,183 | 500% | N/A |
| **Non-executive Directors** | | | | | |
| Dick Boer | 10,000 | 10,000 | | | |
| Neil Carson | 16,000 | 16,000 | | | |
| Ann Godbehere | 10,000 [F] | 10,000 [F] | | | |
| Euleen Goh | 12,895 | 12,895 | | | |
| Jane Holl Lute | 5,002 [G] | 6,808 [H] | | | |
| Catherine J. Hughes | 55,984 [I] | 55,984 [I] | | | |
| Martina Hund-Mejean | 20,000 [J] | 20,000 [J] | | | |
| Sir Andrew Mackenzie | 27,623 | 27,623 | | | |
| Bram Schot [K] | – | – | | | |
| Gerrit Zalm | 2,026 | 2,026 [L] | | | |

[A] Includes unvested long-term incentive awards and notional dividend shares accrued at December 31, 2022. Interests are shown on the basis of the original awards, which can vest at between 0% and 200% based on performance. Dividend shares accumulate each year on an assumed notional LTIP award. Such dividend shares are disclosed and recorded on the basis of the number of shares conditionally awarded but, when an award vests, dividend shares will be awarded only in relation to vested shares as if the vested shares were held from the award date.
[B] Calculated using the £23.26 per share closing price on December 30, 2022, the last market day of 2022.
[C] As at April 1, 2022, the date of her appointment as CFO.
[D] Held as 35,201 ordinary shares and 132,041 ADS. Each ADS represents two ordinary shares.
[E] As at March 31, 2022, when she stepped down as CFO. Held as 78,017 ordinary shares and 132,041 ADS. Each ADS represents two ordinary shares.
[F] Held as 5,000 ADS. Each ADS represents two ordinary shares.
[G] Held as 2,501 ADS. Each ADS represents two ordinary shares.
[H] Held as 3,404 ADS. Each ADS represents two ordinary shares.
[I] Held as 50,984 ordinary shares and 2,500 ADS. Each ADS represents two ordinary shares.
[J] Held as 10,000 ADS. Each ADS represents two ordinary shares.
[K] On August 17, 2020, Bram Schot purchased 5,500 certificates Shell Turbo Long 6,9 BNP Paribas Markets (ISIN: NL0009558519) at a price of €5.37 per certificate. These certificates are cash settlement instruments the value of which is linked to the price of Shell shares. In this case, the ratio of the turbo is 1:1 and accordingly 5,500 certificates represent 5,500 Shell shares. As at January 16, 2023, the leverage is 1.30 but it fluctuates depending on the share price. If the share price increases, the leverage will decrease. The finance level is 6.38 and the stop-loss level is 6.9. The finance level is adjusted on the 15th day of every month. Finance costs are 4.91% on an annual basis. With a turbo long, there is a finance level and a stop-loss level. If the underlying share price drops below the stop-loss level, the turbo long is terminated. The investor then receives the value of the difference between the finance level and the level on which the counterparty, in this case BNP Paribas, can close the turbo. Take for example a turbo with a stop-loss level of 10 and a finance level of 8. When the underlying share price drops below 10, which is the stop-loss level, the buyer will still receive the amount 10-8=2. But if the share price would suddenly drop to 8 or below, the buyer will receive nothing and the total investment is lost. In most cases, the turbo would be terminated at the stop-loss level, and the buyer receives the amount of the difference between the finance level and the stop-loss level. The actual amount will be determined by BNP. In addition, on August 27, 2020, Bram Schot purchased 100 Leonteq Express Euro Denominated Certificates on ING, Shell, Unilever (ISIN: CH0470808913), with a nominal value of €1,000 each at a price of €515 per certificate. These certificates are cash settlement instruments of which payment of a conditional coupon depends for 1/3 on the development of the price of the Shell Shares on Euronext Amsterdam and, as such, are a financial instrument linked to the Shell shares. Both transactions took place before Bram Schot became a Director of the Company. On February 12, 2021, Bram Shot purchased (i) an additional 2,500 certificates Shell Turbo Long 6,9 BNP Paribas Markets (ISIN: NL0009558519) at a price of €7.69 per certificate; and (ii) an additional 50 Leonteq Express Euro Denominated Certificates on ING, Shell, Unilever (ISIN: CH0470808913), with a nominal value of €1,000 each at a price of €715 per certificate.
[L] As at May 24, 2022, when he stepped down as a Director.

The Directors share interests converted into ordinary shares or ADS, as appropriate, following the assimilation of Shell's A and B shares into a single class of shares on January 29, 2022.

The changes to Directors' shareholdings as at March 6, 2023 are as follows:

- Sinead Gorman's share interest increased by 23,669 ordinary shares after the delivery of the 2022 annual bonus shares and the vesting of the 2020 LTIP award.
- Andrew Mackenzie purchased 8,235 ordinary shares on February 7, 2023.
- On February 6, 2023, Bram Schot disposed of the 150 Leonteq Express Euro Denominated Certificates on ING, Shell, Unilever (ISIN: CH0470808913), with a nominal value of €1,000 each at a price of €1,007.70 per certificate.

Effective as of March 2, 2023, Cyrus Taraporevala has been appointed as a Non-executive Director. As at March 6, 2023, he held 125 ADS.

Effective as of January 1, 2023, Wael Sawan was appointed as an Executive Director. As at March 6, 2023, he holds 210,666 ordinary shares.

At March 6, 2023, the Directors and Senior Management (pages 133 and 142) of the Company beneficially owned, individually and in aggregate (including shares under option), less than 1% of Company shares. These shareholdings are not considered sufficient to affect the independence of the Directors.

### Dilution

In any 10-year period, no more than 5% of the issued ordinary share capital of the Company may be issued or issuable under executive (discretionary) share plans adopted by the Company, or 10% when aggregated with awards under any other employee share plan operated by the Company. To date, no shareholder dilution has resulted from these plans, although it is permitted under the rules of the plans, subject to these limits.

# Annual Report on Remuneration continued

### Payments for loss of office (audited)

Jessica Uhl stepped down from the Board and her role as CFO with effect from March 31, 2022, and left Group service on June 30, 2022. She received a payment for loss of office of £921,000, equivalent to one times base salary. This was paid in 12 equal bi-weekly instalments, with the final payment made in December 2022, and would have been subject to mitigation in the event that she resumed a paid role in that period.

Jessica Uhl received a pro-rated annual bonus in relation to the performance year 2022 of £810,000. 50% of the bonus was delivered in cash and 50% was delivered in shares, subject to a three-year holding period which remains in force post termination. Jessica Uhl's 2020 and 2021 LTIPs will be reduced on a pro rata basis for time served, and the extent of any vesting will be determined at the end of the performance period.

### Payments to past Directors (audited)

Jessica Uhl's remuneration during the period April 1 to June 30, 2022 is set out below:

- Base salary: there was no change to Jessica Uhl's salary during this period, and she received £230,250.
- Pension: Jessica Uhl continued to participate in the US defined benefit plan.

Jessica Uhl received an LTIP award of 59,062 ADS in 2020, which has been pro-rated for time served. The pro-rated award vested at 81% of target based on performance to December 31, 2022. Therefore, 46,365 ADS (including accrued dividends) vested on March 3, 2023, with a value at vesting of $2,847,724. A three-year holding period applies, which remains in force post termination.

Payments below £5,000 are not reported as they are considered de minimis.

### TSR performance and CEO pay

#### Performance graph

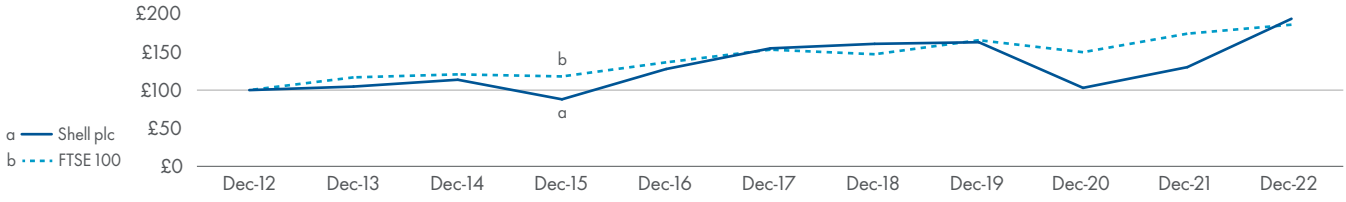
The graph below compares the TSR performance of Shell plc over the past 10 financial years with that of the FTSE 100 Index. The Board regards this index as the most appropriate broad market equity index for comparison, following Shell's headquarters move to the UK. Data shown is for the performance of RDS B shares prior to the assimilation of Shell's shares into a single line of ordinary shares on January 29, 2022.

#### CEO pay outcomes

The table below the graphs sets out the single figure of total remuneration, the annual bonus payment and long-term incentive (LTI) vesting rates compared with the respective maximum opportunity, for the CEO for the past 10 years.

### Historical TSR performance

Value of hypothetical £100 holding




| Year | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|---|---|
| CEO | Peter Voser | Ben van Beurden | | | | | | | | |
| Single figure of total remuneration (£000) [A] | 7,183 | 19,510 [B] | 4,049 | 7,046 | 7,811 | 17,817 | 8,746 | 5,197 | 6,344 | 9,698 |
| Annual bonus award against maximum opportunity | 44% | 94% | 98% | 66% | 81% | 79% | 21% | –% | 64% | 73% |
| LTI vesting against maximum opportunity | 30% | 49% | 8% | 42% | 35% | 95% | 74% | 45% | 25% | 41% |

[A] Prior to 2022, the CEO's remuneration was denominated in EUR. Each year's single figure of total remuneration has been converted to GBP using the 12-month average exchange rates for the year.

[B] Ben van Beurden's single figure for 2014 was impacted by the increase in pension accrual calculated under the UK reporting regulations and tax equalisation as a result of his promotion and prior assignment to the UK.

### Percentage change in remuneration of the Directors and employees

As the Company does not have any direct employees, the table below compares the remuneration of the Executive and Non-executive Directors of Shell plc with an employee comparator group consisting of local employees in the UK, the Netherlands, and the USA. The local employee population of these countries is considered to be a suitable employee comparator group because: these are countries with a significant Shell employee base; a large proportion of senior managers come from these countries; and the REMCO considers remuneration levels in these countries when setting base salaries for Executive Directors. For the purposes of comparison, the change in employee remuneration is calculated by reference to the change in salary scale, benefits and annual bonus for a notional employee in each of the base countries, not by reference to the actual change in pay for a group of employees.

Taxable benefits are those that align with the definition of taxable benefits applying in the respective country. In line with the "Single figure of total remuneration for Executive Directors" table, the annual bonus is included in the year in which it was earned.

# Annual Report on Remuneration continued

## Percentage change in remuneration of Directors and employees [A]

| | Salary/fees (% change) | | | Benefits (% change) | | | Annual bonus (% change) | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2021-22 | 2020-21 | 2019-20 | 2021-22 | 2020-21 | 2019-20 | 2021-22 | 2020-21 | 2019-20 |
| Employees [B] | 2.4% | 0.6% | 3.0% | (8.4%) | 0% | 0% | (0.4%) | N/A | (100.0%) |
| **Executive Directors** | | | | | | | | | |
| Ben van Beurden | 3.5% | 0% | 2.0% | 3270.5% [C] | 8.6% | (23.7%) | 17.7% | N/A | (100.0%) |
| Jessica Uhl [D] | (74.1%) | 0% | 2.0% | (47.4%) | (22.8%) | 28.1% | N/A | N/A | (100.0%) |
| Sinead Gorman | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Non-executive Directors [E]** | | | | | | | | | |
| Dick Boer | 6.3% | 70.4% | N/A | N/A | N/A | N/A | | | |
| Neil Carson | 3.6% | 4.3% | 85.6% | N/A | N/A | N/A | | | |
| Ann Godbehere | 0.8% | 2.9% | 15.8% | 1286.7% | N/A | N/A | | | |
| Euleen Goh | 9.4% | 11.4% | 0.2% | 520.3% | N/A | N/A | | | |
| Jane Holl Lute | 80.4% | N/A | N/A | 1893.8% | N/A | N/A | | | |
| Catherine J. Hughes | 14.1% | 2.8% | (10.0%) | 868.8% | N/A | N/A | | | |
| Martina Hund-Mejean | 8.6% | 68.4% | N/A | 358.2% | N/A | N/A | | | |
| Sir Andrew Mackenzie | 57.0% | 1473.0% | N/A | (69.3%) | N/A | N/A | | | |
| Bram Schot | 10.1% | 300% | N/A | N/A | N/A | N/A | | | |
| Gerrit Zalm [F] | (59.0%) | 0% | 0% | N/A | N/A | N/A | | | |

[A] In a number of instances the value for the preceding year was zero. In these cases, N/A is recorded.
[B] As Shell plc does not have any employees, the change in pay for an employee comparator group from the UK, USA and the Netherlands is shown.
[C] Ben van Beurden's 2022 benefits include time-limited relocation-related benefits.
[D] Jessica Uhl stepped down as CEO effective March 31, 2022. The changes in remuneration shown for 2021-22 are based on a full year for 2021, and the period January 1 to March 31, 2022 for 2022.
[E] Non-executive Directors do not receive any short-term incentives. The increases shown reflect the individuals' appointment to the Board part-way through the prior year, or additional fees payable for joining Board Committees.
[F] Gerrit Zalm stepped down from the Board effective May 24, 2022. The changes in remuneration shown for 2021-22 are based on a full-year for 2021, and the period January 1 to May 24, 2022 for 2022.

### Relative importance of spend on pay

The table below sets out distributions to shareholders by way of dividends and share buybacks, and remuneration paid to or receivable by employees for the last five years, together with annual percentage changes.

| | Dividends and share buybacks [A] | | Spend on pay (all employees) [B] | |
|---|---|---|---|---|
| Year | $ billion | Annual change | $ billion | Annual change |
| 2022 | 25.8 | 183% | 14.0 | 16% |
| 2021 | 9.1 | –% | 12.1 | –% |
| 2020 | 9.1 | (64)% | 12.1 | (8)% |
| 2019 | 25.4 | 26% | 13.2 | (1)% |
| 2018 | 20.2 | 29% | 13.4 | (6)% |

[A] Dividends paid, which includes the dividends settled in shares via our Scrip Dividend Programme and repurchases of shares as reported in the "Consolidated Statement of Changes in Equity".
[B] Employee costs, excluding redundancy costs, as reported in Note 32 to the "Consolidated Financial Statements".

Spend on pay can be compared with the major costs associated with generating income by referring to the "Consolidated Statement of Income". Over the last five years, the average spend on pay was 5% of the major costs of generating income. These costs are considered to be the sum of: purchases; production and manufacturing expenses; selling, distribution and administrative expenses; research and development; exploration; and depreciation, depletion and amortisation.

### Total pension entitlements (audited)

During 2022, Jessica Uhl accrued retirement benefits under a defined benefit plan. The pension accrued under this plan at March 31, 2022 is set out below.

### Accrued pension (audited)

| Thousand | $ |
|---|---|
| Jessica Uhl [A] | 1,247 |

[A] Jessica Uhl has an annual choice between two accrual formulas with different forms of benefits. One is in the form of a lifetime annuity and the other allows for a lump-sum payment. She elected to accrue benefits up to 2018 under the arrangement for a lump-sum payment, and the eventual lump-sum benefit is shown. From 2019, she elected to accrue benefits as a lifetime annuity. The value of this accrued benefit at March 31, 2022, was $13,429 per annum plus a lump sum of $391,530. She also has a deferred Dutch defined benefit pension plan, as a result of a prior Shell assignment on local Dutch terms and conditions. The age at which Jessica Uhl can receive any pension benefit without an actuarial reduction under this Dutch plan is 60. The value of the deferred pension benefit is €3,587 per annum.

The age at which Jessica Uhl can receive any pension benefit without an actuarial reduction under her US pension plan is 65. Any pension benefits on early retirement are reduced using actuarial factors to reflect early payment. No payments were made in 2022 regarding early retirement or in lieu of retirement benefits.

After his relocation to the UK on December 31, 2021, Ben van Beurden became a deferred member of his Dutch defined benefit plan, and therefore did not accrue any pension benefit under a defined benefit plan during 2022. The increase in his accrued pension over the year is due only to indexation in line with inflation on his deferred pension, consistent with treatment for any other deferred member in the plan.

### External appointments

Ben van Beurden served on the Supervisory Board of Daimler AG as a Non-executive Director in 2022, and Jessica Uhl served on the Board of Goldman Sachs Group as Non-executive Director in 2022. Sinead Gorman did not hold any Non-executive Director positions during 2022.

# Annual Report on Remuneration continued

### Statement of voting at 2022 AGM

Shell's 2022 AGM was held on May 24, 2022. The result of the poll in respect of Directors' remuneration was as follows:

**Approval of Directors' Remuneration Report**

| Votes | Number | | Percentage |
|---|---|---|---|
| For | 4,346,283,705 | | 95.92% |
| Against | 184,753,614 | | 4.08% |
| Total cast | 4,531,037,319 | [A] | 100.00% |
| Withheld [B] | 24,598,418 | | |

[A] Representing 60.69 % of issued share capital.
[B] A vote withheld is not a vote under UK law and is not counted in the calculation of the proportion of the votes for and against a resolution.

The result of the poll in respect of the Directors' Remuneration Policy last approved at the 2020 AGM was as follows:

**Approval of Directors' Remuneration Policy**

| Votes | Number | | Percentage |
|---|---|---|---|
| For | 3,705,707,055 | | 92.91% |
| Against | 282,966,810 | | 7.09% |
| Total cast | 3,988,673,865 | [A] | 100.00% |
| Withheld [B] | 24,979,832 | | |

[A] Representing 51.09% of issued share capital.
[B] A vote withheld is not a vote under UK law and is not counted in the calculation of the proportion of the votes for and against a resolution.

**CEO pay ratio**

| | Option | 25th percentile pay ratio | Median pay ratio | 75th percentile pay ratio |
|---|---|---|---|---|
| 2022 | A | 134:1 | 80:1 | 50:1 |
| Total pay and benefits: | | £72,632 | £121,847 | £192,995 |
| Salary: | | £45,904 | £56,302 | £96,790 |
| 2021 | A | 97:1 | 57:1 | 37:1 |
| Total pay and benefits: | | £65,123 | £111,912 | £170,289 |
| Salary: | | £43,550 | £68,238 | £101,000 |
| 2020 | A | 93:1 | 57:1 | 38:1 |
| Total pay and benefits: | | £55,584 | £90,972 | £136,007 |
| Salary: | | £49,117 | £75,365 | £118,291 |
| 2019 | A | 147:1 | 87:1 | 54:1 |
| Total pay and benefits: | | £59,419 | £100,755 | £161,717 |
| Salary: | | £40,417 | £56,721 | £79,991 |
| 2018 | A | 202:1 | 143:1 | 92:1 |
| Total pay and benefits: | | £88,112 | £124,459 | £193,027 |
| Salary: | | £53,528 | £80,407 | £96,074 |

Shell has chosen to use option A to calculate the CEO pay ratio in accordance with guidance from the UK government that this is the preferred approach and the most statistically accurate method for identifying the ratios. Under option A, a comparable single figure for all UK employees has been calculated in order to identify the employees whose pay and benefits are at the 25th, 50th (median) and 75th percentiles for comparison with the CEO. Employee pay has been calculated based on the total pay and benefits paid in respect of 2022 for all employees who were employed on December 31, 2022. For part-time workers and joiners in the year, pay and benefits have been annualised based on the proportion of their working time in the UK during the year. This is calculated with an approach consistent with the methodology for determining annual bonuses. The REMCO believes that this provides a fair and reasonable calculation of the pay ratios for Shell employees in the UK.

The ratio of the CEO's pay to the median UK employee is 80. The global pay ratio, calculated by comparing the CEO's single figure with the average employee headcount cost, is 79. The ratio at median for 2022 is higher than for 2021, reflecting an increase in variable pay outcomes for the CEO. While variable pay outcomes have also increased for other UK employees, a higher proportion of the CEO's remuneration is variable, meaning the pay ratio is higher in years of higher variable pay outcomes. Overall, the pay ratios are lower than in 2018 (the first year of reporting), reflecting reductions in the CEO bonus and LTIP opportunities over time, as well as changes in variable pay outcomes. The REMCO believes the CEO pay ratio for 2022 is appropriate and consistent with Shell's philosophy of pay for performance.

### Directors' employment arrangements and letters of appointment

Executive Directors are employed for an indefinite period. Non-executive Directors, including the Chair, have letters of appointment. Details of Executive Directors' employment arrangements can be found in the proposed Policy on page 208.

Further details of Non-executive Directors' terms of appointment can be found in the "Other regulatory and statutory information" on page 211 and the "Governance framework" report on page 148.

### Compensation of Directors and Senior Management

During the year ended December 31, 2022, Shell paid and/or accrued compensation totalling $53 million (2021: $48 million) to Directors and Senior Management for services in all capacities while serving as a Director or member of Senior Management, including $2 million (2021: $3 million) accrued to provide pension, retirement and similar benefits. The amounts stated are those recognised in Shell's income on an IFRS basis. See Note 33 to the "Consolidated Financial Statements". Personal loans or guarantees were not provided to Directors or Senior Management.

### Workforce engagement on remuneration matters

#### Workforce engagement

The Board's view is that all Directors have a collective responsibility for workforce engagement, ensuring that employees' voices are heard on all business matters, including pay, and that the Company communicates effectively to employees on our remuneration policies and practices. As discussed on pages 157-158, the Board and management regularly engage with the workforce through a range of formal and informal channels, including webcasts, town halls, team meetings, face-to-face gatherings, employee surveys, and online publications via the intranet. During live webcasts and other interactive sessions, employees have the opportunity to pose questions on any topic, including pay. The Board's preference is to build on existing, long-standing channels of engagement for discussions around remuneration.

During the year, the Board reviewed the results of the 2022 Shell People Survey, and was pleased to note further improvements, including the achievement of the best "employee engagement" result in the last 12 years and the highest ever "organisational leadership" and "team leadership" scores across Shell. The Board was also pleased with the significant levels of employee engagement with intranet articles explaining the Powering Progress Share Award and EC Special Recognition Award, and how the refreshed Group scorecard connects with Shell's strategic priorities.

# Annual Report on Remuneration continued

### Wider employee context

The REMCO receives annual updates on workforce remuneration topics, including employees' views on pay matter; CEO pay ratio; UK gender and ethnicity pay gap information; planned general employee salary increases; and bonus scorecard and Performance Share Plan (PSP) outcomes. In addition, the REMCO receives ad hoc papers covering other pay matters periodically, e.g. a consideration of workforce remuneration policies and their alignment with culture.

Management understands that employees have been through a challenging period, and has recognised their efforts in various ways, as referred to in the Chair's Statement. In addition, at the beginning of the year, management reviewed the bonus scorecard outcome for 2021 and determined to apply a discretionary uplift to the formulaic outcome for below-Board employees, to recognise financially the extraordinary lengths that colleagues have gone to. For the avoidance of doubt, the uplift was not applied to Executive Directors. The REMCO noted this decision as part of its review of workforce matters. These materials provide an important backdrop for the REMCO when making judgements on the design and award of Executive Director remuneration.

Shell adheres to its fair pay principles in all remuneration-related matters. Pay in Shell is market-competitive, free from bias, and provides security to our employees. Shell sets clear performance expectations, gives employees the opportunity to share in Shell's success through a variety of variable pay schemes, and is transparent and clear in its communication of remuneration. For more information, visit the "Human Rights" section of www.shell.com.

### How executive remuneration aligns with wider Company pay policy

Executive remuneration structures in Shell are strongly aligned with the structures for the broader workforce, as set out in the table below.

| Element | Comparison of Executive Director and wider workforce arrangements |
|---|---|
| Salary | The Executive Directors' salaries are reviewed with reference to the factors set out in the Policy, against defined comparator groups. The market-competitiveness of wider workforce salaries is assessed at a base country level. |
| Pension and benefits | The Executive Directors' pension benefits are aligned with those offered to new employees in the UK. Shell does not operate separate executive pension arrangements. All Group employees participate in the relevant pension plan for their base country based on their date of joining.<br>The Executive Directors are eligible to receive the same standard benefits available to the broader workforce. |
| Annual bonus | The Group scorecard applicable to Group employees is identical to that applicable to Executive Directors in terms of performance measures, weightings, and targets. For the wider workforce, an additional multiplier applies based on individual performance during the year. No individual multiplier applies to Executive Directors, and further, 50% of the bonus is paid in shares, and the bonus is subject to malus and clawback provisions. |
| Long-term incentives | Executive Directors and around 150 senior executives participate in the LTIP on the same terms. Executive Directors' LTIP awards are subject to a three-year holding period. A further around 16,500 employees participate in the PSP; 50% of the performance conditions are the same as those for the LTIP. |
| Shareholding guidelines | The Executive Directors have the highest shareholding guidelines in the Company, which are set at 700% and 500% of salary for the CEO and the CFO, respectively. These guidelines continue post termination for a period of two years.<br>Shareholding guidelines extend deep into the organisation, to the senior manager level (75% of salary). Employees are required to achieve their individual guideline within a specified timeframe, as is the case for Executive Directors. |

## Statement of planned implementation of Policy in 2023

A summary of how the proposed Policy will be applied to Directors' remuneration for 2023 is set out below.

### Executive Directors

#### Comparator group

The current benchmarking comparator group consists of the other oil majors (BP, Chevron, ExxonMobil, and TotalEnergies) and a selection of major Europe-based companies. The other oil majors are included in the comparator group as these represent our closest direct competitors operating in similar market conditions. The Europe-based companies are selected based on their size, complexity and global reach. For 2023, the REMCO has decided to replace BHP with Glencore. BHP delisted from the LSE and was therefore no longer considered a European company for the purpose of the peer group, and Glencore was selected as a replacement given its similarity to Shell in terms of size, sector and complexity (see table to the right). The REMCO retains the right to alter the comparator group as it sees fit in order to ensure it remains an appropriate and relevant benchmark.

**2023 European comparator group**

| | | |
|---|---|---|
| Allianz | Diageo | Rio Tinto |
| AstraZeneca | Glencore | Roche |
| BAT | GSK | Siemens |
| Bayer | Nestle | Unilever |
| Daimler | Novartis | Vodafone |

The REMCO uses benchmark data from these companies only as a guide to the competitiveness of the remuneration packages. The REMCO does not seek to position our remuneration at any defined point against the comparator data.

#### Salaries

Wael Sawan was appointed as CEO on January 1, 2023, on a salary of £1,400,000. No increases are anticipated during 2023.

Effective January 1, 2023, Sinead Gorman received an increase of 2.8% and her salary for 2023 is £925,000.

# Annual Report on Remuneration continued

In reviewing the CFO's salary, the REMCO carefully considered the external environment, and the increases provided to the general workforce in the key markets of the UK, the USA, and the Netherlands (average 5.8%). The CFO's increase for 2023 was positioned below this level and the REMCO recognised the "multiplier effect on total remuneration".

The REMCO also paid close attention to the benchmarking analysis from the defined comparator groups. No specific benchmark position is defined, but the REMCO was satisfied that the positioning was appropriate against the benchmark groups following the increases.

### Annual bonus

The REMCO reviewed the structure of the annual bonus scorecard as part of its comprehensive review of the Policy. The REMCO considered that the scorecard remained well aligned with our strategic and operational priorities, and no changes are proposed for 2023.

The performance measures, weightings and link to strategy for the 2023 performance year are set out below. They remain unchanged from 2022.

See page 187 for further details of the performance measures.

### 2023 annual bonus measures, weightings, and link to strategy

| Performance measure | Weighting |
|---|---|
| Financial delivery | 35% |
| Operational excellence | 35% |
| Shell's journey in the energy transition | 15% |
| Safety | 15% |

| | Link to strategy |
|---|---|
| **Financial delivery**<br>▪ Cash flow from operating activities (35%) | Supports our financial priority to generate cash to fund shareholder distributions and capital investment. |
| **Operational excellence**<br>▪ Asset management excellence (15%)<br>▪ Project delivery excellence (10%)<br>▪ Customer excellence (10%) | Underpins delivery of our financial framework and ambitions to progress in the energy transition. |
| **Shell's journey in the energy transition**<br>▪ Selling lower-carbon products (5%)<br>▪ Reducing our emissions (5%)<br>▪ Partnering to decarbonise (5%) | Drives focus on the business transformations needed to succeed in the energy transition. |
| **Safety (15%)**<br>▪ Serious Injury and Fatality Frequency (7.5%)<br>▪ Tier 1 and 2 process safety (7.5%) | Drives an ongoing focus on personal and process safety. |

Scorecard targets will be disclosed in the subsequent Directors' Remuneration Report when they are no longer deemed to be commercially sensitive.

### Long-term Incentive Plan

On February 3, 2023, a conditional award of performance shares under the LTIP was made to the Executive Directors resulting in 173,985 Shell plc shares being conditionally awarded to Wael Sawan and 103,458 to Sinead Gorman. The award had a face value of 300% (maximum performance outcome 600%) of the base salary for the CEO and 270% (maximum performance outcome 540%) of the base salary for the CFO, excluding potential share price appreciation and dividends.

Performance is measured over the three-year period January 1, 2023 to December 31, 2025. The performance measures, weightings and link to strategy for the 2023 award are set out below.

### 2023 LTIP measures and vesting schedule

| Performance measure | Weighting |
|---|---|
| Cash generation [A] | 25% |
| TSR [A] | 25% |
| Organic free cash flow [B] | 25% |
| Energy transition [B] | 25% |

[A] ☐ Relative measures [B] ☐ Absolute measures

| Link to strategy | Vesting schedule (% of initial LTIP award) |
|---|---|
| **Cash generation (defined as CFFO/average capital employed)**<br>Measurement of Shell's ability to generate the top-line cashflows to finance investment in our business and shareholder distributions. | 1st – 200%<br>2nd – 150%<br>3rd – 80%<br>4th or 5th – 0%<br><br>Performance ranked against the other energy majors: BP, Chevron, ExxonMobil and TotalEnergies. |
| **TSR**<br>Assessment of actual value created for shareholders. | |
| **Organic free cash flow**<br>Recognition of the importance of generating cash after net capital expenditure to service and reduce debt, pay dividends, buy back shares and make future capital investments. | Maximum – 200%<br>Target – 100%<br>Threshold – 40%<br>Below threshold – 0%<br><br>OFCF targets are set annually for each annual operating plan. |
| **Energy transition**<br>Measures focused on the strategic business transformations that will seek to enable long-term success in the energy transition. | The REMCO will assess progress against the NCI target and Shell's longer-term goals for each strategic theme when making the vesting decision for each LTIP cycle. |
| **TSR underpin**<br>If TSR is in fourth or fifth, vesting is capped at 50% of maximum. | |
| **Holding period**<br>Three-year holding period, which remains in force post tenure. | |

Further details of the energy transition performance condition are set out over the page.

# Annual Report on Remuneration continued

### Performance framework for 2023-2025 LTIP Energy Transition performance condition

**Quantitative NCI target**

| | |
|---|---|
| **Net Carbon Intensity (NCI)** assessed as percentage reduction in the target year vs. the 2016 base year. | **Target is 9-13% reduction** compared against the 2016 base year. |

**Supporting strategic themes**

| | |
|---|---|
| **Reducing Scope 1 & 2 emissions** demonstrate progress in reducing Scope 1 & 2 emissions. | Example performance indicators include progress towards meeting **Shell's public commitment to reduce net Scope 1 & 2 emissions by 50% by 2030,** relative to 2016. |
| **Building a renewable power business** demonstrate progress in increasing the renewable generation capacity available to Shell for long-term market sales. | Example performance indicators include **progress against the business plan and long-term power strategy.** |
| **Growing new lower-carbon energy offerings** demonstrate progress in (i) developing advanced biofuels and lower-carbon fuels technology, and (ii) implementing Shell's hydrogen strategy. | Example performance indicators include **(i) progress with technology readiness for investment in commercial-scale advanced biofuels and lower-carbon fuels projects, and (ii) progress towards investment decisions on integrated blue hydrogen projects and world-scale hydrogen export hubs.** |
| **Developing emission sinks and offsets** demonstrate progress in (i) building and expanding nature-based solutions demand positions, and (ii) implementing the carbon capture, utilisation and storage strategy. | Example performance indicators include **(i) progress towards Shell's target of retiring up to 120 mtpa of credits by 2030, and (ii) progress with investment decisions for carbon capture, utilisation and storage projects.** |

As the 2023 LTIP awards to Executive Directors were granted prior to the shareholder vote on the proposed Policy, the TSR underpin will apply in the usual way: if Shell's TSR ranking is fourth or fifth, the level of the award that can vest on the basis of the other measures will be capped at 50% of the maximum.

### Discretion, malus and clawback

Variable-pay elements are subject to adjustment (malus) and recovery (clawback) provisions. The REMCO may adjust an award, for example by lapsing part or all of it, reducing the number of shares which would otherwise vest, by imposing additional conditions on it, or imposing a new holding period or applying clawback.

Please refer to the proposed Policy for a full description of the circumstances under which discretion, malus and clawback might be applied to a variable pay award.

### Service contracts

Please refer to page 208 in relation to the notice periods of Executive Director service contracts.

### Pension

Wael Sawan and Sinead Gorman are eligible to participate in the defined contribution UK Shell Pension Plan with an employer contribution rate of up to 20% of salary, or take this as a pension cash alternative. They have chosen the latter. The UK Shell Pension Plan or associated pension cash alternative is available to new Shell employees in the UK at the same contribution levels.

Further details of Executive Director pension arrangements can be found on page 197.

### Benefits

In consideration of his appointment as CEO in 2023, Wael Sawan received support for his family's relocation to the UK in line with the provisions of Shell's International Mobility policies. In addition, in relation to their relocation to the UK, Wael Sawan and Sinead Gorman will continue to receive housing allowances until the end of 2023.

Executive Directors are provided with a chauffeured car for business travel, including home-to-office commuting. Other benefits, such as medical and other risk benefits are in line with those provided to the general workforce.

# Annual Report on Remuneration continued

## Non-executive Directors' fees

### Non-executive Directors' fees 2023

| | | £ | Other fees |
|---|---|---|---|
| Chair of the Board | | 785,000 | Non-executive Directors receive an additional fee of £4,000 for any Board meeting involving intercontinental travel – except for one meeting a year held in a location other than London. |
| Non-executive Director | | 120,000 | |
| Senior Independent Director | | 49,000 | |
| Audit Committee | Chair [A] | 53,000 | |
| | Member | 22,000 | |
| Safety, Environment and Sustainability Committee | Chair [A] | 31,000 | |
| | Member | 15,000 | |
| Nomination and Succession Committee | Chair [A] | 22,000 | |
| | Member | 11,000 | |
| Remuneration Committee | Chair [A] | 36,000 | |
| | Member | 15,000 | |

[A] The chair of a committee does not receive an additional fee for membership of that committee.

The Company Chair fee is determined by the REMCO, and for 2023 is unchanged from the previous level of £785,000. The Chair of the Board does not receive any additional fee for chairing the Nomination and Succession Committee or attending any other Board Committee meeting.

The Non-executive Directors receive a basic fee. There are additional fees for the Senior Independent Director, a Board Committee chair or a Board Committee member, and for most Board meetings involving intercontinental travel. Business expenses (including transport between home and office and occasional business-required partner travel) and associated tax are paid or reimbursed by Shell.

The Board reviews Non-executive Directors' fees periodically to ensure that they are aligned with those of other major listed companies. During these reviews the Board uses the largest 30 companies by market capitalisation listed on the FTSE and the European comparator group as its primary points of reference. The last general review was in 2022. Fees will remain unchanged for 2023.

# Directors' Remuneration Policy

**The Directors' Remuneration Policy sets out:**

- A summary of proposed changes to the Directors' Remuneration Policy, page 203;
- Executive Directors' Remuneration Policy, page 204; and
- Non-executive Directors' Remuneration Policy, page 209.

This section describes the Directors' Remuneration Policy (the Policy) which, subject to shareholder approval at the 2023 Annual General Meeting (AGM), will come into effect from May 23, 2023, and will be effective until the 2026 AGM, unless a revised Policy is proposed by the Company and approved by shareholders in the meantime.

The principles underpinning the REMCO's approach to executive remuneration are the foundation for everything we do, and are:

- Alignment with Shell's strategy and sustainability: the Executive Directors' compensation package should promote the long-term, sustainable success of Shell, and be strongly linked to the achievement of stretching targets that are indicators of the execution of Shell's strategy;
- Pay for performance: the majority of the Executive Directors' compensation, (excluding benefits and pensions), should be linked directly to Shell's performance through variable pay instruments;
- Competitiveness: remuneration levels should be determined by reference internally against Shell's Senior Management and externally against companies of comparable size, complexity and global scope;
- Long-term creation of shareholder value: Executive Directors should align their interests with those of shareholders by holding shares in Shell;
- Consistency: the remuneration structure for Executive Directors should generally be consistent with the remuneration structure for Shell's Senior Management. This consistency builds a culture of alignment with Shell's purpose and a common approach to sharing in Shell's success; and
- Risk assessment: decisions should be made in the context of the Shell General Business Principles and Code of Conduct. The remuneration structures and rewards should meet risk assessment tests to ensure that shareholders' interests are safeguarded and that inappropriate actions are avoided.

The Executive Directors' remuneration structure is made up of a fixed element of basic pay and two variable elements: the annual bonus (50% delivered in shares) and the Long-term Incentive Plan (LTIP). Variable pay outcomes are conditional on the successful execution of the operating plan in the short term, and the delivery of strategic goals and financial and share price outperformance over the longer term. The award of shares under the bonus and LTIP, along with significant shareholding requirements, are intended to ensure executives have a sizeable shareholding in the Company and experience the same outcomes as our shareholders.

During 2022, the REMCO reviewed the Policy to ensure that it continued to support Shell's strategy. The REMCO determined that the current Policy remained appropriate in most respects, and required changes only to reflect the transition of our Executive Directors to the UK to align with market practice and for simplification. For each area of the Policy, the REMCO reviewed the alignment with strategy, market practice, the corporate governance environment, and feedback from shareholders, and additionally spent time updating the selection and calibration of performance metrics in variable pay schemes. Any potential conflict of interest was mitigated by the independence of the REMCO members and the REMCO Terms of Reference. The REMCO also considered the provisions of the UK Corporate Governance Code when reviewing the Policy, and sought to reflect the principles of clarity, simplicity, risk management, predictability, proportionality and alignment with culture.

A summary of the main changes to the Policy is set out below.

| Remuneration element | Proposed changes to Policy | Rationale for the change |
|---|---|---|
| **Executive Directors** | | |
| Base salary | ▪ Salary cap amended from €2 million to £2 million. | ▪ To reflect the transition of the Executive Directors to the UK. |
| Pension | ▪ Move from base country arrangements to defined contribution pension arrangements applicable to the wider Shell workforce in the UK. | |
| Severance policy | ▪ New service contracts under which both the employee and the employer can terminate employment by giving 12 months' written notice, replacing the previous provision which reflected Dutch statutory provisions. | |
| Annual bonus and LTIP rules | ▪ REMCO discretion to suspend annual bonus or share award vesting pending the outcome of an investigation in exceptional circumstances. | ▪ To allow sufficient time for investigation, as required. |
| Leaver treatment | ▪ REMCO discretion to waive remaining bonus/LTIP holding period in exceptional circumstances (primarily death). | ▪ To align with market practice. |
| TSR underpin in LTIP | ▪ TSR underpin to be removed from the LTIP. | ▪ To simplify the plan and align with market practice. |
| **Non-executive Directors** | | |
| Retirement gift | ▪ Maximum value amended from €300 to £300. | ▪ To reflect the transition to the UK. |

# Directors' Remuneration Policy continued

## Executive Directors' Remuneration Policy table

| Purpose and link to strategy | Maximum opportunity | Operation and performance measurement |
|---|---|---|
| **Base salary** | | |
| Provides a fixed level of earnings to attract and retain Executive Directors. | £2,000,000 | Reviewed annually with adjustments effective from January 1.<br><br>In making salary determinations, the REMCO will consider:<br>▪ the market positioning of the compensation packages;<br>▪ comparison with Senior Management salaries;<br>▪ the employee context, and planned average salary increase for other employees across the UK, the Netherlands, and the USA;<br>▪ the experience, skills and performance of the Executive Director, or any change in the scope and responsibility of their role;<br>▪ general economic conditions, Shell's financial performance, and governance trends; and<br>▪ the impact of salary increases on pension benefits and other elements of the package. |
| **Benefits** | | |
| Provides benefits, typically in line with those applicable to the wider workforce, in order to attract and retain Executive Directors. | Determined by the nature of the benefit itself and costs of provision, and may depend on external factors, e.g. insurance costs. | Typical benefits include car allowances, home-to-office transport, risk benefits (for example ill health, disability or death-in-service), security provision, and employer contributions to insurance plans (such as medical) including Directors' liability insurance. In the event an international relocation is required either prior to appointment or while appointed, Shell's mobility policies may apply and the REMCO may offer appropriate provisions in respect of items including, but not limited to, relocation, assistance with visa/immigration/tax issues, and tax return support. It may also provide housing and education assistance for a specified period of time, expected to be no more than two years. Tax equalisation related to expatriate employment prior to Board appointment, or in other limited circumstances to offset double taxation, may also be provided.<br><br>Precise benefits will depend on the Executive Director's specific circumstances and may include any tax liabilities relating to business-related benefits such as in the case of security or relocation provisions.<br><br>The REMCO may adjust the range and scope of the benefits offered in the context of developments for other employees in the country which the Executive Director is based. Personal loans or guarantees are not provided to Executive Directors. |
| **Pension** | | |
| Provides a competitive defined contribution pension provision applicable to the wider workforce in the UK to attract and retain Executive Directors. | Determined by the rules of the defined contribution UK pension arrangements. | Executive Directors' retirement benefits are maintained in line with those of the wider Shell workforce in the UK. Only base salary is pensionable, unless plan regulations specify otherwise and cannot legally be disapplied. The rules of the relevant plan detail the pension benefits which members can receive. The REMCO retains the right to amend the form of any Executive Director's pension arrangements where appropriate, for example in response to changes in legislation to ensure the original objective of this element of remuneration is preserved.<br><br>New Executive Directors based in the UK, whether internal appointees or external hires, will be provided with the defined contribution arrangement, applicable to the wider Shell workforce in the UK, which currently includes the flexibility to take this as a pension cash alternative. |
| **Annual bonus** | | |
| Rewards the delivery of short-term operational targets as derived from Shell's operating plan.<br><br>Aligns the interests of Executive Directors and shareholders, and supports retention, through long-term holding in shares. | Target bonus: 125% of base salary.<br><br>Maximum bonus: 200% of target. | ▪ The bonus is determined by reference to performance from January 1 to December 31 each year.<br>▪ Annual bonus = base salary x target bonus % x scorecard result (0–2).<br>▪ The scorecard is reviewed each year, taking account of Shell's operating plan, to ensure that the performance measures, targets and weightings are appropriate. Performance measures typically relate to financial delivery, operational excellence, progress in the energy transition, and safety, with indicative weightings of 35%, 35%, 15% and 15% respectively. This helps to balance short-term financial performance with the achievement of a broader set of strategic and operational objectives to support long-term shareholder value creation. The REMCO retains the flexibility to adjust performance measures, weightings and targets on a year-by-year basis, within the terms of the Policy.<br>▪ Scorecard targets are disclosed on a retrospective basis in a subsequent Annual Report on Remuneration, when they are no longer deemed commercially sensitive.<br>▪ To reinforce alignment with shareholder interests, 50% of any bonus earned is delivered in cash and 50% is delivered in net-of-tax shares. The shares are subject to a three-year holding period from the end of the performance period the award relates to, which applies beyond an Executive Director's tenure. The REMCO retains discretion to waive any part of this holding period in exceptional circumstances (primarily death).<br>▪ The bonus is subject to malus provisions before it is delivered, and to clawback thereafter for a period of three years. |

# Directors' Remuneration Policy continued

## Executive Directors' Remuneration Policy table continued

| Purpose and link to strategy | Maximum opportunity | Operation and performance management |
|---|---|---|
| **Long-term Incentive Plan (LTIP)** | | |
| Rewards longer-term value creation linked to Shell's strategy. The measures focus on financial performance, capital discipline and the achievement of Shell's ambitions in the energy transition.<br><br>Aligns the interests of Executive Directors and shareholders, and supports retention through long-term holding in shares. | Target award: 300% of base salary.<br><br>Awards may vest at up to 200% of the shares originally awarded, plus dividends. | ▪ Award levels are determined in respect of any financial year by the REMCO within the Policy maximum.<br>▪ Awards may vest at between 0% and 200% of the initial award, depending on Shell's performance, assessed over a three-year performance period, on an absolute basis and/or on a relative basis against an appropriate comparator group.<br>▪ Performance measures and weightings are reviewed and set by the REMCO at the beginning of each three-year performance period, taking account of Shell's strategic priorities.<br>▪ Notional dividends accrue over the vesting period in respect of awards that vest.<br>▪ To reinforce alignment with shareholder interests, net of tax shares delivered from vested awards are subject to a three-year holding period from the end of the performance period the award relates to, which applies beyond an Executive Director's tenure. The REMCO retains discretion to waive any part of this holding period in exceptional circumstances (primarily death).<br>▪ Dividends accrue over the vesting period in respect of awards that vest.<br>▪ The award is subject to malus provisions before vesting, and to clawback provisions thereafter for a period of three years. |
| **Discretion, malus and clawback** | | |
| Enables the management of risks from behaviour-based incentive schemes and the REMCO to manage the range of pay outcomes. | Adjustment events exist for the purposes of applying malus and clawback.<br><br>The REMCO retains discretion to adjust pay outcomes. | ▪ The REMCO retains the discretion to adjust mathematical outcomes of the annual bonus scorecard and/or LTIP vesting for any Executive Director if and to the extent that it considers this appropriate at their sole discretion.<br>▪ The REMCO may adjust pay outcomes for the purposes of managing quantum. This would be done at the REMCO's discretion after considering single figure outcome for the year, taking into account Shell's performance, the operation of the remuneration structures and any other relevant considerations.<br>▪ In exceptional circumstances, the REMCO may determine that the vesting of an annual bonus or a share award should be suspended pending the outcome of an investigation. The suspension may be for such period as the REMCO considers sufficient to permit the investigation to be concluded.<br>▪ The use of any discretion will be disclosed and explained. |
| **Shareholding requirements** | | |
| Aligns interests of Executive Directors with those of shareholders by creating a connection between individual wealth and Shell's long-term performance. | Shareholding (% of base salary):<br>▪ CEO: 700%<br>▪ CFO: 500% | ▪ Executive Directors are expected to build up their shareholding to the required level over a period of five years from appointment and, once reached, to maintain this level for the full period of their appointment. The intention is for the shareholding guideline to be reached through retention of vested shares from share plans. The REMCO will monitor progress and retains the ability to adjust the guideline in special circumstances on an individual basis.<br>▪ In the event of an increase to the guideline, this timeframe is increased by one year for every additional multiple of salary required, subject to a maximum of five years from the date of the change.<br>▪ The Executive Director will be required to maintain their shareholding requirement (or existing shareholding if lower) for a period of two years from the date they cease to be an employee. Post-termination holding is enforced through the arrangements put in place with the employee on termination.<br>▪ In the event that another Executive Director joins the Board, the REMCO will determine their shareholding requirement level, which will not be less than 200% of salary, in line with corporate governance best practice.<br>▪ Vested shares from incentive plans (including bonus and LTIP shares subject to holding period) count towards the requirement. The REMCO monitors individual progress and retains the ability to adjust the guideline in special circumstances on an individual basis. |

# Directors' Remuneration Policy continued

## Notes to the Policy table

### Executive Directors outside of the UK

In respect of salary, benefits and pension, in the event that an Executive Director is based outside of the UK, the REMCO reserves the right to determine the individual's remuneration arrangements in line with their base or host country, within the spirit of the Policy.

### Payments from previously agreed remuneration arrangements

The REMCO reserves the right to make any remuneration payments where the terms of the payment were agreed (i) before the Policy came into effect, or (ii) at a time when the relevant individual was not a Director of the Company and, in the opinion of the REMCO, the payment was not in consideration for the individual becoming a Director of the Company. The REMCO also reserves the right to honour pre-existing contractual obligations in accordance with the terms of the service contract and relevant incentive plan. Details of any such payments will be set out in the Annual Report on Remuneration as they arise.

### Selection of performance measures

For the 2023 performance year, the annual bonus scorecard will consist of financial delivery (35%), operational excellence (35%), progress in the energy transition (15%), and safety (15%). Targets are derived from the annual business plan. These measures are designed to drive focus on the financial and operational performance critical to our success in delivering our Powering Progress strategy. The REMCO believes it is important for annual variable pay to remain balanced, with short-term operational components complementing the LTIP's focus on longer-term financial and strategic outcomes. The same annual bonus scorecard applies to the majority of Group employees, supporting consistency of remuneration and alignment of objectives across employees and senior management.

For 2023 LTIP awards, performance will be assessed based on 75% financial metrics (relative CFFO divided by average capital employed, relative TSR, absolute OFCF, equally weighted) and 25% on a strategic measure focused on Shell's journey in the energy transition. These metrics are designed to support our strategic ambition of accelerating our transition to be a net-zero emissions business while creating value for our shareholders.

For the relative measures, 200% vests for first position, 150% for second, 80% for third, and 0% for ranking fourth or fifth. The comparator group consists of four of the strongest companies in our industry (BP, Chevron, ExxonMobil and TotalEnergies). Outperforming Shell's closest competitors on key financial metrics is challenging. A vesting outcome of 80% of target (40% of maximum) for median performance in a small comparator group is considered appropriate by the REMCO. The REMCO is aware that vesting for median performance is generally set at a limit of 25% of maximum for other UK companies. However, these are typically applied against a larger comparator group. Commentary on the REMCO's consideration of the constituents of the comparator group is set out in the 2022 introduction from the REMCO Chair.

To simplify the plan and align with market practice, it is proposed that the underpin be removed from the plan effective from 2024 awards.

### Discretion

There are a number of specific areas in which the REMCO may exercise discretion, including:

- To review the specific measures, weightings and targets for the annual bonus scorecard and LTIP award annually and adjust accordingly to evolve with Shell's strategy and circumstances to ensure that the targets remain stretching but realistic. If the REMCO were to propose any material changes to the LTIP performance metrics, it would consult with major shareholders; and
- To adjust mathematical variable pay outcomes if and to the extent that it considers this appropriate. This power to adjust the outcomes is broad and includes adjusting the outcomes to zero. For example, an adjustment might be made if the REMCO considers:
  - The mathematical outcomes do not reflect the wider financial or non-financial performance of the Company or the participant over the performance period;
  - The LTIP vesting percentage is not appropriate in the context of circumstances that were unexpected or unforeseen at award; and
  - There is any other reason why an adjustment is appropriate.

It is not anticipated that discretion would be used for upwards adjustment. If, in exceptional circumstances, it was considered, this would be done only after consultation with major shareholders.

Performance outcomes and/or share price movements make it difficult to predict the final amounts delivered under the LTIP at the time of award. Each year, the REMCO reviews the LTIP vesting values and single figure outcomes for the Executive Directors to ensure that they are appropriate. The REMCO will review the formulaic single figure outcomes relative to the quality of performance outcomes and adjust these, taking into account Shell's performance, shareholder experience, the operation of the remuneration structures and any other relevant factors to ensure that the highest variable pay outcomes are only achieved in years with the highest quality performance. In years where the vesting outcome makes the total remuneration inappropriate for any Executive Director, the REMCO will consider an adjustment to the annual bonus outcome and/or the LTIP vesting outcome for the purposes of managing remuneration quantum. In making any adjustment to the annual bonus and/or LTIP vesting outcome for this purpose, REMCO will consider the overall level of remuneration for the Executive Director, the operation of the annual bonus, the operation of the LTIP, the wider performance of Shell over the performance periods, as well as the internal context for other employees. An explanation of any discretionary adjustment would be set out in the relevant year's Directors' Remuneration Report.

### Malus and clawback

Variable pay awards may be made subject to adjustment events. At the discretion of the REMCO, such an award may be adjusted before delivery (malus) or reclaimed after delivery (clawback) if an adjustment event occurs.

Adjustment events will be specified in award documentation and it is intended that they will, for example, relate to restatement of financial statements due to material non-compliance with a financial reporting requirement; misconduct by an Executive Director or misconduct through their direction or non-direction; any material breach of health and safety or environment regulations; serious reputational damage to Shell; material failure of risk management; corporate failure; or other exceptional events as determined at the discretion of the REMCO. The REMCO retains the right to alter the list of adjustment events in respect of future awards.

# Directors' Remuneration Policy continued

### Differences in Remuneration Policy for Executive Directors from that for other employees

The remuneration policies, structure, and approach to setting remuneration levels are consistent across organisational levels at Shell, with consideration given to location, seniority and responsibilities. A higher proportion of total remuneration is tied to variable pay for Executive Directors and members of Senior Management, to reflect these individuals' positions of influence and accountability.

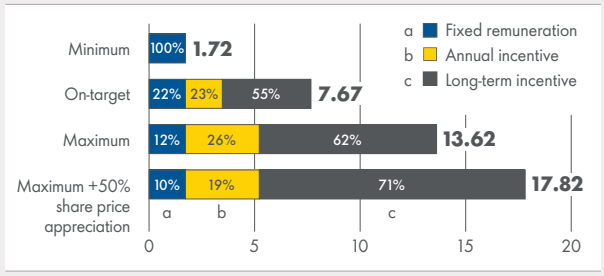
Detailed discussion of how executive remuneration aligns with wider Company pay policy may be found in the "Workforce engagement on remuneration matters" section of the Annual Report on Remuneration, on page 198.

### Illustration of potential remuneration outcomes

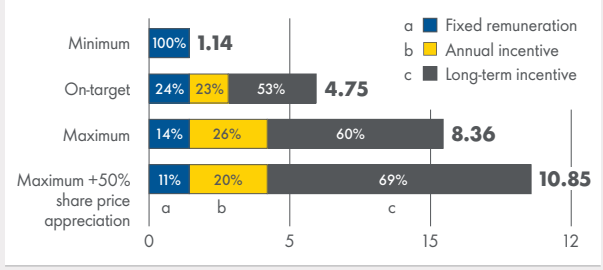
The charts on this page illustrate the potential future value and composition of the Executive Directors' total remuneration opportunities under four performance scenarios ("Minimum", "On-target", "Maximum" and "Maximum +50% share price appreciation between award and vest"). The remuneration opportunities are based on those set out in the Policy table, applied to 2023 base salaries. The majority of the Executive Directors' remuneration is delivered through variable pay elements, which are conditional on the achievement of stretching performance targets.

For simplicity, the charts exclude dividend accrual, and exclude the effect of any Company share price movement except in the "Maximum +50%" scenario.

CEO pay scenarios (£ million)




CFO pay scenarios (£ million)




### Performance scenarios

| | Minimum | Target | Maximum |
|---|---|---|---|
| Base salary (2023) | ✓ | ✓ | ✓ |
| Benefits (2022 actual) [A] | ✓ | ✓ | ✓ |
| Pension (2023) | ✓ | ✓ | ✓ |
| Bonus (2023) | NIL | 125% CEO | 250% CEO |
| | | 120% CFO | 240% CFO |
| LTIP (2023) | NIL | 300% CEO | 600% CEO |
| | | 270% CFO | 540% CFO |

[A] Excluding one-off benefits related to the move to the UK.

### Recruitment

The REMCO determines the remuneration package for new Executive Director appointments. These appointments may involve external or internal recruitment, or reflect a change in role of a current Executive Director.

When determining remuneration packages for new Executive Directors, the REMCO will seek a balanced outcome which allows Shell to:

- Attract and motivate candidates of the right quality;
- Take into account the individual's current remuneration package and other contractual entitlements;
- Seek a competitive pay position relative to our comparator group, without overpaying;
- Encourage relocation if required; and
- Honour entitlements (for example, variable remuneration) of internal candidates before their promotion to the Board, with the exception of any previous pension arrangements.

The REMCO will follow the approach set out below when determining the remuneration package for a new Executive Director.

| Component | Approach | Maximum |
|---|---|---|
| Ongoing remuneration | The salary, benefits, annual bonus, long-term incentives and pension benefits will be positioned and delivered within the framework of the Policy. | As stated in the Executive Directors' Remuneration Policy table, and notes to the table. |
| Compensation for the forfeiture of any awards under variable remuneration arrangements | To facilitate external recruitment, one-off compensation in consideration for forfeited awards under variable remuneration arrangements entered into with a previous employer may be required. The REMCO will use its judgement to determine the appropriate level of compensation by matching the value of any lost awards under variable remuneration arrangements with the candidate's previous employer. This compensation may take the form of a one-off cash payment or an additional award under the LTIP. The compensation can alternatively be based on a newly created long-term incentive plan arrangement where the only participant is the new Director. The intention is that any such compensation would, as far as possible, align to the duration and structure of the award being forfeited. Where appropriate, performance conditions, holding periods, and malus and clawback provisions will apply. | An amount equal to the value of the forfeited variable remuneration awards, as assessed by the REMCO. Consideration will be given to appropriate performance conditions, performance periods and clawback arrangements. |

# Directors' Remuneration Policy continued

| Component | Approach | Maximum |
|---|---|---|
| Replacement of forfeited entitlements other than any awards under variable remuneration arrangements | There may also be a need to compensate a new Executive Director in respect of forfeited entitlements other than any awards under variable remuneration arrangements. This could include, for example, contractual entitlements or other benefits. On recruitment, these entitlements may be replicated within the Executive Director's remuneration package or valued by the REMCO and compensated in cash.<br>In cases of internal promotion to the Board, any commitments made which cannot be effectively replaced within the Executive Director's remuneration package may, at the REMCO's discretion, continue to be honoured. | An amount equal to the value of the forfeited entitlements, as assessed by the REMCO. |
| Exceptional recruitment incentive | Apart from the ongoing annual remuneration package and any compensation in respect of the replacement of forfeited entitlements, there may be circumstances in which the REMCO needs to offer a one-off recruitment incentive in the form of cash or shares to ensure the right external candidate is attracted (e.g. to the industry). The REMCO recognises the importance of internal succession planning but it must also have the ability to compete for talent with other global companies. The necessity and level of this incentive will depend on the individual's circumstances. The intention will be that this is only used in genuinely exceptional circumstances. | A one-off amount up to the limits set out in the Executive Directors' Remuneration Policy table, in addition to the ongoing package. |
| Relocation | In the event that an internal or external candidate were required to relocate internationally to take up the Executive Director position, the REMCO may offer appropriate relocation provisions in respect of items including, but not limited to, relocation, assistance with visa/immigration issues, housing, and education assistance. If provided, these will be for a specified period of time, expected to be no more than two years. | The level of such benefits would be set at an appropriate level by the REMCO, taking into account the circumstances, provisions applicable to the wider internationally mobile workforce, and typical market practice. |

## Executive Directors' service contracts and end of employment arrangements (including change of control provisions)

| Provision | Policy |
|---|---|
| Service contracts | Executive Directors are employed for an indefinite period. Executive Directors based in the UK will be employed on service contracts governed by the laws of England and Wales. |
| Notice period | The Executive Director or the Company may terminate employment by giving 12 months' written notice. The Company may require the Executive Director to be on garden leave during all or any of the notice period (whether notice is given by the Company or the Executive Director). |
| Payment in lieu of notice (PILON) | The Company may terminate an Executive Director's service contract at any time with immediate effect and pay a sum in lieu of the unexpired portion of any notice period to the value of no more than 12 months' fixed pay (salary and regular allowances) and other benefits (unless statutory requirements to pay additional sums apply).<br>The Company has the contractual right to make any PILON in monthly instalments in its discretion. Once the right to make a PILON is exercised, its delivery in instalments is mitigated by a contractual obligation on the Executive Director to seek alternative employment. |
| Compensation for loss of office | Executive Directors will not usually receive additional payments for loss of office, other than, as appropriate, payments in lieu of notice as described above or payments in respect of damages if the Company terminates an Executive Director's employment in breach of contract (taking into account, as appropriate, the Executive Director's responsibility to mitigate any losses).<br>The REMCO reserves the right to make payments it considers reasonable in settlement of potential legal claims taking into account contractual provisions, applicable law, corporate governance provisions, the applicability of any statutory compensation and the best interests of Shell and shareholders as a whole. |
| Dismissal | The Company may terminate employment immediately in particular defined circumstances such as gross misconduct, with no further payment or PILON. |
| Annual bonus accrued prior to termination | The following provisions will normally apply:<br>• In the event of death, disability, injury or ill health, retirement, redundancy, completion of a fixed-term contract, and other circumstances at the REMCO's discretion, any annual bonus in the year of departure is pro-rated based on service. Depending on the timing of the departure, the REMCO may consider the latest scorecard position or defer payment until the full-year scorecard result is known.<br>• In the event of a change of control, the REMCO will assess the most appropriate treatment for the outstanding bonus period according to the circumstances.<br>• Bonuses delivered in shares represent the bonus which a participant has already earned, and carry no further performance conditions. Therefore, these shares will normally be unrestricted at the conclusion of the normal holding period otherwise, and no pro-ration will apply.<br>• In other circumstances (including resignation), no award will be made unless statutory requirements apply.<br>• The REMCO retains discretion to waive any part of a bonus holding period in exceptional circumstances (primarily death). |

# Directors' Remuneration Policy continued

| Provision | Policy |
|---|---|
| LTIP awards | Share awards will be treated in accordance with the relevant plan rules. The following provisions will normally apply:<br>▪ In the event of disability, injury or ill health, retirement, redundancy, completion of a fixed-term contract, and other circumstances at the REMCO's discretion: outstanding awards are reduced pro-rata (on a monthly basis) for time elapsed during the performance period. They will generally survive the end of employment and remain subject to the same vesting performance conditions, holding period and malus and clawback provisions, as if the Executive Director had remained in employment. The extent to which awards vest will be determined by the REMCO, taking into account the extent to which the performance conditions have been satisfied.<br>▪ In the event of death: the award will vest in full on the date of death or, if there is a target level set out in the performance condition, then at that target level, unless the REMCO determines otherwise.<br>▪ Change of control: awards will be exchanged for equivalent new awards issued by the acquirer, if agreed to by the acquirer and the Board. If there is no agreement to exchange awards, awards will (i) vest immediately in full if there is no performance condition, or (ii) vest immediately to the extent that any performance condition has been satisfied to the date of vesting. Such awards will be reduced pro-rata for time elapsed during the performance period unless agreed otherwise.<br>▪ Other circumstances (including resignation): awards will lapse on cessation of employment unless statutory requirements apply.<br>▪ The REMCO retains discretion to waive any part of a holding period in exceptional circumstances (primarily death). |
| Other | The provision of end-of-employment benefits such as a contribution to the Executive Director's legal fees for the review of any settlement agreement, repatriation costs, and outplacement support may also be included, as deemed reasonable by the REMCO. The Executive Director may also remain eligible for other benefits, such as security provision or tax return preparation, in line with policies for the wider workforce. The Company may pay the Executive Director's tax on such benefits.<br><br>REMCO may adjust the range and scope of the benefits offered in the context of developments for other employees in relevant countries. |

In the event an Executive Director is based outside of the UK, the REMCO will determine the appropriate service contract and end of employment arrangements.

The table below sets out the effective dates of the Executive Directors' service contract.

| Executive Director | Date of contract |
|---|---|
| Wael Sawan | January 1, 2023 |
| Sinead Gorman | April 1, 2022 |

Executive Directors' employment arrangements are available for inspection at the AGM or on request. For further details on appointment and re-appointment of Directors, see the "Governance Framework" on page 148 and "Other regulatory and statutory information" on page 211.

## Non-executive Directors' Remuneration Policy table

| Fee structure | Approach to setting fees | Other remuneration |
|---|---|---|
| Non-executive Directors (NEDs) receive a fixed annual fee for their Directorship. The Chair receives a Chair of the Board fee, and other NEDs receive a base fee for membership of the Board.<br><br>Additional annual fees are payable to any NED (other than the Chair of the Board) who serves as Senior Independent Director, a Board Committee Chair, or a Board Committee member. Any individual receives either a Chair or member fee in respect of each Committee they sit on. The Chair of a Committee does not receive both fees.<br><br>NEDs receive an additional fee for any Board meeting involving intercontinental travel, with the exception of one meeting a year held in a location other than London. | The Chair of the Board fee is determined by the REMCO. The Board determines the fees payable to NEDs. The maximum aggregate annual fees will be within the limit specified by the Articles of Association and in accordance with the NEDs' responsibilities and time commitments.<br><br>The Board reviews NED fees periodically to ensure that they are appropriate in the context of fee levels at other major listed companies. | Business expenses incurred in respect of the performance of their duties as a NED will be paid or reimbursed by Shell. Such expenses could include transport between home and office, and occasional business-required partner travel. NEDs may receive a token of recognition on retirement from the Board. The maximum value for this is £300. The REMCO has the discretion to offer other benefits as appropriate to the circumstances. Where business expenses or benefits create a personal tax liability to the NED, Shell may cover the associated tax.<br><br>The Chair and other NEDs are not eligible to receive awards under any incentive or performance-based remuneration plans, and personal loans or guarantees are not granted to them.<br><br>NEDs do not accrue any retirement benefits as a result of their Non-executive Directorships with Shell.<br><br>NEDs are encouraged to hold Shell shares with a value equivalent to 100% of their annual base fee and maintain that holding during their tenure. |

# Directors' Remuneration Policy continued

### Non-executive Directors' letters of appointment

NEDs, including the Chair of the Board, have letters of appointment. NEDs' letters of appointment are available for inspection at the AGM or on request. The table below shows the appointment and expiry dates for the NEDs' appointments:

| Non-executive Director | Effective date of appointment |
|---|---|
| Sir Andrew Mackenzie | October 1, 2020 |
| Dick Boer | May 20, 2020 |
| Neil Carson | May 21, 2019 |
| Ann Godbehere | May 23, 2018 |
| Euleen Goh | September 1, 2014 |
| Jane Holl Lute | May 19, 2021 |
| Catherine J. Hughes | June 1, 2017 |
| Martina Hund-Mejean | May 20, 2020 |
| Bram Schot | October 1, 2020 |
| Cyrus Taraporevala | March 2, 2023 |

For further details on appointment and re-appointment of NEDs, see the "Governance Framework" on page 148 and "Other regulatory and statutory information" on page 211.

### Non-executive Director recruitment

The remuneration package for new NEDs is determined within the confines of the Policy table for NED fees, and subject to the Articles of Association. NEDs are not offered variable remuneration or retention awards.

When determining the benefits for a new Chair of the Board, the individual circumstances of the future Chair will be taken into account.

### Non-executive Director termination of office

No payments for loss of office will be made to NEDs.

### Consideration of wider employee views

The REMCO takes account of the pay and employment conditions of the broader workforce when setting the Policy for Executive Directors.

Whilst no specific employee groups were consulted as part of the 2023 Policy review, Shell promotes and maintains good relations with employee representative bodies as part of its employee engagement programme, and operates multiple forums through which employees can engage on various business matters, including pay.

When determining Executive Directors' remuneration structure and outcomes, the REMCO reviews a set of information, including relevant reference points and trends, which includes internal data on employee remuneration (for example, employee relations matters in respect of remuneration, and average salary increases applying in the Netherlands, UK and the USA). During the Policy review, pay and employment conditions of the wider Shell employee population were taken into account by adhering to the same performance, rewards and benefits philosophy for the Executive Directors, as well as overall benchmarking principles. Furthermore, any potential differences from other employees (see "Differences in Remuneration Policy for Executive Directors from that for other employees") were taken into account when providing the REMCO with advice in the formation of the Policy.

The REMCO is kept informed by the CEO, the Chief Human Resources & Corporate Officer, and the Executive Vice President Performance and Reward on the bonus scorecard and any relevant remuneration matters extending below the Board and Executive Committee.

See the "Workforce engagement on remuneration matters" section in the Annual Report on Remuneration, on page 198, for more information on how Shell considers and engages with the broader workforce on remuneration matters.

### Consideration of shareholder views

The REMCO engages with major shareholders regularly throughout the year. Such engagement allows the REMCO to hear shareholders' views on Shell's approach to executive remuneration, and test proposals when developing or evolving the Policy. In recent years, the REMCO has responded to shareholder views, including the approach to energy transition metrics in the LTIP, the quantum of executive pay and the broader use of discretion to manage remuneration outcomes. In developing the proposed Policy, the REMCO again consulted with shareholders and received a diverse range of views that have helped to determine which proposals to refine and which to discard. For example, as a result of shareholder feedback in the fourth quarter of 2022, the REMCO determined not to proceed with seeking support for recruitment provision that would permit an extended notice period on hiring. Shareholders have been helpful in emphasising the need for balanced metrics in the LTIP to help avoid unintended consequences as Shell progresses through the energy transition. In 2022, the continued interest in the energy transition LTIP measure directly influenced increased transparency in Shell's reporting on the progress of its energy transition journey.

It was clear to the REMCO that, whilst there were inevitably contrasting views around the different aspects of the Policy, shareholders are supportive of Shell's overall approach to remuneration and the REMCO's careful deliberations in decision-making. The REMCO will continue to review the Policy regularly to ensure it continues to reinforce Shell's long-term strategy and closely aligns with shareholders' interests.

### Additional Policy statement

The REMCO reserves the right to make payments outside of the Policy in limited, exceptional circumstances, such as for regulatory, tax or administrative purposes, or to take account of a change in legislation or exchange controls, and only where the REMCO considers such payments are necessary to give effect to the intent of the Policy.

Signed on behalf of the Board

**/s/ Caroline J. M. Omloo**

**Caroline J.M. Omloo**
Company Secretary
March 8, 2023

# Other regulatory and statutory information

This section of the Annual Report contains the remaining information which the Directors are required to report on each year and for the year ended December 31, 2022. There are other matters that are required to be reported on and that have been disclosed in other sections of the Annual Report, as summarised below:

| | | |
|---|---|---|
| Management Report | This Directors' Report, together with the Strategic Report, serves as the Management Report for the purpose of Disclosure Guidance and Transparency Rule 4.1.8R.<br>Both the Directors' Report and Strategic Report have been presented in accordance with and reliance on English law, and the liabilities of the Directors in connection with those reports shall be subject to the limitations and restrictions provided by such law. | Directors' Report: pages 132-210<br>Strategic Report: pages 1-124 |
| Corporate governance | The Company's statement on corporate governance, as required by DTR7.2.3R, is incorporated in this Directors' Report by way of reference. | Directors' Report: pages 132-210 |
| Business relationships [A] | A statement, summarising the Directors' business relationships with suppliers, customers and others. | Strategic Report: pages 1-124 |
| Employee engagement | Information on how Directors have engaged with employees. | Workforce engagement: pages 157-158 |
| Directors' interests [B] | The interests (in shares of the Company or calculated equivalents) of the Directors in office at the end of the year, including any interests of a "connected person".<br>Changes in Directors' share interests during the period from December 31, 2022, to March 8, 2023. | Annual Report on Remuneration: pages 183-202 |
| Likely future developments | Information relating to likely future developments. | Provided throughout the Strategic Report: pages 1-124 |
| Research and development | Information relating to Shell's research and development, including expenditure. | Powering Progress strategy: pages 6-14 |
| Diversity and inclusion | Information concerning diversity and inclusion. This includes information on the equal opportunities in recruitment, career development, promotion, training and rewards for all our people, including those with disabilities. | Powering Lives: pages 112-120 |
| Employee communication and involvement | Information concerning employee communication and involvement. | Powering Lives: pages 112-120 |
| Corporate social responsibility | A summary of Shell's approach to corporate social responsibility.<br>Further details will be available in the Shell Sustainability Report 2022. | Powering Lives: pages 112-120 |
| Branches | A list of our subsidiaries, joint ventures and associates.<br>Our activities and interests are operated through subsidiaries, branches of subsidiaries, joint ventures and associates which are subject to the laws and regulations of many different jurisdictions. | Additional Information, Appendix 1: pages 367-387 |
| Greenhouse gas emissions | Information relating to greenhouse gas emissions. | Our journey to net zero: pages 78-105 |
| Risk management | Detail on risk factors.<br>Information on emerging risks. | Risk Factors: pages 15-26<br>Other regulatory and statutory information: pages 211-219 |
| Financial risk management, objectives and policies | Descriptions of the use of financial instruments and Shell's financial risk management objectives and policies, and exposure to market risk (including price risk), credit risk and liquidity risk. | Consolidated Financial Statements: Note 25, 293-299 |
| Listing rule information [C] | Information concerning the amount of interest capitalised by Shell. | Consolidated Financial Statements: Note 10, page 270 |
| Listing rule information [C] | The Remuneration Committee Report. | Directors' Remuneration Report: pages 178-182 |
| Listing rule information [C] | Details of the Company's long-term incentive schemes as required by LR 9.4.3R | Directors' Remuneration Report: pages 178-182 |
| Significant shareholdings | Information concerning significant shareholdings. | Shareholder information: pages 358-361 |

[A] This meets the purposes of Schedule 7 to The Companies (Miscellaneous Reporting) Regulations 2018.
[B] "Connected person" has the meaning given to "person closely associated" within the Market Abuse Regulation.
[C] This information is given in accordance with Listing Rule 9.8.4R. Further information in connection with Listing Rule 9.8.4R is contained in the remainder of "Other Statutory Information" which follows on pages 211-219.

# Other regulatory and statutory information continued

## Modern Slavery Act Statement

We have continued to prioritise buying from and encouraging local providers by procuring goods and services from local suppliers who meet the standards we require. The standards include those relating to human rights, labour practices and business integrity and are governed by the Shell Supplier Principles. Monitoring is undertaken centrally in connection with the preparation of the Shell Group's Modern Slavery Act (MSA) Statement which is prepared by taking proposed inputs from Shell companies in scope of the MSA as to their steps taken to ensure modern slavery does not occur in their supply chain or organisation. The Shell Group Statement is approved by the Board of Shell plc, after approval by the boards of Shell companies which are in scope of the MSA.

## Disclosure of information to auditors

In accordance with section 418 of the Companies Act 2006, each of the persons who is a Director at the date of approval of this Report confirms that, so far as the Director is aware, there is no relevant audit information of which the Company's auditor is unaware. The Director has taken all steps that he or she ought to have taken as a Director in order to make himself or herself aware of any relevant audit information and to establish that the Company's auditor is aware of that information.

## Financial Statements, Dividends and Dividend Policy

The "Consolidated Statement of Income" and "Consolidated Balance Sheet" can be found on pages 238 and 239 respectively.

Subject to Board approval, Shell aims to grow the dividend per share by around 4% every year, and Shell will target the distribution of a minimum of 20% and, subject to Board approval and prevailing market conditions, potentially more than 30% of its cash flow from operations to shareholders. The Board may choose to return cash to shareholders through a combination of dividends and share buybacks. When setting the level of shareholder remuneration, the Board looks at a range of factors, including the macro environment, the underlying business earnings and cash flow of the Shell Group, the current balance sheet, future investment and divestment plans, and existing commitments.

Interim dividends are currently declared by the Board and paid on a quarterly basis. Shell does not currently pay a "final" dividend, which would need to be voted on by shareholders, requiring the introduction of a resolution at the AGM. This would delay the payment of the fourth quarter dividend (currently paid in late March) until after the AGM, which is towards the end of May, a delay of around seven weeks. Our approach to dividend payments is not uncommon for companies distributing returns to shareholders on a quarterly basis.

Shell pays its dividend in USD, EUR or GBP fully electronically either in CREST or via interbank transfers.

The Directors have announced a fourth quarter interim dividend payable on March 27, 2023, to shareholders on the Register of Members at the close of business on February 17, 2023. The closing date for dividend currency elections was March 3, 2023 [A] and the euro and sterling equivalents announcement date is March 13, 2023.

[A] A different dividend currency election date may apply to shareholders holding shares in a securities account with a bank or financial institution ultimately through Euroclear Nederland. This may also apply to other shareholders who do not hold their shares either directly on the Register of Members or in the corporate sponsored nominee arrangement. Such shareholders can contact their broker, financial intermediary, bank or financial institution for the election deadline that applies.

## 2022 Viability Statement and Going Concern Statement

The "Strategic Report" includes information about Shell's strategy, financial condition, cash flows and liquidity, as well as the factors, including the principal risks, likely to affect Shell's future development. It also describes Shell's business model, including competitive advantages and key strengths. The Directors assess Shell's prospects both at an operating and strategic level, each involving different time horizons. To this end, the Directors assess Shell's portfolio and strategy against a wide range of outlooks, including assessing the potential impacts of various possible energy transition pathways and scenarios for changes in societal expectations in relation to climate change. Shell recognises in its strategy that the world is transitioning to a lower-carbon energy system.

See "Our journey to net zero" on pages 78-105.

The "Risk factors" section (see pages 15-26) provides an overview of the principal risks Shell is exposed to in its operations. We have assessed which scenarios linked to the principal risks could lead to a severe but possible outcome. Consideration was given to the climate change and energy transition risk, however the associated material impacts are of a longer-term nature, outside the three-year viability statement period. Therefore, it was not assessed as a stress case scenario for the viability statement. However, it is worth noting that key assumptions that underpin the amounts recognised in the consolidated balance sheet, such as future oil and gas prices, discount rates, future costs of decommissioning and restoration, and tax rates, all go well beyond three years and do take climate change and energy transition into account.

### Viability Statement Process

**Throughout the year, the Board received regular updates on the financial framework**



**The Board approved the detailed three-year operating plan which includes Shell's cash flows and ability to service financing requirements [A]**



**We identified and modelled five severe but possible scenarios that could potentially impact Shell's viability**



**We assessed and concluded on the long-term viability of the Company (we have deemed a three-year period of assessment to be appropriate)**

[A] Shell's three-year operating plan contains assumptions in relation to internal and external parameters, including recovery from the impacts of the COVID-19 pandemic. Some of the key assumptions include the impact of commodity prices, exchange rates, future carbon costs, agreements like LNG contract renewals, production levels and product demand and schedules of growth programmes.

# Other regulatory and statutory information continued

## Scenarios and risks

| Scenario | Link to principal risks | Severity of Impact |
|---|---|---|
| Unplanned shutdown of a major cash-generating asset (for the viability statement period i.e. three years) | [A] | Low |
| A low oil and gas price environment (Brent at 2023: $50, 2024: $50, 2025: $50) | [B] | Medium |
| A significant HSSE event | [A] | Medium |
| Global macroeconomic uncertainties (including those from a pandemic) - low oil and gas price environment, negative impact on oil product and chemical margins, and long-term demand reduction | [B] and [C] | Higher |
| A significant HSSE event and a low oil and gas price environment | [A] and [B] | Higher |

[A] The nature of our operations exposes us, and the communities in which we work, to a wide range of health, safety, security and environment risks.
[B] We are exposed to macroeconomic risks including fluctuating prices of crude oil, natural gas, oil products and chemicals.
[C] We are exposed to treasury and trading risks, including liquidity risk, interest rate risk, foreign exchange risk and credit risk. We are affected by the global macroeconomic environment and by financial and commodity market conditions.

## Conclusion

Taking account of Shell's position and principal risks at December 31, 2022, the Directors have a reasonable expectation that Shell will be able to continue in operation and meet its liabilities as they fall due over its three-year operating plan period.

## Going Concern

In assessing the appropriateness of the going concern assumption over the period to March 31, 2024 (the 'going concern period'), management have stress-tested Shell's most recent financial projections to incorporate a range of potential future outcomes by considering Shell's principal risks, further potential downside pressures on commodity prices and cash preservation measures, including reduced future operating costs, capital expenditure and shareholder distributions. This assessment confirmed that Shell has adequate cash, other liquid resources and undrawn credit facilities to enable it to meet its obligations as they fall due in order to continue its operations during the going concern period. Therefore, the Directors consider it appropriate to continue to adopt the going concern basis of accounting in preparing the audited Consolidated Financial Statements. See Note 1 to the Consolidated Financial Statements on page 242.

## Non-Financial Information Statement

The Non-Financial Information Statement below forms part of the Strategic Report on pages 1-124.

### Non-Financial Information Statement

| Reporting requirement | Where to read more in this Report | Page |
|---|---|---|
| Business Model | Powering Progress strategy | 6 |
| Non-financial KPIs | Performance indicators | 27 |
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## Repurchases of shares

Shell will target the distribution of a minimum of 20% and, subject to Board approval and prevailing market conditions, potentially more than 30% of its cash flow from operations to shareholders. The Board may choose to return cash to shareholders through a combination of dividends and share buybacks. For all share buyback programmes mentioned below, Shell entered into an irrevocable, non-discretionary arrangements with a broker in order to reduce the issued share capital of the Company.

Under shareholder authorities granted at the 2021 AGM, on December 2, 2021, Shell announced a share buyback programme of $1.5 billion comprising the first part of the $7 billion shareholder distributions from the sale of the Permian business in the USA, which was completed on January 28, 2022. On February 3, 2022, Shell announced the commencement of a share buyback programme of $8.5 billion, comprising $5.5 billion of Permian divestment proceeds and $3.0 billion as part of the Company's capital allocation framework. This buyback programme was formed of two tranches, the first of $4 billion which ran between February 3, 2022 and May 4, 2022, the second of $4.5 billion which ran between May 5, 2022 and July 5, 2022.

At the May 24, 2022, AGM, shareholders granted the Company the authority to repurchase (i) up to 758 million ordinary shares "on-market" (excluding any treasury shares), less any "off-market" purchases made under the authority in (ii); and (ii) up to 758 million ordinary shares off-market (excluding any treasury shares), less any on-market purchases made under the authority in (i). The authorities for both on-market and off-market purchases will expire at the earlier of the close of business on August 24, 2023, and the end of the AGM of the Company to be held in 2023. On July 28, 2022, Shell announced the commencement of a share buyback programme of $6 billion buyback which was completed on October 21, 2022; on October 27, 2022, Shell announced the commencement of a $4 billion share buyback programme which completed on January 27, 2023; and on February 2, 2023, Shell announced the commencement of a share buyback programme of a further $4 billion which is expected to be completed by May 4, 2023. This means that, as at close of February 20, 2023, 358 million further shares could still be repurchased under the current AGM authorities.

The Board continues to regard the ability to repurchase issued shares in suitable circumstances as an important part of Shell's financial management. New resolutions will be proposed at the 2023 AGM to renew the authority for the Company to purchase its own share capital, up to specified limits, for a further year. These proposals will be described in more detail in the 2023 Notice of Annual General Meeting.

## Board of Directors

The names of the Directors who held office during the year can be found on pages 133-141. Information on the Directors who are seeking reappointment is included in the Notice of Annual General Meeting.

# Other regulatory and statutory information continued

## Simplification
On January 21, 2022, the Company changed its name from Royal Dutch Shell plc to Shell plc. On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one single line of ordinary shares of the Company. This assimilation had no impact on voting rights or dividend entitlements.

## Qualifying third-party indemnities
The Company has entered into a Deed of Indemnity (Deed) with each Director of the Company who served during the year. The terms of each of these Deeds are identical and they reflect the statutory provisions on indemnities contained in the Companies Act 2006 (CA 2006). Under the terms of each Deed, the Company has agreed to indemnify the Director, to the fullest extent permitted by the CA 2006, against any loss, liability or damage, howsoever caused (including in respect of a Director's own negligence), suffered or incurred by a Director in respect of their acts or omissions while or in the course of acting as a Director or employee of the Company, any associated company or affiliate (within the meaning of the CA 2006). In addition, the Company shall lend funds to Directors as required to meet reasonable costs and expenses incurred or to be incurred by them in defending any criminal or civil proceedings brought against them in their capacity as a Director or employee of the Company, associated company or affiliate, or, in connection with certain applications brought under the CA 2006. The provisions in the Company's Articles of Association (Articles) relating to arbitration and exclusive jurisdiction are incorporated, mutatis mutandis, into the Deeds entered into by each Director and the Company.

The Company has provided both indemnities and Directors' and officers' insurance to the Directors in connection with the performance of their responsibilities. Copies of these indemnities and the Directors' and officers' insurance policies are open to inspection. A copy of the form of these indemnities has been previously filed with the US Securities and Exchange Commission.

## Related party transactions
Save as set out below and other than disclosures given in Notes 13 and 33 to the "Consolidated Financial Statements" on pages 275 and 306, there were no transactions or proposed transactions that were material to either the Company or any related party. Nor were there any transactions with any related party that were unusual in their nature or conditions.

On February 11, 2022, Shell Pipeline Company LP, a subsidiary of the Company, announced that it made a non-binding offer to purchase all remaining common units held by the public representing limited partner interests in Shell Midstream Partners, L.P. (Shell interest 68.5%)(SHLX) for $12.89 per common unit in cash. On October 19, 2022, Shell USA, Inc. and SHLX completed the definitive agreement and plan of merger, pursuant to which Shell USA, Inc. acquired all of the common units at $15.85 per common unit in cash, representing limited partner interests in SHLX not held by Shell USA, Inc. or its affiliates.

## Political contributions
No payments were made by Shell companies to political parties, organisations or their representatives during the year. Shell USA, Inc. administers the non-partisan Shell USA, Inc. Employees' Political Awareness Committee (SEPAC), a political action committee registered with the US Federal Election Commission. Eligible employees may make voluntary personal contributions to the SEPAC. All employees' contributions comply with federal and state law and are publicly reported in accordance with US election laws. Shell USA, Inc. does not exercise control over SEPAC's funding decisions.

## Recent developments and post-balance sheet events
See Note 35 to the "Consolidated Financial Statements" on page 307.

## Share capital
The Company's issued share capital at December 31, 2022, is set out in Note 26 to the "Consolidated Financial Statements" 299. The percentage of the total issued share capital is given below. On January 29, 2022, an assimilation of the Company's A and B shares was effected, creating a single line of ordinary shares. More information on how this has impacted the share capital of the Company can be found on page 211.

**Share capital percentage as at December 31, 2022**

| Share class | % |
|---|---|
| Ordinary | 100 |
| Sterling deferred [A] | de minimis |

[A] See Note 9 to the "Parent Company Financial Statements" on page 346.

## Transfer of securities
There are no restrictions on transfer or limitations on the holding of the ordinary shares other than under the Articles, restrictions imposed by law or regulation (for example, insider trading laws) or pursuant to the Company's Share Dealing Code.

## Share ownership trusts and trust-like entities
Shell has three primary employee share ownership trusts and trust-like entities: a Dutch foundation (stichting) and two US Rabbi Trusts. The shares held by the Dutch foundation are voted by its Board and the shares in the US Rabbi Trusts are voted by the Voting Trustee, Newport Trust Company. Both the Board of the Dutch foundation and the Voting Trustee are independent of Shell.

The UK Shell All Employee Share Ownership Plan has a separate related share ownership trust. Shares held by the trust are voted by its trustee, Computershare Trustees Limited, as directed by the participants.

## Auditor
A resolution relating to the appointment of Ernst & Young LLP as auditor for the financial year 2023 will be proposed at the 2023 AGM.

## Annual General Meeting
The AGM will be held on May 23, 2023, at ExCel London, 1 Western Gateway, London E16 1XL, United Kingdom. The Notice of Annual General Meeting will include details of the business to be put to shareholders at the AGM.

## Conflicts of interest
In accordance with the Act and the Company's Articles, the Board may authorise any matter that otherwise may involve any Directors breaching their duty to avoid conflicts of interest. The Board has adopted a procedure to address these requirements. Detailed conflict of interest questionnaires are reviewed by the Board and, if considered appropriate, authorised. Conflicts of interest as well as any gifts and hospitality received by and provided by Directors are kept under review by the Board. Further information relating to conflicts of interest can be found in the Articles, available on the Shell website.

# Other regulatory and statutory information continued

## Significant commitments of the Chair

The Chair's other significant commitments are given in his biography on page 133.

## Shell General Business Principles

The Shell General Business Principles define how Shell subsidiaries are expected to conduct their affairs and are underpinned by the Shell core values of honesty, integrity and respect for people. These principles include, among other things, Shell's commitment to support fundamental human rights in line with the legitimate role of business and to contribute to sustainable development. They are designed to mitigate the risk of damage to our business reputation and to prevent violations of local and international legislation. They can be found at www.shell.com/sgbp.

See "Risk factors" on pages 15-26.

## Shell Code of Conduct

Directors, officers, employees and contract staff are required to comply with the Shell Code of Conduct, which instructs them on how to behave in line with the Shell General Business Principles. This Code clarifies the basic rules and standards they are expected to follow and the behaviour expected of them. These individuals must also complete mandatory Code of Conduct training.

Designated individuals are required to complete additional mandatory training on antitrust and competition laws, anti-bribery, anti-corruption and anti-money laundering laws, financial crime, data protection laws and trade compliance requirements.

See "Risk factors" on pages 15-26.

The Shell Code of Conduct can be found at www.shell.com/codeofconduct.

## Code of Ethics

Executive Directors and Senior Financial Officers of Shell must also comply with the Code of Ethics. This Code is specifically intended to meet the requirements of Section 406 of the Sarbanes-Oxley Act. It can be found at www.shell.com/codeofethics.

## Independent professional advice

All Directors may seek independent professional advice in connection with their role as a Director. All Directors have access to the advice and services of the Company Secretary. The Company has provided both indemnities and Directors' and officers' insurance to the Directors in connection with the performance of their responsibilities. Copies of these indemnities and the Directors' and officers' insurance policies are open to inspection. A copy of the form of these indemnities has been previously filed with the US Securities and Exchange Commission.

## Results presentations and analysts' meetings

The planned dates of the quarterly, half-yearly and annual results presentations, as well as all major analysts' meetings, are announced in advance on the Shell website and through a regulatory release.

Generally, presentations are broadcast live via webcast and teleconference. Other meetings with analysts or investors are not normally announced in advance, nor can they be followed remotely by webcast or any other means. Procedures are in place to ensure that discussions in such meetings are always limited to non-material information or information already in the public domain.

Results and meeting presentations can be found at www.shell.com/investor. This is in line with the requirement to ensure that all shareholders and other parties in the financial market have equal and simultaneous access to information that may influence the price of the Company's securities.

## Risk management and controls

The Board is responsible for maintaining a sound system of risk management and internal control, and for regularly reviewing its effectiveness.

A single overall control framework exists for the Company and its subsidiaries. This is designed to manage rather than eliminate the risk of failure to achieve our business objectives. It provides reasonable, but not absolute assurance against material misstatement or loss.

The Control Framework (see diagram on the next page) encompasses the key components – "foundation elements", "management processes" and "structural" – that together establish the structure and context within which Shell companies operate. "Foundation elements" consist of the principles and rules that underpin and establish boundaries for Shell activities. "Management processes" define our critical processes. These include how strategy, planning and appraisal are used to improve performance and how risks are to be managed, such as through the application of effective controls and assurance. The "structural" component defines the organisational structures and key governance principles that are applied to facilitate the achievement of the Shell Group's overall business objectives.

### Risk management

The "Statement on Risk Management" is a foundation element of the Shell Control Framework and a key enabler of many of its management processes.

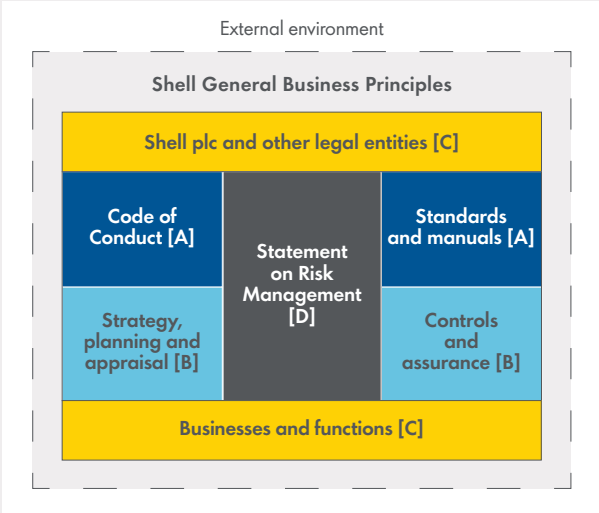
#### Risk identification

We identify and define risks across the Shell Group from three distinct perspectives:

- Strategic risks: we consider current and future portfolio issues, examining parameters such as country concentration or exposure to higher-risk countries. We also consider long-range developments in order to test key assumptions or beliefs in relation to energy markets.
- Operational risks: we consider material operational exposures across Shell's entire value chain which provide a more granular assessment of key risks facing the organisation.
- Conduct and culture risks: we consider how our policies and practices align with our purpose, core values and desired mindset and behaviours.

# Other regulatory and statutory information continued

## Control framework




[A] The **foundation** elements of the Shell Control Framework define the principles that underpin the Shell Group's activities.

[B] The **management processes** define activities critical to an effective control framework.

[C] The **structural** component defines how businesses and functions facilitate achievement of the Shell Group's overall business objectives, while respecting the separate legal identity of the individual Shell companies that implement them.

[D] A **foundation** element of the Shell Control Framework and a key enabler of many of its **management processes**.

These perspectives help us to maintain a comprehensive view of the different types of risks we face and the different time horizons in which they may affect us.

### Risk assessment

To further understand the risks we face, we evaluate the impact and likelihood of each risk.

When assessing the potential impact of a risk, we consider the possible financial consequences. We also look at the impacts on our reputation, our ability to comply with external regulations and impacts on health, safety and the environment.

When assessing the likelihood of a risk occurring, we consider several factors, such as the level of risk exposure, our ability to prevent the risk happening and whether the risk has materialised in the past.

To support risk assessments, we also seek to establish and articulate our risk appetite, which is the level of risk that we are willing to accept in pursuit of Shell's strategy and objectives. There are risks that Shell accepts, or does not seek to fully mitigate. The financial framework sets an overarching boundary condition for risk appetite. This is because Shell's financial resilience informs the aggregate level of risk appetite that could be sustained.

The impact and likelihood assessment, combined with risk appetite, determine the type of risk responses, such as controls and assurance activities, that may be required to manage each risk. The impact and likelihood assessments also help us to prioritise risks.

### Risk response

Two key foundations of the Shell Control Framework are Shell's standards and manuals, and the Code of Conduct. These establish requirements and guidance that help management design and develop processes, systems and controls to manage risks consistently across the Group.

Shell's principal risks and the broad array of measures used to manage each risk are described on pages 15-26.

During the year, management, the Board and Committees on behalf of the Board review the principal risks and associated risk responses, and implement further remedial actions as appropriate. They frame them in terms of strategic, operational or conduct and culture risks, and assess them alongside the relevant control mechanisms and risk responses. These reviews are supplemented by dedicated reviews of specific risks, as needed.

Throughout 2022, the Russian invasion of Ukraine, and its varied impact on our people and our business operations, including sanctions and export controls, received notable attention from the Board, the Executive Committee and the Group Crisis Management Team.

See the risk factor "Russia's invasion of Ukraine" on page 18.

### Examples of how some principal risks are managed

We operate in more than 70 countries that have differing degrees of political, legal and economic stability. This exposes us to a wide range of political developments that could cause changes to contractual terms, laws and regulations. We and our joint arrangements and associates also face the risk of litigation and disputes worldwide (see "Risk Factors" on page 17). We continually monitor geopolitical developments and societal issues relevant to our interests. Our Legal and Tax functions are organised globally and support our business lines in seeking to ensure compliance with local laws and fiscal regulations.Our Corporate Relations department liaises with governments in countries where we operate to understand and engage on local policies and to advocate Shell's position on topics relevant to our industry. We are prepared to exit a country if we believe we can no longer operate there in accordance with our standards and applicable law, and we have done so in the past.

Many of our major projects and operations are conducted in joint arrangements or with associates, which may reduce our level of control and ability to identify and manage risks (see "Risk Factors" on page 23). In each case, Shell appoints a representative to manage its interests. This representative seeks to ensure that the projects operate under standards that are equivalent to Shell's for certain critical areas.

Climate change and risks resulting from greenhouse gas emissions are significant risk factors for Shell. Shell has a climate change risk management approach which is supported by standards, policies and controls (see "Risk factors" on page 16 and "Our journey to net zero" on pages 78-105).

The system of risk management and internal control over financial reporting is an integral part of the Shell Control Framework. Regular reviews are performed to identify the significant risks to financial reporting and the key controls designed to address them. These controls are documented, responsibility is assigned, and they are monitored for design and operating effectiveness. Controls found to be ineffective are remediated.

# Other regulatory and statutory information continued

**Emerging risks**
Management and the Board also consider emerging risks, defined as risks where the scope, impact and likelihood are still uncertain, but which could have a significant effect on achieving Shell's strategy and objectives in the future. These risks are identified through the monitoring of external developments, the status of risk indicators, learnings from incidents and assurance findings, and the appraisal of Shell's forward-looking plans. Once identified, we undertake activities to monitor, prepare for and reduce the future impact, where possible, should such emerging risks materialise.

**Board review of principal and emerging risks**
The Board confirms it has carried out a robust assessment of Shell's principal risks, including a robust process for identifying, evaluating and managing Shell's principal risks. The Board also confirms it has carried out a robust assessment of Shell's emerging risks. These assessments have been in place throughout 2022 and up to the date of this Report, are reviewed by the Board and accord with the Financial Reporting Council guidance on risk management, internal control and related financial and business reporting.

**Review of the effectiveness of the system of risk management and internal control**
The Board has delegated authority to the Audit Committee to assist it in fulfilling its responsibilities in relation to the effectiveness of the risk management and internal control system, the integrity of financial reporting, and consideration of compliance matters.

See "Audit Committee Report" on pages 165-177.

The Audit Committee receives regular reports from the Chief Internal Auditor on notable internal audits and those with a significant impact on the effectiveness of controls. The Committee reviews significant incidents involving financial, business and compliance controls and receives regular reports on business integrity issues. The Audit Committee also requests updates on specific financial, operational and compliance control issues throughout the year. The Audit Committee Chair provides an update to the Board after every Audit Committee meeting.

The Chair of the Safety, Environment and Sustainability Committee (SESCo) provides regular updates to the Board after each of its meetings. These updates cover, among other matters, the respective aspects of controls that it monitors in accordance with its Terms of Reference. The Board receives the approved minutes of the Audit Committee and SESCo minutes. During and after such sessions, the Board has the opportunity to request further information and ask clarifying questions. They are incorporated into the Board minutes so all Directors can read and review them. This helps the Board with its ongoing monitoring and annual review of material controls. The Board is also helped with its monitoring and review responsibilities by the reports of:

- the Executive Vice President Controller [A];
- the Chief Internal Auditor;
- the External Auditors;
- the Chairs of the Disclosure Committee and the Financial Reporting Control Committee; and
- the Chief Ethics and Compliance Officer;
- as well as summaries of the Annual Proved Reserves Disclosure.

[A] As of October 1, 2023, the role of the Executive Vice President (EVP) Taxation and Controller was divided into two roles: EVP Taxation and EVP Controller.

The Executive Committee and the Audit Committee conduct an annual review of the effectiveness of the system of risk management and internal control. This is based on their own insights and experience during the year and the outcomes of the Group-level risk reviews and the Group Assurance Letter process. In the Group Assurance Letter process, each Executive Director conducts a structured internal assessment of compliance with legal and ethical requirements and the Shell Control Framework.

As part of their annual review, the Executive Committee and Audit Committee also consider input from the Chief Internal Auditor, Chief Ethics and Compliance Officer and the External Auditor. The Board reviews and discusses the insights and conclusions from this annual assessment.

The Board confirms that it has conducted its annual review of the effectiveness of Shell's system of risk management and internal control in respect of 2022, and that this review covered all material controls, including financial, operational and compliance controls.

**The Shell Performance Framework**
Following the launch of the Powering Progress strategy and subsequent organisational changes, management are proposing to enhance the control framework in which Shell operates. Work has therefore been ongoing throughout 2022 to develop an updated model, called the Shell Performance Framework, considering industry and other external best practices, where appropriate. The intention is to retain the core strengths of the Shell Control Framework, including the Shell General Business Principles, Code of Conduct and risk management focus. The updated model will emphasise the value of using a holistic or 'whole systems' approach to business activities, including our mindset and behaviours, as well as focus on the concept of the 'Improvement Cycle' to ensure appropriate integration of activities such as performance management, risk management, controls and assurance, learning and continuous improvement.

Progress on developing the updated framework is being regularly reviewed by Executive Committee members. The Audit Committee has also been briefed on the Shell Performance Framework and will be asked to support its introduction prior to seeking final approval from the Board. Subject to this Board approval, the Shell Performance Framework is anticipated to be effective later in 2023.

**Management's evaluation of disclosure controls and procedures of Shell**
Shell's CEO and CFO have evaluated the effectiveness of Shell's disclosure controls and procedures at December 31, 2022. Based on that evaluation, they concluded that Shell's disclosure controls and procedures are effective.

# Other regulatory and statutory information continued

## Management's report on internal control over financial reporting of Shell

Management, including the CEO and CFO, is responsible for establishing and maintaining adequate internal control over Shell's financial reporting and the preparation of the "Consolidated Financial Statements". It conducted an evaluation of the effectiveness of Shell's internal control over financial reporting and the preparation of the "Consolidated Financial Statements" based on the Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). On the basis of this evaluation, management concluded that, at December 31, 2022, the Company's internal control over financial reporting and the preparation of the "Consolidated Financial Statements" was effective.

## The Trustee's and management's evaluation of disclosure controls and procedures for the Royal Dutch Shell Dividend Access Trust

The Trustee of the Royal Dutch Shell Dividend Access Trust (the Trustee) and Shell's CEO and CFO have evaluated the effectiveness of the disclosure controls and procedures in respect of the Dividend Access Trust (the Trust) at December 31, 2022. On the basis of this evaluation, these officers have concluded that the disclosure controls and procedures of the Trust are effective.

## The Trustee's and management's report on internal control over financial reporting of the Royal Dutch Shell Dividend Access Trust

The Trustee and the Company's management are responsible for establishing and maintaining adequate internal control over the Trust's financial reporting. The Trustee and Shell's management conducted an evaluation of the effectiveness of internal control over financial reporting based on the Internal Control - Integrated Framework (2013) issued by COSO. On the basis of this evaluation, the Trustee and Shell's management concluded that, at December 31, 2022, the Trust's internal control over financial reporting was effective.

## Changes in internal control over financial reporting

There has not been any change in the internal control over financial reporting of Shell or the Trust that occurred during the period covered by this Report that has materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of Shell or the Trust. Material financial information of the Trust is included in the "Consolidated Financial Statements" and is therefore subject to the same disclosure controls and procedures as Shell.

See the "Royal Dutch Shell Dividend Access Trust Financial Statements" on pages 352-356 for additional information.

## Articles of Association

The Company's Articles were adopted on December 20, 2021. The Articles may only be amended by a special resolution of the shareholders in a general meeting. A full version of the Company's Articles can be found at www.shell.com/investors. At the Company's 2023 AGM, shareholders will be asked to consider and, if in agreement, approve new Articles. An overview of the proposed changes will be published in the 2023 Notice of AGM. A comparison document highlighting all proposed modifications to the Articles will be made available at www.shell.com/investor and within the Annual General Meeting area.

## Management and Directors

The Company has a single-tier Board of Directors headed by a Chair, with management led by a CEO. See "The Board of Shell plc" on pages 133-141 and Senior Management on page 142-143.

## Directors' shareholding qualification

While the Articles do not require Directors to hold shares in the Company, the Remuneration Committee believes that Executive Directors should align their interests with those of shareholders by holding shares in the Company. The CEO is expected to build up a shareholding of seven times base salary over five years from appointment and the CFO is expected to build up a shareholding of five times base salary over the same period. In the event that another Executive Director joins the Board, the Remuneration Committee will determine their shareholding requirement, which will not be less than 200% of their base salary.

Executive Directors will be required to maintain their requirement (or existing shareholding if less than the guideline) for a period of two years post employment. Non-executive Directors are encouraged to hold shares with a value equivalent to 100% of their fixed annual fee and to maintain that holding during their tenure.

Information on the Directors with shares in the Company can be found in the "Directors' Remuneration Report" on pages 178-182.

## Appointment and retirement of Directors

The Company's Articles, the Corporate Governance Code and the Companies Act 2006 govern the appointment and retirement of Directors. Board membership and biographical details of the Directors are provided on pages 133-141. However, Directors follow the direction laid out in the Code and stand for re-election annually.

On March 31, 2022, Jessica Uhl stepped down from the Board after five years' service as CFO and 17 years with Shell. Sinead Gorman was appointed and succeeded her as CFO on April 1, 2022.

On May 24, 2022, Gerrit Zalm stepped down from the Board after more than nine years' service as a Non-executive Director.

On December 31, 2022, Ben van Beurden stepped down from the Board after nine years as CEO and 39 years with Shell. Wael Sawan joined the Board as CEO on January 1, 2023.

On March 2, 2023, Cyrus Taraporevala joined the Board as a Non-executive Director.

On March 13, 2023, Sir Charles Roxburgh and Leena Srivastava will join the Board as Non-executive Directors.

At the conclusion of the 2023 AGM both Euleen Goh and Martina Hund-Mejean will stand down from the Board.

## Rights attaching to shares

The full rights attaching to shares are set out in the Company's Articles. The Company can issue shares with any rights or restrictions attached to them as long as this is not restricted by any rights attached to existing shares. These rights or restrictions can be decided either by an ordinary resolution passed by the shareholders or by the Board as long as there is no conflict with any resolution passed by the shareholders.

## Voting

Currently, the voting rights of each ordinary share carry one vote at a general meeting of the Company.

The non-voting sterling deferred shares are not ordinary shares and therefore have different rights and restrictions attached to them. See Note 9 to the "Parent Company Financial Statements" on page 346.

## Change of control

There are no provisions in the Articles that would delay, defer or prevent a change of control.

# Other regulatory and statutory information continued

## Directors' responsibilities in respect of the preparation of the Annual Report and Accounts

The Directors are responsible for preparing the Annual Report, including the financial statements, in accordance with applicable laws and regulations. These require the Directors to prepare financial statements for each financial year. As such, the Directors have prepared the (i) Consolidated Financial Statements in accordance with international accounting standards in conformity with the requirements of the UK Companies Act 2006, and therefore in accordance with UK-adopted international accounting standards; and (ii) Parent Company Financial Statements in accordance with international accounting standards in conformity with the requirements of the UK Companies Act 2006. In preparing these financial statements, the Directors have also elected to comply with IFRS as issued by the International Accounting Standards Board (IASB). The Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of Shell and the Company and of the profit or loss of Shell and the Company for that period. In preparing these financial statements, the Directors are required to:

- adopt the going concern basis unless it is inappropriate to do so;
- select suitable accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent; and
- state whether international accounting standards in conformity with the requirements of the UK Companies Act 2006, UK-adopted international accounting standards and International Financial Reporting Standards as issued by the IASB have been followed.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the transactions of Shell and the Parent Company and disclose with reasonable accuracy, at any time, the financial position of Shell and the Parent Company and to enable them to ensure that the financial statements comply with the Companies Act 2006 (the Act) and, as regards the Consolidated Financial Statements, with Article 4 of the IAS Regulation and therefore are in accordance with UK-adopted international accounting standards. The Directors are also responsible for safeguarding the assets of Shell and the Parent Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Each of the Directors, whose names and functions can be found on page 133-141, confirms that, to the best of their knowledge:

- the financial statements, which have been prepared in accordance with international accounting standards in conformity with the requirements of the UK Companies Act 2006, and therefore in accordance with UK-adopted international accounting standards and International Financial Reporting Standards as issued by the IASB, give a true and fair view of the assets, liabilities, financial position and profit of Shell and the Company; and
- the Management Report includes a fair review of the development and performance of the business and the position of Shell, together with a description of the principal risks and uncertainties that it faces.

Furthermore, so far as each of the Directors is aware, there is no relevant audit information of which the auditors are unaware, and each of the Directors has taken all the steps that ought to have been taken in order to become aware of any relevant audit information and to establish that the auditors are aware of that information.

The Directors consider that the Annual Report, including the financial statements, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy.

The Directors consider it appropriate to continue to adopt the going concern basis of accounting in preparing the financial statements.

The Directors are responsible for the maintenance and integrity of the Shell website (www.shell.com). Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Signed on behalf of the Board

**/s/ Caroline J.M. Omloo**

**Caroline J.M. Omloo**
Company Secretary
March 8, 2023

# Financial Statements and Supplements




| | |
|---|---|
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# Independent Auditor's Report to the members of Shell plc

## 1. Opinion

In our opinion, the financial statements of Shell plc (the Parent Company) and its subsidiaries (collectively, Shell or Group):

- give a true and fair view of the state of Shell's and of the Parent Company's affairs as at December 31, 2022 and of Shell's income and the Parent Company's income for the year then ended;
- have been properly prepared in accordance with UK adopted international accounting standards and International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of the Parent Company and the Group for the year ended December 31, 2022, which are included in the Annual Report and comprise:

| Group | Parent Company |
|---|---|
| Consolidated Balance Sheet as at December 31, 2022 | Balance Sheet as at December 31, 2022 |
| Consolidated Statement of Income for the year then ended | Statement of Income for the year then ended |
| Consolidated Statement of Comprehensive Income for the year then ended | Statement of Comprehensive Income for the year then ended |
| Consolidated Statement of Changes in Equity for the year then ended | Statement of Changes in Equity for the year then ended |
| Consolidated Statement of Cash Flows for the year then ended | Statement of Cash Flows for the year then ended |
| Related Notes 1 to 35 to the Consolidated Financial Statements, including a summary of significant accounting policies | Related Notes 1 to 16 to the Parent Company Financial Statements |

The financial reporting framework that has been applied in their preparation is applicable law and UK adopted international accounting standards and IFRS as issued by the IASB.

## 2. Basis for our opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISA (UK)) and applicable law. Our responsibilities under those standards are further described in the 'Our responsibilities for the audit of the financial statements' section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

## 3. Independence

We are independent of the Group and the Parent Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

The non-audit services prohibited by the FRC's Ethical Standard were not provided to the Group or the Parent Company and we remain independent of the Group and the Parent Company in conducting the audit.

## 4. Conclusions relating to going concern

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate. The going concern assessment covered the period to March 31, 2024 (the going concern period). Our evaluation of the directors' assessment of the Group and Parent Company's ability to continue to adopt the going concern basis of accounting included:

- verifying the consistency of information used in management's assessment with the operating plan and information obtained through auditing other areas of the business such as impairment assessments;
- assessing the reasonableness of the estimated financial impact of each of the severe but possible scenarios, and the possible mitigation steps and assumptions regarding the availability of future funding options. The scenarios are described by management on page 242 and in the basis of preparation statements in Note 1 to the Consolidated Financial Statements and Note 1 to the Parent Company Financial Statements;
- verifying that Shell's operating plan reflects the actions that management intend to take in order to achieve their stated Scope 1 and Scope 2 emissions reductions, as stated in Note 4 to the Consolidated Financial Statements, including confirming that the operating and capital expenditure estimates to deliver the reductions are included in the operating plan. This included evaluating Shell's carbon pricing assumptions;
- conducting severe but plausible independent stress testing to a significantly lower price environment than current prices throughout the going concern period and a reverse stress test to determine the conditions under which Shell could potentially experience a liquidity shortfall; and
- confirming that Shell's going concern disclosures were appropriate.

We concluded that Shell's modelled scenarios were reasonable for evaluating the going concern assumption and that there was sufficient headroom in each of the scenarios modelled throughout the going concern period. Also, under our additional stress testing, we concluded that there would be sufficient facilities available for Shell to continue as a going concern during the going concern period. Going concern was not determined to be a key audit matter.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group's and Parent Company's ability to continue as going concerns until March 31, 2024.

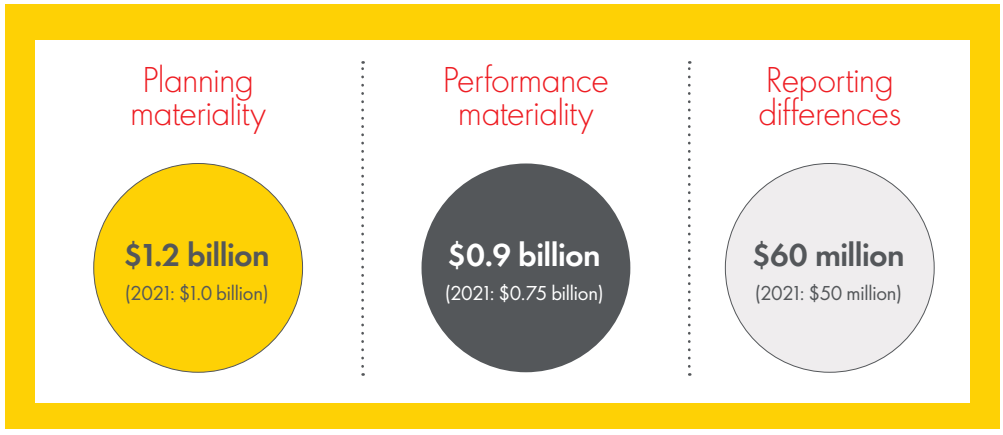
In relation to the Group and Parent Company's reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the Consolidated Financial Statements and Parent Company Financial Statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant section of this report. However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the Group's or Company's ability to continue as a going concern.

# Independent Auditor's Report to the members of Shell plc continued

## 5. Overview of our audit approach

| | |
|---|---|
| **Identifying key audit matters (Section 6)** | The key audit matters that we identified in the 2022 audit were:<br>• impact of climate change and the energy transition on the Consolidated Financial Statements;<br>• estimation of oil and gas reserves;<br>• impairment assessment of property plant and equipment (PP&E) and joint ventures and associates (JVAs);<br>• accounting for complex transactions within Shell's trading and supply function and the valuation of financial derivatives. |
| **Assessing materiality (Section 7)** | We based materiality on normalised Adjusted Earnings on a pre-tax basis. This approach removes both the effects of changes in oil price on inventory carrying amounts and non- recurring gains and charges disclosed as identified items, which can significantly distort Shell's results in any one particular year. By applying a normalised Adjusted Earnings approach, we concluded that it was appropriate to set planning materiality at $1.2 billion. We adopted the following materiality measures in our 2022 audit: |
| **Determining the scope of our audit (Section 8)** | Our scope was tailored to the circumstances of our audit of Shell and is influenced by our determination of materiality and our assessed risks of material misstatement. Similar to the prior year, during the course of the 2022 audit, we did not make any substantial changes to our assessment of the components where we performed full or specific scope audit procedures, nor the number of IT applications to test; however, what did change was the nature and emphasis of our testing in response to our significant audit risks and areas of audit focus. By following this approach, our audit effort focused on higher risk areas, such as management judgements. |




## 6. Our assessment of key audit matters

Key audit matters (KAMs) are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those which had the greatest effect on: the overall audit strategy, the allocation of resources in the audit and directing the efforts of the engagement team. These matters were addressed in the context of the audit of Shell's Consolidated and Parent Company Financial Statements as a whole, and our opinion thereon, and we do not provide a separate opinion on these matters.

# Independent Auditor's Report to the members of Shell plc continued

## 6. Our assessment of key audit matters continued

### The impact of climate change and the energy transition on the Consolidated Financial Statements

**Description of the key audit matter**

**The financial statement and audit risks related to climate change and the energy transition remain an area of audit focus in 2022. This is due to the continuing uncertainty surrounding the impact of climate change and the pervasive impact it has on many areas of accounting judgement and estimation and, therefore, our audit.**

Climate related issues impact Shell in many ways, as set out in Our journey to net zero on pages 78 to 105, within the Strategic report, which forms part of the "Other information", rather than the audited financial statements. Within this section, Shell have described how climate-related issues are considered when reviewing and guiding strategy, major plans of action and risk management policies, annual budgets, and business plans. Shell also identified climate-related risks and opportunities in this section and in Risk factors on pages 15 to 26, which form part of the "Other information", rather than the audited financial statements.

In Note 4 to the Consolidated Financial Statements, Shell describe how they consider climate related impacts and their stated emissions reduction targets in key areas of the Consolidated Financial Statements and how this translates into the valuation of assets and measurement of liabilities.

In carrying out our audit, we have focused on the alignment of assumptions adopted by Shell in the preparation of their financial statements with commentary on climate change within their Strategic Report, which includes the Powering Progress strategy, which is described on pages 6 to 14. We also focused on how Shell had reflected material climate change risks in their financial statements, including the impact of the emissions reduction targets on accounting estimates and judgements.

In focusing on how Shell has the reflected material climate change risks in Shell's Consolidated Financial Statements, we have considered:
1) how Shell's assumed future commodity price assumptions compare to energy transition scenarios;
2) the reasonableness of Shell's forecast future carbon costs;
3) the incorporation of Shell's stated emissions reduction targets (see page 8) within Shell's operating plan (OP22);
4) the carbon intensity of Shell's assets;
5) the useful economic lives of assets beyond 2030 and the risk of material stranded assets; and
6) how physical risk considerations have been incorporated into Shell's asset plans.

The critical accounting judgements and estimates that are impacted by climate change and the energy transition are disclosed within Note 4 to the Consolidated Financial Statements.

**Our response to the risk**

**Overall response**
In order to respond to the impact of climate change and the energy transition on our audit, we ensured that we had the appropriate skills and experience on the audit team. Our group engagement team included professionals with significant experience in climate change and the energy transition. Most of the audit procedures were performed by the group engagement team. Where work was carried out by component teams, this was under the direction of team members with significant experience in climate change.

In addition, during the planning phase of our audit, the group engagement team, including climate change and sustainability specialists, held a series of climate change risk workshops. In these workshops, the team focused on industry and regulatory developments on climate change and how these developments apply to Shell's business. The team also assessed the transition and physical climate risks facing Shell's business, the audit risks associated with climate change and our planned audit response. An output from the workshop was a specific audit plan to address climate change risk in the 2022 audit, the key aspects of which are set out below.

In designing our audit procedures, we considered the CA 100+ Climate Accounting and Audit Alignment assessment of Shell, published by Carbon Tracker. We also considered the content of the document entitled "Investor Expectations for Paris-aligned Accounts", published on 5 November 2020 by the Institutional Investors Group on Climate Change (IIGCC), which was reiterated in a letter that EY received from Sarasin and Partners on 29 November 2022 titled Investor expectations: net zero-aligned accounts. The group engagement partner also met with the head of stewardship at Sarasin and Partners to discuss the IIGCC document.

The procedures performed to address the climate risks included:

**Alignment of statements made in Strategic Report with the financial statements**
- in connection with our audit of the financial statements, we read the Other information in the Annual Report and Accounts (as defined in section 9 below) and, in doing so, considered whether the Other information, which includes Shell's climate targets, are materially consistent with the financial statements or our knowledge obtained in the audit;
- evaluated whether the effects of material climate risks, as disclosed within Our journey to net zero on pages 78 to 105 within the Strategic report, had been appropriately reflected in asset values and associated financial statement disclosures, and in the timing, nature and measurement of liabilities recognised in accordance with IFRS, which is discussed further below;
- read and challenged the completeness of management's disclosures in Note 4. We audited the sensitivity disclosures in Note 4 of the carrying value of Shell's Upstream and Integrated Gas PP&E assets to a range of future oil and gas price assumptions, reflecting reduced demand scenarios due to climate change and the energy transition, including the IEA Net Zero Emissions by 2050 scenario. This included considering whether the downside sensitivities could have reduced the level of Shell's distributable profits such that their 2022 dividends and repurchases of shares would not have been in compliance with the Companies Act. We also considered the appropriateness of the estimated useful lives of Shell's refineries; and
- assessed whether the various climate change litigations represented obligations where the likelihood of a cash outflow was probable and therefore requiring provision. Also, we considered the appropriateness of the climate change litigation disclosures within Note 31, Legal proceedings and other contingencies, by comparing the disclosures to our understanding of the claims and allegations.

# Independent Auditor's Report to the members of Shell plc continued

## 6. Our assessment of key audit matters continued

### The impact of climate change and the energy transition on the Consolidated Financial Statements continued

**Our response to the risk** continued

**The reflection of material climate change risks and the impact of Shell's emissions reduction target in the critical accounting estimates and judgements**

- tested management's internal controls over the identification and estimation of costs of the potential impacts associated with energy transition and climate change, and related financial statement disclosures in Note 4;
- made enquiries of Group Planning, Group Reporting, Shell's Carbon Strategy group and, where necessary, individual asset managers to understand and challenge management on how the following five transition and one physical risks of climate change were being factored into Shell's financial statements:

**1) The comparison of commodity price assumptions to energy transition scenarios**

- compared Shell's oil and gas price assumptions to energy transition scenarios such as the International Energy Agency ('IEA') Announced Pledges Scenario ('APS') and Net Zero Emissions ('NZE50')
- considered specifically the extent to which management's mid-price outlook and production assumptions incorporated the potential impact of climate change and the energy transition. This included consideration of assumed hydrocarbon and renewables demand and the impacts of such demand movements and supply constraints on future prices;
- evaluated the reasonableness of Shell's refining and petrochemical margin assumptions, by comparing Shell's assumptions to external benchmarks, in light of the expected impact on demand for oil products in a transition to a net zero economy. Refining margin and petrochemical assumptions underpin the recoverable amount of refineries and petrochemical plants respectively;

**2) The reasonableness of Shell's forecast future carbon costs**

- engaged our climate change and sustainability specialists to consider the appropriateness of Shell's carbon pricing methodology adopted and the reasonableness of the carbon prices applied in 10 countries. As part of this, we independently determined our view of a range of acceptable carbon price assumptions. Where countries were outside of our benchmarking ranges, we performed sensitivity analysis to determine if the impact of these different assumptions was material; and
- performed sensitivity analysis using the carbon price assumptions in both the IEA NZE50 and APS scenarios.

**3) The incorporation of emissions reductions targets into Shell's 2022 operating plan**

- confirmed that Shell's operating plan (OP22), included costs associated with Shell's plans to achieve Scope 1 and 2 emission reduction targets and their and net carbon intensity ('NCI') targets; and
- challenged the basis of assumed oil product sales reductions and power sales increases by comparing the assumptions applied in OP22 to external demand outlooks. We evaluated whether necessary renewable energy certificates and carbon credits, carbon storage plans and increased asset energy efficiencies included in OP22 were supported by executable plans by assessing whether the expected impact was based on historical experience and whether capital had been allocated to the project.

**4) The carbon intensity of Shell's assets**

- in order to identify assets that we regarded as carbon intensive (which we set at approximately 40kg/boe), we used our Climate Risk data analytics tool to identify correlations between reserves, production and emissions data; and
- for assets that we identified as carbon intensive that are expected to have material carrying value in 2030, we evaluated the risk that the carrying value of these assets will not be recovered. This included considering the decarbonisation plans of these assets and the associated costs.

**5) The useful economic lives of assets beyond 2030 and the risk of stranded assets**

- verified that the oil, gas and carbon price sensitivity disclosures in Note 4 incorporated life of field assumptions; and
- estimated the carrying amount of the assets that were not forecast to be fully depreciated by 2050 to assess the risk of stranded assets beyond 2050.

**6) Whether physical risk considerations have been incorporated into the asset plans**

- with assistance from our climate change specialists, we performed a risk assessment on Shell's assets from a physical risk perspective. The assessment considered asset and geographic specific factors to assign a physical risk exposure rating to Shell's assets. Our assessment also considered forecast increased temperatures, forecast occurrence of hurricanes and rising sea levels.
- in order to assess whether these increased physical risks represented a trigger for impairment, we obtained an understanding of how management has incorporated historic, current and potential future risk into asset integrity plans.

Our audit response relating to oil and gas reserves and the impairment of PP&E and JVAs is included in the KAMs on pages 226 to 228.

**Key observations communicated to the Shell Audit Committee**

We reported to the Audit Committee the key procedures that we had performed and the results of those procedures, which are set out below:

**Alignment of statements made in Strategic Report with the financial statements**

- We reported that we had not identified any material inconsistencies between Shell's disclosures in Note 4 to the Consolidated Financial Statements, which covers the material impacts of climate-related matters, and the disclosures included within the Other information.
- We reported that the various climate change litigations involving Shell did not represent obligations where the likelihood of a cash outflow is probable. We also reported that, based on our understanding of the claims and allegations, we were satisfied with the disclosures within Note 31, Legal proceedings and other contingencies.

# Independent Auditor's Report to the members of Shell plc continued

## 6. Our assessment of key audit matters continued

### The impact of climate change and the energy transition on the Consolidated Financial Statements continued

**Key observations communicated to the Shell Audit Committee** continued

**The reflection of material climate change risks and the impact of Shell's emissions reduction target in the critical accounting estimates and judgments**

**1) the comparison of Shell's assumed future commodity price assumptions to energy transition scenarios**

- We reported that Shell's long-term oil and gas price assumptions and margin assumptions were reasonable and represent management's current best estimate of the range of economic conditions that will exist in the foreseeable future. We have included our observations on Shell's price assumptions, including margins, within the impairment of PP&E key audit matter on page 227.
- We concluded Shell's oil and gas price assumptions are broadly in line with the IEA APS scenario from 2024 onwards. Shell's Brent price assumption for 2023 is 16% higher than the APS assumption; however, we were satisfied that Shell's assumptions remain appropriate for 2023 as there is more external evidence to support price assumptions in the short term.

**2) the reasonableness of Shell's forecast future carbon costs**

- We concluded that Shell had adopted an appropriate methodology to forecast carbon prices. Also, through our independent testing, we verified that Shell's forecast carbon prices were within a reasonable range, other than for four countries. We have performed sensitivity analysis and we are satisfied that for the material assets in these countries: (1) there is sufficient headroom within the assets in these countries such that there is no impairment; and (2) these differences would not have a material impact on the overall carbon costs included in OP22.
- Our sensitivity analysis indicated that applying the IEA NZE50 carbon prices would not have a material impact on asset valuation, as the additional operating cost per annum is less than 2% of actual operating expenses in 2022.

**3) the incorporation of Shell's stated climate targets within Shell's operating plan**

- We reported that Shell's operating plan reflected the expected financial impact of management's current planned actions to address these climate change risks. We confirmed that the operating and capital expenditure estimates to deliver the emissions reductions were included in the operating plan. Where impairment assessments were performed, we are satisfied that the climate change factors had been reflected in the assessments throughout the field life of the asset.
- We have confirmed that the operating and capital expenditure estimates for the main assumed climate-related changes, including assumed oil product sales reductions, power sales increases, necessary renewable energy certificates and carbon credits, carbon storage plans and increased asset energy efficiencies, were supported by formal plans and the related costs were included in OP22. We also reported Shell's assumed reductions in oil product sales on a percentage basis was more than the decrease in oil products demand in IEA's APS and NZE50 scenario.

**4) the carbon intensity of Shell's assets**

- For assets that we assessed as carbon intensive, we are satisfied that the operating plan forecast expenditure included the expected costs of decarbonisation plans, thereby reducing the risk that the carrying value of these assets will not be recovered.

**5) the useful economic lives of assets beyond 2030 and the risk of material stranded assets**

- For Shell's Upstream and IG assets, which are around $148 billion as at 31 December 2022, we projected the carrying value to 2050. We have estimated the 2050 carrying amount of current Upstream and IG assets, based on SEC reserves. We have estimated approximately 10 assets would remain on the balance sheet in 2050, which would have an individual carrying value of less than our performance materiality. On this basis, we were satisfied that the risk of there being a material stranded assets in 2050 was low. We estimated the carrying value of Shell's Oil Mining Sands in 2050 and we were satisfied that by 2050, the carrying amount will be immaterial. We also concluded that there was a low risk of Shell's current refineries being stranded as the assets are expected to be fully depreciated in the next 15 years.
- Also, based on the climate risk factors we considered for each of the assets that we identified as higher risk from a climate perspective, we assessed the headroom in the most recent impairment models, the alignment of long term oil and gas price to IEA and the reasonableness of the costed plans in place to decarbonise the assets within the OP22 period and overall we concluded there was no impairment trigger arising from the impact of climate change in the 2022 financial statements.

**6) whether physical risk considerations have been incorporated into Shell's asset plans**

- We concluded Shell have adequately considered physical risks in asset integrity plans and are satisfied that there was no impairment triggers.

**Other observations**

- We reported that management's controls over the identification and estimation of costs of carbon emissions, the potential financial statement impacts associated with climate change and energy transition, and the related financial statement disclosures, were designed and operating effectively.
- The E&E assets ($6.4 billion) that are being carried are consistent with both OP22 and Shell's strategy. Our independent assessment of the appropriateness of carrying the E&E assets included consideration of their strategic fit and their carbon intensity. The assets that we assessed as being on our watch-list have decreased compared to 2021 and are now below our planning materiality level. We were satisfied that it remains appropriate to continue to carry these assets whilst the technical feasibility and commercial viability of extracting commercial reserves are still being assessed.
- $1 billion of Deferred Tax Assets (DTAs) are expected to be utilised by taxable profits that are forecast to be generated beyond OP22. The most significant judgements relate to the DTAs in countries where Shell primarily has a downstream presence where $0.2 billion is recognised against profits arising beyond OP22. However, the recognition of DTAs against profits beyond OP22 in these jurisdictions has decreased significantly from the prior year (2021: $0.8 billion) primarily as a result of utilisation of losses driven by increased profits from higher energy prices. As a result, the risk that there will be a material error in the recognition has decreased significantly. We are satisfied that the DTA recognition appropriately reflects climate and energy transition risk.
- Our procedures included consideration of the impact of our climate change findings on expected Decommissioning & Restoration (D&R) timing, including the recoding of D&R provisions for six refineries. We concluded that the Decommissioning & Restoration provisions are fairly stated.
- With regards to the sensitivity analyses provided by Shell in Note 4 to the Consolidated Financial Statements, including commodity and carbon prices, refining margins and the discount rate applied for impairment assessments, we were satisfied that the descriptions of the sensitivities reflected the sensitivities performed. Also, the prices and assumptions applied by Shell in their calculations were agreed to the scenarios as described. We reperformed the sensitivities and were satisfied that the ranges disclosed by Shell in Note 4 were materially correct, including the illustrative disclosures on the impact of commodity prices averaged from three 1.5-2 degrees Celsius external climate change scenarios and from the IEA NZE50 scenario.
- We reported to the Audit Committee that we had considered Shell's dividend resilience statement in Note 4. Had Shell applied the IEA NZE50 scenario, and had this impairment of $23 billion directly reduced the carrying value of investments within the Parent Company, Shell plc, this would not have impacted the distributable reserves available to Shell from which to pay dividends in 2022. This is on the basis that Shell plc had a merger reserve of $234 billion and under Companies Act 2006, the adverse impact from an impairment would be on the merger reserve as opposed to distributable reserves.

Our audit observations relating to oil and gas reserves and impairment of PP&E and JVAs are included in the KAMs on pages 226 to 228.

Cross-reference: See the Audit Committee Report on page 172 for details on how the Audit Committee reviewed climate change and energy transition. See the Strategic Report on pages 83 to 87 for details on energy transition strategy. Also, see Notes 2, 4, 12, 13, and 31 to the Consolidated Financial Statements.

# Independent Auditor's Report to the members of Shell plc continued

## 6. Our assessment of key audit matters continued

### The estimation of oil and gas reserves

**Description of the key audit matter**

**This is a forecast-based estimate. Oil and gas reserves estimates are used in the calculation of depreciation, depletion and amortisation (DD&A), impairment testing and in the estimation of decommissioning and restoration (D&R) provisions. The risk is the inappropriate recognition of proved reserves that impacts these accounting estimates. Given the current environment, there may be a heightened risk of proved reserves with a high carbon intensity not ultimately being produced (also see climate change and energy transition key audit matter).**

As described in Notes 12 and 13 to the Consolidated Financial Statements, at December 31, 2022, production assets amounted to $117.4 billion and had an associated DD&A charge of $9.7 billion and joint ventures and associates (JVAs) amounted to $23.9 billion. As further described in Note 12, exploration and production impairment losses of $0.9 billion and exploration and production impairment reversals of $6.0 billion were recorded during the year. As described in Note 24 to the Consolidated Financial Statements, D&R provisions amounted to $20.3 billion.

If proved reserves are recognised that are not ultimately produced, depreciation will be understated, and the recoverable amount of assets may be overstated. In-year reserve movements are driven by revisions of previous estimates resulting from reclassifications, changes to recovery assumptions, extensions and discoveries and purchases and sales of reserves in place. Revisions generally arise from new information, for example additional drilling results, changes in production patterns and changes to development plans, which are an input to the cash flows used in the measurement of production assets and D&R provisions.

Auditing the estimation of oil and gas reserves is complex. There is significant estimation uncertainty in assessing the quantities of reserves and resources in place. The estimates are based on the Company's central group of experts' assessments of petroleum initially in place, production curves and certain other inputs, including forecast production volumes, future capital and operating cost assumptions and life of field assumptions. Estimation uncertainty is further elevated given the transition to a low-carbon economy, which increases the risk of underutilised or stranded oil and gas assets.

**Our response to the risk**

We obtained an understanding of the controls over Shell's oil and gas reserves' estimation process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested management's controls over review of changes to year-on-year estimated oil and gas reserves volumes.

Our substantive audit procedures provided coverage of 69% of proved reserves.

We involved professionals with substantial oil and gas reserves audit experience in evaluating the key assumptions and methodologies applied by management.

Our procedures included, amongst others:

- testing that significant additions or reductions in reserves had been made in the period in which the new information became available, by understanding the change in circumstance that drove the change;
- verifying that reserve movements were in compliance with Shell's reserves and resources guidance and SEC regulations;
- evaluating the professional qualifications and objectivity of management's experts who performed the detailed preparation of the reserve estimates and those who are primarily responsible for providing independent review and challenge, and ultimately endorsement of, the reserve estimates. This covered around 20 individuals involved in the process;
- evaluating management's estimation of the point at which the operating cash flow from a project becomes negative (the economic limit), as this impacts DD&A and impairment. Where relevant, we assessed whether the economic limit test incorporated Shell's estimate of future carbon costs to reflect the potential impact of climate change and the energy transition;
- evaluating the completeness and accuracy of the inputs used by management in estimating the oil and gas reserves by agreeing the inputs to source documentation;
- performing back-testing of historical data to identify indications of estimation bias over time;
- attending nine of Shell's Upstream Reserves Committee meetings to observe the internal review and endorsement process. These meeting are part of Shell's proved reserves assurance process, which is described on page 308;
- we focused our audit procedures on those assets that are currently forecast to be producing beyond 2030 and the carbon intensity of the post 2030 production from those fields in order to identify assets that are carbon intensive, where there may be a higher risk of the reserves not ultimately being produced. The purpose of performing such analysis was to identify assets that were at higher risk of the current net book value being overstated. For volumes expected to be produced beyond 2050, we further analysed those assets with the most significant carrying amounts and assessed whether or not the expected production profile was consistent with Shell's NZE ambitions.

Our procedures were led by the group engagement team, with input from our teams in Australia, Brazil, Canada, Malaysia, Nigeria, Qatar, and the USA.

**Key observations communicated to the Shell Audit Committee**

We reported to the Audit Committee in January 2023 that the inputs and assumptions used to estimate proved reserves and resources were reasonable. Also, we also reported that we had not identified any impairment triggers as a result of any of the movements in reserves during the year. In our view, Shell follows a robust process for recognising oil and gas reserves.

We found no contra indicators that the recognition of the reserve volumes expected to be lifted beyond 2030 results in the overstatement of Shell's balance sheet by overstating the recoverable amounts of Shell's assets or understatement of D&R liabilities. For the reserves and resources that were expected to be produced post 2050, we were satisfied that this was not inconsistent with Shell's NZE ambitions and that it remains appropriate to recognise these reserves.

Please see key audit matter on the impact of climate change and the energy transition on the financial statements for details of our considerations on the carbon intensity associated with reserves expected to be produced beyond 2030.

Cross-reference: See the Audit Committee Report on page 172 for details on how the Audit Committee reviewed assurances for oil and gas reserves. Also, see Notes 2, 4, 12 and 24 to the Consolidated Financial Statements and Supplementary information – oil and gas (unaudited) on page 308.

# Independent Auditor's Report to the members of Shell plc continued

## 6. Our assessment of key audit matters continued

### Impairment of Property, plant and equipment (PP&E) and Joint ventures and associates (JVA)

#### Description of the key audit matter

**This is a forecast-based estimate. The risk is that potential impairments are not identified on a timely basis, including whether the impacts of climate change and the energy transition have been considered in Shell's impairment trigger assessments (also see climate change and energy transition key audit matter).**

As described in Notes 12, and 13 to the Consolidated Financial Statements, at December 31, 2022 Shell recognised $117.4 billion of production assets, $49.9 billion of manufacturing, supply and distribution assets (primarily refineries and petrochemical plants) and $23.9 billion of joint ventures and associates (JVAs). As disclosed in Note 12, in 2022, Shell recognised $1.8 billion impairment losses and $6.2 impairment loss reversals. As discussed in Note 13, Shell recognised an impairment loss of $1.6 billion related to the withdrawal from Russian oil and gas activities.

As Shell recorded pre-tax impairment charges of $26.7 billion of PP&E and JVAs in 2020, the recoverable amounts are sensitive to smaller changes in key assumptions, which increases the risk of indicators of impairment or impairment reversal not being identified. Our audit effort has therefore focused on the completeness and timely identification of indicators of impairment charges or impairment reversals.
Auditing the impairment assessments is subjective due to the significant amount of judgement involved in determining whether indicators of impairment or impairment reversal exist, particularly for longer term assets. Indicators should reflect significant upward or downward revisions in assumptions impacting the future potential long-term value of an asset, rather than drivers of short-term fluctuations in value.

Assumptions underpinning the impairment or impairment assessments include:
- changes in forecast oil and gas prices, in particular over the mid-to-long term;
- changes in petrochemical and refining margin assumptions;
- movements in oil and gas reserves;
- the assumed weighted average cost of capital (WACC);
- cash generating units (CGUs) assessments, which sets the level upon which impairment assessments are considered; and
- individual asset impairment assessments including the impacts of Shell's withdrawal from Russian oil and gas activities.

As described in Note 2, the most complex of these judgements relate to management's view on the long-term oil and gas price outlook. Forecasting future prices is inherently difficult, as it requires forecasts that reflect developments in demand such as global economic growth, technology efficiency, policy measures and, on the supply side, consideration of investment and resource potential, cost of development of new supply and behaviour of major resource holders. These judgements are particularly difficult because of increased demand uncertainty and pace of decarbonisation due to climate change and the energy transition.

#### Our response to the risk

We obtained an understanding of the controls over Shell's asset impairment process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested the controls over management's identification of indicators of impairment and reversals of impairment and the approval of oil and gas prices and petrochemical and refining margins.

Our procedures included, amongst others:

**Oil and gas prices**
- assessing the reasonableness of future short and long-term oil and gas price assumptions by comparing these to an independently developed reasonable range of forecasts based on consensus analysts' forecasts and those adopted by other energy companies;
- given the continued improvement in commodity prices and short-term refining margins, assessing whether these higher price markers represented a trigger for impairment reversal; and
- comparing Shell's oil and gas price scenarios to the IEA's Net Zero Emissions 2050 (NZE50) and to the IEA's APS price assumptions as potential contradictory evidence for best estimates of future oil and gas prices. The APS assumes that all climate commitments made by governments around the world, including Nationally Determined Contributions (NDCs) and longer-term net zero targets, will be met in full and on time.

**Petrochemical and refining margins**
- we involved our valuations specialists to assess the reasonableness of Shell's margin estimation methodologies and assumptions;
- evaluating the reasonableness of Shell's refining margin assumptions by comparing these to independent market and consultant forecasts;
- as there are only a few market consultants who forecast petrochemical product prices and there are no consultant forecasts of chemical margins, we evaluated the reasonableness of Shell's petrochemical margin assumptions by independently projecting margins. We did this by using regression analysis and performing correlation analysis of historical product prices to historical margins to cross check future external prices to assumed margins; and
- considering whether the downward pressure on petrochemical margins represented an impairment trigger by assessing the impact of reduced margins in the context of the overall lives of Shell's petrochemical facilities.

**Oil and gas reserves**
- see oil and gas reserves key audit matter.

**WACC**
- with the assistance of valuation specialists, independently assessing a range of reasonable input assumptions for calculating Shell's WACC; and
- assessing whether Shell's risking in their impairment assessments, through both a discount rate and individual asset cashflows, adequately reflects the risks associated with Shell's different classes of assets.

**CGUs**
- challenging management's identification of CGUs based on industry practice and how cash flows are generated.

# Independent Auditor's Report to the members of Shell plc continued

## 6. Our assessment of key audit matters continued

### Impairment of Property, plant and equipment (PP&E) and Joint ventures and associates (JVA) continued

**Our response to the risk** continued

**Individual assessments**

- evaluating Shell's assessment of impairment losses and impairment reversal triggers, including changes in the forecast commodity price assumptions, movements in oil and gas reserves (see oil and gas reserves key audit matter), changes in asset performance, changes in Shell's operating plan assumptions, including those relating to Shell's carbon emissions reductions targets, and whether these are indicators of impairment or impairment reversal;
- separately from management, for material assets, we also assessed independently whether or not indicators of impairment or reversal triggers exist and considered the existence of contradictory evidence such as external commentary on asset performance, which could indicate a significant increase or decrease in the recoverable amount of any of Shell's assets;
- where triggers were identified, we assessed the inputs to the impairment assessment by comparing forecasts to OP22 and life of field plans, historical actuals and other independent expectations. We also performed a consistency check on the assumptions to other assumptions applied by the group;
- testing the model integrity of material impairment assessments.
- evaluating the assumptions used in the preparation of the 2022 operating plan at a group, segment and asset level and compared the actual performance of assets to the forecasts made in the prior year;
- considered the existence of other contradictory evidence, such as the results of any comparable market transactions that could indicate a significant increase or decrease in the recoverable amount of any of Shell's assets, public comments or commitments made by Shell in relation to the Powering Progress strategy and whether these could impact the future potential value of any assets; and
- assessing potential operational changes that have or are expected to have a significant adverse effect on an asset, such unplanned shutdowns, and whether they should be considered as impairment triggers.

The audit procedures were performed primarily by our group engagement team as well as our local audit teams in Argentina, Australia, Brazil, Canada, Kazakhstan, Malaysia, Nigeria, Qatar, Trinidad & Tobago, UK and USA.

**Key observations communicated to the Shell Audit Committee**

In January 2023, we reported to the Audit Committee that:

**Oil and gas prices**

- Shell's oil and gas price assumptions are in line with the requirements of IAS 36 for the purposes of PP&E and JVA impairment assessments. We believe that the assumptions are reasonable when compared against a range of third party forecasts and peer information. Given supply and demand uncertainties, we do not believe that Shell's Brent assumptions are overly conservative by being at the lower end of a range of international oil companies.
- Shell's assumed oil prices are broadly consistent with the IEA's APS price assumptions; however, in 2023-2024 Shell's Brent price assumption is 16% higher than the APS assumption. We were satisfied that Shell's assumptions remain appropriate for 2023 as there is more evidence to support price assumptions in the short term. Shell's Henry Hub price assumptions were broadly similar to the IEA APS scenario and lower in the short term.

**Petrochemical and refining margins**

- The short-term decline in petrochemical margins in 2022 does not represent an impairment trigger for Shell's chemicals assets given the expected increase in margins in the medium-term. Prices are expected to increase in the medium-term as: (1) lower margins are not sustainable for an extended period, which is supported by our own reversion to mean analysis of historical margins; and (2) feedstock prices are expected to fall from current high levels (primarily gas prices and refinery margins). We also do not consider the higher refining margins experienced in 2022 represent a trigger for impairment reversal for Shell's refineries.

**Oil and gas reserves**

- See oil and gas reserves key audit matter.

**WACC**

- Shell's impairment discount rate overall is reasonable when you consider the WACC applied and additional risking included in the cash flows of individual assets.

**CGUs**

- Shell's CGU assessment is in line with IFRS. Shell's approach to identifying CGUs is well established and follows industry practice. For low-carbon assets, which are often located on the same site as other Shell assets, it is appropriate to treat these assets as separate CGUs.

**Individual asset assessments**

- We believe that Shell's impairment assessment process is in line with IFRS. For the assets where management's impairment assessment resulted in an impairment loss or reversal, the charges or reversals were within an acceptable range. Also, we were satisfied that the impairment charges were recorded in the appropriate period
- Shell's upwards revision to their oil and gas price assumptions represented a trigger for the potential reversal of previously recorded impairments. The subsequent impairment reversal of $6 billion is within our range of acceptable outcomes. For those assets where an impairment loss was reversed, there was limited judgement as in most cases, the headroom was well in excess of the potential maximum reversal. Where impairment reversals were not recorded, we were satisfied that other factors, such as asset performance, meant that a reversal would not have been appropriate.
- For the Russian-related impairments, we were satisfied that Shell had performed a thorough exercise to determine the appropriate accounting for each of the ventures impacted by Shell's withdrawal from Russian oil and gas activities.

Cross-reference: See the Audit Committee Report on page 172 for details on how the Audit Committee considered impairments. Also, see Notes 2, 4, 6, 12 and 13 to the Consolidated Financial Statements.

# Independent Auditor's Report to the members of Shell plc continued

## 6. Our assessment of key audit matters continued

### Accounting for complex transactions within Shell's Trading and Supply (T&S) function and the valuation of financial derivatives

**Description of the key audit matter**

**This is an estimation based on both complex valuations and uncertain inputs to valuations, and requires judgements in the accounting treatment. There is a risk of error in revenue due to the increased complexity of trades that are executed by Shell's T&S function.**

**Also, there is an inherent higher risk of unauthorised trading activity or deliberate misstatement of trading positions due to the volume and complexity of trades that are executed by T&S.**

As described in Note 8 of the Consolidated Financial Statements, at December 31, 2022 Shell recognised $381 billion of revenue. As described in Note 25, Shell recognised commodity derivatives assets of $23.7 billion and commodity derivatives liabilities of $22.9 billion.

Also, Shell has identified trading in their risk factors on pages 22 to 24, which form part of the "Other information", rather than the audited financial statements.

Shell's T&S function is integrated within the Integrated Gas, Upstream, Marketing, Chemicals and Products and Renewables and Energy Solutions segments. The function executes and settles over a thousand standard vanilla trades a day across multiple geographic locations; however, the business also enters into non-standard complex trades. The number of these complex trades have increased year on year as Shell is increasingly focussed on growth in low carbon fuels and on executing long-term renewable power offtake and sale contracts in existing and new markets.

The T&S function has a traditional commodity trading structure, with a defined front, middle and back office for the execution, monitoring and settlement of trades. The IT environment supporting the function is complex and involves a large number of systems. Consequently, there is a high level of manual intervention required in operating the business, largely controlled through detective financial controls within the back and middle office.

The global regulatory requirements for commodity traders continue to increase, which, together with the increase in complexity of trades, means there is greater financial, reputational and operational risk within the business.

Auditing unrealised trading gains and losses arising from non standard trades is complex because of the significant judgement used in determining the appropriate accounting treatment, and the key assumptions used in valuing the trades. Trading is not always carried out in active markets where prices are readily available, increasing subjectivity used in determining the pricing curve and volatility assumptions, which are key inputs to valuing the trades.

Furthermore, the lack of market transparency of executed deals creates significant opportunity for unauthorised trading activity or deliberate misstatement of Shell's trading positions or mismarking of positions. This creates a risk of understated trading losses, overstated trading profits and/or individual bonuses being manipulated through inappropriate inter-period profit/loss allocations.

**Our response to the risk**

We obtained an understanding of the controls over Shell's process for the recognition of revenue relating to unrealised trading gains and losses, including controls over management's processes around complex deals accounting and valuations. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested controls around the review of pricing curves and volatility assumptions applied in the valuation models.

We involved professionals with significant experience auditing large commodity trading organisations. Our audit procedures focus on the appropriateness of the accounting treatment and the valuation of these contracts. In our audit we:

- tested the completeness of the complex deal register, to ensure it contained all material, complex and long dated trades;
- obtained an understanding of the commercial rationale of complex and long-dated deals by analysing transaction documentation and agreements, and through discussions with management;
- performed an independent assessment of the accounting treatment of complex and long-dated deals, challenging managements accounting treatment against contract terms and previous accounting judgements. Where relevant, we involved our technical accounting specialists to assist in this assessment;
- assessed the reasonableness of Shell's valuation methodology by comparing it to market practice, analysing whether a consistent framework was applied and confirmed the consistency of inputs used in deal valuations with other assumptions applied in the financial statements, for example impairment assumptions;
- tested the forward pricing curve and volatility assumptions in management's valuation models, including comparisons to external broker quotes, market consensus providers and our independent assessments;
- involved valuation specialists to assist us in performing independent testing of complex valuation models, including Level 3 contracts; long-dated offtake contracts; and contracts with illiquid components. Our valuations were established using independently sourced inputs and specialists' judgement for certain unobservable parameters;
- reviewed valuation reserve adjustments, such as credit valuation adjustments, and reperformed the calculation for a sample of material contracts;
- tested key controls around management's onerous contract assessment, including how management assess completeness;
- we challenged management's accounting consideration of whether forward physical contracts to buy and sell LNG are in the scope of IFRS 9 and should be fair valued.
- performed a suite of third party confirmation tests for the completeness of forward positions recorded by Shell. Our tests included requesting Shell's counterparties to confirm their entire position with Shell; asking counterparties to provide details of individual trades per their records; and, sending confirmations to key counterparties for which there was a material position in the previous year but no material position in the current year; and
- searched for unrecorded liabilities by identifying any transactions after the reporting date that were settlements of derivatives, determining if the transaction being settled was appropriately included or excluded from the open trading position at year-end and whether they were recorded in the correct period.

The audit procedures were performed principally by the group engagement team and the UK and US component teams.

# Independent Auditor's Report to the members of Shell plc continued

## 6. Our assessment of key audit matters continued

### Accounting for complex transactions within Shell's Trading and Supply (T&S) function and the valuation of financial derivatives continued

**Key observations communicated to the Shell Audit Committee**

In January 2023, we reported to the Audit Committee that:

- The valuation of complex and long-dated derivative contracts was appropriate and in accordance with accounting standards;
- Unrealised gains and losses related to complex and long-dated deals were recorded appropriately in the financial statements;
- Management's key accounting judgments and the application of their accounting polices, including the accounting treatment of non-standard deals related to illiquid non-financial items, were appropriate; and
- We also highlighted that the accounting judgement around LNG liquidity was a significant judgement. We explained that we were satisfied that, under current market conditions, management's conclusion remains appropriate on the basis that:
  - contracts in the LNG portfolio do not include a provision for, nor is there a significant history of, express net settlement via mechanisms such as book outs;
  - Shell is active in the short-term LNG physical market. Judgement is required to determine if this presence relates merely to optimisation of the group's long-term portfolio of contracts, or, for the purpose of taking advantage of short-term price fluctuations or to realise dealer's margins. The latter would constitute net settlement practices under IFRS 9. The ability to demonstrate such net settlement practices is inherently reliant on the underlying liquidity of the market. Shell has assessed a range of market liquidity indicators, which do not indicate any increase in liquidity since the previous assessment performed. Shipping constraints, demand/supply imbalances, sanctions, and a reduction in market participants due to the liquidity challenges of hedging in high price environments have all hampered the increase of LNG liquidity in the past twelve months.

Cross-reference: See the Audit Committee Report on page 172 for details on how the Audit Committee reviewed the Trading and Supply's control framework. Also see Notes 8 and 25 to the Consolidated Financial Statements.

In our 2021 opinion, we included key audit matters in respect of exploration and evaluation (E&E) assets, decommissioning and restoration (D&R) provisions and the recognition and measurement of DTAs. We have not included these areas as key audit matters in our 2022 opinion. Within the E&E assets balance of $6.5 billion (2021: $7.1 billion) the assets that we believed were most at risk of being developed by Shell or being divested, and therefore potentially being written off or impaired was now below our planning materiality level. Whilst the D&R provision balance of $20.3 billion (2021: $22.1 billion) is material, the main movements in the provision, such as the impact of discounting, did not involve significant judgement. As shown in Note 24 to the Consolidated Financial Statements, the only movements in the year that were above our materiality were the removal of D&R provisions for assets that have been disposed of, a decrease as a result of a change in discount rate, which is not judgemental, and changes in cost estimates, which did not involve significant judgement. Also, in prior years, Shell recorded D&R provisions for refineries rather than assume the decommissioning date was indeterminable. In 2022, the subjectivity involved in auditing the recognition and measurement of DTA balances reduced, with the amount of DTAs supported by the expectation of future taxable profits arising beyond Shell's regular forecast planning horizon now being below our planning materiality. Our ongoing challenge of the impact of climate change on these matters is covered in our climate change key audit matter.

# Independent Auditor's Report to the members of Shell plc continued

## 7. Our application of materiality

We apply the concept of materiality both in planning and performing our audit, as well as in evaluating the effect of identified misstatements on our audit and in forming our audit opinion.

### Overall materiality

#### What we mean

We define materiality as the magnitude of an omission or misstatement that, individually or in the aggregate, could reasonably be expected to influence the economic decisions of the users of the financial statements. Materiality provides a basis for determining the nature and extent of our procedures.

#### Level set

**Group materiality**

We set our preliminary overall materiality for Shell's Consolidated Financial Statements at $1.2 billion (2021: $1 billion). We kept this under review throughout the year and reassessed the appropriateness of our original assessment in the light of Shell's results and external market conditions. We did not find it necessary to revise our level of overall materiality.

**Parent Company materiality**

We determined materiality for the Parent Company to be $1.2 billion (2021: $1 billion), which is 0.6% of equity (2021: 0.4%). We concluded that equity remains an appropriate basis to determine materiality for an investment holding company. The range we normally apply when determining materiality on an equity measurement basis is 1- 2%. We applied a lower percentage to align the materiality of the Parent Company with that of the Group.

#### Our basis of determining materiality

Our assessment of overall materiality that we applied throughout the year was $1.2 billion, which represented 2.6% of the two-year average Adjusted Earnings pre-tax (see table below). We normally apply 5% when determining materiality on a profit measurement basis; however, actual 2022 results were higher than what we based our assessment on and we did not revise our materiality upwards. Our materiality was derived from an average of Shell's earnings, including an initial estimate of the 2022 result, on an Adjusted Earnings basis, which we then adjusted for an average effective tax rate. At the end of the year, we reassessed materiality based on the actual results for 2022. As disclosed on page 362 within non-GAAP measures reconciliations, the "Adjusted Earnings" measure aims to facilitate a comparative understanding of Shell's financial performance from period to period by removing the effects of oil price changes on inventory carrying amounts and removing the effects of identified items. Shell's identified items are disclosed on page 363.

Our key criterion in determining materiality remains our perception of the needs of Shell's stakeholders. We consider which earnings, activity or capital-based measure aligns best with their expectations. In so doing, we apply a 'reasonable investor perspective', which reflects our understanding of the common financial information needs of the members of Shell as a group.

We continue to believe that these needs are best met by basing materiality on normalised Adjusted Earnings on a pre-tax basis. This approach removes both the effects of changes in oil price on inventory carrying amounts (current cost of supplies adjustment as defined on page 362) and non-recurring gains and charges disclosed as identified items on page 363 that can significantly distort Shell's results in any one particular year. Through applying a normalised earnings approach, large year-on-year swings in materiality are minimised. These swings would be driven primarily by price fluctuations rather than specific structural changes to Shell's business.

We have considered alternative benchmarks to Adjusted Earnings, including profit before taxation and EBITDA. These indicate a range of $1.5 billion to $2.4 billion.

We believe that a normalised Adjusted Earnings approach remains appropriate on the basis that:

- segment earnings are presented on an Adjusted Earnings basis, which is the earnings measure used by CEO for the purposes of making decisions about allocating resources and assessing performance;
- Adjusted Earnings exclude the effect of changes in the oil price on inventory carrying amounts, allowing investors to understand how management has performed despite the commodity price environment, as opposed to because of it;
- analyst forecasts predominately feature Adjusted Earnings, which exclude identified items, as the basis for earnings. The analyst consensus data supports our judgement that Adjusted Earnings remains the key indicator of performance from a reasonable investor perspective; and
- although this is an unprecedented time for Shell and the industry and there is uncertainty around the future price environment, views of economists and market participants was that the supply/demand balance will be re-addressed over time.

By applying a normalised Adjusted Earnings approach, we have concluded that it is appropriate to apply a materiality of $1.2 billion (2021: $1.0 billion).

The Adjusted Earnings were as follows:

| $ billion | | 2022 | 2021 |
|---|---|---|---|
| Adjusted Earnings (see page 362) | | 39.9 | 19.3 |
| Estimated tax impact based on the average effective tax rate | | 22.5 | 10.7 |
| **Adjusted Earnings pre-tax** | | 62.4 | 30.0 |
| Materiality percentage on the average Adjusted Earnings pre-tax | 2021-2022 | 2.6% | |

# Independent Auditor's Report to the members of Shell plc continued

## 7. Our application of materiality continued

### Performance materiality

**What we mean**

Having established overall materiality, we determined 'performance materiality', which represents our tolerance for misstatement in an individual account. It is calculated as a percentage of overall materiality in order to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality of $1.2 billion for Shell's financial statements as a whole. We assigned performance materiality to our various in-scope operating units. The performance materiality allocation is dependent on the size of the operating unit, measured by its contribution of earnings to Shell, or other appropriate metric, and the risk associated with the operating unit.

**Level set**

In our assessment for 2022, we considered the nature, number and impact of the audit differences identified in 2021. We also noted the way in which management navigated the financial statement close throughout 2021, and the fact that we did not experience any notable increase in control deficiencies in the prior year audit. Based on our assessment of these factors, our judgement was that performance materiality for the 2022 audit should be 75% (2021: 75%) of our overall materiality or $0.9 billion (2021: $0.75 billion).

The level of materiality that we applied in undertaking our audit work at the operating unit level, for the purpose of obtaining coverage over significant financial statements accounts, was determined by applying a percentage of our total performance materiality. This percentage is based on the significance of the operating unit relative to Shell as a whole and our assessment of the risk of material misstatement at that operating unit. In 2022 the range of materiality applied at the operating unit level was $135 million to $585 million (2021: $113 million to $488 million).

The planning and performance materiality was kept under ongoing review, but the conclusion remained unchanged at our year-end re-assessment of materiality.

### Audit difference reporting threshold

**What we mean**

This is the amount below which identified misstatements are clearly trivial. The threshold is the level above which we collate and report audit differences to the Audit Committee. We also report differences below that threshold that, in our view, warrant reporting on qualitative grounds. We evaluate any uncorrected misstatements against both the quantitative measures of materiality discussed above and in the light of other relevant qualitative considerations in forming our opinion.

**Level set**

We agreed with the Audit Committee that we would report to the Committee all audit differences more than $60 million (2021: $50 million), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. This represents 5% of our planning materiality (2021: 5%).

## 8. Our scope of the audit of Shell's financial statements

**What we mean**

We are required to establish an overall audit strategy that sets the scope, timing, and direction of our audit. Audit scope comprises the physical locations, operating units, activities, and processes to be audited that, in aggregate, are expected to provide sufficient coverage of the financial statements for us to express an audit opinion.

**Criteria for determining our audit scope and selection of in-scope operating units**

Our assessment of audit risk and our evaluation of materiality and our allocation of performance materiality determined our audit scope for each operating unit within Shell which, when taken together, enabled us to form an opinion on the financial statements. Our audit effort was focused towards higher risk areas, such as management judgements, and on operating units that we considered significant based upon size, complexity or risk.

We assessed our 2022 audit scope following the completion of our 2021 audit. We identified those Areas of Operation (AoOs or operating units) that were significant by virtue of their contribution to Shell's results or significant by virtue of their associated risk or complexity. In doing this we considered the history or expectation of unusual or complex transactions, potential for or history of material misstatements, the previous effectiveness of controls, our forensic assessment in relation to fraud, bribery or corruption, and internal audit findings. We then considered the adequacy of account coverage and remaining audit risk of AoOs not directly covered by audit procedures. Finally, we sense checked our scope to the prior year; ensured that there was appropriate unpredictability in our scope and made the necessary changes where appropriate. We applied our Risk Scan analytics techniques, which consolidate internal and external data to inform us on higher risk components to be included in scope. This allowed us to risk rate the group's operating units. We identified 101 operating units where we believed that it was appropriate to carry out targeted testing.

By following this approach, our audit effort focused on higher risk areas, such as management judgements. Our group wide procedures enabled us to obtain audit evidence over the AoOs that were not full, specific or specified procedure scope.

We did not make substantial changes to our 2021 assessment of the components where we performed full or specific scope audit procedures. Also, there were no significant changes to the number of IT applications we tested. However, what did change was the nature and emphasis of our testing in response to our significant audit risks and areas of audit focus.

We kept our audit scope under review throughout the year to reflect changes in Shell's underlying business and risks; however, no significant changes were required.

The table below illustrates the scope of work performed by our audit teams:

# Independent Auditor's Report to the members of Shell plc continued

## 8. Our scope of the audit of Shell's financial statements continued

| Operating units | 2022 | 2021 | No. of countries | Basis of inclusion | Extent of procedures |
|---|---|---|---|---|---|
| Full scope | 9 | 13 | 7 | Size or significant risk | Complete financial information |
| Specific scope | 35 | 35 | 12 | Significant risk | Individual account balances |
| Specified procedures[1] | 54 | 45 | 22 | Other risk factors | Individual transactions or processes |
| Other procedures | 698 | 683 | 86 | Residual risk of error | Supplementary audit procedures[2] |
| Total | 796 | 776 | | | |

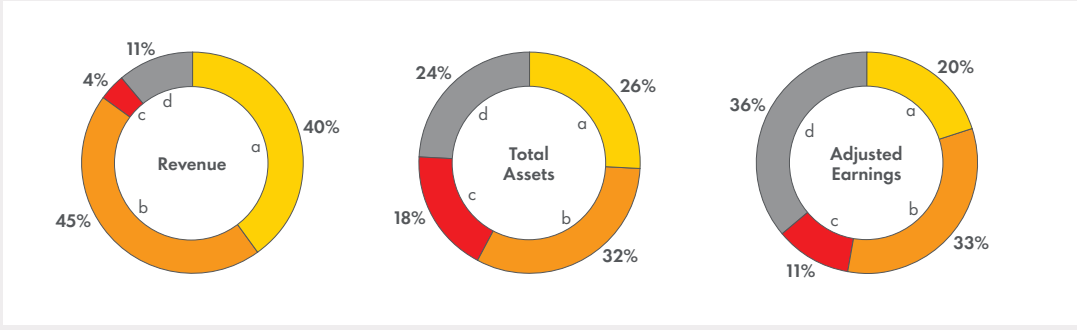
1 These procedures were performed by components and at the group level, to address specified risks of the audit or for audit coverage purposes.
2 We performed supplementary audit procedures in relation to Shell's centralised group accounting and reporting processes. These included, but were not limited to, addressing the implications of significant and complex accounting matters across all operating units, procedures over revenue to cash process analytics, review of impairment or impairment reversal indicators by segments, procedures over the forecasts as they relate to deferred tax asset recoverability and review of pension scheme assumptions, procedures over unusual accounting transactions including trading mark-to-market valuations, acquisitions, divestments and redundancies, addressing the appropriate elimination of intercompany balances and the completeness of provisions for litigation and other claims, including those related to non-compliance with laws and regulations. We performed testing of both manual and consolidation journal entries throughout the year, homogenous processes, and controls at the Business Service Centres (BSCs) and testing of group wide IT systems. We performed a disaggregated analytical review on each financial statement line item and also tested Shell's analytical procedures performed at a group, segment and function level. We also performed cash testing.

### Coverage

Our coverage by full, specific, specified and group procedures is illustrated below. The summary is by Total Assets, Adjusted Earnings and Revenue. Overall, our full, specific and specified procedures accounted for 64% of Shell's absolute Adjusted Earnings reported by Shell in its quarterly results announcements and adjusted for an effective tax rate. The remaining Adjusted Earnings were covered by Group wide procedures.

The Parent Company is located in the United Kingdom and audited directly by the Group engagement team

a Full scope
b Specific scope
c Specified procedures
d Covered by other procedures



# Independent Auditor's Report to the members of Shell plc continued

## 8. Our scope of the audit of Shell's financial statements continued

### Group evaluation, review and oversight of component teams

The group engagement partner and Senior Statutory Auditor, Gary Donald, has overall responsibility for the direction, supervision and performance of the Shell audit engagement in compliance with professional standards and applicable legal and regulatory requirements. He is supported by segment and function partners, who are based in the Netherlands and the UK, and who together with related staff comprise the integrated group engagement team. This group engagement team established the overall group audit strategy, communicated with component auditors, performed work on the consolidation process, and evaluated the conclusions drawn from the audit evidence as the basis for forming EY's opinion on the group financial statements.

The group engagement team is responsible for directing, supervising, evaluating and reviewing the work of EY global network firms operating under their instruction (local EY teams) to assess whether:

- the local EY audit team had the appropriate level of experience;
- the work was performed and documented to a sufficiently high standard;
- the local EY audit team demonstrated that they had challenged management sufficiently and had executed their audit procedures with an appropriate level of scepticism; and
- there is sufficient appropriate audit evidence to support the conclusions reached.

The group engagement team provided detailed instructions to our component teams to drive the audit strategy and execution in a coordinated manner. Group audit partners visited Australia, Brazil, Malaysia, Singapore, USA, covering operating units from all segments and functions. In addition, Group audit partners visited all of Shell's BSCs on at least one occasion, which included India, Poland, Malaysia and Philippines. During these visits, we exercised direction, supervision, oversight and review of our overseas EY audit teams. We were satisfied that we have had adequate involvement in their work and that we exercised sufficient and appropriate direction to the component teams.

Our oversight of component teams included maintaining a continuous and open dialogue with our global component teams, as well as holding formal closing meetings quarterly, to ensure that we were fully aware of their progress and results of their procedures. Also, group audit partners visited our T&S component teams in India, the UK and US and visited Shell's trading operations in Singapore, UK and Singapore.

### Involvement with local EY teams

Shell has centralised processes and controls over key areas within its BSCs. Members of the group engagement team provide direct oversight, review, and coordination of our BSC audit teams. Our BSC teams performed centralised testing in the BSCs for certain accounts, including revenue, cash and payroll. In establishing our overall approach to the group audit, we determined the type of work that needed to be undertaken at each of the operating units or BSCs by the group engagement team or by auditors from other local EY teams.

For the operating units where the work was performed by local EY auditors, we determined the appropriate level of involvement of the group engagement team to enable us to conclude that sufficient appropriate audit evidence had been obtained, as a basis for our opinion on the Group as a whole.

During the 2022 audit, the group team were able to carry out 16 physical site visits, including Australia, Brazil, India, Malaysia, Philippines, Poland, Singapore and the US. In addition, we performed virtual site visit in Nigeria. These visits were carried out multiple times during the audit and were attended by either the Senior Statutory Auditor or other group audit partners on the group engagement team. We also joined the Audit Committee at their site visit to the London trading floor which is discussed in the Audit Committee report on page 169.

## 9. Other information

The Other information comprises the information included in the Annual Report set out on pages 1 to 219 and 357 to 392 including the Strategic Report, Governance, Supplementary Information and Additional Information sections, other than the financial statements and our auditor's report thereon. The Directors are responsible for the Other information contained within the Annual Report.

Our opinion on the financial statements does not cover the Other information and, except to the extent otherwise explicitly stated in this report, we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

We have nothing to report in this regard.

## 10. Opinions on Other matters prescribed by the Companies Act 2006

In our opinion, the part of the directors' remuneration report to be audited has been properly prepared in accordance with the Companies Act 2006.

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the directors' report have been prepared in accordance with applicable legal requirements.

# Independent Auditor's Report to the members of Shell plc continued

## 11. Matters on which we are required to report by exception

In the light of the knowledge and understanding of the Group and the Parent Company and its environment obtained in the course of the audit, we have not identified material misstatements in the strategic report or the directors' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

## 12. Corporate Governance Statement

We have reviewed the directors' statement in relation to going concern, longer-term viability and that part of the Corporate Governance Statement relating to the group and company's compliance with the provisions of the UK Corporate Governance Code specified for our review by the Listing Rules.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the Corporate Governance Statement is materially consistent with the financial statements or our knowledge obtained during the audit:

- Directors' statement with regards to **the appropriateness of adopting the going concern basis of accounting** and any material uncertainties identified set out on page 219;
- Directors' explanation as to its **assessment of the company's prospects**, the period this assessment covers and why the period is appropriate set out on page 213;
- Director's statement on whether it has a reasonable expectation that the group will be able to continue in operation and meets its liabilities set out on page 213;
- Directors' statement on **fair, balanced and understandable** set out on page 219;
- Board's confirmation that it has carried out a **robust assessment of the emerging and principal risks** set out on page 217;
- The section of the annual report that describes the **review of effectiveness of risk management and internal control systems** set out on page 217; and;
- The section describing **the work of the audit committee** set out on page 167.

## 13. Responsibilities of the Directors'

As explained more fully in the statement of Directors' responsibilities set out on page 219, the Directors are responsible for the preparation of the Consolidated Financial Statements and for being satisfied that they give a true and fair view, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing Shell and the Parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate Shell or the Parent Company or to cease operations, or have no realistic alternative but to do so.

## 14. Our responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISA (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

## 15. Explanation as to what extent our audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect irregularities, including fraud.

The risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below. However, the primary responsibility for the prevention and detection of fraud rests with both those charged with governance of the entity and management.

Our approach was as follows:

- We obtained an understanding of the legal and regulatory frameworks that are applicable to Shell and determined that the most significant are those that relate to the reporting framework (UK adopted international accounting standards, IFRS as issued by the IASB, Companies Act 2006, the UK Corporate Governance Code, the US Securities Exchange Act of 1934 and the Listing Rules of the UK Listing Authority) and the relevant tax compliance regulations in the jurisdictions in which Shell operates. In addition, we concluded that there are certain significant laws and regulations that may have an effect on the determination of the amounts and disclosures in the financial statements and those laws and regulations relating to health and safety, employee matters, environmental, and bribery and corruption practices.

# Independent Auditor's Report to the members of Shell plc continued

## 15. Explanation as to what extent our audit was considered capable of detecting irregularities, including fraud continued

- We understood how Shell is complying with those frameworks by making enquiries of management, internal audit, and those responsible for legal and compliance procedures. We corroborated our enquiries through our review of Board minutes, papers provided to the Audit Committee and correspondence received from regulatory bodies and noted that there was no contradictory evidence.
- We assessed the susceptibility of Shell's Consolidated Financial Statements to material misstatement, including how fraud might occur, by embedding forensic specialists into our group engagement team. Our forensic specialists worked with the group engagement team to identify the fraud risks across various parts of the business. In addition, we utilised internal and external information to perform a fraud risk assessment for each of the countries of operation. We considered the risk of fraud through management override and, in response, we incorporated data analytics across manual journal entries into our audit approach. We also considered the possibility of fraudulent or corrupt payments made through third parties and conducted detailed analytical testing on third party vendors in high risk jurisdictions. Where instances of risk behaviour patterns were identified through our data analytics, we performed additional audit procedures to address each identified risk. These procedures included the testing of transactions back to source information and were designed to provide reasonable assurance that the financial statements were free from fraud or error. We also conducted specific audit procedures in relation to the risk of bribery and corruption across various countries of operation determined on a risk-based approach.
- Based on the results of our risk assessment we designed our audit procedures to identify non-compliance with such laws and regulations identified above. Our procedures involved journal entry testing, with a focus on journals meeting our defined risk criteria based on our understanding of the business; enquiries of legal counsel, group management, internal audit and all full and specific scope management; review of the volume and nature of complaints received by the whistleblowing hotline during the year; review of internal audit reports issued during the year; review of news releases published by external parties; and
- If any instances of non-compliance with laws and regulations were identified, these were communicated to the relevant local EY teams who performed sufficient and appropriate audit procedures, supplemented by audit procedures performed at the group level.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at https://www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

## 16. Other matters we are required to address

Following the recommendation of the Audit Committee, we were re-appointed by Shell plc's Annual General Meeting (AGM) on May 24, 2022, as auditors of Shell to hold office until the conclusion of the next AGM of the Company, and signed an engagement letter on July 27, 2022. Our total uninterrupted period of engagement is seven years covering periods from our appointment through to the period ending December 31, 2022.

Our audit opinion is consistent with our additional report to the Audit Committee explaining the results of our audit.

## 17. Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

**/s/ Gary Donald (Senior Statutory Auditor)**

**Gary Donald**
Senior Statutory Auditor
for and on behalf of Ernst & Young LLP
London
March 8, 2023

# Consolidated Financial Statements


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# Consolidated Financial Statements continued

## Consolidated Statement of Income

$ million

| | Notes | 2022 | 2021 | 2020 |
|---|---|---|---|---|
| Revenue | 8 | 381,314 | 261,504 | 180,543 |
| Share of profit of joint ventures and associates | 13 | 3,972 | 4,097 | 1,783 |
| Interest and other income | 9 | 915 | 7,056 | 869 |
| **Total revenue and other income** | | **386,201** | **272,657** | **183,195** |
| Purchases | | 258,488 | 174,912 | 117,093 |
| Production and manufacturing expenses | 8 | 25,518 | 23,822 | 24,001 |
| Selling, distribution and administrative expenses | 8 | 12,883 | 11,328 | 9,881 |
| Research and development | 8 | 1,075 | 815 | 907 |
| Exploration | 8 | 1,712 | 1,423 | 1,747 |
| Depreciation, depletion and amortisation | 8 | 18,529 | 26,921 | 52,444 |
| Interest expense | 10 | 3,181 | 3,607 | 4,089 |
| **Total expenditure** | | **321,386** | **242,828** | **210,162** |
| **Income/(loss) before taxation** | | **64,815** | **29,829** | **(26,967)** |
| Taxation charge/(credit) | 22 | 21,941 | 9,199 | (5,433) |
| **Income/(loss) for the period** | 8 | **42,874** | **20,630** | **(21,534)** |
| Income attributable to non-controlling interest | 8 | 565 | 529 | 146 |
| **Income/(loss) attributable to Shell plc shareholders** | 8 | **42,309** | **20,101** | **(21,680)** |
| Basic earnings per share ($) | 30 | 5.76 | 2.59 | (2.78) |
| Diluted earnings per share ($) | 30 | 5.71 | 2.57 | (2.78) |

## Consolidated Statement of Comprehensive Income

$ million

| | Notes | 2022 | 2021 | 2020 |
|---|---|---|---|---|
| Income/(loss) for the period | 8 | 42,874 | 20,630 | (21,534) |
| Other comprehensive income/(loss) net of tax | | | | |
| Items that may be reclassified to income in later periods: | | | | |
| Currency translation differences | 28 | (2,986) | (1,413) | 1,179 |
| Debt instruments remeasurements | 28 | (78) | (28) | 23 |
| Cash flow hedging (losses)/gains | 28 | (232) | 21 | (160) |
| Net investment hedging gains/(losses) | 28 | 180 | 295 | (423) |
| Deferred cost of hedging | 28 | 200 | (39) | 100 |
| Share of other comprehensive income/(loss) of joint ventures and associates | 13 | 274 | (109) | (42) |
| **Total** | | **(2,642)** | **(1,273)** | **677** |
| Items that are not reclassified to income in later periods: | | | | |
| Retirement benefits remeasurements | | 5,466 | 7,198 | (2,702) |
| Equity instruments remeasurements | | (491) | 145 | 64 |
| Share of other comprehensive (loss)/income of joint ventures and associates | 13 | (253) | 3 | 119 |
| **Total** | | **4,722** | **7,346** | **(2,519)** |
| Other comprehensive income/(loss) for the period | | 2,080 | 6,073 | (1,842) |
| **Comprehensive income/(loss) for the period** | | **44,954** | **26,703** | **(23,376)** |
| Comprehensive income attributable to non-controlling interest | | 621 | 468 | 136 |
| **Comprehensive income/(loss) attributable to Shell plc shareholders** | | **44,333** | **26,235** | **(23,512)** |

# Consolidated Financial Statements continued

## Consolidated Balance Sheet

$ million

| | Notes | Dec 31, 2022 | Dec 31, 2021 |
|---|---|---|---|
| **Assets** | | | |
| **Non-current assets** | | | |
| Goodwill [A] | 11 | 16,039 | 14,920 |
| Other intangible assets [A] | 11 | 9,662 | 9,773 |
| Property, plant and equipment | 12 | 198,642 | 194,932 |
| Joint ventures and associates | 13 | 23,864 | 23,415 |
| Investments in securities | 14 | 3,362 | 3,797 |
| Deferred tax | 22 | 7,815 | 12,426 |
| Retirement benefits | 23 | 10,200 | 8,471 |
| Trade and other receivables | 15 | 6,920 | 7,065 |
| Derivative financial instruments | 25 | 582 | 815 |
| | | **277,086** | **275,614** |
| **Current assets** | | | |
| Inventories | 16 | 31,894 | 25,258 |
| Trade and other receivables | 15 | 66,510 | 53,208 |
| Derivative financial instruments | 25 | 24,437 | 11,369 |
| Cash and cash equivalents | 17 | 40,246 | 36,970 |
| | | **163,087** | **126,805** |
| Assets classified as held for sale | 18 | 2,851 | 1,960 |
| | | **165,938** | **128,765** |
| **Total assets** | | **443,024** | **404,379** |
| **Liabilities** | | | |
| **Non-current liabilities** | | | |
| Debt | 20 | 74,794 | 80,868 |
| Trade and other payables | 19 | 3,432 | 2,075 |
| Derivative financial instruments | 25 | 3,563 | 887 |
| Deferred tax | 22 | 16,186 | 12,547 |
| Retirement benefits | 23 | 7,296 | 11,325 |
| Decommissioning and other provisions | 24 | 23,845 | 25,804 |
| | | **129,116** | **133,506** |
| **Current liabilities** | | | |
| Debt | 20 | 9,001 | 8,218 |
| Trade and other payables | 19 | 79,357 | 63,173 |
| Derivative financial instruments | 25 | 23,779 | 16,311 |
| Income taxes payable | | 4,869 | 3,254 |
| Decommissioning and other provisions | 24 | 2,910 | 3,338 |
| | | **119,916** | **94,294** |
| Liabilities directly associated with assets classified as held for sale | 18 | 1,395 | 1,253 |
| | | **121,311** | **95,547** |
| **Total liabilities** | | **250,427** | **229,053** |
| | | | |
| **Equity** | | | |
| Share capital | 26 | 584 | 641 |
| Shares held in trust | | (726) | (610) |
| Other reserves | 28 | 21,132 | 18,909 |
| Retained earnings | | 169,482 | 153,026 |
| **Equity attributable to Shell plc shareholders** | | **190,472** | **171,966** |
| Non-controlling interest | | 2,125 | 3,360 |
| **Total equity** | | **192,597** | **175,326** |
| **Total liabilities and equity** | | **443,024** | **404,379** |

[A] Goodwill, previously presented under Intangible assets, is separately presented as from 2022. Prior period comparatives have been revised to conform with current year presentation.

Signed on behalf of the Board

**/s/ Sinead Gorman**

**Sinead Gorman**
Chief Financial Officer
March 8, 2023

# Consolidated Financial Statements continued

## Consolidated Statement of Changes in Equity

$ million

| | Equity attributable to Shell plc shareholders | | | | | | |
|---|---|---|---|---|---|---|---|
| | Share capital (see Note 26) | Shares held in trust | Other reserves (see Note 28) | Retained earnings | Total | Non-controlling interest | Total equity |
| **At January 1, 2022** | **641** | **(610)** | **18,909** | **153,026** | **171,966** | **3,360** | **175,326** |
| Comprehensive income for the period | – | – | 2,024 | 42,309 | 44,333 | 621 | 44,954 |
| Transfer from other comprehensive income | – | – | (34) | 34 | – | – | – |
| Dividends (see Note 29) [A] | – | – | – | (7,283) | (7,283) | (206) | (7,489) |
| Repurchases of shares [B] | (57) | – | 57 | (18,547) | (18,547) | – | (18,547) |
| Share-based compensation | – | (116) | 176 | 131 | 191 | – | 191 |
| Other changes | – | – | – | (188) | (188) | (1,650) [C] | (1,838) |
| **At December 31, 2022** | **584** | **(726)** | **21,132** | **169,482** | **190,472** | **2,125** | **192,597** |
| **At January 1, 2021** | **651** | **(709)** | **12,752** | **142,616** | **155,310** | **3,227** | **158,537** |
| Comprehensive income for the period | – | – | 6,134 | 20,101 | 26,235 | 468 | 26,703 |
| Transfer from other comprehensive income | – | – | (45) | 45 | – | – | – |
| Dividends (see Note 29) [A] | – | – | – | (6,321) | (6,321) | (348) | (6,669) |
| Repurchases of shares | (10) | – | 10 | (3,513) | (3,513) | – | (3,513) |
| Share-based compensation | – | 99 | 58 | 93 | 250 | – | 250 |
| Other changes | – | – | – | 5 | 5 | 13 | 18 |
| **December 31, 2021** | **641** | **(610)** | **18,909** | **153,026** | **171,966** | **3,360** | **175,326** |
| **At January 1, 2020** | **657** | **(1,063)** | **14,451** | **172,431** | **186,476** | **3,987** | **190,463** |
| Comprehensive (loss)/income for the period | – | – | (1,832) | (21,397) | (23,229) | 136 | (23,093) |
| Transfer from other comprehensive income | – | – | 270 | (270) | – | – | – |
| Dividends (see Note 29) [A] | – | – | – | (7,270) | (7,270) | (311) | (7,581) |
| Repurchases of shares | (6) | – | 6 | (1,214) | (1,214) | – | (1,214) |
| Share-based compensation | – | 354 | (143) | (230) | (19) | – | (19) |
| Other changes | – | – | – | 566 | 566 | (585) | (19) |
| **At December 31, 2020** | **651** | **(709)** | **12,752** | **142,616** | **155,310** | **3,227** | **158,537** |

[A] The amount charged to retained earnings is based on prevailing exchange rates on payment date.
[B] Includes shares committed to repurchase under irrevocable contracts and repurchases subject to settlement at the end of the year. (See Note 26)
[C] The decrease in the non-controlling interest is mainly attributable to the acquisition of the non-controlling interest in Shell Midstream Partners, L.P.

# Consolidated Financial Statements continued

## Consolidated Statement of Cash Flows

$ million

| | Notes | 2022 | 2021 | 2020 |
|---|---|---|---|---|
| Income/(loss) before taxation for the period | | 64,815 | 29,829 | (26,967) |
| Adjustment for: | | | | |
| Interest expense (net) | | 2,135 | 3,096 | 3,316 |
| Depreciation, depletion and amortisation | | 18,529 | 26,921 | 52,444 |
| Exploration well write-offs | 12 | 881 | 639 | 815 |
| Net gains on sale and revaluation of non-current assets and businesses | | (642) | (5,995) | (286) |
| Share of profit of joint ventures and associates | | (3,972) | (4,097) | (1,783) |
| Dividends received from joint ventures and associates | | 4,398 | 3,929 | 2,591 |
| (Increase)/decrease in inventories | | (8,360) | (7,319) | 4,477 |
| (Increase)/decrease in current receivables | | (8,989) | (20,567) | 9,625 |
| Increase/(decrease) in current payables | | 11,915 | 17,519 | (9,494) |
| Derivative financial instruments | | (2,619) | 5,882 | 977 |
| Retirement benefits | | 417 | 16 | 568 |
| Decommissioning and other provisions | | 35 | (76) | 1,104 |
| Other | | 2,991 | 803 | 8 |
| Tax paid | | (13,120) | (5,476) | (3,290) |
| **Cash flow from operating activities** | | **68,414** | **45,104** | **34,105** |
| Capital expenditure | | (22,600) | (19,000) | (16,585) |
| Investments in joint ventures and associates | | (1,973) | (479) | (1,024) |
| Investment in equity securities | | (260) | (218) | (218) |
| Proceeds from sale of property, plant and equipment and businesses | | 1,431 | 14,233 | 2,489 |
| Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans | | 511 | 584 | 1,240 |
| Proceeds from sale of equity securities | | 117 | 296 | 281 |
| Interest received | | 906 | 423 | 532 |
| Other investing cash inflows | | 2,060 | 2,928 | 3,239 |
| Other investing cash outflows | | (2,640) | (3,528) | (3,232) |
| **Cash flow from investing activities** | | **(22,448)** | **(4,761)** | **(13,278)** |
| Net increase/(decrease) in debt with maturity period within three months | | 318 | 14 | (63) |
| Other debt: | | | | |
| New borrowings | | 269 | 1,791 | 23,033 |
| Repayments | | (8,459) | (21,534) | (17,385) |
| Interest paid | | (3,677) | (4,014) | (4,105) |
| Derivative financial instruments | | (1,799) | (1,165) | 1,157 |
| Change in non-controlling interest | | (1,965) | 19 | (42) |
| Cash dividends paid to: | | | | |
| Shell plc shareholders [A] | | (7,405) | (6,253) | (7,424) |
| Non-controlling interest | | (206) | (348) | (311) |
| Repurchases of shares | | (18,437) | (2,889) | (1,702) |
| Shares held in trust: net purchases and dividends received | | (593) | (285) | (382) |
| **Cash flow from financing activities** | | **(41,954)** | **(34,664)** | **(7,224)** |
| Effects of exchange rate changes on cash and cash equivalents | | (736) | (539) | 172 |
| Increase in cash and cash equivalents | | 3,276 | 5,140 | 13,775 |
| Cash and cash equivalents at beginning of year | | 36,970 | 31,830 | 18,055 |
| **Cash and cash equivalents at end of year** | 17 | **40,246** | **36,970** | **31,830** |

[A] Cash dividends paid represents the payment of net dividends (after deduction of withholding taxes where applicable) and payment of withholding taxes on dividends paid in the previous quarter.

# Notes to the Consolidated Financial Statements

## 1. Basis of preparation

The Consolidated Financial Statements of Shell plc (the "Company") and its subsidiaries (collectively referred to as "Shell") have been prepared in accordance with UK-adopted international accounting standards and with the requirements of the UK Companies Act 2006 as applicable to companies reporting under those standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Consolidated Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

As described in the accounting policies in Note 2, the Consolidated Financial Statements have been prepared under the historical cost convention except for certain items measured at fair value. Those accounting policies have been applied consistently in all periods.

The Consolidated Financial Statements were approved and authorised for issue by the Board of Directors on March 8, 2023.

### Going concern

These Consolidated Financial Statements have been prepared on the going concern basis of accounting. In assessing the appropriateness of the going concern assumption over the period to March 31, 2024 (the "going concern period"), management have stress-tested Shell's most recent financial projections to incorporate a range of potential future outcomes by considering Shell's principal risks, potential downside pressures on commodity prices and cash preservation measures, including reduced future operating costs, capital expenditure and shareholder distributions. Management's stress test included scenarios and risks covering: unplanned shutdown at a major cash-generating asset; a lower oil and gas price environment; a significant health, safety, security and environment event; and global macro uncertainties. The going concern assessment confirmed that Shell has adequate cash, other liquid resources and undrawn credit facilities to enable it to meet its obligations as they fall due in order to continue its operations during the going concern period. Therefore, the Directors consider it appropriate to continue to adopt the going concern basis of accounting in preparing these Consolidated Financial Statements.

## 2. Significant accounting policies, judgements and estimates

This Note describes Shell's significant accounting policies, which are those relevant to an understanding of the Consolidated Financial Statements. It includes the measurement bases used in preparing the Consolidated Financial Statements. It allows for an understanding as to how transactions, other events and conditions are reported. It also describes: (a) judgements, apart from those involving estimations, that management makes in applying the policies that have the most significant effect on the amounts recognised in the Consolidated Financial Statements; and (b) estimations, including assumptions about the future, that management makes in applying the policies. The sources of estimation uncertainty that have a significant risk of a material adjustment to the carrying amounts of assets and liabilities within the next financial year are specifically identified as a significant estimate.

The accounting policies applied are consistent with those of the previous financial year except for the adoption as from January 1, 2022, of amendments to IAS 16 Property, Plant and Equipment (IAS 16) and IAS 37 Provisions, Contingent Liabilities and Contingent Assets (IAS 37).

The transition to the accounting pronouncements as listed below has no material impact.

### IAS 16 Property, Plant and Equipment: Proceeds before Intended Use

The amendments to IAS 16 prohibit deducting from the cost of an item of property, plant and equipment under construction any proceeds and related costs from selling items produced while bringing these types of assets to the location and condition necessary for them to be capable of operating in the manner intended by management. Instead, the proceeds and related costs are recognised in the Consolidated Statement of Income in accordance with applicable accounting policies.

Prior to these IAS 16 amendments Shell's policy was to deduct any proceeds and related costs from selling items produced against property, plant and equipment under construction.

### IAS 37 Provisions, Contingent Liabilities and Contingent Assets: Onerous Contracts - Cost of Fulfilling a Contract

The amendments to IAS 37 provide additional clarity on which costs an entity includes when assessing whether a contract is onerous. The amendments specify that the cost of fulfilling a contract comprises the costs that relate directly to the contract. Those costs include both incremental costs and an allocation of other costs, as long as these relate directly to fulfilling a contract.

### Nature of the Consolidated Financial Statements

The Consolidated Financial Statements are presented in US dollars (dollars) and comprise the financial statements of the Company and its subsidiaries, being those entities over which the Company has control, either directly or indirectly, through exposure or rights to their variable returns and the ability to affect those returns through its power over the entities. Information about subsidiaries at December 31, 2022, can be found in Appendix 1: Significant Subsidiaries and Other Related Undertakings.

Subsidiaries are consolidated from the date on which control is obtained until the date that such control ceases, using consistent accounting policies. All inter-company balances and transactions, including unrealised profits arising from such transactions, are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Non-controlling interest represents the proportion of income, other comprehensive income and net assets in subsidiaries that are not attributable to the Company's shareholders.

## 2. Significant accounting policies, judgements and estimates continued

### Currency translation

Foreign currency transactions are translated using the exchange rate at the dates of the transactions or valuation where items are remeasured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at quarter-end exchange rates of monetary assets and liabilities denominated in foreign currencies (including those in respect of inter-company balances, unless related to loans of a long-term investment nature) are recognised in income unless when recognised in other comprehensive income in respect of cash flow or net investment hedges. Foreign exchange gains and losses in income are presented within interest and other income or within purchases where not related to financing. Share capital issued in currencies other than the dollar is translated at the exchange rate at the date of issue.

On consolidation, assets and liabilities of non-dollar entities are translated to dollars at year-end rates of exchange, while their statements of income, other comprehensive income and cash flows are translated at quarterly average rates. The resulting translation differences are recognised as currency translation differences within other comprehensive income. Upon sale of all or part of an interest in, or upon liquidation of, an entity, the appropriate portion of cumulative currency translation differences related to that entity is generally recognised in income.

### Revenue recognition

Revenue from sales of oil, natural gas, chemicals and other products is recognised at the transaction price to which Shell expects to be entitled, after deducting sales taxes, excise duties and similar levies. For contracts that contain separate performance obligations, the transaction price is allocated to those separate performance obligations by reference to their relative stand-alone selling prices.

Revenue is recognised when control of the products has been transferred to the customer. For sales by Integrated Gas and Upstream operations, this generally occurs when the product is physically transferred into a vessel, pipe or other delivery mechanism; for sales by refining operations, it is either when the product is placed onboard a vessel or offloaded from the vessel, depending on the contractually agreed terms; and for sales of oil products and chemicals, it is either at the point of delivery or the point of receipt, depending on contractual conditions.

Revenue resulting from hydrocarbon production from properties in which Shell has an interest with partners in joint arrangements is recognised on the basis of Shell's volumes lifted and sold. Revenue resulting from the production of oil and natural gas under production-sharing contracts (PSCs) is recognised for those amounts relating to Shell's cost recoveries and Shell's share of the remaining production. Gains and losses on derivative contracts and the revenue and costs associated with other contracts that are classified as held primarily for the purpose of being traded are reported on a net basis in the Consolidated Statement of Income. Purchases and sales of hydrocarbons under exchange contracts that are necessary to obtain or reposition feedstocks for the refinery operations are presented net in the Consolidated Statement of Income.

Revenue resulting from arrangements that are not considered contracts with customers is presented as revenue from other sources.

### Research and development

Development costs that are expected to generate probable future economic benefits are capitalised as intangible assets. All other research and development expenditure is recognised in income as incurred.

### Exploration costs

Hydrocarbon exploration costs are accounted for under the successful efforts method: exploration costs are recognised in income when incurred, except that exploratory drilling costs, including in respect of the recapitalisation of the depreciation, are included in property, plant and equipment pending determination of proved reserves. Exploration costs capitalised in respect of exploration wells that are more than 12 months old are written off unless: (a) proved reserves are booked; or (b) (i) they have found commercially producible quantities of reserves; and (ii) they are subject to further exploration or appraisal activity in that either drilling of additional exploratory wells is under way or firmly planned for the near future or other activities are being undertaken to sufficiently progress the assessing of reserves and the economic and operating viability of the project.

### Property, plant and equipment and intangible assets other than goodwill

#### Recognition

Property, plant and equipment comprise assets owned by Shell, assets held by Shell under lease contracts, and assets operated by Shell as contractor in PSCs. They include rights and concessions in respect of properties with proved reserves ("proved properties") and with no proved reserves ("unproved properties"). Property, plant and equipment, including expenditure on major inspections, and intangible assets are initially recognised in the Consolidated Balance Sheet at cost where it is probable that they will generate future economic benefits. This includes capitalisation of decommissioning and restoration costs associated with provisions for asset retirement (see "provisions"), certain development costs (see "research and development") and the effects of associated cash flow hedges (see "financial instruments") as applicable. Interest is capitalised as an increase in property, plant and equipment, on major capital projects during construction. The accounting for exploration costs is described separately (see "exploration costs"). Intangible assets other than goodwill include liquefied natural gas (LNG) off-take and sales contracts, environmental certificates, power purchase agreements, software costs, retail customer relationships and trademarks.

Property, plant and equipment and intangible assets other than goodwill are subsequently carried at cost less accumulated depreciation, depletion and amortisation (including any impairment). Gains and losses on sale are determined by comparing the proceeds with the carrying amounts of assets sold and are recognised in income, within interest and other income.

# Notes to the Consolidated Financial Statements continued

## 2. Significant accounting policies, judgements and estimates continued

An asset is classified as held for sale if its carrying amount will be recovered principally through sale rather than through continuing use, which is when the sale is highly probable, and it is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such assets. Assets classified as held for sale are measured at the lower of the carrying amount upon classification and the fair value less costs to sell. Assets classified as held for sale and the associated liabilities are presented separately from other assets and liabilities in the Consolidated Balance Sheet. Once assets are classified as held for sale, property, plant and equipment and intangible assets other than goodwill are no longer subject to depreciation or amortisation.

**Depreciation, depletion and amortisation**

Property, plant and equipment related to hydrocarbon production activities are in principle depreciated on a unit-of-production basis over the proved developed reserves of the field concerned, other than assets whose useful lives differ from the lifetime of the field which are depreciated applying the straight-line method. However, for certain Integrated Gas and Upstream assets, the use for this purpose of proved developed reserves, which are determined using the Securities and Exchange Commission (SEC) mandated yearly average oil and gas prices, would result in depreciation charges for these assets which do not reflect the pattern in which their future economic benefits are expected to be consumed as, for example, it may result in assets with long-term expected lives having accelerated or being fully depreciated within one year. Therefore, in these instances, other approaches are applied to determine a reserves base for the purpose of calculating depreciation, such as using management's expectations of future oil and gas prices rather than yearly average prices and using total proved reserves to provide a phasing of periodic depreciation charges that more appropriately reflects the expected utilisation of the assets concerned. (See Note 12)

Rights and concessions in respect of proved properties are depleted on the unit-of-production basis over the total proved reserves of the relevant area. Where individually insignificant, unproved properties may be grouped and depreciated based on factors such as the average concession term and past experience of recognising proved reserves.

Property, plant and equipment held under lease contracts, capitalised LNG off-take and sales contracts and power purchase agreements are depreciated or amortised over the term of the respective contract. Other property, plant and equipment and intangible assets other than goodwill are depreciated or amortised on a straight-line basis over their estimated useful lives. They include energy and chemicals parks (for which the useful life is generally 20 years), retail service stations (for which the useful life is generally 15 years), onshore power infrastructure (for which the useful life is generally 30-35 years), offshore wind assets (for which the useful life is generally 25-30 years) and major inspection costs, which are depreciated over the estimated period before the next planned major inspection (three to five years).

On classification of an asset as held for sale, depreciation ceases.

Estimates of the useful lives and residual values of property, plant and equipment and intangible assets other than goodwill are reviewed annually and adjusted if appropriate.

**Impairment**

Intangible assets other than goodwill and assets other than unproved properties (see "Exploration costs") are tested for impairment whenever events or changes in circumstances indicate that the carrying amounts for those assets may not be recoverable. If any such indication of impairment exists, the carrying amounts of those assets are written down to their recoverable amount, which is the higher of fair value less costs of disposal (see "Fair value measurements") and value in use.

Value in use is determined as the amount of estimated risk-adjusted discounted future cash flows. For this purpose, assets are grouped into cash-generating units based on separately identifiable and largely independent cash inflows. Estimates of future cash flows used in the evaluation of impairment of assets are made using management's forecasts of commodity prices, market supply and demand, potential costs associated with operational greenhouse gas (GHG) emissions, mainly related to $CO_2$, and forecast product and refining margins. In addition, management takes into consideration the expected useful lives of the manufacturing facilities, exploration and production assets, and expected production volumes. The latter takes into account assessments of field and reservoir performance and includes expectations about both proved reserves and volumes that are expected to constitute proved reserves in the future (unproved volumes), which are risk-weighted utilising geological, production, recovery and economic projections. Cash flow projections are based on management's most recent operating plan that represents management's best estimate and are risked as appropriate. The discount rate is based on a nominal post-tax weighted average cost of capital (WACC). Prior to 2021, cash flow estimates were discounted at a rate based on Shell's marginal cost of debt. The change in discount rate to a nominal post-tax WACC has been reflected in a commensurate manner in the risk adjustments to cash flow projections. Using a post-tax discount rate to calculate value in use does not result in a materially different outcome than using a pre-tax discount rate. (See Note 12)

Impairments are reversed as applicable to the extent that the events or circumstances that triggered the original impairment have changed.

Impairment losses and reversals are reported within depreciation, depletion and amortisation.

Upon classification of an asset as held for sale, the carrying amount is impaired if this exceeds the fair value less costs to sell.

# Notes to the Consolidated Financial Statements continued

## 2. Significant accounting policies, judgements and estimates continued

### Judgements and estimates

**Proved oil and gas reserves**

Unit-of-production depreciation, depletion and amortisation charges are principally measured based on management's estimates of proved developed oil and gas reserves. Also, exploration drilling costs are capitalised pending the results of further exploration or appraisal activity (successful efforts method), which may take place for several years before the final investment decision on a development project is taken and before any related proved reserves can be booked.

Proved reserves are estimated by internal qualified professionals. The proved reserves are estimated with reasonable certainty by analysis of available geological and engineering data at the time of the estimation, and only include volumes for which access to market is assured with reasonable expectation. Yearly average oil and gas prices are used for the estimation of proved reserves unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. Proved reserves are subject to regular revision, both upward or downward, based on new information from the drilling of additional wells, observation of long-term reservoir performance under producing conditions, updates of development plans and changes in economic factors, including product prices, contract terms, legislation or development plans.

Changes to estimates of proved developed reserves affect prospectively the amounts of depreciation, depletion and amortisation charged and, consequently, the carrying amounts of exploration and production assets. Generally, in the normal course of business the diversity of the asset portfolio will limit the net effect of such revisions. The outcome of, or assessment of plans for, exploration or appraisal activity may result in the related capitalised exploration drilling costs being recognised in income in that period.

Judgement is involved in determining when to use an alternative reserves base in order to appropriately reflect the expected utilisation of the assets concerned (see "Depreciation, depletion and amortisation").

Information about the carrying amounts of exploration and production assets and the amounts charged to income, including depreciation, depletion and amortisation and the quantitative impact of the use of an alternative reserves base, is presented in Note 12.

**Impairment**

For the purposes of determining whether impairment of assets has occurred, and the extent of any impairment loss or its reversal, the key assumptions management uses in estimating risk-adjusted future cash flows for value in use measures are future oil and gas prices and refining margins. In addition, management uses other assumptions such as potential costs associated with operational GHG emissions and expected production volumes appropriate to the local circumstances and environment. These assumptions and the judgements of management that are based on them are subject to change as new information becomes available. Changes in assumptions could affect the carrying amounts of assets, and any impairment losses and reversals will affect income. Changes in economic conditions can affect the rate used to discount future cash flow estimates or the risk adjustment in the future cash flows. Judgement is applied to conclude whether changes in assumptions or economic conditions are an indicator that an asset may be impaired or that an impairment loss recognised in prior periods may no longer exist, or may have decreased.

Expected production volumes, which comprise proved reserves and unproved volumes, are used for impairment testing because management believes this to be the most appropriate indicator of expected future cash flows. Reserves estimates are inherently imprecise. Furthermore, projections about unproved volumes are based on information that is necessarily less robust than that available for mature reservoirs.

Estimation is involved with respect to the expected life of energy and chemicals parks, including management's view on the future development of refining margins.

The determination of cash-generating units requires judgement. Changes in this determination could impact the calculation of value in use and therefore the conclusion on the recoverability of assets' carrying amounts when performing an impairment test.

Judgement, which is subject to change as new information becomes available, can be required in determining when an asset is classified as held for sale. A change in that judgement could result in impairment charges affecting income, depending on whether classification requires a write-down of the asset to its fair value less costs to sell.

In assessing the value in use, the estimated risk-adjusted future post-tax cash flows are discounted to their present value using a post-tax discount rate that reflects Shell's post-tax WACC. The discount rate applied does not reflect asset-specific risks for which future cash flow estimates have been adjusted.

### Significant estimates

Assumptions about future commodity prices and refining margins used in the impairment testing in, respectively, Integrated Gas and Upstream and Chemicals and Products (see Note 12) are regularly assessed by management, noting that management does not necessarily consider short-term increases or decreases in prices as being indicative of long-term levels.

The price methodology applied is based on Shell management's understanding and interpretation of demand and supply fundamentals in the near term, taking into account various other factors such as industry rationalisation and energy transition in the long term.

Future commodity prices and refining margins used in impairment testing provide a source of estimation uncertainty as referred to in paragraph 125 of IAS 1 Presentation of Financial Statements (IAS 1.125).

Information about the carrying amounts of assets and impairments and their sensitivity to changes in significant estimates is presented in Notes 11 and 12.

# Notes to the Consolidated Financial Statements continued

## 2. Significant accounting policies, judgements and estimates continued

### Goodwill

Goodwill is initially measured as the excess of the aggregate of the consideration transferred and the amount recognised for any non-controlling interest over the fair value of the identifiable assets acquired and liabilities assumed in a business combination at the acquisition date. The amount recognised for any non-controlling interest is measured as a percentage of the identified net assets of the acquiree based on the present ownership's proportionate share. At the acquisition date, acquired goodwill is allocated to each cash-generating unit (CGU), or groups of CGUs, expected to benefit from the combination's synergies. The CGU to which goodwill is allocated represents the lowest level at which the goodwill will be monitored and managed.

Goodwill is not amortised and is subsequently measured at the initial amount recognised less any accumulated impairment losses.

### Impairment

The carrying amount of goodwill is tested for impairment at least annually. Impairment is determined for goodwill by assessing the recoverable amount of each CGU to which the goodwill relates. An impairment loss is recognised when the CGU's recoverable amount is lower than its carrying amount.

Previously recognised impairment losses of goodwill are not reversed subsequently.

### Leases

A contract, or part of a contract, that conveys the right to control the use of an identified asset for a period of time in exchange for payments to be made to the owners (lessors) is accounted for as a lease. Contracts are assessed to determine whether a contract is, or contains, a lease at the inception of a contract or when the terms and conditions of a contract are significantly changed. The lease term is the non-cancellable period of a lease, together with contractual options to extend or to terminate the lease early, where it is reasonably certain that an extension option will be exercised or a termination option will not be exercised.

At the commencement of a lease contract, a right-of-use asset and a corresponding lease liability are recognised, unless the lease term is 12 months or less. The commencement date of a lease is the date on which the underlying asset is made available for use. The lease liability is measured at an amount equal to the present value of the lease payments during the lease term that are not paid at that date. The lease liability includes contingent rentals and variable lease payments that depend on an index, rate, or where they are fixed payments in substance. The lease liability is remeasured when the contractual cash flows of variable lease payments change due to a change in an index or rate when the lease term changes following a reassessment.

Lease payments are discounted using the interest rate implicit in the lease. If that rate is not readily available, the incremental borrowing rate is applied. The incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment.

In general, a corresponding right-of-use asset is recognised for an amount equal to each lease liability, adjusted by the amount of any pre-paid lease payment relating to the specific lease contract. The depreciation on right-of-use assets is recognised in income unless capitalised as exploration drilling cost (see "exploration cost") or capitalised when the right-of-use asset is used to construct another asset.

Where Shell is the lessor in a lease arrangement at inception, the lease arrangement will be classified as a finance lease or an operating lease. Classification is based on the extent to which the risks and rewards incidental to ownership of the underlying asset lie with the lessor or the lessee.

Where Shell, usually in its capacity as operator, has entered into a lease contract on behalf of a joint arrangement, a lease liability is recognised to the extent that Shell has primary responsibility for the lease liability. A finance sublease is subsequently recognised if the related right-of-use asset is subleased to the joint arrangement. This is usually the case when the joint arrangement has the right to direct the use and obtains substantially all of the economic benefits from using the asset.

### Impairment of the right-of-use asset

Right-of-use assets are subject to existing impairment requirements as set out in "Property, plant and equipment", above, and as presented in Note 12.

**Judgements and estimates**

A lease term includes optional lease periods where it is reasonably certain Shell will exercise the option to extend or not exercise the option to terminate the lease. Determination of the lease term is subject to judgement and has an impact on the measurement of the lease liability and related right-of-use asset. When assessing the lease term at the commencement date, Shell takes into consideration the broader economics of the contract. Reassessment of the lease term is performed upon changes in circumstances that may affect the probability that an option to extend or to terminate the lease will be exercised.

Where the rate implicit in the lease is not readily available, an incremental borrowing rate is applied. This incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment. Determination of the incremental borrowing rate requires estimation.

# Notes to the Consolidated Financial Statements continued

## 2. Significant accounting policies, judgements and estimates continued

### Joint arrangements and associates

Arrangements under which Shell has contractually agreed to share control (see "Nature of the Consolidated Financial Statements" for the definition of control) with another party or parties are joint ventures where the parties have rights to the net assets of the arrangement, or joint operations where the parties have rights to the assets and obligations for the liabilities relating to the arrangement. Investments in entities over which Shell has the right to exercise significant influence but neither control nor joint control are classified as associates. Information about incorporated joint arrangements and associates at December 31, 2022, can be found in Appendix 1: Significant Subsidiaries and Other Related Undertakings.

Investments in joint ventures and associates are accounted for using the equity method, under which the investment is initially recognised at cost and subsequently adjusted for the Shell share of post-acquisition income less dividends received and the Shell share of other comprehensive income and other movements in equity, together with any loans of a long-term investment nature. Where necessary, adjustments are made to the financial statements of joint ventures and associates to bring the accounting policies used into line with those of Shell. In an exchange of assets and liabilities for an interest in a joint venture, the non-Shell share of any excess of the fair value of the assets and liabilities transferred over the pre-exchange carrying amounts is recognised in income. Unrealised gains on other transactions between Shell and its joint ventures and associates are eliminated to the extent of Shell's interest in them; unrealised losses are treated similarly but may also result in an assessment of whether the asset transferred is impaired.

Shell recognises its assets and liabilities relating to its interests in joint operations, including its share of assets held jointly and liabilities incurred jointly with other partners.

### Inventories

Inventories are stated at cost or net realisable value, whichever is lower. Cost comprises direct purchase costs (including transportation), and associated costs incurred in bringing inventories to their present condition and location, and is determined using the first-in, first-out (FIFO) method for oil, gas and chemicals and by the weighted average cost method for materials.

### Taxation

The charge for current tax is calculated based on the income reported by the Company and its subsidiaries, as adjusted for items that are non-taxable or disallowed and using rates that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is determined, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the Consolidated Balance Sheet and on unused tax losses and credits carried forward.

Deferred tax assets and liabilities are calculated using the enacted or substantively enacted rates that are expected to apply when an asset is realised or a liability is settled. They are not recognised where they arise on the initial recognition of goodwill or of an asset or liability in a transaction (other than in a business combination) that, at the time of the transaction, affects neither accounting nor taxable profit, or in respect of taxable temporary differences associated with subsidiaries, joint ventures and associates where the reversal of the respective temporary difference can be controlled by Shell and it is probable that it will not reverse in the foreseeable future.

Deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which the deductible temporary differences, unused tax losses and credits carried forward can be utilised.

Income tax receivables and payables as well as deferred tax assets and liabilities include provisions for uncertain income tax positions/treatments.

Income taxes are recognised in income except when they relate to items recognised in other comprehensive income, in which case the tax is recognised in other comprehensive income. Income tax assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a right of offset within fiscal jurisdictions and an intention to settle such balances on a net basis.

**Judgements and estimates**

Tax liabilities are recognised when it is considered probable that there will be a future outflow of funds to a taxing authority. In such cases, provision is made for the amount that is expected to be settled, where this can be reasonably estimated. Provisions for uncertain income tax positions/treatments are measured at the most likely amount or the expected value, whichever method is more appropriate. Generally, uncertain tax treatments are assessed on an individual basis, except where they are expected to be settled collectively. It is assumed that taxing authorities will examine positions taken if they have the right to do so and that they have full knowledge of the relevant information. A change in estimate of the likelihood of a future outflow and/or in the expected amount to be settled would be recognised in income in the period in which the change occurs. This requires the application of judgement as to the ultimate outcome, which can change over time depending on facts and circumstances. Judgements mainly relate to transfer pricing, including inter-company financing, interpretation of PSCs, expenditure deductible for tax purposes and taxation arising on disposal.

# Notes to the Consolidated Financial Statements continued

## 2. Significant accounting policies, judgements and estimates continued

**Judgements and estimates** continued

Deferred tax assets are recognised only to the extent it is considered probable that those assets will be recoverable. This involves an assessment of when those assets are likely to reverse, and a judgement as to whether or not there will be sufficient taxable profits available to offset the assets when they do reverse. This requires assumptions regarding future profitability and is therefore inherently uncertain. To the extent assumptions regarding future profitability change, there can be an increase or decrease in the amounts recognised in respect of deferred tax assets as well as in the amounts recognised in income in the period in which the change occurs.

Taxation information, including charges and deferred tax assets and liabilities, is presented in Note 22. Income taxes include taxes at higher rates levied on income from certain Integrated Gas and Upstream activities.

### Retirement benefits

Benefits in the form of retirement pensions and health care and life insurance are provided to certain employees and retirees under defined benefit and defined contribution plans.

Obligations under defined benefit plans are calculated annually by independent actuaries using the projected unit credit method, which takes into account employees' years of service and, for pensions, average or final pensionable remuneration, and are discounted to their present value using interest rates of high-quality corporate bonds denominated in the currency in which the benefits will be paid and of a duration consistent with the plan obligations. Where plans are funded, payments are made to independently managed trusts; assets held by those trusts are measured at fair value. Defined benefit plan surpluses are recognised as assets to the extent that they are considered recoverable, which is generally by way of a refund or lower future employer contributions.

The amounts recognised in income in respect of defined benefit plans mainly comprise service cost and net interest. Service cost comprises principally the increase in the present value of the obligation for benefits resulting from employee service during the period (current service cost) and also amounts relating to past service and settlements or amendments of plans. Plan amendments are changes to benefits and are generally recognised when all legal and regulatory approvals have been received and the effects have been communicated to members. Net interest is calculated using the net defined benefit liability or asset matched against the discount rate yield curve at the beginning of each year for each plan. Remeasurements of the net defined benefit liability or asset resulting from actuarial gains and losses, and the return on plan assets excluding the amount recognised in income, are recognised in other comprehensive income.

For defined contribution plans, pension expense represents the amount of employer contributions payable for the period.

**Significant judgements and estimates**

Defined benefit obligations and plan assets, and the resulting liabilities and assets that are recognised, require significant estimation as these are subject to volatility as (actuarial) assumptions regarding future outcomes and market values change. Substantial judgement is required in determining the actuarial assumptions, which vary for the different plans to reflect local conditions but are determined under a common process in consultation with independent actuaries. The assumptions applied in respect of each plan are reviewed annually and adjusted where necessary to reflect changes in experience and actuarial recommendations.

Actuarial assumptions applied in determining defined benefit obligations provide a source of estimation uncertainty as referred to in IAS 1.125.

Information about the amounts reported in respect of defined benefit pension plans, assumptions applicable to the principal plans and their sensitivity to changes in significant estimates is presented in Note 23.

### Provisions

Provisions are recognised at the balance sheet date at management's best estimate of the expenditure required to settle the present obligation. Non-current amounts are discounted at a rate intended to reflect the time value of money. The carrying amounts of provisions and the discount rate applied are regularly reviewed and adjusted for new facts or changes in law, technology or financial markets.

# Notes to the Consolidated Financial Statements continued

## 2. Significant accounting policies, judgements and estimates continued

Provisions for decommissioning and restoration costs, which arise principally in connection with hydrocarbon production facilities, oil products manufacturing facilities and pipelines, are measured on the basis of current requirements, technology and price levels; the present value is calculated using amounts discounted over the useful economic life of the assets. The liability is recognised (together with a corresponding amount as part of the related property, plant and equipment) once a legal or constructive obligation arises to dismantle an item of property, plant and equipment and to restore the site on which it is located and when a reasonable estimate can be made. The effects of changes resulting from revisions to the timing or the amount of the original estimate of the provision are reflected on a prospective basis, generally by adjustment to the carrying amount of the related property, plant and equipment. However, where there is no related asset, or the change reduces the carrying amount to nil, the effect, or the amount in excess of the reduction in the related asset to nil, is recognised in income.

Shell reviews its energy and chemicals parks on a regular basis to determine whether any changes in assumptions, including expected life, trigger the need to recognise a provision for decommissioning and restoration.

Redundancy provisions are recognised when a detailed formal plan identifies the business or part of the business concerned, the location and number of employees affected, a detailed estimate of the associated costs and an appropriate timeline, and the employees affected have been notified of the plan's main features.

An onerous contract provision is recognised when the unavoidable cost of meeting the obligations under the contract exceeds the economic benefits expected to be received under it. The unavoidable cost under a contract is the lower of the cost of fulfilling the contract and any compensation or penalties arising from failure to fulfil it. The cost of fulfilling a contract comprises the costs that relate directly to the contract. Before an onerous provision is recognised Shell first recognises any impairment loss that has occurred on assets dedicated to that contract.

Other provisions are recognised in income in the period in which an obligation arises and the amount can be reasonably estimated. Provisions are measured based on current legal requirements and existing technology where applicable. Recognition of any joint and several liability is based on management's best estimate of the final pro rata share of the liability. Provisions are determined independently of expected insurance recoveries. Recoveries are recognised when virtually certain of realisation.

**Estimates**

Estimates of provisions for future decommissioning and restoration costs are recognised and based on current legal and constructive requirements, technology and price levels. Because actual cash outflows can differ from estimates due to changes in laws, regulations, public expectations, technology, prices and conditions, and can take place many years in the future, the carrying amounts of provisions are regularly reviewed and adjusted to take account of such changes.

**Significant estimate**

The discount rate applied to reflect the time value of money in the carrying amount of provisions requires estimation. The discount rate used in the calculation of provisions is the pre-tax rate that reflects current market assessments of the time value of money. Generally, the market assessments of the time value of money can be reflected in the risk-free rate and given the long-term investment nature of oil and gas business, Shell considers it appropriate to use the 20-year US Treasury bond yield return as the risk-free rate. The discount rate applied is reviewed regularly and adjusted following changes in market rates.

The discount rate applied to determine the carrying amount of provisions provides a source of estimation uncertainty as referred to in IAS 1.125.

Information about decommissioning and restoration provisions and their sensitivity to changes in estimates is presented in Note 24.

**Financial instruments**

Financial assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a legally enforceable right of offset and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously.

**Financial assets**

Financial assets are classified at initial recognition and subsequently measured at amortised cost, fair value through other comprehensive income or fair value through profit or loss. The classification of financial assets is determined by the contractual cash flows and where applicable the business model for managing the financial assets.

Debt instruments are measured at amortised cost, if the objective of the business model is to hold the financial asset in order to collect contractual cash flows and the contractual terms give rise to cash flows that are solely payments of principal and interest. It is initially recognised at fair value plus or minus transaction costs that are directly attributable to the acquisition or issue of the financial asset. Subsequently, the financial asset is measured using the effective interest method less any impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

All equity instruments and other debt instruments are recognised at fair value. For equity instruments, on initial recognition, an irrevocable election (on an instrument-by-instrument basis) can be made to designate these as at fair value through other comprehensive income instead of fair value through profit or loss. Dividends received on equity instruments are recognised as other income in profit or loss when the right of payment has been established, except when Shell benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case such gains are recorded in other comprehensive income.

## 2. Significant accounting policies, judgements and estimates continued

### Investments in securities

Investments in securities ("securities") comprise equity and debt securities. Equity securities are carried at fair value. Generally, unrealised holding gains and losses are recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are transferred to retained earnings. Debt securities are generally carried at fair value with unrealised holding gains and losses recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are recognised in income.

### Impairment of financial assets

The expected credit loss model is applied for recognition and measurement of impairments in financial assets measured at amortised cost or at fair value through other comprehensive income. The expected credit loss model is also applied for financial guarantee contracts to which IFRS 9 applies and which are not accounted for at fair value through profit or loss. The loss allowance for the financial asset is measured at an amount equal to the 12-month expected credit losses. If the credit risk on the financial asset has increased significantly since initial recognition, the loss allowance for the financial asset is measured at an amount equal to the lifetime expected credit losses. Changes in loss allowances are recognised in profit or loss. For trade receivables, a simplified impairment approach is applied recognising expected lifetime losses from initial recognition.

### Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand, including offsetting bank overdrafts, short-term bank deposits, money market funds, reverse repos and similar instruments that generally have a maturity of three months or less at the date of purchase.

### Financial liabilities

Financial liabilities are measured at amortised cost, unless they are required to be measured at fair value through profit or loss, such as instruments held for trading, or Shell has opted to measure them at fair value through profit or loss. Debt and trade payables are recognised initially at fair value based on amounts exchanged, net of transaction costs, and subsequently at amortised cost except for fixed rate debt subject to fair value hedging which is remeasured for the hedged risk (see below). Interest expense on debt is accounted for using the effective interest method, and other than interest capitalised, is recognised in income. For financial liabilities that are measured under the fair value option, the change in the fair value related to own credit risk is recognised in other comprehensive income. The remaining fair value change is recognised at fair value through profit or loss.

### Derivative contracts and hedges

Derivative contracts are used in the management of interest rate risk, foreign exchange risk, commodity price risk, and foreign currency cash balances. Derivatives that are not closely related to the host contract in terms of economic characteristics and risks and the host contract of which is not a financial asset are separated from their host contract and recognised at fair value with the associated gains and losses recognised in income.

Contracts to buy or sell a non-financial item that can be settled net in cash are accounted for as financial instruments, with the exception of those contracts that were entered into and continue to be held for the purpose of the receipt or delivery of a non-financial item in accordance with Shell's expected purchase, sale or usage requirements. Gains or losses arising from changes in the fair value of derivatives that are not designated as effective hedging instruments are recognised in income.

Certain derivative contracts qualify and are designated either: as a fair value hedge of the change in fair value of a recognised asset or liability or an unrecognised firm commitment; or as a cash flow hedge for the change in cash flows to be received or paid relating to a recognised asset or liability or a highly probable forecast transaction; or as a net investment hedge of the change in foreign exchange rates associated with net investments in foreign operations with a different functional currency than Shell's functional currency.

A change in the fair value of a hedging instrument designated as a fair value hedge is recognised in income, together with the consequential adjustment to the carrying amount of the hedged item. The effective portion of a change in fair value of a derivative contract designated as a cash flow hedge is recognised in other comprehensive income until the hedged transaction occurs; any ineffective portion is recognised in income. Where the hedged item is a non-financial asset or liability, the amount in accumulated other comprehensive income is transferred to the initial carrying amount of the asset or liability (reclassified to the balance sheet); a net investment hedge is accounted for similarly to a cash flow hedge. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognised in other comprehensive income while any gains or losses relating to the ineffective portion are recognised in the income statements. On disposal of the foreign operation, the cumulative value of any such gains or losses recorded in other comprehensive income is reclassified to the income statement.

The effective portion of a change due to retranslation at quarter-end exchange rates in the carrying amount of debt and the principal amount of derivative contracts used to hedge net investments in foreign operations is recognised in other comprehensive income until the related investment is sold or liquidated; any ineffective portion is recognised in income.

All relationships between hedging instruments and hedged items are documented, as well as risk management objectives and strategies for undertaking hedge transactions. The effectiveness of hedges is also continually assessed and hedge accounting is discontinued when there is a change in the risk management strategy.

Unless designated as hedging instruments, contracts to sell or purchase non-financial items that can be settled net as if the contracts were financial instruments and that do not meet expected own-use requirements (typically, forward sale and purchase contracts for commodities in trading operations), and contracts that are or contain written options, are recognised at fair value; associated gains and losses are recognised in income.

Derivatives that are held primarily for the purpose of trading are presented as current in the Consolidated Balance Sheet.

# Notes to the Consolidated Financial Statements continued

## 2. Significant accounting policies, judgements and estimates continued

**Judgement**
Judgement is required to determine whether contracts to buy or sell LNG are capable of being settled on a net basis. Due to the limited liquidity in the LNG market and the lack of net settlement history, contracts to buy or sell LNG are not considered capable of being settled on a net basis. As a result, these contracts are accounted for on an accrual basis and not as a financial instrument.

### Fair value measurements

Fair value measurements are estimates of the amounts for which assets or liabilities could be transferred at the measurement date, based on the assumption that such transfers take place between participants in principal markets and, where applicable, taking highest and best use into account.

**Estimate**
Where available, fair value measurements are derived from prices quoted in active markets for identical assets or liabilities. In the absence of such information, other observable inputs are used to estimate fair value. Inputs derived from external sources are corroborated or otherwise verified, as appropriate. In the absence of publicly available information, fair value is determined using estimation techniques that take into account market perspectives relevant to the asset or liability, in as far as they can reasonably be ascertained, based on predominantly unobservable inputs. For derivative contracts where publicly available information is not available, fair value estimations are generally determined using models and other valuation methods, the key inputs for which include future prices, volatility, price correlation, counterparty credit risk and market liquidity, as appropriate; for other assets and liabilities, fair value estimations are generally based on the net present value of expected future cash flows.

### Share-based compensation plans

The fair value of share-based compensation expense arising from the Performance Share Plan (PSP) and the Long-term Incentive Plan (LTIP) - Shell's main equity-settled plans - is estimated using the average Monte Carlo fair values and is recognised in income from the date of grant over the vesting period with a corresponding increase directly in equity. The model projects and averages the results for a range of potential outcomes for the vesting conditions, the principal assumptions for which are the share price volatility and dividend yields for Shell and four of its main competitors using respectively three years and 10 years of historical data.

### Shares held in trust

Shares in the Company, which are held by employee share ownership trusts and trust-like entities, are not included in assets but are reflected at cost as a deduction from equity as shares held in trust.

### Acquisitions and sales of interests in a business

Assets acquired and liabilities assumed when control is obtained over a business, and when an interest or an additional interest is acquired in a joint operation which is a business, are recognised at their fair value at the date of the acquisition; the amount of the purchase consideration above this value is recognised as goodwill. When control is obtained, any non-controlling interest is recognised as the proportionate share of the identifiable net assets. The acquisition of a non-controlling interest in a subsidiary and the sale of an interest while retaining control are accounted for as transactions within equity. The difference between the purchase consideration or sale proceeds after tax and the relevant proportion of the non-controlling interest, measured by reference to the carrying amount of the interest's net assets at the date of acquisition or sale, is recognised in retained earnings as a movement in equity attributable to Shell plc shareholders.

### Emission schemes and related environmental programmes

Emission certificates, biofuel certificates and renewable power certificates (together "environmental certificates") held for trading purposes are recognised at cost or net realisable value, whichever is lower, and classified under inventory.

#### Emission trading schemes

Emission certificates acquired for compliance purposes are initially recognised at cost and classified under intangible assets. In the schemes where a cap is set for emissions, the associated emission certificates granted are recognised at cost, which may be zero. An emission liability is recognised under other liabilities when actual emissions occur that give rise to an obligation. To the extent the liability is covered by emission certificates held for compliance purposes, the liability is measured with reference to the value of these emission certificates held and for the remaining uncovered portion at market value. The associated expense is presented under "Production and manufacturing expenses". Both the emission certificates and the emission liability are derecognised upon settling the liability with the respective regulator.

#### Biofuel programmes

Biofuel certificates acquired that are held for compliance purposes are initially recognised at cost under intangible assets. Self-generated biofuel certificates are recognised at nil value, as they primarily offset the obligation. A biofuel liability is recognised under other liabilities when the obligation arises under local regulations. To the extent covered by biofuel certificates held for compliance purposes, the liability is measured with reference to the value of these certificates held and for the remaining uncovered portion at market value. The associated expense is presented under "purchases". Biofuel certificates and the biofuel liability are both derecognised upon settling the liability with the respective regulator.

# Notes to the Consolidated Financial Statements continued

## 2. Significant accounting policies, judgements and estimates continued

### Renewable power programmes

Renewable power certificates acquired for compliance purposes are initially recognised at cost as an intangible asset. Self-generated renewable power certificates are generally transferred to the customer upon sales of electricity. A renewable power liability is recognised under other liabilities when electricity sales take place that give rise to an obligation to retire renewable power certificates. The associated cost is recognised in "purchases" in the income statement. If the obligation relates to power consumed in business operations, it is presented in other liabilities with cost reflected in "Production and manufacturing expenses". To the extent covered by renewable power certificates held for compliance purposes, the liability is measured with reference to the value of these renewable power certificates and for the remaining uncovered portion at market value. Renewable power certificates and the renewable power liability are derecognised upon settling the liability with the respective regulator.

### Consolidated Statement of Income presentation

Purchases reflect all costs related to the acquisition of inventories and the effects of the changes therein, and include associated costs incurred in conversion into finished or intermediate products. Production and manufacturing expenses are the costs of operating, maintaining and managing production and manufacturing assets. Selling, distribution and administrative expenses include direct and indirect costs of marketing and selling products.

## 3. Changes to IFRS not yet adopted

### Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to IAS 12 Income taxes (IAS 12))

In May 2021, amendments to IAS 12 were published to require companies to recognise deferred tax on particular transactions that, on initial recognition, give rise to equal amounts of taxable and deductible temporary differences. The amendments will typically apply to transactions where assets and liabilities are recognised from a single transaction, such as leases for the lessee and decommissioning and restoration obligations.

The amendments are effective for annual reporting periods beginning on or after January 1, 2023, and should be applied on a modified retrospective basis.

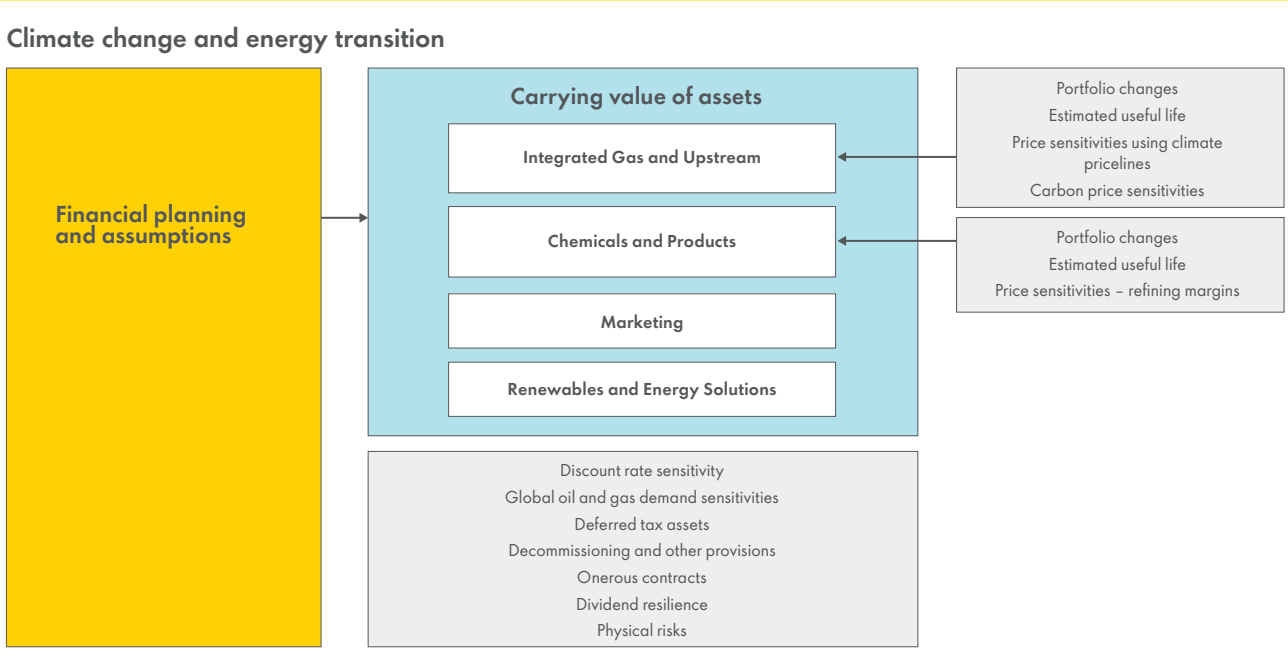
Shell performed an analysis of the impact of these amendments and concluded that these have no significant effect on future financial reporting.

### IFRS 17 Insurance contracts (IFRS 17)

IFRS 17 was issued in 2017, with amendments published in 2020 and 2021, and is required to be adopted for annual reporting periods beginning on or after January 1, 2023. The IFRS 17 model combines a current balance sheet measurement of insurance contracts with recognition of profit over the period that services are provided. The general model in the standard requires insurance contract liabilities to be measured using probability-weighted current estimates of future cash flows, an adjustment for risk, and a contractual service margin representing the profit expected from fulfilling the contracts. Effects of changes in the estimates of future cash flows and the risk adjustment relating to future services are recognised over the period services are provided rather than immediately in profit or loss. Shell performed an analysis of the impact of IFRS 17 and concluded that the standard has no significant impact on future financial reporting.

## 4. Climate change and energy transition

This note describes how Shell has considered climate-related impacts in key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities as Shell makes progress in the energy transition. The note is structured as follows:



# Notes to the Consolidated Financial Statements continued

## 4. Climate change and energy transition continued

Note 2 Significant accounting policies, judgements and estimates describes uncertainties, including those that have the potential to have a material effect on the Consolidated Balance Sheet in the next 12 months. This note describes the key areas of climate impacts that potentially have short-, medium- and longer-term effects on amounts recognised in the Consolidated Balance Sheet at December 31, 2022. Where relevant, this note contains references to other notes to the Consolidated Financial Statements and aims to provide an overarching summary of the energy transition impact.

In 2021, Shell launched its Powering Progress strategy to become a net-zero emissions business by 2050. The strategy includes targets to reduce absolute emissions from its operations and the energy it buys to run them, compared with 2016 levels. Shell's targets include reducing Scope 1 and 2 emissions by 50% by 2030 and reducing the carbon intensity of energy products sold (Scope 1, 2 and 3 emissions) by 6-8% by 2023, 9-12% by 2024, 9-13% by 2025, 20% by 2030, 45% by 2035, and 100% by 2050.

### Financial planning and assumptions

This section provides an overview of key assumptions used for financial planning related to climate change and the energy transition. These assumptions that underpin the amounts recognised in these financial statements – such as future oil and gas prices, discount rates, future costs of decommissioning and restoration, and deferred tax assets – take climate change and energy transition into account and are similarly used for impairment testing of carrying amounts of assets. Areas described focus on those most pertinent to Shell's business and how financial planning and assumptions interact with scenarios. Subsequently, the sensitivity of carrying amounts to commodity prices, carbon costs, discount rates and demand, if different assumptions were applied, is described.

There is no one single scenario that underpins the financial statements. Shell scenarios are designed to challenge management's perspectives on the future business environment and stretch management to consider even events that may be only remotely possible. As a result, these scenarios are not intended to be predictions of likely future events or outcomes and are not the basis for Shell's financial statements and Operating Plans.

Shell scenarios and the range of possible outcomes inform the development of Shell's strategy and Shell's view on future oil and gas price outlooks and refining margins. These oil and gas price outlooks are one of the key assumptions that underpin Shell's financial statements. Shell's scenarios inform high-, mid- and low-price outlooks. The mid-price outlook represents management's reasonable best estimate and is the basis for Shell's financial statements, Operating Plans and impairment testing. Impairment testing applies management's reasonable best estimates across the full life cycle of assets.

Shell's targets to reduce absolute Scope 1 and 2 emissions [A] by 50% by 2030, compared with 2016 levels on a net basis, and a 20% reduction of net carbon intensity [B] by 2030 have been included in Shell's Operating Plan. The Operating Plan also includes expected costs for evolving carbon regulations (see section "Carbon cost sensitivities" below) based on a forecast of Shell's equity share of emissions from operated and non-operated assets also taking into account the estimated impact of free allowances.

[A] Operational control boundary
[B] GHG emissions based on the energy product sales included in the Net Carbon Intensity (NCI) using equity boundary.

### Goodwill, other intangible assets, property, plant and equipment and joint ventures and associates

As from January 1, 2022 segments are aligned with the Powering Progress strategy. (see Note 8)

The carrying value of goodwill, other intangible assets, property plant and equipment, and joint ventures and associates by segment as at December 31, 2022, was as follows:

**Carrying value**

$ billion

| | Goodwill | Other intangible assets | Property, plant and equipment | Joint ventures and associates | Total |
|---|---|---|---|---|---|
| Integrated Gas | 4.9 | 3.9 | 60.8 | 5.6 | 75.2 |
| Upstream | 5.3 | 0.2 | 74.5 | 7.7 | 87.7 |
| Chemicals and Products | 0.3 | 2.1 | 38.1 | 4.2 | 44.7 |
| Marketing | 3.3 | 1.8 | 19.1 | 4.4 | 28.6 |
| Renewables and Energy solutions | 2.2 | 1.6 | 3.2 | 1.9 | 8.9 |
| Corporate | – | 0.1 | 2.9 | 0.1 | 3.1 |
| Total | 16.0 | 9.7 | 198.6 | 23.9 | 248.2 |

For Integrated Gas and Upstream, sensitivity to commodity prices and carbon prices has been tested (see below) covering the carrying amount of goodwill, other intangible assets, property plant and equipment, and joint ventures and associates. Sensitivity testing was performed applying alternative price scenarios to the forecasted cash flows for the whole period until the end of life of the asset tested. For Chemicals and Products, sensitivity to refining margins has been tested (see below). Marketing and Renewables and Energy Solutions are expected to be resilient through the energy transition with limited exposure of stranded assets.

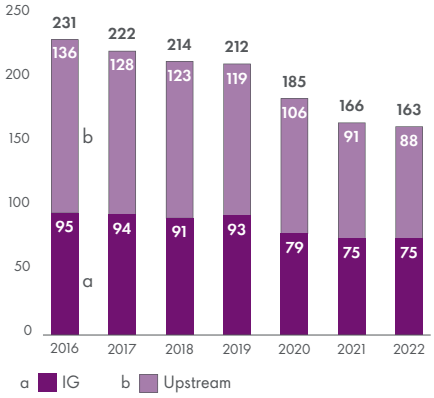
In addition, sensitivity to changes in the discount rate applied in impairment testing has also been tested (see below).

# Notes to the Consolidated Financial Statements continued

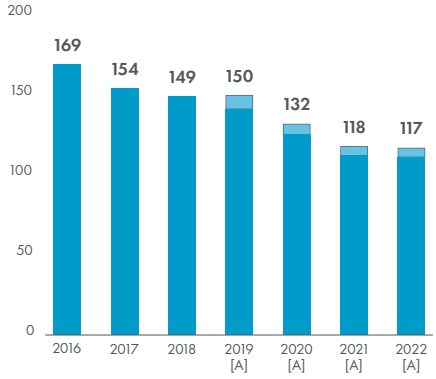
## 4. Climate change and energy transition continued

### Carrying value of Integrated Gas and Upstream assets

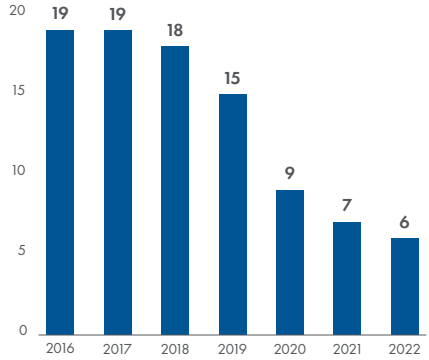
**Carrying value of Integrated Gas and Upstream assets**
$ billion as at December 31




**Carrying value of production assets**
$ billion as at December 31




**Carrying value of exploration and evaluation assets**
$ billion as at December 31




[A] Including right of use assets for the implementation of IFRS 16 Leases in 2019.

Within Integrated Gas and Upstream, the assets potentially most sensitive to the energy transition are production assets and exploration and evaluation assets. Both production assets of $117 billion and exploration and evaluation assets of $6 billion are recognised within Property, plant and equipment within Integrated Gas and Upstream.

**Portfolio changes**
Since 2016, the carrying amount of production assets in Integrated Gas and Upstream decreased from $169 billion as at December 31, 2016, to $117 billion as at December 31, 2022. Over this period, depreciation was higher than additions for each year, and disposals of property, plant and equipment with a carrying amount of some $25 billion occurred. The carrying amount of capitalised exploration and evaluation expenses decreased from $19 billion as at December 31, 2016, to $6 billion at December 31, 2022. This is the result of final investment decisions, reclassifications to production assets and amounts charged to expenses exceeding additions.

**Estimated useful life**
The energy transition and the pace at which it progresses may impact the remaining life of assets. Integrated Gas and Upstream assets are generally depreciated using a unit-of-production methodology where depreciation generally depends on production of SEC proved reserves (see Note 2). Based on production plans of existing assets, some 35%, 5% and 0% of SEC proved reserves as at December 31, 2022, would currently be left by 2030,2040 and 2050, respectively. Based on the unit-of-production depreciation methodology applied, carrying amounts for individual assets are depreciated to nil in the same pattern as the depletion of reserves towards nil. An analysis of Integrated Gas and Upstream production assets of $117 billion as at December 31, 2022, based on planned reserves depletion shows that these assets would be significantly further depreciated under the unit-of-production method by 2030 and fully depreciated by 2050. This provides a further perspective on the risk of stranded assets carried in the Consolidated Balance Sheet as at December 31, 2022.

**Price sensitivities using climate price lines**
As noted, in accordance with IFRS, Shell's financial statements are based on reasonable and supportable assumptions that represent management's current best estimate of the range of economic conditions that may exist in the foreseeable future. The mid-price outlook informed by Shell's scenario planning represents management's best estimate. A change of -10% or +10% to the mid-price outlook, as an average percentage over the whole life cycle of assets, would result in around $2-5 billion (2021: $12-15 billion) impairment or of some $2-4 billion (2021: $6-9 billion) impairment reversal respectively in Integrated Gas and Upstream (see Note 12). Compared with prior year the impact of a 10% change in commodity prices is significantly lower as a result of the higher short- and medium-term commodity prices that both resulted in impairment reversals in 2022 and higher headroom in impairment testing.

The energy transition will continue to bring volatility and there is significant uncertainty as to how commodity prices will develop over the next decades. Some price lines see a structurally lower price during the transition period, while other price lines see structurally higher commodity prices as a result of changes in both supply and demand. As the risk of stranded assets is prevalent with downside price risk in energy transition scenarios, sensitivities have only been undertaken for such downside scenarios. If different price outlooks from external and often normative climate change scenarios were used, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2022. These external scenarios are not representative of management's mid-price reasonable best estimate.

# Notes to the Consolidated Financial Statements continued

## 4. Climate change and energy transition continued

Sensitivity of carrying amounts to commodity prices described below is under the assumption that all other factors in the models used, such as cost levels, volumes, mid-price $CO_2$ assumptions and the discount rate, to calculate recoverability of carrying amounts remain unchanged. Sensitivity testing has been performed by applying the alternative commodity price scenarios to cash flows for the whole period until the end of life of the assets tested. The alternative commodity prices were applied in the local cash flow models and thereafter aggregated by segment. Changes to commodity prices are applied because of the significant impact on Shell's business. It should be noted that a significant decrease in long-term forecasted commodity prices would probably lead to further changes, such as in portfolio choices and cost levels.

Sensitivity to changes in commodity prices has been tested as follows:
Priceline 1 – Average prices from three [A] 1.5-2 degrees Celsius external climate change scenarios: in view of the broad range of price outlooks across the various scenarios, the average of three external price outlooks was taken.

[A] The IEA SDS scenario applied in 2021 is no longer published and has therefore been taken out for 2022.

- **IHS Markit/ACCS 2022** – under this scenario oil prices (real terms 2022 (RT22)) gradually decrease towards $36.5 per barrel (/b) in 2039, recovering to $94.3/b in 2050. Gas prices (RT22) decrease from $3.7 per million British thermal units (/MMBtu) in 2023 towards 2024 to slightly below $3/MMBtu for Henry Hub, remaining around that level until 2050. For Europe, prices decrease from $35/MMbtu in 2023 towards around $4/MMBtu in 2029, remaining around that level until 2040 and then gradually increasing to a level around $5/MMBtu in 2050. For Asia, prices decrease towards around $5/MMBtu in 2029, again gradually increasing from 2045 to a level around $6/MMBtu in 2050.

- **Woodmac WM AET-1.5 degree** – under this scenario oil prices (RT22) gradually decrease towards $27/b in 2050. Gas prices (RT22) decrease from around $5/MMBtu in 2023 to $3/MMBtu in 2024, gradually increasing to some $4/MMBtu in 2045 and again decreasing to some $3/MMBtu in 2050 for Henry Hub. For Asia and Europe, gas prices (RT22) decrease from around $30/MMBtu in 2023 to some $6/MMBtu and $5/MMBtu respectively in 2031, gradually increasing again to some $10/MMBtu and some $8/MMbtu respectively around 2040 and subsequently decreasing to $6/MMBtu and some $5/MMBtu respectively in 2050.

- **IEA NZE50** – under this scenario oil prices (RT22) gradually decrease towards some $25/b in 2050. Gas prices (RT22) decrease from some $3.5/MMBtu in 2023 to around $2/MMBtu for Henry Hub in 2030, remaining slightly below that level until 2050. For Asia and Europe, gas prices (RT22) decrease from some $10/MMBtu and $9/MMBtu respectively in 2023 to some $6/MMBtu and $5/MMBtu respectively around 2030, with a decrease towards some $5/MMBtu and $4/MMBtu respectively in 2050.

This average priceline provides an external view of the development of commodity prices under 1.5-2 degrees Celsius external climate change scenarios over the whole period under review.

Applying this priceline to Integrated Gas assets of $75 billion (2021: $65 billion [A]) and Upstream assets of $88 billion (2021: $89 billion [A]) as at December 31, 2022, shows recoverable amounts that are $4-6 billion (2021: $13-16 billion) and $1-2 billion (2021: $14-17 billion) lower, respectively, than the carrying amounts as at December 31, 2022.

[A] In 2022 goodwill and other intangibles were included in the scope for sensitivity testing. In 2021 these assets were not within the scope of sensitivity testing. Based on the 2022 sensitivity testing performed, it is unlikely that if these assets would have been included in the scope for 2021 testing, this would have resulted in a material impact on the outcome of sensitivity testing.

Priceline–2 - Hybrid Shell Plan and IEA NZE50: this priceline applies Shell's mid-price outlook for the next 10 (see Note 12). Because of the greater uncertainty, the International Energy Agency (IEA) normative Net Zero Emissions scenario for the period after 10 years is applied. This weights less price-risk uncertainty to the first 10 reflected in the Operating Plan period and applies more risk to the more uncertain subsequent periods.

Applying this priceline to Integrated Gas assets of $75 billion (2021: $65 billion) and Upstream assets of $88 billion (2021: $89 billion) as at December 31, 2022, shows recoverable amounts that are $4-6 billion (2021: $10-12 billion) and $1-2 billion (2021:$5-6 billion) lower, respectively, than the carrying amounts as at December 31, 2022.

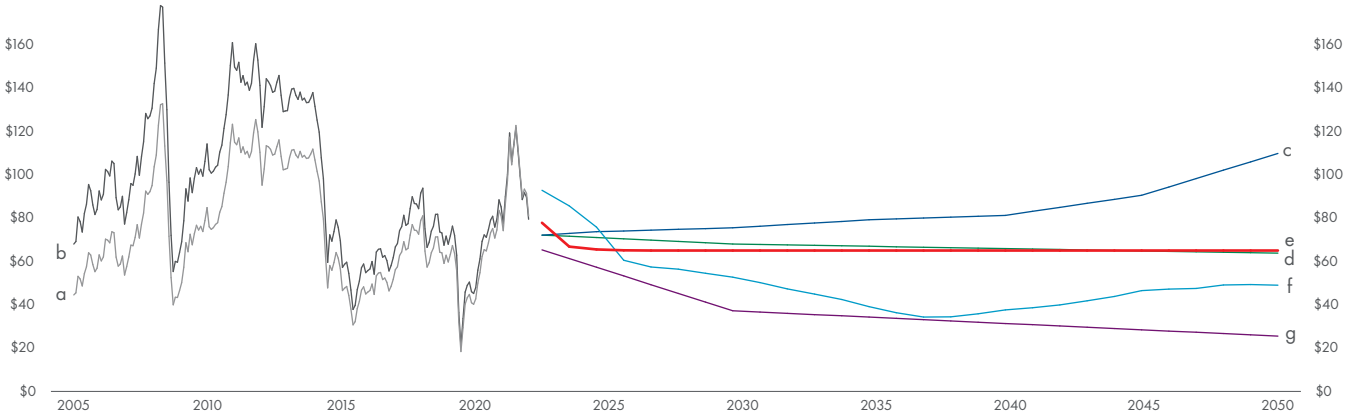
Priceline–3 - IEA NZE50: this priceline applies the IEA normative Net Zero Emissions scenario over the whole period under review. This priceline has been applied for the first time in the current year in order to also reflect the sensitivity to a pure net-zero emissions scenario from the IEA.

Applying this priceline to Integrated Gas assets of $75 billion and Upstream assets of $88 billion as at December 31, 2022, shows recoverable amounts that are $9-12 billion and $8-11 billion lower, respectively, than the carrying amounts as at December 31, 2022.

# Notes to the Consolidated Financial Statements continued

## 4. Climate change and energy transition continued

### Oil price assumptions




a — Monthly average price (actual on money of the day basis) b — Monthly average price (actual on real terms basis using US CPI all urban consumers) c — NGFS GCAM NZE 2050 [A]
d — IEA APS e — Shell mid-price f — Average prices from three 1.5-2 degrees Celsius external climate change scenarios g — IEA NZE50

[A] The Network for Greening the Financial System (NGFS) is a group of 65 central banks and supervisors and 83 observers committed to sharing best practices, contributing to the development of climate- and environment-related risk management in the financial sector and mobilising mainstream finance to support the transition toward a sustainable economy. This scenario results from the NGFS GCAM model. This model embodies certain assumptions on the relationships between economic and energy output and climate interactions. This NGFS scenario shows a decline in world oil demand relative to the current policies baseline, in part a response to substitution away from fossil fuels. At the same time prices increase due to supply constraints.
[B] All figures are presented on RT22 basis unless noted differently.

The graph above shows the oil pricelines on a real-terms basis applied for the period until 2050 for Shell's mid-price outlook in comparison with the IEA announced pledges (IEA APS) scenario, the NGFS GCAM NZE 2050 scenario, the average prices from three 1.5-2 degrees Celsius external climate change scenarios (Priceline 1, above) and the IEA Net Zero Emissions by 2050 scenario (IEA NZE50, Priceline 3 above). The development of future oil prices is uncertain and oil prices have been subject to significant volatility in the past. Future oil prices may be impacted by future changes in macroeconomic factors, available supply, demand, geopolitical and other factors. The pricelines as per the scenarios NGFS GCAM NZE 2050, IEA APS, the average prices from three 1.5-2 degrees Celsius external climate change scenarios and IEA NZE50 differ from Shell's best estimate and view of the future oil price.

### Sensitivity + 10% to the mid-price outlook

$ billion

| | Carrying amount | | Sensitivity | | | |
|---|---|---|---|---|---|---|
| | Dec 31, 2022 | Dec 31, 2021 [A] | 2022 | | 2021 | |
| Integrated Gas | 75 | 65 | 2 | 3 | 3 | 5 |
| Upstream | 88 | 89 | – | 1 | 3 | 4 |
| Total | 163 | 154 | 2 | 4 | 6 | 9 |

### Sensitivity - 10% to the mid-price outlook

$ billion

| | Carrying amount | | Sensitivity | | | |
|---|---|---|---|---|---|---|
| | Dec 31, 2022 | Dec 31, 2021 [A] | 2022 | | 2021 | |
| Integrated Gas | 75 | 65 | (2) | (4) | (8) | (10) |
| Upstream | 88 | 89 | – | (1) | (4) | (5) |
| Total | 163 | 154 | (2) | (5) | (12) | (15) |

### Sensitivity averaged from three below-two-degrees-Celsius external climate scenarios

$ billion

| | Carrying amount | | Sensitivity | | | |
|---|---|---|---|---|---|---|
| | Dec 31, 2022 | Dec 31, 2021 [A] | 2022 | | 2021 | |
| Integrated Gas | 75 | 65 | (4) | (6) | (13) | (16) |
| Upstream | 88 | 89 | (1) | (2) | (14) | (17) |
| Total | 163 | 154 | (5) | (8) | (27) | (33) |

### Sensitivity Hybrid Shell Plan + IEA NZE50

$ billion

| | Carrying amount | | Sensitivity | | | |
|---|---|---|---|---|---|---|
| | Dec 31, 2022 | Dec 31, 2021 [A] | 2022 | | 2021 | |
| Integrated Gas | 75 | 65 | (4) | (6) | (10) | (12) |
| Upstream | 88 | 89 | (1) | (2) | (5) | (6) |
| Total | 163 | 154 | (5) | (8) | (15) | (18) |

### Sensitivity IEA NZE50

$ billion

| | Carrying amount | Sensitivity | |
|---|---|---|---|
| | Dec 31, 2022 | 2022 | |
| Integrated Gas | 75 | (9) | (12) |
| Upstream | 88 | (8) | (11) |
| Total | 163 | (17) | (23) |

[A] In 2022 goodwill and other intangibles were included in the scope for sensitivity testing. In 2021 these assets were not within the scope of sensitivity testing. Based on the 2022 sensitivity testing performed, it is unlikely that if these assets would have been included in the scope for 2021 testing, this would have resulted in a material impact on the outcome of sensitivity testing.

## 4. Climate change and energy transition continued

### Carbon price sensitivities

#### Carbon costs in the Operating Plan

The Operating Plan includes capital expenditure and operating costs to achieve Scope 1 and 2 emission reduction targets (see above). These include asset level abatement project costs that drive efficiencies and reduce emissions, expected costs for evolving carbon regulations based on a forecast of Shell's equity share of emissions and costs of offsets for any residual amounts.

The total capital expenditure for abatement projects in relation to efficiency improvements, energy and chemicals parks transformations and use of renewable power included in the Operating Plan are in excess of $4 billion. Total yearly carbon emission costs in Shell's Operating Plan gradually increase from some $0.8 billion in 2023 to some $1.5 billion in 2032 using the mid-price scenario. The sensitivity of carrying values of assets to changes in carbon prices is described in the section below.
Methods for estimating costs vary depending on the nature of the cost. Abatement projects costs to improve efficiencies and reduce emissions are estimated by applying a bottom-up approach where individual opportunities on an asset-level, project-by-project basis are identified.

Costs for evolving carbon regulations are based on a forecast of Shell's equity share of emissions and are included in the Operating Plan at Shell's mid-price outlook on a country-by-country basis and represent management's best estimate. In the short and near term, up to 2030, costs for carbon emissions estimates are largely policy driven, through emission trading schemes or taxation levied by governments which currently vary significantly on a country-by-country basis. Beyond 2030, where policy predictions are more challenging, the costs for carbon emissions are estimated based on the expected costs of abatement technologies required for 2050. The costs are estimated to be at $125 per tonne (RT22) under Shell's mid-price scenario. Under Shell's high-price scenario, the costs are set at $220 per tonne (RT22), the top of the bioenergy with CCS cost range and the lower end of the direct air capture cost range.

#### Sensitivity to changes in carbon price assumptions

There is significant uncertainty as to how carbon costs will develop over the next decades. These will depend on policies set by countries and the pace of the energy transition. In accordance with IFRS, Shell's financial statements are based on reasonable and supportable assumptions that represent management's current best estimate which is policy based up to 2030 and then the mid-price outlook beyond 2030. As the risk of stranded assets is prevalent with higher carbon emission prices than anticipated, sensitivity analyses have only been undertaken for such a downside scenario. If the IEA NZE 2050 outlook is applied, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2022. This scenario is not representative of management's mid-price reasonable best estimate.

Sensitivity of carrying amounts to carbon emission costs as described below is under the assumption that all other factors in the models used to calculate recoverability of carrying amounts remain unchanged. Changes to carbon emission costs are applied for Integrated Gas and Upstream because of the potential impact on Shell's business.

Applying the IEA NZE 2050 carbon price scenario to Integrated Gas assets of $75 billion and Upstream assets of $88 billion,up to the end of life of these assets, shows recoverable amounts that are $2-5 billion lower for Integrated Gas and not significantly lower for Upstream than the carrying amounts as at December 31, 2022.

**Sensitivity IEA NZE 2050 carbon price scenario**

$ billion

| | Carrying amount | Sensitivity | |
|---|---|---|---|
| Integrated Gas | 75 | (2) | (5) |
| Upstream | 88 | – | – |
| Total | 163 | (2) | (5) |

Application of the IEA NZE 2050 carbon price scenario had no significant impact on the carrying value of Upstream assets due to the existing headroom over the carrying value.

For the key regions and countries the following carbon prices per tonne (RT22) have been assumed in the Operating Plan:

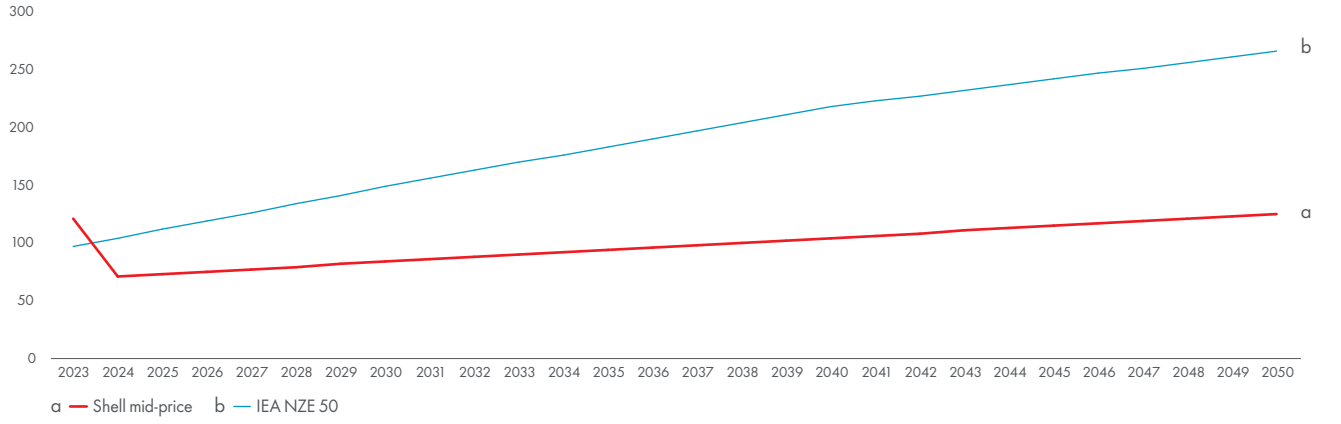
| | Operating Plan period | | Subsequent period |
|---|---|---|---|
| Region | 2023-2029 | 2030-2032 | 2033-2050 |
| European Union | $71-$121 | $84-$88 | $90-$125 |
| Canada (Federal) | $40-$50 | $54-$61 | $65-$125 |
| United States (Federal) | $0-$22 | $27-$37 | $42-$125 |
| Australia | $25-$35 | $36-$45 | $50-$125 |
| All other countries | $0-$37 | $0-$49 | $19-$125 |

# Notes to the Consolidated Financial Statements continued

## 4. Climate change and energy transition continued

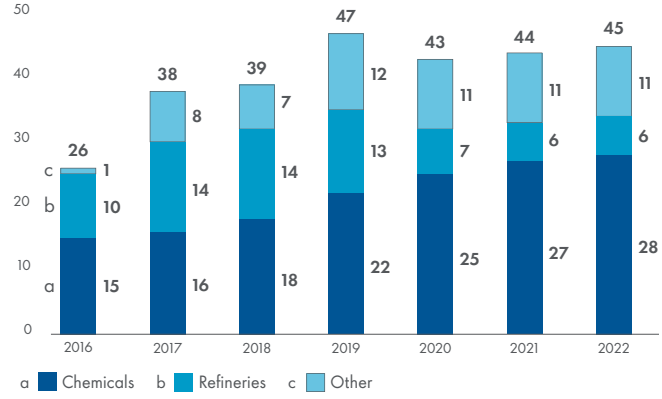
The graph below shows the carbon pricelines per tonne for the European Union on an RT22 basis under Shell's mid-price outlook in comparison with the IEA NZE 2050 scenario. The IEA NZE 2050 scenario differs from Shell's best estimate and view of the future $CO_2$ prices. Sensitivity of carrying amounts to the IEA NZE 2050 carbon price scenario is provided above.

**$CO_2$ prices - European Union**
RT22 $/tonne

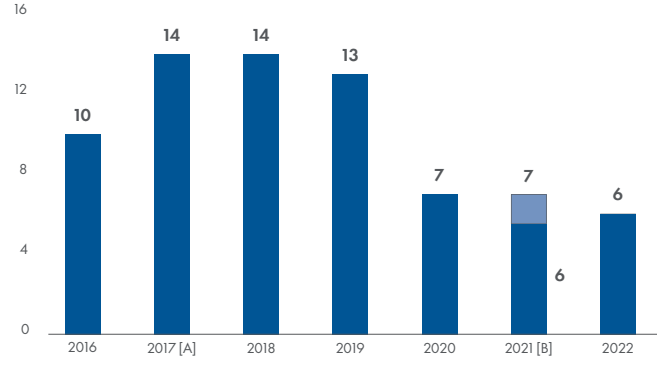



### Carrying value of Chemicals and Products assets

**Carrying value of Chemicals and Products assets**
$ billion as at December 31




**Carrying value of refineries**
$ billion as at December 31




[A] In 2017, two refineries were acquired following dissolution of the Motiva joint venture in the USA.
[B] Includes refineries held for sale ($1.5 billion).

Within Chemicals and Products, the assets potentially most sensitive to the energy transition are refineries.

**Portfolio changes**
Since 2016, Shell's Chemicals and Products portfolio has evolved, shifting from 15 refineries at the end of 2016 towards five energy and chemicals parks. During that period Shell assumed the sole ownership of two refineries through the dissolution of the Motiva joint venture, and disposed of, converted or closed nine refineries. The carrying amount of refineries decreased from $10 billion as at December 31, 2016, to $6 billion as at December 31, 2022. In line with Shell's strategy, Shell's refining footprint is being transformed into five energy and chemicals parks that will provide feedstocks for the chemicals and lubricants business, as well as other low-carbon energy products, including biofuels and hydrogen. This transformation will involve investments in assets within these energy parks that will be recognised as separate cash-generating units and are expected to be resilient in the energy transition, and hence their carrying amounts may increase.

**Estimated useful life**
Refineries in the Chemicals and Products segment (carrying amount as at December 31, 2022, $6 billion (2021: $6 billion) of which $5 billion (2021: $5 billion) relates to refineries in the five energy and chemicals parks (2021: excluding refineries classified as held for sale)) may be impacted under a two-degrees-Celsius or less external climate scenario.

# Notes to the Consolidated Financial Statements continued

## 4. Climate change and energy transition continued

For refineries in Chemicals and Products, depreciation of assets is on a straight-line basis over the life of the assets, starting at the date the asset becomes available for use, over a period of 20 years (see Note 2). Over the course of the energy transition, the current carrying amount of refineries will be fully depreciated, offset by anticipated investments in assets that are expected to be resilient in the energy transition as described above. Based on current depreciation of the carrying amounts as at December 31, 2022, and assuming no further investment, all refineries would be fully depreciated between four and 14 years.

In addition to refineries, further assets of $39 billion include $28 billion of assets in relation to Chemicals which are expected to be resilient through the energy transition as chemical products are not produced with the aim to combust and consequently do not generate GHG emissions.

Other assets of $11 billion includes $7 billion of assets in relation to trading and supply are also expected to be resilient in the energy transition. Another $1.6 billion of assets relates to oil sands. Based on production plans for oil sands assets, some 80%, 56% and 31% of SEC proved reserves as at December 31, 2022, would currently be left by 2030, 2040 and 2050, respectively. Taking into consideration the carrying amount as at December 31, 2022 and depreciation under the unit-of-production methodology, this provides a further perspective on the risk of stranded oil sands assets carried in the Consolidated Balance Sheet as at December 31, 2022.

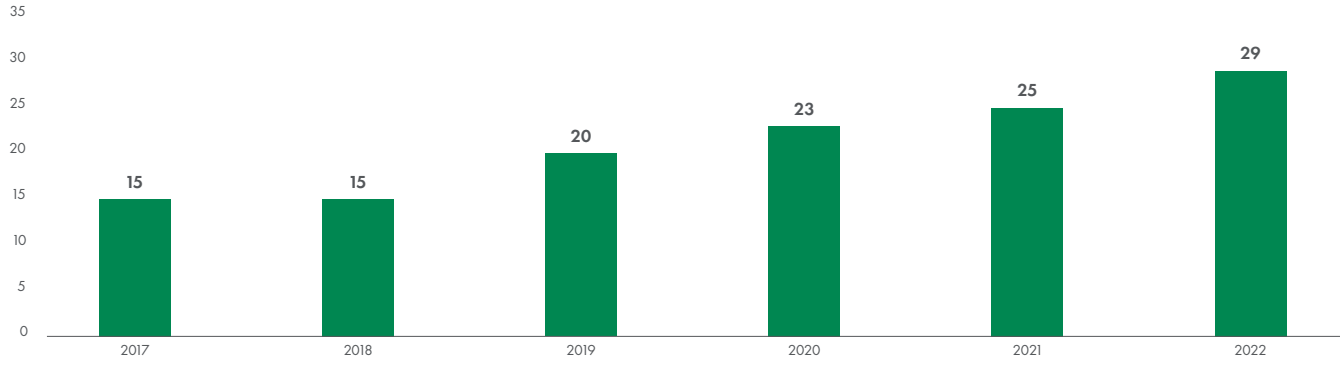
**Price sensitivities**

Refining margins included in the Operating Plan are at an average of $6.22/bbl. A change of -$1/bbl or +$1/bbl to the refining margin outlook period would result in around $1-3 billion impairment or in some $1-3 billion impairment reversal respectively in Chemicals and Products (see Note 12).

### Carrying value of Marketing assets

**Carrying value of Marketing assets**

$ billion as at December 31



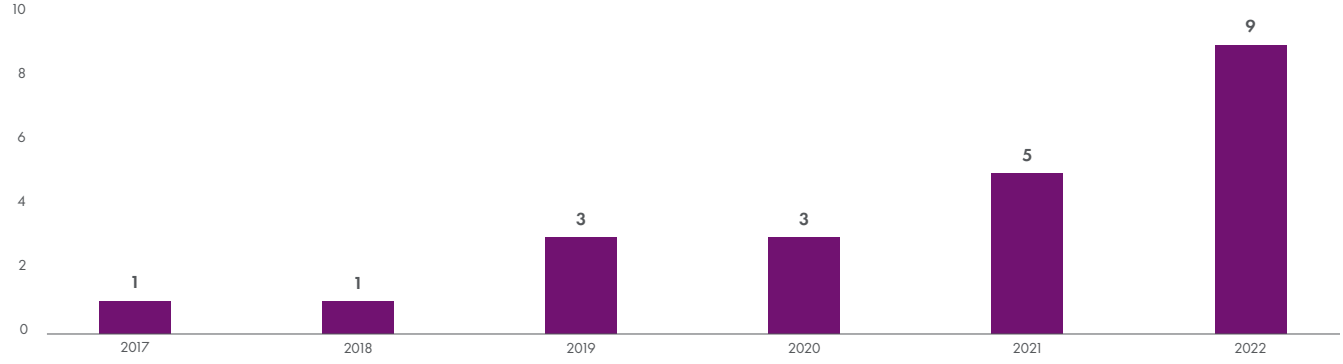

**Portfolio changes**

Assets in the Marketing segment are expected to be resilient through the energy transition with a change in the product mix as the energy transition progresses. The demand for products sold such as chemicals, lubricants, biofuels, bitumen, electric vehicle charging and convenience retail is not expected to decrease and is expected to increase for a variety of these products in many markets. As a result the carrying value of these assets is not expected to be impacted by the energy transition or lower commodity price scenarios.

### Carrying value of Renewables and Energy Solutions assets

**Carrying value of Renewables and Energy Solutions assets**

$ billion as at December 31




**Portfolio changes**

Assets in the Renewables and Energy Solutions segment are expected to be resilient through the energy transition.

## 4. Climate change and energy transition continued

### Discount rate sensitivity

The discount rate applied for impairment testing is based on a nominal post-tax weighted average cost of capital (WACC) and is determined at 5% for Power activities and 6.5% for all other businesses. The discount rate includes generic system risk for climate change risk. In addition, cash flow projections applied in individual assets include specific asset risks, including risk of transition. An increase in systematic climate risk could lead to a higher WACC and consequently to a higher discount rate to be applied in impairment testing. An increase of the discount rate applied for impairment testing of 1% under the assumption that all other factors in the models used to calculate recoverability of carrying amounts remain unchanged would lead to a change in the carrying amount of $1-3 billion for Integrated Gas, and up to $1 billion in each of the following segments: Upstream, Chemicals and Products and Renewables and Energy Solutions, and no significant impairment in Marketing and Corporate.

### Global oil and gas demand sensitivities

A decrease in global demand and unchanged supply of oil and gas would likely lead to a decrease in price (see price sensitivity above). During 2022 Shell's production of oil and gas accounted for 1.5% and 2% of total global production of oil and gas respectively. Changes in global oil and gas demand are therefore not expected to directly impact the ability to sell volumes of oil and gas produced by Shell at market prices.

### Deferred tax assets

In general, it is expected that sufficient deferred tax liabilities and forecasted taxable profits within the planning period of 10 years are available for recovery of the deferred tax assets recognised at December 31, 2022. Integrated Gas and Upstream deferred tax assets recognised are expected to be recovered within the period of production of each asset. For deferred tax assets of $303 million as at December 31, 2022 (2021: $711 million) this period extends beyond 10 years. Deferred tax assets in Chemicals and Products and in Marketing expected to be recovered in more than 10 years are $382 million as at December 31, 2022 (2021: $854 million). In Chemicals and Products, cash flows beyond 10 years (for a maximum of an additional 10 years) were further risked to determine recoverability of deferred tax assets beyond 10 years (see Note 22).

### Decommissioning and other provisions

The energy transition may result in decommissioning and restoration occurring earlier than expected. The risk on the timing of decommissioning and restoration activities for Integrated Gas and Upstream fields is limited, supported by production plans in the foreseeable future (see "Estimated useful life" above). Acceleration of decommissioning and restoration activities has also been reflected in the assessment of the appropriate discount rate. In 2021, the discount rate was revised from a 30-year to a 20-year term in line with the average remaining life of Integrated Gas and Upstream assets. On an undiscounted basis the provision for decommissioning and restoration as at December 31, 2022 was $33 billion,recognised on a discounted basis in the Consolidated Balance Sheet as at December 31, 2022 at $20 billion (2021: $22 billion). Sensitivity to changes in the discount rate is provided in Note 24.

In Chemicals and Products, it was industry practice not to recognise decommissioning and restoration provisions associated with manufacturing facilities. This was on the basis that these assets were considered to have indefinite lives, so it was considered remote that an outflow of economic benefits would be required. In 2020, Shell considered the changed macroeconomic fundamentals, together with Shell's plans to rationalise the Group's manufacturing portfolio. Shell also reconsidered whether it remained appropriate not to recognise decommissioning and restoration provisions for manufacturing facilities. Since 2020, decommissioning and restoration provisions are recognised for certain shorter-lived manufacturing facilities (see Notes 24 and 31). The remaining five energy and chemicals parks are considered longer-lived facilities that are expected to be resilient in the energy transition, and decommissioning would generally be more than 50 years away.

### Onerous contracts

Closure or early termination of activities may lead to supply contracts becoming onerous. Onerous contract provisions (see Note 24) have been recognised as at December 31, 2022, to reflect changes in expected future utilisation of certain assets. These include contracts in relation to unused terminals and refineries. The total carrying amount of the provision for onerous contracts as at December 31, 2022 was $1.5 billion (2021: $1.7 billion) principally related to contracts in relation to unused terminals and refineries.

### Dividend resilience

External stakeholders have requested disclosures on how climate change affects dividend-paying capacity. If a further impairment had been recognised in 2022 using any of the climate change scenarios described above, this would not have impacted the ability to pay dividends in this financial year because of the strong cash flow generation and financial reserves. Had Shell applied the IEA NZE50 scenario (see above), and if this had led to a decrease in the recoverable amount of Integrated Gas and Upstream assets of $17-23 billion and recognition of an equivalent impairment, this would not have impacted the distributable reserves available to Shell from which to pay dividends in 2022. This is on the basis that such impairment would have resulted in part-realisation of the merger reserve recognised by the Company of $234 billion as at December 31, 2022.

A forward-looking statement regarding future dividend-paying capacity cannot be provided because of unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements.

### Physical risks

Potential physical impacts to Shell's assets, irrespective of cause, are important for Shell to manage.

Climate variability is considered in the design and operation of Shell's assets and infrastructure to minimise the risk of adverse incidents to Shell's employees and contractors, the communities where Shell operates, its equipment and infrastructure. Shell's new projects consider anticipated weather and climatic events in their design and Metocean (meteorology and oceanography) engineering experts are available, if required, to assist Shell's assets and project teams in the evaluation of physical risks.

On an ongoing basis, Shell's assets leverage broad risk and threat management processes to identify and respond to emerging challenges to their ongoing safe, compliant and efficient operation, as required by Shell's HSSE & SP Control Framework.

# Notes to the Consolidated Financial Statements continued

## 5. Emission schemes and related environmental programmes

### Emission trading and related schemes

In general, emission trading schemes (ETS) are mandated governmental schemes to control emission levels and enhance clean energy transition, allowing for the trading of emission certificates. In most ETS, governments set an emission cap for one or more sectors. Generally, entities in scope of the scheme are allowed to buy emission certificates to cover shortages or sell surplus emission certificates. In certain countries emissions are priced through a carbon tax. For Shell, the most significant carbon pricing mechanisms are established in Europe, Canada and Singapore.

### Biofuel programmes

Biofuel programmes are mandated governmental schemes that set binding national targets on the share of renewables in fuel consumption or measures on reducing GHG emissions by fuel suppliers. Biofuels are blended with existing fuels such as gasoline and diesel to reduce net emissions. The share of biofuel in the total sales mix of fuel is used to comply with regulatory requirements. This can be achieved by the blending of biofuels in refineries and/or distribution depots (self-blending), through import of biofuels (for jurisdictions that grant biofuels certificates at the point of import) or by the purchasing of certificates from third parties (for jurisdictions that have a tradable biofuel certificates mechanism). Biofuel programmes also include regulatory requirements to pay a levy for the combustion of fossil fuels, based on $CO_2$ emitted – mainly related to the German Fuel Emissions Trading Act (BEHG) applying since January 1, 2021.

### Renewable power programmes

Renewable power programmes create a financial incentive to consume power that is sourced from renewable origins or require that a minimum percentage of power sold meets the green definition of the relevant standard. These regulations are typically accompanied by schemes supporting investments in the renewable technology. Renewable power programmes generally use certificates to monitor compliance, where renewable power certificates are granted for each MWh of energy generated that meets the predefined renewable criteria. Shell's compliance obligation under renewable power programmes comes primarily from energy supply and results from regulations applying in Europe, North America and Australia.

### Cost of emission schemes and related environmental programmes recognised in the Consolidated Statement of Income

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| ETS and related schemes | 493 | 331 | 150 |
| Biofuels [A] | 2,918 | 2,609 | 1,137 |
| Renewable power | 594 | 455 | 364 |
| Total | 4,005 | 3,395 | 1,651 |

[A] Represents the cost of biofuel certificates required for compliance purposes over and above those generated from self-blending activities.

### Purchased environmental certificates (presented under Other intangible assets, see Note 11) [A]

$ million

| | ETS and related schemes | Biofuels | Renewable power | Total |
|---|---|---|---|---|
| At January 1, 2022 | 284 | 2,362 | 101 | 2,747 |
| Additions | 385 | 1,485 | 468 | 2,338 |
| Settlements | (256) | (2,142) | (398) | (2,796) |
| Other movements | 27 | (104) | (11) | (88) |
| At December 31, 2022 | 440 | 1,601 | 160 | 2,201 |
| At January 1, 2021 | 157 | 780 | 76 | 1,013 |
| Additions | 292 | 2,450 | 405 | 3,147 |
| Settlements | (115) | (754) | (355) | (1,224) |
| Other movements | (50) | (114) | (25) | (189) |
| At December 31, 2021 | 284 | 2,362 | 101 | 2,747 |

[A] Relates to environmental certificates held for compliance purposes.

# Notes to the Consolidated Financial Statements continued

## 5. Emission schemes and related environmental programmes continued

### Obligation (presented under Other payables, see Note 19)

$ million

| | ETS and related schemes | Biofuels | Renewable power | Total |
|---|---|---|---|---|
| At January 1, 2022 | | | | |
| Current | (270) | (3,262) | (273) | (3,805) |
| Non-current | – | (182) | (29) | (211) |
| | (270) | (3,444) | (302) | (4,016) |
| Additions | (1,237) | (2,916) | (637) | (4,790) |
| Additions covered by government grants | 776 [A] | | | 776 |
| Settlements | 292 | 2,456 | 499 | 3,247 |
| Other movements | (19) | 58 | 34 | 73 |
| | (188) | (402) | (104) | (694) |
| At December 31, 2022 | | | | |
| Current | (458) | (3,424) | (350) | (4,232) |
| Non-current | – | (422) | (56) | (478) |
| | (458) | (3,846) | (406) | (4,710) |
| At January 1, 2021 | | | | |
| Current | (154) | (1,549) | (290) | (1,993) |
| Non-current | – | (54) | (6) | (60) |
| | (154) | (1,603) | (296) | (2,053) |
| Additions | (781) | (2,756) | (487) | (4,024) |
| Additions covered by government grants | 456 [A] | | | 456 |
| Settlements | 150 | 755 | 491 | 1,396 |
| Other movements | 59 | 160 | (10) | 209 |
| | (116) | (1,841) | (6) | (1,963) |
| At December 31, 2021 | | | | |
| Current | (270) | (3,262) | (273) | (3,805) |
| Non-current | – | (182) | (29) | (211) |
| | (270) | (3,444) | (302) | (4,016) |

[A] Emission certificates that were allocated free of charge at an equivalent fair value at grant date.

Environmental certificates acquired that are held for compliance purposes are recognised at cost under intangible assets. In addition, a portfolio of environmental certificates is held for trading purposes and classified under inventory (see Note 2 and Note 16). Environmental certificates held for trading purposes can be redesignated for compliance purposes and then settle compliance obligations.

Cost recognised in the Consolidated Statement of Income represents the compliance cost associated with emissions or with products sold during the year. The liability at year-end represents the compliance cost recognised over current and past compliance periods to the extent not settled to date. Liabilities are settled in line with compliance periods, which depend on the scheme and may not coincide with the calendar year.

The figures present compliance schemes only, excluding voluntary activities.

## 6. Withdrawal from Russian oil and gas activities

Following the invasion of Ukraine by Russia, Shell announced in the first quarter of 2022 its intent to:

- withdraw from its ventures in Russia with Gazprom and related entities, and to end its involvement in the Nord Stream 2 pipeline project;
- withdraw from its service station and lubricants operations in Russia; and
- withdraw in a phased manner from its involvement in all Russian hydrocarbons, including crude oil, petroleum products, gas and LNG, aligned with new government guidance.

Since these announcements:

- Shell stopped all spot purchases of Russian crude, liquefied natural gas, and of cargoes of refined products directly exported from Russia. Shell has not renewed any long-term contracts for Russian crude, but was still legally obliged to take delivery of crude bought under contracts that were signed before the invasion.
- All of Shell's long-term third-party purchases of Russian crude have stopped (when contractually allowed and all by the end of 2022).
- All of Shell's contracts to purchase refined products exported from Russia have also ended.
- Shell's two pipeline gas contracts terminated by the end of 2022.

# Notes to the Consolidated Financial Statements continued

## 6. Withdrawal from Russian oil and gas activities continued

- Shell still holds two long-term LNG offtake contracts with Russian entities, accounted for as regular sales and purchase contracts. The counterparty in one of these contracts stopped delivering cargoes to Shell in the third quarter of 2022.
- Shell sold its service station and lubricants operations in Russia in the second quarter of 2022.

These actions led to recognition of net pre-tax charges of $4,170 million (post-tax: $3,804 million) in 2022. These were recognised in:

| 2022 | $ million |
|---|---|
| Revenue | (468) |
| Share of profit of joint ventures and associates | (1,614) |
| Interest and other income/(expenses) | (1,116) |
| Selling, distribution and administrative expenses | (104) |
| Depreciation, depletion and amortisation | (695) |
| Other | (173) |
| Loss before taxation | (4,170) |
| Taxation credit | (366) |
| Loss for the period | (3,804) |

In relation to the assets with a potential exposure to Shell's intended withdrawal from all Russian hydrocarbons, including those assets for which the above charges were recognised during the year, there is a $0.1 billion balance sheet carrying amount as at December 31, 2022.

Further details are provided below.

### Integrated Gas

#### Sakhalin-2

Shell holds a 27.5% (minus one share) interest in Sakhalin Energy Investment Company Ltd. (SEIC). Other ownership interests were Gazprom 50% (plus one share), Mitsui 12.5% and Mitsubishi 10%. Up to March 31, 2022, this investment was accounted for as an associate applying the equity method. Following the first quarter announcements, the recoverable amount of the investment was estimated as the risk-adjusted dividends declared on Sakhalin's 2021 results, of which the first part was received in April 2022. This resulted in recognition of an impairment charge of $1,614 million in the first quarter 2022. Significant influence over the Sakhalin-2 investment was lost from April 1, 2022, with the resignation of Shell's executive directors and withdrawal of managerial and technical staff, leading to recognition, without financial impact, of the investment as a financial asset accounted for at fair value from that date, with subsequent changes in fair value recognised in other comprehensive income.

On June 30, 2022, a Russian Presidential Decree was passed requiring the transfer of all licences, rights and obligations of SEIC into a newly-created Russian company (LLC) that would assume the rights and obligations of SEIC. The decree stated that the foreign shareholders would be invited to apply for shares in that entity equivalent to their shareholding in SEIC. Following the receipt of dividends in the second quarter 2022 and the Presidential Decree, appropriate fair value adjustments to the investment value have been recognised, against other comprehensive income.

Shell understands that pursuant to the Presidential Decree, all licences, assets, rights and obligations of SEIC were purportedly transferred to the LLC on August 17, 2022. On September 1, 2022, Shell formally advised the Russian Federation (RFG) that it would not apply for shares in the LLC, that it objected to the purported transfers from SEIC to the LLC and that it reserved all rights and remedies. Shell understands the RFG has commenced a process to sell those shares in the LLC which Shell did not apply for. This process was expected to be completed in the first quarter 2023, but the decree was amended in January 2023 to remove the timeline. Pursuant to the Presidential Decree, the RFG is also expected to conduct an audit of 'the activities of foreign shareholders in SEIC and/or individuals', based on which the RFG will determine the 'amount of damage caused' and 'persons liable to indemnify it'. The carrying value of the investment is zero as at December 31, 2022.

#### Nord Stream 2

Shell is one of five energy companies which each committed to provide financing and guarantees for up to 10% of the total cost of the project, with the final loan instalments having been made in the second quarter 2020. Following the first quarter 2022 announcements, Shell assessed the recoverability of the loan to Nord Stream 2, leading to a full write-down in the first quarter 2022 of the loan amounting to $1,126 million. On September 26, 2022, one of the two Nord Stream 2 pipelines ruptured resulting in a gas leak and significant damage. Investigations are now under way to determine the cause of the rupture. The rupture had no financial impact, following the previous full write-down of the loan.

### Upstream

#### Salym

Shell has a 50% interest in Salym Petroleum Development N.V. (Salym), a joint operation with GazpromNeft (GPN) that is developing the Salym fields in the Khanty Mansiysk Autonomous District of western Siberia. Shell consolidated its share in the joint operation. Following the first quarter announcements, Shell assessed the recoverability of the Salym carrying amounts, leading to full impairment amounting to $233 million in the first quarter 2022. In July 2022, the Shell directors of Salym resigned. Joint control was lost early in the third quarter 2022 and from that date Salym was accounted for as a financial asset at fair value, with a carrying value of zero. Pursuant to Russian legislative changes and court decisions in the second and third quarter 2022, the Russian branch of Salym was purportedly transformed into a Russian LLC (Salym Petroleum Development Limited Liability Company). All assets, rights and obligations of the Russian branch of Salym were purportedly transferred to that entity, of which Shell, purportedly, automatically held 50%. On March 3, 2023, Shell announced that it had completed the sale of its interest in Salym Petroleum Development Limited Liability Company to a subsidiary of GPN for which an agreement was signed on December 22, 2022.

# Notes to the Consolidated Financial Statements continued

## 6. Withdrawal from Russian oil and gas activities continued

### Khanty-Mansiysk Petroleum Alliance partnership

Shell had a 50% interest in the Khanty-Mansiysk Petroleum Alliance partnership. Through this, Shell was a holder of a 50% interest in the CJSC Khanty-Mansiysk Petroleum Alliance. On February 22, 2023, Shell completed the sale of its interest in CJSC Khanty-Mansiysk Petroleum Alliance to a subsidiary of GPN for which an agreement was signed on December 22, 2022.

### Gydan

Shell had a 50% interest in LLC Gydan Energy, a joint operation with GazpromNeft to explore and develop blocks in the Gydan peninsula, in north-western Siberia. This project is in the exploration phase, with no production. Following the first quarter announcements, Shell assessed the recoverability of the Gydan carrying amounts, leading to full impairment amounting to $153 million and other charges of $35 million in the first quarter 2022. During the second quarter 2022, all rights and obligations for Shell's 50% interest were transferred to GazpromNeft with an insignificant impact on the income statement.

### Marketing

Shell Neft's retail network consisted of 240 sites owned by Shell Neft and 171 sites owned by dealers and Shell Neft operated a lubricant blending plant. Shell Neft was a 100% Shell-owned subsidiary and was fully consolidated until the date of the disposal. Following the first quarter 2022 announcements, Shell assessed the recoverability of Shell Neft carrying amounts, resulting in an impairment of non-current assets of $358 million and other charges of $236 million. In the second quarter 2022, Shell transferred all shares of Shell Neft to Lukoil leading to net charges of $83 million, including the release of currency translation losses ($343 million).

### Other

Marked-to-market risk adjustments of $335 million related to long-term offtake natural gas contracts, an impairment of right-of-use assets of $114 million and other charges of $36 million were recognised in the first quarter 2022. In the second quarter 2022, further marked-to-market risk adjustments of $133 million were recognised following changes demanded to the contractual payment mechanism leading to the suspension by Gazprom of gas deliveries under these long-term offtake contracts. Finally, $140 million was recognised in income in the second quarter 2022 from the derecognition of lease liabilities following the termination of lease arrangements for which the right-of-use assets were impaired in the first quarter 2022.

In September 2021, Shell signed a binding novation agreement to take over a GasTerra gas supply contract with Gazprom Export LLC (Gazprom), with the transfer to take effect from October 1, 2022. Upon transfer and pursuant to the novation agreement, Shell recognised the transfer of a payable of approximately €1.3 billion ($1.4 billion) in respect of gas delivered by Gazprom to GasTerra in April and May of 2022. An equivalent receivable from GasTerra was recognised pursuant to the terms of the novation agreement. Gazprom ceased to supply gas to GasTerra at the end of May 2022. The gas supply contract terminated in December 2022.

## 7. Capital management

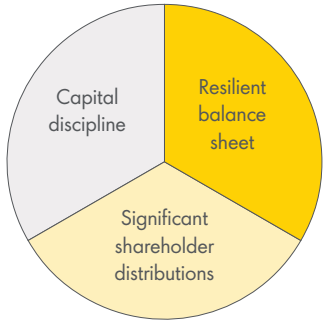
Shell manages its businesses to deliver strong cash flows to sustain its strategy and for profitable growth. Management's current priorities for applying Shell's cash are:

**Capital discipline**

Cash capex within $23-27 billion (2021: $19-22 billion)
- Includes inorganic capex

**Resilient balance sheet**

Targeting AA credit metrics through the cycle
- Continued focus on Net debt reduction in upcycle
- Divest for value
- Invest for value




**Significant shareholder distributions**

Around 4% annual growth in dividend per share, subject to Board approval (2021: 4%)

**Sustainable progressive dividend**

**Total shareholder distributions ≥ 20-30% [A] of cash flow from operating activities (2021: 20-30%)**

Total shareholder distributions (dividends + share buybacks) based on cash generation, macro-outlook and balance sheet trajectory.

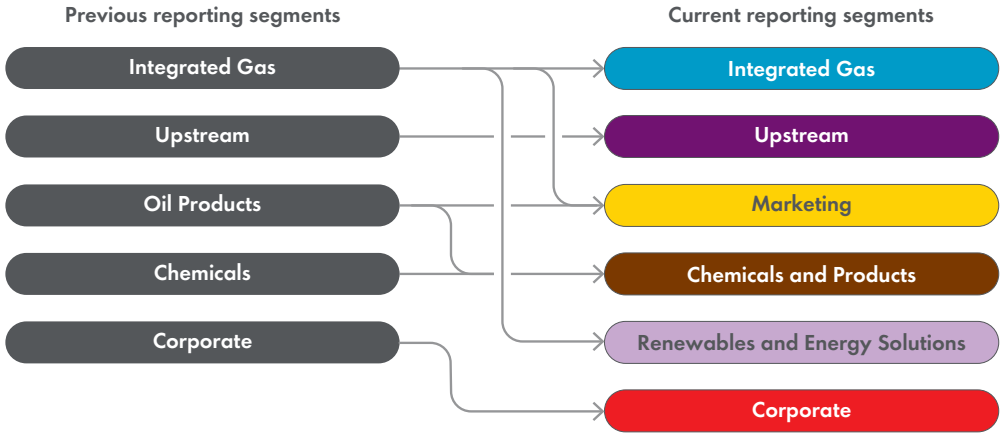
[A] Subject to Board approval and prevailing market conditions.

# Notes to the Consolidated Financial Statements continued

## 8. Segment information

### General information

Shell is an international energy company engaged in the principal aspects of the energy and petrochemicals industries and reports its business through segments. With effect from January 1, 2022, the reporting segments are aligned with Shell's Powering Progress strategy. The Renewables and Energy Solutions business is now reported separately from Integrated Gas. Shales assets in Canada are now reported as part of the Integrated Gas segment instead of the Upstream segment. The Oil Products and Chemicals segments are reorganised into two segments – Marketing, and Chemicals and Products. Prior period comparatives have been revised to conform with current year presentation. The reporting segment changes have no impact at a Group level.




The Integrated Gas segment includes liquefied natural gas (LNG), conversion of natural gas into gas-to-liquids (GTL) fuels and other products. The segment includes natural gas and liquids exploration and extraction, and the operation of the upstream and midstream infrastructure necessary to deliver gas and liquids to market as well as the marketing, trading and optimisation of LNG, including LNG as a fuel for heavy-duty vehicles.

The Upstream segment includes exploration and extraction of crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market.

The Marketing segment comprises the Mobility, Lubricants, and Sectors & Decarbonisation businesses. The Mobility business operates Shell's retail network including electric vehicle charging services. The Lubricants business produces, markets and sells lubricants for road transport, and machinery used in manufacturing, mining, power generation, agriculture and construction. The Sectors & Decarbonisation business sells fuels, speciality products and services including low-carbon energy solutions to a broad range of commercial customers including the aviation, marine, commercial road transport and agricultural sectors.

The Chemicals and Products segment includes chemicals manufacturing plants with their own marketing network, and refineries which turn crude oil and other feedstocks into a range of oil products which are moved and marketed around the world for domestic, industrial and transport use. The segment also includes the pipeline business, trading of crude oil, oil products and petrochemicals, and oil sands activities (the extraction of bitumen from mined oil sands and its conversion into synthetic crude oil).

The Renewables and Energy Solutions segment includes Shell's Integrated Power activities, comprising electricity generation, marketing and trading of power and pipeline gas, and digitally enabled customer solutions. The segment also includes production and supply of decarbonised hydrogen, development of commercial carbon capture and storage hubs, as well as trading of carbon credits and investment in nature-based projects that avoid or reduce carbon.

The Corporate segment covers the non-operating activities supporting Shell, comprising Shell's holdings and treasury organisation, its self-insurance activities and its headquarters and central functions. All finance expense and income and related taxes are included in Corporate segment earnings rather than in the earnings of business segments.

# Notes to the Consolidated Financial Statements continued

## 8. Segment information continued

### Basis of segmental reporting

Sales between segments are based on prices generally equivalent to commercially available prices. Third-party revenue and non-current assets information by geographical area are based on the country of operation of the Group subsidiaries that report this information. Separate disclosure is provided for the UK as this is the Company's country of domicile.

Segment earnings are presented on a current cost of supplies basis (CCS earnings). On this basis, the purchase price of volumes sold during the period is based on the current cost of supplies during the same period after making allowance for the tax effect. CCS earnings therefore exclude the effect of changes in the oil price on inventory carrying amounts. CCS earnings attributable to Shell plc shareholders is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance.

Finance expense and income related to core financing activities, as well as related taxes, are included in the Corporate segment earnings rather than in the earnings of the business segments.

Information by segment on a current cost of supplies basis is as follows:

### 2022

$ million

| | Integrated Gas | Upstream | Marketing | Chemicals and Products | Renewables and Energy Solutions | Corporate | Total | |
|---|---|---|---|---|---|---|---|---|
| Revenue: | | | | | | | | |
| Third-party | 54,751 | 8,352 | 120,638 | 144,342 | 53,190 | 41 | 381,314 | [A] |
| Inter-segment | 18,412 | 52,285 | 606 | 2,684 | 6,791 | – | 80,778 | |
| Share of profit/(loss) of joint ventures and associates (CCS basis) | 1,219 | 2,111 | 237 | 374 | (7) | (4) | 3,930 | |
| Interest and other income, of which: | (714) | 726 | (104) | 244 | 57 | 706 | 915 | |
| Interest income | 43 | 22 | – | 24 | (2) | 959 | 1,046 | |
| Net gains on sale and revaluation of non-current assets and businesses | 101 | 437 | (186) | 282 | 8 | – | 642 | |
| Other | (858) | [B] 267 | 82 | (62) | 51 | (253) | (773) | |
| Third-party and inter-segment purchases (CCS basis) | 37,785 | 10,666 | 108,012 | 127,521 | 57,024 | (28) | 340,980 | |
| Production and manufacturing expenses | 4,907 | 9,676 | 810 | 7,583 | 2,520 | 22 | 25,518 | |
| Selling, distribution and administrative expenses | 218 | 233 | 7,351 | 3,592 | 972 | 517 | 12,883 | |
| Research and development expenses | 112 | 456 | 222 | 187 | 98 | – | 1,075 | |
| Exploration expenses | 240 | 1,472 | – | – | – | – | 1,712 | |
| Depreciation, depletion and amortisation charge, of which: | 2,211 | 10,334 | 1,900 | 3,289 | 777 | 18 | 18,529 | |
| Impairment losses | 115 | 950 | 480 | 356 | 412 | – | 2,313 | [C] |
| Impairment reversals | (3,449) | (2,504) | (151) | (73) | – | – | (6,177) | [D] |
| Interest expense | 84 | 345 | 46 | 22 | 2 | 2,682 | 3,181 | |
| Taxation charge/(credit) (CCS basis) | 5,899 | 14,070 | 903 | 935 | (303) | (7) | 21,497 | |
| CCS earnings | 22,212 | 16,222 | 2,133 | 4,515 | (1,059) | (2,461) | 41,562 | |

[A] Includes $11,708 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior losses of $9,815 million related to sales contracts and prior gains of $7,201 million related to purchase contracts that were previously recognised and where physical settlement has taken place during 2022.
[B] Includes the full write-down of the Nord Stream 2 loan amounting to $1,126 million. (See Note 6).
[C] Impairment losses comprise Property, plant and equipment ($1,799 million, see Note 12), Goodwill ($361 million) and Other intangible assets ($153 million).
[D] Impairment reversals fully comprise Property, plant and equipment. (See Note 12).

# Notes to the Consolidated Financial Statements continued

## 8. Segment information continued

### 2021

$ million

| | Integrated Gas [A] | Upstream [A] | Marketing [A] | Chemicals and Products [A] | Renewables and Energy Solutions [A] | Corporate | Total | |
|---|---|---|---|---|---|---|---|---|
| Revenue: | | | | | | | | |
| Third-party | 29,922 | 9,182 | 83,494 | 116,448 | 22,415 | 43 | 261,504 | [B] |
| Inter-segment | 8,072 | 35,789 | 254 | 1,890 | 4,675 | – | 50,680 | |
| Share of profit/(loss) of joint ventures and associates (CCS basis) | 1,933 | 632 | 385 | 989 | (27) | 1 | 3,913 | |
| Interest and other income, of which: | 1,596 | 4,592 | 278 | 37 | 200 | 353 | 7,056 | |
| Interest income | – | 37 | 3 | 36 | 4 | 431 | 511 | |
| Net gains on sale and revaluation of non-current assets and businesses | 1,610 | 4,130 | 285 | (24) | (6) | – | 5,995 | |
| Other | (14) | 425 | (10) | 25 | 202 | (78) | 550 | |
| Third-party and inter-segment purchases (CCS basis) | 20,188 | 9,094 | 70,745 | 103,294 | 26,048 | (5) | 229,364 | |
| Production and manufacturing expenses | 4,194 | 9,797 | 950 | 6,815 | 2,098 | (32) | 23,822 | |
| Selling, distribution and administrative expenses | 231 | 186 | 6,384 | 3,375 | 596 | 556 | 11,328 | |
| Research and development expenses | 101 | 339 | 167 | 157 | 51 | – | 815 | |
| Exploration expenses | 122 | 1,301 | – | – | – | – | 1,423 | |
| Depreciation, depletion and amortisation charge, of which: | 5,908 | 13,485 | 1,700 | 5,485 | 326 | 17 | 26,921 | |
| Impairment losses | 723 | 920 | 129 | 2,248 | 45 | – | 4,065 | [C] |
| Impairment reversals | (204) | (9) | (1) | – | – | – | (214) | [D] |
| Interest expense | 71 | 333 | 27 | 44 | – | 3,132 | 3,607 | |
| Taxation charge/(credit) (CCS basis) | 2,648 | 6,057 | 903 | (210) | (342) | (665) | 8,391 | |
| CCS earnings | 8,060 | 9,603 | 3,535 | 404 | (1,514) | (2,606) | 17,482 | |

[A] Revised to conform with reporting segment changes applicable from 2022.
[B] Includes $126 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior losses of $4,824 million related to sales contracts and prior gains of $4,892 million related to purchase contracts that were previously recognised and where physical settlement had taken place during 2021.
[C] Impairment losses mainly comprise Property, plant and equipment ($3,894 million, see Note 12) and Goodwill ($167 million).
[D] Impairment reversals fully comprise Property, plant and equipment. (See Note 12).

# Notes to the Consolidated Financial Statements continued

## 8. Segment information continued

### 2020

$ million

| | Integrated Gas [A] | Upstream [A] | Marketing [A] | Chemicals and Products [A] | Renewables and Energy Solutions [A] | Corporate | Total |
|---|---|---|---|---|---|---|---|
| Revenue: | | | | | | | |
| Third-party | 20,865 | 6,743 | 55,845 | 84,657 | 12,382 | 51 | 180,543 [B] |
| Inter-segment | 4,357 | 21,020 | 152 | 1,056 | 1,597 | – | 28,182 |
| Share of profit/(loss) of joint ventures and associates (CCS basis) | 612 | (7) | 491 | 1,064 | (50) | (268) | 1,842 |
| Interest and other income, of which: | 212 | 541 | 143 | (236) | (197) | 406 | 869 |
| Interest income | – | 56 | 4 | 25 | 5 | 589 | 679 |
| Net gains on sale and revaluation of non-current assets and businesses | 212 | 54 | 117 | (129) | 8 | 24 | 286 |
| Other | – | 431 | 22 | (132) | (210) | (207) | (96) |
| Third-party and inter-segment purchases (CCS basis) | 10,961 | 4,471 | 43,856 | 71,490 | 12,129 | 9 | 142,916 |
| Production and manufacturing expenses | 4,957 | 10,195 | 779 | 6,952 | 1,091 | 27 | 24,001 |
| Selling, distribution and administrative expenses | 60 | (31) | 5,380 | 3,391 | 606 | 475 | 9,881 |
| Research and development expenses | 84 | 486 | 147 | 171 | 19 | – | 907 |
| Exploration expenses | 616 | 1,131 | – | – | – | – | 1,747 |
| Depreciation, depletion and amortisation charge, of which: | 19,314 | 21,079 | 1,499 | 10,096 | 424 | 32 | 52,444 |
| Impairment losses | 13,464 | 7,274 | 44 | 6,492 | 180 | 9 | 27,463 [C] |
| Interest expense | 78 | 369 | 43 | 16 | 3 | 3,580 | 4,089 |
| Taxation (credit)/charge (CCS basis) | (2,794) | (103) | 846 | (1,754) | (61) | (982) | (4,848) |
| CCS earnings | (7,230) | (9,300) | 4,081 | (3,821) | (479) | (2,952) | (19,701) |

[A] Revised to conform with reporting segment changes applicable from 2022.
[B] Includes $10,008 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior gains of $1,136 million related to sales contracts and prior losses of $539 million related to purchase contracts that were previously recognised and where physical settlement had taken place during 2020.
[C] Impairment losses comprise Property, plant and equipment ($26,676 million, see Note 12), Goodwill ($276 million) and Other intangible assets ($511 million).

### Reconciliation of CCS earnings to income for the period

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Income/(loss) attributable to Shell plc shareholders | 42,309 | 20,101 | (21,680) |
| Income attributable to non-controlling interest | 565 | 529 | 146 |
| Income/(loss) for the period | 42,874 | 20,630 | (21,534) |
| Current cost of supplies adjustment: | | | |
| Purchases | (1,714) | (3,772) | 2,359 |
| Taxation | 444 | 808 | (585) |
| Share of profit of joint ventures and associates | (42) | (184) | 59 |
| Current cost of supplies adjustment | (1,312) | (3,148) | 1,833 |
| Of which: | | | |
| Attributable to Shell plc shareholders | (1,196) | (3,029) | 1,759 |
| Attributable to non-controlling interest | (116) | (119) | 74 |
| CCS earnings | 41,562 | 17,482 | (19,701) |
| Of which: | | | |
| CCS earnings attributable to Shell plc shareholders | 41,113 | 17,072 | (19,921) |
| CCS earnings attributable to non-controlling interest | 449 | 410 | 220 |

# Notes to the Consolidated Financial Statements continued

## 8. Segment information continued

Information by geographical area is as follows:

### 2022

$ million

| | Europe | | Asia, Oceania, Africa | USA | Other Americas | Total |
|---|---|---|---|---|---|---|
| Third-party revenue, by origin | 135,975 | [A] | 126,643 | 87,085 | 31,611 | 381,314 |
| Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31 | 40,161 | [B] | 97,019 | 59,233 | 51,794 | 248,207 |

[A] Includes $50,236 million that originated from the UK.
[B] Includes $20,772 million located in the UK.

### 2021

$ million

| | Europe | | Asia, Oceania, Africa | USA | Other Americas | Total |
|---|---|---|---|---|---|---|
| Third-party revenue, by origin | 78,549 | [A] | 87,070 | 73,647 | 22,238 | 261,504 |
| Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31 | 38,881 | [B] | 97,278 | 58,286 | 48,595 | 243,040 |

[A] Includes $21,846 million that originated from the UK.
[B] Includes $21,974 million located in the UK.

### 2020

$ million

| | Europe | | Asia, Oceania, Africa | USA | Other Americas | Total |
|---|---|---|---|---|---|---|
| Third-party revenue, by origin | 50,138 | [A] | 65,139 | 50,856 | 14,410 | 180,543 |
| Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31 | 38,785 | [B] | 103,191 | 62,976 | 49,909 | 254,861 |

[A] Includes $12,958 million that originated from the UK.
[B] Includes $23,302 million located in the UK.

## 9. Interest and other income

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Interest income | 1,046 | 511 | 679 |
| Dividend income (from investments in equity securities) | 216 | 91 | 22 |
| Net gains on sale and revaluation of non-current assets and businesses | 642 | 5,995 | 286 |
| Net foreign exchange (losses)/gains on financing activities | (340) | 118 | (391) |
| Other | (649) | 341 | 273 |
| Total | 915 | 7,056 | 869 |

In 2022, "Other" includes the full write-down of the Nord Stream 2 loan amounting to $1,126 million. (See Note 6). The remaining income in "Other" mainly relates to amounts recognised in respect of sublease income from partners in joint operations (2022: $319 million, 2021: $313 million, 2020: $426 million).

In 2021, "Net gains on sale of non-current assets and businesses" arose mainly in respect of gains on the sale of Integrated Gas assets in Australia and Norway, and Upstream assets in the USA and Nigeria.

# Notes to the Consolidated Financial Statements continued

## 10. Interest expense

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Interest incurred and similar charges | 1,971 | 2,086 | 2,174 |
| Interest expense related to leases | 1,724 | 1,987 | 2,185 |
| Less: interest capitalised | (950) | (917) | (799) |
| Other net (gains)/losses on fair value and cash flow hedges of debt | (71) | 1 | 32 |
| Accretion expense | 507 | 450 | 497 |
| Total | 3,181 | 3,607 | 4,089 |

The rate applied in determining the amount of interest capitalised in 2022 was 4.0% (2021: 4.0%; 2020: 4.5%).

## 11. Goodwill and other intangible assets

### 2022

$ million

| | | Other intangible assets | | | |
|---|---|---|---|---|---|
| | Goodwill | LNG off-take and sales contracts | Environmental certificates | Other | Total |
| Cost | | | | | |
| At January 1 | 16,117 | 9,833 | 2,747 | 6,679 | 19,259 |
| Additions | 1,954 | – | 2,338 | 1,263 | 3,601 |
| Sales, retirements and other movements [A] | (351) | – | (2,749) | 459 [C] | (2,290) |
| Currency translation differences | (163) | – | (135) | (243) | (378) |
| At December 31 | 17,557 | 9,833 | 2,201 | 8,158 | 20,192 |
| Depreciation, depletion and amortisation, including impairments | | | | | |
| At January 1 | 1,197 | 5,267 | | 4,219 | 9,486 |
| Charge for the year [B] | 360 | 793 | | 532 | 1,325 |
| Sales, retirements and other movements [A] | – | – | | (137) | (137) |
| Currency translation differences | (39) | – | | (144) | (144) |
| At December 31 | 1,518 | 6,060 | | 4,470 | 10,530 |
| Carrying amount at December 31 | 16,039 | 3,773 | 2,201 | 3,688 [D] | 9,662 |

[A] Includes the reclassification to assets classified as held for sale. (See Note 18).
[B] Includes impairments as presented in Note 12.
[C] Includes the reclassification from goodwill following the completion of a purchase price allocation in Renewables and Energy Solutions.
[D] Includes other intangible assets from acquisitions, power purchase agreements, retail customer relationships, trademarks and $583 million related to software.

# Notes to the Consolidated Financial Statements continued

## 11. Goodwill and other intangible assets continued

### 2021

$ million

| | | Other intangible assets | | | |
|---|---|---|---|---|---|
| | Goodwill | LNG off-take and sales contracts | Environmental certificates | Other | Total |
| Cost | | | | | |
| At January 1 | 15,101 | 10,030 | 1,013 | 6,914 | 17,957 |
| Additions | 1,546 | – | 3,147 | 527 | 3,674 |
| Sales, retirements and other movements [A] | (464) | (197) | (1,371) | (607) | (2,175) |
| Currency translation differences | (66) | – | (42) | (155) | (197) |
| At December 31 | 16,117 | 9,833 | 2,747 | 6,679 | 19,259 |
| Depreciation, depletion and amortisation, including impairments | | | | | |
| At January 1 | 1,062 | 4,668 | | 4,618 | 9,286 |
| Charge for the year [B] | 167 | 796 | | 368 | 1,164 |
| Sales, retirements and other movements [A] | (23) | (197) | | (670) | (867) |
| Currency translation differences | (9) | – | | (97) | (97) |
| At December 31 | 1,197 | 5,267 | | 4,219 | 9,486 |
| Carrying amount at December 31 | 14,920 | 4,566 | 2,747 | 2,460 [C] | 9,773 |

[A] Includes the reclassification to assets classified as held for sale. (See Note 18).
[B] Includes impairment as presented in Note 12.
[C] Includes $456 million related to software.

Goodwill at December 31, 2022, related principally to the acquisition of BG Group plc in 2016, allocated to Integrated Gas ($4,945 million) and Upstream ($5,294 million) at the operating segment level, and to Pennzoil-Quaker State Company ($1,714 million), a lubricants business in the Chemicals and Products segment based largely in North America.

Additions to goodwill in 2022 mainly related to goodwill recognised from acquisitions in Marketing ($1,178 million) and Renewables and Energy Solutions ($775 million).

## 12. Property, plant and equipment

### 2022 [A]

$ million

| | Exploration and production | | | | |
|---|---|---|---|---|---|
| | Exploration and evaluation | Production | Manufacturing, supply and distribution | Other | Total |
| Cost | | | | | |
| At January 1 | 12,679 | 285,903 | 104,182 | 34,005 | 436,769 |
| Additions | 1,564 | 11,954 | 6,928 | 7,808 | 28,254 |
| Sales, retirements and other movements [B] | (2,469) | (14,541) | (2,548) | (242) | (19,800) |
| Currency translation differences | (209) | (6,300) | (1,777) | (1,976) | (10,262) |
| At December 31 | 11,565 | 277,016 | 106,785 | 39,595 | 434,961 |
| Depreciation, depletion and amortisation, including impairments | | | | | |
| At January 1 | 5,580 | 167,530 | 55,131 | 13,596 | 241,837 |
| Charge for the year [C] | 397 | 9,709 | 5,149 | 2,055 | 17,310 |
| Sales, retirements and other movements [B] | (765) | (13,207) | (2,054) | (396) | (16,422) |
| Currency translation differences | (50) | (4,370) | (1,325) | (661) | (6,406) |
| At December 31 | 5,162 | 159,662 | 56,901 | 14,594 | 236,319 |
| Carrying amount at December 31 | 6,403 | 117,354 | 49,884 | 25,001 | 198,642 |

[A] Includes right-of-use assets under leases. (See Note 21).
[B] Includes the reclassification to assets classified as held for sale. (See Note 18).
[C] Includes $6,177 million relating to impairment reversals mainly in Integrated Gas and Upstream (see table 'Impairments' below).

# Notes to the Consolidated Financial Statements continued

## 12. Property, plant and equipment continued

### 2021 [A]

$ million

| | Exploration and production | | | | |
|---|---|---|---|---|---|
| | Exploration and evaluation | Production | Manufacturing, supply and distribution | Other | Total |
| Cost | | | | | |
| At January 1 | 14,484 | 298,882 | 107,876 | 32,402 | 453,644 |
| Additions | 1,216 | 8,942 | 7,917 | 3,644 | 21,719 |
| Sales, retirements and other movements [B] | (3,014) | (20,005) | (9,607) | (455) | (33,081) |
| Currency translation differences | (7) | (1,916) | (2,004) | (1,586) | (5,513) |
| At December 31 | 12,679 | 285,903 | 104,182 | 34,005 | 436,769 |
| Depreciation, depletion and amortisation, including impairments | | | | | |
| At January 1 | 5,258 | 167,711 | 58,242 | 12,733 | 243,944 |
| Charge for the year | 1,311 | 15,800 | 7,112 | 1,770 | 25,993 |
| Sales, retirements and other movements [B] | (999) | (14,590) | (8,624) | (240) | (24,453) |
| Currency translation differences | 10 | (1,391) | (1,599) | (667) | (3,647) |
| At December 31 | 5,580 | 167,530 | 55,131 | 13,596 | 241,837 |
| Carrying amount at December 31 | 7,099 | 118,373 | 49,051 | 20,409 | 194,932 |

[A] Includes right-of-use assets under leases. (See Note 21).
[B] Includes the reclassification to assets classified as held for sale. (See Note 18).

Additions in 2022 included an acquisition of an interest in an oil field in South America within Upstream, an acquisition of a renewable energy platform in Asia within Renewables and Energy Solutions and an acquisition of certain fuel and convenience retail sites in North America within Marketing.

The carrying amount of property, plant and equipment at December 31, 2022, included $27,277 million (2021: $37,006 million) of assets under construction. This amount excludes exploration and evaluation assets.

The carrying amount of exploration and production assets at December 31, 2022, included rights and concessions in respect of proved and unproved properties of $7,662 million (2021: $8,849 million). Exploration and evaluation assets principally comprise rights and concessions in respect of unproved properties and capitalised exploration drilling costs.

Approaches applied to determine an alternative reserves base for the purpose of calculating depreciation include management's expectations of the future oil and gas prices rather than yearly average prices and using total proved reserves to provide a phasing of periodic depreciation charges that more appropriately reflects the expected utilisation of the assets concerned. (See Note 2)

At December 31, 2022, there were no assets for which management's expectations of the future oil and gas prices were applied rather than yearly average prices (carrying amount of such assets at December 31, 2021: $1,634 million). If no alternative reserves base had been used for those assets, the pre-tax depreciation charge for the years ended December 31, 2021, and December 31, 2020, would have been respectively $1,184 million and $1,012 million higher.

The carrying amount of assets at December 31, 2022, for which total proved reserves were applied rather than total proved developed reserves for the calculation of depreciation, was $26,129 million (2021: $17,462 million). If no alternative reserves base had been used for those assets, the pre-tax depreciation charge for the year ended December 31, 2022, would have been $792 million higher (2021: $1,168 million, 2020: $2,476 million).

Contractual commitments for the purchase and lease of property, plant and equipment at December 31, 2022, amounted to $6,693 million (2021: $5,984 million).

# Notes to the Consolidated Financial Statements continued

## 12. Property, plant and equipment continued

### Impairments

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Impairment losses | | | |
| Exploration and production | 868 | 1,533 | 20,155 |
| Manufacturing, supply and distribution | 474 | 2,340 | 6,490 |
| Other | 457 | 21 | 31 |
| Total [A] | 1,799 | 3,894 | 26,676 |
| Impairment reversals | | | |
| Exploration and production | 5,954 | 213 | – |
| Manufacturing, supply and distribution | 72 | – | – |
| Other | 151 | 1 | – |
| Total [A] | 6,177 | 214 | – |

[A] See Note 8.

Impairment losses in 2022 mainly related to the withdrawal from Russia ($854 million, see Note 6), the classification of an Upstream asset as held for sale ($320 million) and an impairment of capital expenditure additions in fully impaired sites in Chemicals and Products ($257 million).

The recognition of impairment reversals in 2022 resulted from the reversals of impairment losses recognised previously. These were mainly triggered by the revision of Shell's mid- and long-term commodity price assumptions reflecting the current energy market demand and supply fundamentals. They are related to: i) Integrated Gas for $3,449 million, mainly relating to the Queensland Curtis LNG asset; and ii) Upstream for $2,504 million, mainly related to two offshore projects in Brazil and an asset in the US Gulf of Mexico.

Impairment losses in 2021 were predominantly triggered by the reclassifications to assets held for sale, or portfolio developments. They were mainly related to three refineries in the USA within Chemicals and Products impaired on classification as held for sale ($1,537 million), and exploration and evaluation assets both within Integrated Gas ($600 million) and Upstream ($373 million).

Impairment losses in 2020 were mainly triggered by Shell's revision of the mid- and long-term commodity price and refining margin outlook reflecting the expected effects of the macroeconomic environment and the COVID-19 pandemic as well as energy market demand and supply fundamentals. The impairment losses for exploration and production assets related primarily to Integrated Gas ($11,539 million), including the Queensland Curtis LNG and Prelude floating LNG operations, and Upstream ($8,629 million), including assets in the Gulf of Mexico, unconventional assets in North America, offshore assets in Brazil and Europe and a project in Nigeria (OPL 245). The impairment losses for manufacturing, supply and distribution related primarily to Chemicals and Products ($6,493 million), including assets in Europe and the shutdown of the Convent oil products manufacturing facility in the USA.

For impairment testing purposes, the respective carrying amounts of property, plant and equipment and intangible assets were compared with their value in use. Cash flow projections used in the determination of value in use were made using management's forecasts of commodity prices, market supply and demand, potential costs associated with operational GHG emissions, product margins including forecast refining margins and expected production volumes (see Note 2).

The discount rate is based on a nominal post-tax weighted average cost of capital (WACC) of 5% (2021: 5%) for Power activities and a nominal post-tax WACC of 6.5% (2021: 6.5%) for all other businesses. Prior to 2021 the rate used by Shell was 6% for all activities and was based on a pre-tax discount rate reflecting the marginal cost of debt, current market assessments of the time value of money and residual risk. The change in 2021 in the discount rate to a nominal post-tax WACC has been reflected in a commensurate manner in the risk adjustments to post-tax cash flow projections. The impact of the change in the 2021 impairment valuation technique was not material compared with the previous impairment valuation technique. The pre-tax discount rate used for goodwill testing ranged between 5-12% (2021: 7-11%), see Note 11.

Oil and gas price assumptions applied for impairment testing are reviewed and, where necessary, adjusted on a periodic basis. Reviews include comparison with available market data and forecasts that reflect developments in demand such as global economic growth, technology efficiency, policy measures and, in supply, consideration of investment and resource potential, cost of development of new supply, and behaviour of major resource holders. The near-term commodity price assumptions applied in impairment testing in 2022 were as follows:

# Notes to the Consolidated Financial Statements continued

## 12. Property, plant and equipment continued

### Commodity price assumptions [A]

| 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|
| Brent crude oil ($/b) | 80 | 70 | 70 | 71 |
| Henry Hub natural gas ($/MMBtu) | 4.00 | 3.50 | 3.50 | 3.98 |

| 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|
| Brent crude oil ($/b) | 60 | 60 | 60 | 63 |
| Henry Hub natural gas ($/MMBtu) | 2.75 | 2.75 | 2.75 | 3.00 |

[A] Money of the day.

For periods after 2026, the real-terms price assumptions applied were: $65 per barrel (/b) (2021: $60/b) for Brent crude oil, $4.00 per million British thermal units (/MMBtu) (2021: $3.00/MMBtu) for Henry Hub natural gas.

The main sensitivities in relation to impairment are the commodity price assumptions in Integrated Gas and Upstream, refining margins in Chemicals and Products and discount rates in all segments. A change of -10% or +10% in the commodity price assumptions over the entire cash flow projection period would ceteris paribus result in some $2-5 billion impairment or some $2-4 billion impairment reversal, respectively, in Integrated Gas and Upstream. Refining margins included in the Operating Plan are at an average of $6.22/bbl. A change of -$1/bbl or +$1/bbl long-term refining margins over the entire cash flow projection period would ceteris paribus result in some $1-3 billion impairment or some $1-3 billion impairment reversal, respectively, in Chemicals and Products. A change of +1% in the discount factor would ceteris paribus result in some $1-3 billion impairment in Integrated Gas, up to $1 billion impairment in each of the following segments: Upstream, Chemicals and Products and Renewables and Energy Solutions, and would have no significant impact on Marketing and Corporate.

### Capitalised exploration drilling costs

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| At January 1 | 3,015 | 3,654 | 5,668 |
| Additions pending determination of proved reserves | 1,298 | 1,024 | 1,016 |
| Amounts charged to expense | (881) | (639) | (815) |
| Reclassifications to productive wells on determination of proved reserves | (531) | (577) | (1,385) |
| Other movements | 10 | (447) | (830) |
| At December 31 | 2,911 | 3,015 | 3,654 |

| | Projects | | Wells | |
|---|---|---|---|---|
| | Number | $ million | Number | $ million |
| Between 1 and 5 years | 11 | 819 | 24 | 549 |
| Between 6 and 10 years | 9 | 797 | 32 | 848 |
| Between 11 and 15 years | 1 | 3 | 10 | 210 |
| Between 16 and 20 years | 4 | 193 | 11 | 205 |
| Total | 25 | 1,812 | 77 | 1,812 |

Exploration drilling costs capitalised for periods greater than one year at December 31, 2022, analysed according to the most recent year of activity, are presented in the table above. These comprise $443 million relating to six projects where drilling activities were under way or firmly planned for the future, and $1,369 million relating to 19 projects awaiting development concepts.

# Notes to the Consolidated Financial Statements continued

## 13. Joint ventures and associates

### Shell share of comprehensive income of joint ventures and associates

$ million

| | 2022 | | | 2021 | | | 2020 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Joint ventures | Associates | Total | Joint ventures | Associates | Total | Joint ventures | Associates | Total |
| Income for the period | 2,589 | 1,383 [A] | 3,972 | 1,955 | 2,142 | 4,097 | 629 | 1,154 | 1,783 |
| Other comprehensive income/(loss) for the period | 21 | – | 21 | (106) | – | (106) | 76 | 1 | 77 |
| Comprehensive income for the period | 2,610 | 1,383 | 3,993 | 1,849 | 2,142 | 3,991 | 705 | 1,155 | 1,860 |

[A] Includes an impairment charge of $1,614 million related to Sakhalin-2. (See Note 6).

### Carrying amount of interests in joint ventures and associates

$ million

| | Dec 31, 2022 | | | Dec 31, 2021 | | |
|---|---|---|---|---|---|---|
| | Joint ventures | Associates | Total | Joint ventures | Associates | Total |
| Net assets | 17,056 | 6,808 | 23,864 | 15,767 | 7,648 | 23,415 |

### Transactions with joint ventures and associates

$ million

| | 2022 [A] | 2021 [A] | 2020 |
|---|---|---|---|
| Sales and charges to joint ventures and associates | 12,230 | 8,509 | 5,426 |
| Purchases and charges from joint ventures and associates | 22,286 | 13,584 | 8,262 |

[A] Includes 29% (2021: 26%) of sales and 16% (2021: 16%) purchases in transactions with one joint venture operating in the oil trading business.

These transactions principally comprise sales and purchases of goods and services in the ordinary course of business. Related balances outstanding at December 31, 2022, and 2021, are presented in Notes 15 and 19.

### Other arrangements in respect of joint ventures and associates

$ million

| | Dec 31, 2022 | Dec 31, 2021 |
|---|---|---|
| Commitments to make purchases from joint ventures and associates [A] | 1,234 | 1,437 |
| Commitments to provide debt or equity funding to joint ventures and associates | 567 | 533 |

[A] Commitments to make purchases from joint ventures and associates mainly relate to contracts associated with LNG processing fees and transportation capacity. Shell has other purchase obligations related to joint ventures and associates that are not fixed or determinable and are principally intended to be resold in a short period of time through sales agreements with third parties. These include long-term LNG and natural gas purchase commitments and commitments to purchase refined products or crude oil at market prices. Shell has stopped all spot purchases of Russian crude, LNG, and of cargoes of refined products directly exported from Russia. (See Note 6).

# Notes to the Consolidated Financial Statements continued

## 14. Investments in securities

### Investments in securities

| | $ million | |
|---|---|---|
| | Dec 31, 2022 | Dec 31, 2021 |
| Equity securities: | 1,533 | 1,710 |
| Equity securities at fair value through other comprehensive income | 1,533 | 1,710 |
| Debt securities: | 1,829 | 2,087 |
| Debt securities at amortised cost | 21 | 4 |
| Debt securities at fair value through other comprehensive income | 1,308 | 1,306 |
| Debt securities at fair value through profit or loss | 500 | 777 |
| Total | 3,362 | 3,797 |
| At fair value | | |
| Measured by reference to prices in active markets for identical assets | 1,884 | 1,909 |
| Measured by reference to other observable inputs | 158 | 177 |
| Measured using predominantly unobservable inputs | 1,299 | 1,707 |
| Total | 3,341 | 3,793 |
| At cost | 21 | 4 |
| Total | 3,362 | 3,797 |

As at December 31, 2022, investments included equity securities comprising interests in which Shell has no significant influence, debt securities principally comprising a portfolio required to be held by the Company's internal insurance entities as security for their activities, and assets held in escrow in relation to the Group's UK pension arrangements.

### Investments in securities measured using predominantly unobservable inputs [A]

| | $ million | |
|---|---|---|
| | 2022 | 2021 |
| At January 1 | 1,707 | 1,505 |
| (Losses)/gains recognised in other comprehensive income | (206) | 44 |
| Purchases | 142 | 299 |
| Sales | (37) | (17) |
| Other movements | (307) | (124) |
| At December 31 | 1,299 | 1,707 |

[A] Based on expected dividend flows, adjusted for country and other risks as appropriate and discounted to their present value.

"Other movements" in 2022 includes a reclassification to property, plant and equipment, as a result of obtaining title to assets in a project in Asia.

# Notes to the Consolidated Financial Statements continued

## 15. Trade and other receivables

$ million

| | Dec 31, 2022 | | Dec 31, 2021 | |
|---|---|---|---|---|
| | Current | Non-current | Current | Non-current |
| Trade receivables | 39,334 | – | 34,717 | – |
| Lease receivables | 206 | 1,090 | 228 | 1,285 |
| Other receivables | 9,737 | 3,247 | 8,240 | 3,761 |
| Amounts due from joint ventures and associates | 2,722 | 423 | 1,048 | 499 |
| Prepayments and deferred charges | 14,511 | 2,160 | 8,975 | 1,520 |
| Total | 66,510 | 6,920 | 53,208 | 7,065 |

The fair value of financial assets included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other receivables at December 31, 2022, include receivables from certain governments in their capacity as joint arrangement partners of $717 million (2021: $1,225 million), after provisions for impairments, that are overdue in part or in full. Recoverability and timing thereof are subject to uncertainty, however, the ultimate risk of default on the carrying amount is considered to be low. Other receivables at December 31, 2022, also included current income tax receivables of $363 million (2021: $550 million) and non-current income tax receivables of $469 million (2021: $366 million).

Provisions for impairments deducted from trade and other receivables amounted to $1,510 million at December 31, 2022 (2021: $1,497 million).

### Allowance for expected credit losses - trade receivables

Shell uses a provision matrix to calculate expected credit losses (ECLs) for trade receivables. The provision matrix is initially based on Shell's historical observed default rates. Shell calculates the ECL to adjust the historical credit loss experienced with forward-looking information. The ECL at December 31, 2022, is $214 million (2021: $155 million), which represents 0.45-0.54% (2021: 0.45-0.51%) of all trade receivables.

A loss allowance provision of $841 million (2021: $876 million) was established, in addition to all other impairments to trade receivables as at December 31, 2022, that are outside of the provision matrix calculations.

### Lease receivables

Lease contracts where Shell is the lessor are classified as finance leases or operating leases. Receivables for lease contracts classified as finance leases are as follows:

$ million

| | Dec 31, 2022 | Dec 31, 2021 |
|---|---|---|
| Less than one year | 257 | 278 |
| Between 1 and 5 years | 792 | 852 |
| 5 years and later | 532 | 715 |
| Total undiscounted lease payments receivable | 1,581 | 1,845 |
| Unearned finance income | 270 | 339 |
| Net investment in leases | 1,311 | 1,506 |

In addition, at December 31, 2022, Shell is entitled to future contractual payments under operating leases of $389 million (2021: $431 million).

## 16. Inventories

$ million

| | Dec 31, 2022 | Dec 31, 2021 |
|---|---|---|
| Oil, gas and chemicals | 27,823 | 22,145 |
| Environmental certificates | 2,557 | 1,727 |
| Materials | 1,514 | 1,386 |
| Total | 31,894 | 25,258 |

Inventories at December 31, 2022, include write-downs to net realisable value of $2,705 million (2021: $592 million).

# Notes to the Consolidated Financial Statements continued

## 17. Cash and cash equivalents

$ million

| | Dec 31, 2022 | Dec 31, 2021 |
|---|---|---|
| Cash | 6,608 | 5,849 |
| Short-term bank deposits | 5,147 | 4,416 |
| Money market funds, reverse repos and other cash equivalents | 28,491 | 26,705 |
| Total | 40,246 | 36,970 |

In 2022, cash continued to be invested with an emphasis on capital preservation. Information about credit risk is presented in Note 25. Included in cash and cash equivalents at December 31, 2022, were amounts totalling $156 million (2021: $113 million) subject to currency controls or other legal restrictions.

## 18. Assets held for sale

$ million

| | Dec 31, 2022 | | | Dec 31, 2021 | | |
|---|---|---|---|---|---|---|
| | Current | Non-current | Total | Current | Non-current | Total |
| Intangible assets | – | – | – | – | 116 | 116 |
| Property, plant and equipment | – | 2,526 | 2,526 | – | 896 | 896 |
| Joint ventures and associates | – | 94 | 94 | – | – | – |
| Investments in securities | – | 128 | 128 | – | – | – |
| Trade and other receivables | 44 | 51 | 95 | 349 | 71 | 420 |
| Inventories | 8 | – | 8 | 528 | – | 528 |
| Assets classified as held for sale | 52 | 2,799 | 2,851 | 877 | 1,083 | 1,960 |
| Debt | 3 | 1 | 4 | 257 | 199 | 456 |
| Trade and other payables | 256 | 22 | 278 | 235 | 140 | 375 |
| Deferred tax | – | – | – | – | 41 | 41 |
| Retirement benefits | – | – | – | – | 108 | 108 |
| Decommissioning and other provisions | 134 | 971 | 1,105 | 10 | 219 | 229 |
| Income taxes payable | 8 | – | 8 | 44 | – | 44 |
| Liabilities directly associated with assets classified as held for sale | 401 | 994 | 1,395 | 546 | 707 | 1,253 |

At December 31, 2022, assets held for sale mainly related to three Upstream projects. All transactions that resulted in the reclassification of assets held for sale at December 31, 2022, are expected to be completed in 2023.

In 2022, Shell ceased to classify one asset within Chemicals and Products as held for sale as it no longer met the assets-held-for-sale criteria. All other assets classified as held for sale at December 31, 2021, were sold in 2022.

## 19. Trade and other payables

$ million

| | Dec 31, 2022 | | Dec 31, 2021 | |
|---|---|---|---|---|
| | Current | Non-current | Current | Non-current |
| Trade payables | 42,632 | – | 34,136 | – |
| Other payables [A] | 10,059 | 3,148 | 9,617 | 1,675 |
| Sales taxes, excise duties and similar levies | 3,270 | – | 3,522 | – |
| Amounts due to joint ventures and associates | 8,441 | 31 | 4,793 | 36 |
| Accruals and deferred income | 14,955 | 253 | 11,105 | 364 |
| Total | 79,357 | 3,432 | 63,173 | 2,075 |

[A] Includes obligations under environmental compliance schemes of $4,710 million as at December 31, 2022 (2021: $4,016 million). (See Note 5).

The fair value of financial liabilities included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other payables include amounts due to joint arrangement partners and in respect of other project-related items.

Information about offsetting, collateral and liquidity risk is presented in Note 25.

# Notes to the Consolidated Financial Statements continued

## 20. Debt

### Debt

$ million

| | Dec 31, 2022 | | | Dec 31, 2021 | | |
|---|---|---|---|---|---|---|
| | Debt (excluding lease liabilities) | Lease liabilities [A] | Total | Debt (excluding lease liabilities) | Lease liabilities [A] | Total |
| Current debt: | 4,620 | 4,381 | 9,001 | 4,080 | 4,138 | 8,218 |
| Short-term debt | 1,026 | – | 1,026 | 515 | – | 515 |
| Long-term debt due within 1 year | 3,594 | 4,381 | 7,975 | 3,565 | 4,138 | 7,703 |
| Non-current debt | 51,532 | 23,262 | 74,794 | 57,499 | 23,369 | 80,868 |
| Total | 56,152 | 27,643 | 83,795 | 61,579 | 27,507 | 89,086 |

[A] Further analysis of lease liabilities is provided in Note 21.

### Net debt

$ million

| | | | (Asset)/liability | | |
|---|---|---|---|---|---|
| | Current debt | Non-current debt | Derivative financial instruments | Cash and cash equivalents (see Note 17) | Net debt |
| At January 1, 2022 | 8,218 | 80,868 | 440 | (36,970) | 52,556 |
| Cash flow | (7,618) | (254) | (1,799) | (4,012) | (13,683) |
| Lease additions [A] | 1,111 | 4,077 | | | 5,188 |
| Other movements | 7,560 | (7,883) | 1,393 | – | 1,070 |
| Currency translation differences and foreign exchange (gains)/losses | (270) | (2,014) | 1,254 | 736 | (294) |
| At December 31, 2022 | 9,001 | 74,794 | 1,288 | (40,246) | 44,837 |
| At January 1, 2021 | 16,899 | 91,115 | (798) | (31,830) | 75,386 |
| Cash flow | (17,887) | (1,842) [B] | (1,165) | (5,679) | (26,573) |
| Lease additions [A] | 899 | 2,889 | | | 3,788 |
| Other movements | 8,655 | (9,034) | 688 | – | 309 |
| Currency translation differences and foreign exchange (gains)/losses | (348) | (2,260) | 1,715 | 539 | (354) |
| At December 31, 2021 | 8,218 | 80,868 | 440 | (36,970) | 52,556 |

[A] Further analysis of lease liabilities is provided in Note 21.
[B] Includes $3,500 million of early repayment of non-current debt.

### Borrowing facilities and amounts undrawn

$ million

| | Facility | | Amount undrawn | |
|---|---|---|---|---|
| | Dec 31, 2022 | Dec 31, 2021 | Dec 31, 2022 | Dec 31, 2021 |
| CP programmes | 20,000 | 20,000 | 20,000 | 20,000 |
| EMTN programme | unlimited | unlimited | N/A | N/A |
| US shelf registration | unlimited | unlimited | N/A | N/A |
| Committed credit facilities | 9,920 | 9,920 | 9,920 | 9,920 |

# Notes to the Consolidated Financial Statements continued

## 20. Debt continued

Shell has access to international debt capital markets via two commercial paper (CP) programmes, a Euro medium-term note (EMTN) programme and a US universal shelf (US shelf) registration. Issuances under the CP programmes are supported by a committed credit facility and cash.

Under the CP programmes, Shell can issue debt of up to $10,000 million with maximum maturities ranging between 183 days and 364 days depending on the form of the notes issued; and $10,000 million with maturities not exceeding 397 days.

The EMTN programme is updated each year, most recently in September 2022. During 2022, no debt was issued under this programme (2021: no debt issued).

The US shelf registration provides Shell with the flexibility to issue debt securities, ordinary shares, preferred shares and warrants. The registration is updated every three years and was last updated in March 2021. During 2022, no debt was issued under the US shelf registration (2021: $1,500 million).

On December 13, 2019, Shell refinanced its revolving credit facilities (RCF), which are linked to the Secured Overnight Financing Rate (SOFR), at pre-agreed margins. In December 2022, Shell renewed the short-dated tranche of the facility of $1,920 million to expire in 2023 (2021: expiring in 2022) with two further one year bank extension options, that would take final maturity to 2025. The additional RCF tranches are: $320 million expiring in 2025 (2021: expiring in 2025) and $7,680 million expiring in 2026 (2021: expiring in 2026), a total RCF of $9,920 million. The terms and availability are not conditional on Shell's financial ratios nor its financial credit ratings. The interest and fees paid on these facilities are linked to Shell's progress towards reaching its short-term Net Carbon Footprint intensity target.

The following tables compare contractual cash flows for debt excluding lease liabilities at December 31 with the carrying amount in the Consolidated Balance Sheet. Contractual amounts reflect the effects of changes in foreign exchange rates; differences from carrying amounts reflect the effects of discounting, premiums and, where fair value hedge accounting is applied, fair value adjustments. Interest is estimated assuming interest rates applicable to variable-rate debt remain constant and there is no change in aggregate principal amounts of debt other than repayment at scheduled maturity, as reflected in the table.

### 2022

$ million

| | Contractual payments | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 year | Between 1 and 2 years | Between 2 and 3 years | Between 3 and 4 years | Between 4 and 5 years | 5 years and later | Total | Difference from carrying amount | Carrying amount |
| Bonds | 3,365 | 4,184 | 6,054 | 3,817 | 2,400 | 35,005 | 54,825 | (1,210) | 53,615 |
| Bank and other borrowings | 1,229 | 335 | 64 | 156 | 63 | 704 | 2,551 | (14) | 2,537 |
| Total (excluding interest) | 4,594 | 4,519 | 6,118 | 3,973 | 2,463 | 35,709 | 57,376 | (1,224) | 56,152 |
| Interest | 1,669 | 1,574 | 1,463 | 1,314 | 1,233 | 14,757 | 22,010 | | |

### 2021

$ million

| | Contractual payments | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 year | Between 1 and 2 years | Between 2 and 3 years | Between 3 and 4 years | Between 4 and 5 years | 5 years and later | Total | Difference from carrying amount | Carrying amount |
| Bonds | 3,423 | 3,376 | 4,362 | 6,310 | 3,882 | 38,327 | 59,680 | 578 | 60,258 |
| Bank and other borrowings | 646 | 452 | 36 | 9 | 143 | 35 | 1,321 | – | 1,321 |
| Total (excluding interest) | 4,069 | 3,828 | 4,398 | 6,319 | 4,025 | 38,362 | 61,001 | 578 | 61,579 |
| Interest | 1,637 | 1,587 | 1,524 | 1,416 | 1,268 | 15,642 | 23,074 | | |

Interest rate swaps have been entered into against certain fixed rate debt affecting the effective interest rate on these balances (see Note 25). The fair value of debt excluding lease liabilities at December 31, 2022, was $51,959 million (2021: $67,066 million), mainly determined from the prices quoted for those securities.

# Notes to the Consolidated Financial Statements continued

## 21. Leases

Shell has lease contracts in Integrated Gas and Upstream, principally for floating production storage and offloading units, subsea equipment, drilling and ancillary equipment, service vessels, LNG vessels and land and buildings; in Marketing, principally for land and retail sites; in Chemicals and Products, principally for plant pipeline and machinery, tankers and storage capacity; in Renewables and Energy Solutions, principally for power generation, storage capacity and land; and in Corporate, principally for land and buildings. Shell's obligations under its leases are secured on the leased assets.

### Right-of-use assets

Right-of-use assets are included in property, plant and equipment for the following amounts:

**2022**

$ million

| | Exploration and production | | Manufacturing, supply and distribution | Other [B] | Total |
|---|---|---|---|---|---|
| | Exploration and evaluation | Production | | | |
| Cost | | | | | |
| At January 1 | 5 | 14,322 | 15,748 | 8,031 | 38,106 |
| Additions | – | 1,088 | 2,305 | 2,111 | 5,504 |
| Sales, retirements and other movements [A] | (5) | (569) | (1,530) | 319 | (1,785) |
| Currency translation differences | – | (166) | (60) | (562) | (788) |
| At December 31 | – | 14,675 | 16,463 | 9,899 | 41,037 |
| Depreciation, depletion and amortisation, including impairments | | | | | |
| At January 1 | – | 7,935 | 5,946 | 2,273 | 16,154 |
| Charge for the year | – | 1,182 | 2,223 | 797 | 4,202 |
| Sales, retirements and other movements [A] | – | (751) | (1,444) | 23 | (2,172) |
| Currency translation differences | – | (91) | (30) | (143) | (264) |
| At December 31 | – | 8,275 | 6,695 | 2,950 | 17,920 |
| Carrying amount at December 31 | – | 6,400 | 9,768 | 6,949 | 23,117 |

[A] Includes the reclassification of right-of-use assets to assets held for sale. (See Note 18).
[B] "Other" mainly includes lease contracts for retail sites, land and buildings in Marketing, Renewables and Energy Solutions and Corporate.

**2021**

$ million

| | Exploration and production | | Manufacturing, supply and distribution | Other [A] | Total |
|---|---|---|---|---|---|
| | Exploration and evaluation | Production | | | |
| Cost | | | | | |
| At January 1 | 5 | 14,440 | 14,526 | 7,384 | 36,355 |
| Additions | – | 311 | 2,149 | 1,420 | 3,880 |
| Sales, retirements and other movements | – | (365) | (868) | (259) | (1,492) |
| Currency translation differences | – | (64) | (59) | (514) | (637) |
| At December 31 | 5 | 14,322 | 15,748 | 8,031 | 38,106 |
| Depreciation, depletion and amortisation, including impairments | | | | | |
| At January 1 | – | 6,997 | 5,013 | 1,793 | 13,803 |
| Charge for the year | – | 1,373 | 2,060 | 783 | 4,216 |
| Sales, retirements and other movements | – | (400) | (1,093) | (157) | (1,650) |
| Currency translation differences | – | (35) | (34) | (146) | (215) |
| At December 31 | – | 7,935 | 5,946 | 2,273 | 16,154 |
| Carrying amount at December 31 | 5 | 6,387 | 9,802 | 5,758 | 21,952 |

[A] Includes the reclassification of right-of-use assets to assets held for sale. (See Note 18).
[B] "Other" mainly includes lease contracts for retail sites, land and buildings in Marketing, Renewables and Energy Solutions and Corporate.

# Notes to the Consolidated Financial Statements continued

## 21. Leases continued

### Lease arrangements

Lease liabilities are secured on the leased assets.

Shell also has certain lease contracts of items with lease terms of 12 months or less. For these lease contracts, Shell applies the "short-term lease" recognition exemption. Lease expenses not included in the measurement of lease liability are:

**Lease expenses not included in the measurement of lease liability**

$ million

| | 2022 | 2021 |
|---|---|---|
| Expense relating to short-term leases | 552 | 644 |
| Expense relating to variable lease payments | 1,251 | 1,172 |

The total cash outflow in respect of leases representing repayment of principal and payment of interest in 2022 was $6,280 million (2021: $6,777 million), recognised in the Consolidated Statement of Cash Flows within Cash flows from financing activities.

The future lease payments under lease contracts and the carrying amounts at December 31, by payment date are as follows:

**2022**

$ million

| | Contractual lease payments | | Interest | Lease liabilities |
|---|---|---|---|---|
| Less than 1 year | 5,914 | | 1,533 | 4,381 |
| Between 1 and 5 years | 15,624 | | 4,655 | 10,969 |
| 5 years and later | 17,935 | | 5,642 | 12,293 |
| Total | 39,473 | [A] | 11,830 | 27,643 |

[A] Future cash outflows in respect of leases may differ from lease liabilities recognised due to future decisions that may be taken by Shell in respect of the use of leased assets. These decisions may result in variable lease payments being made. In addition, Shell may reconsider whether it will exercise extension options or termination options, where future reconsideration is not reflected in the lease liabilities. There is no exposure to these potential additional payments in excess of the recognised lease liabilities until these decisions have been taken by Shell.

**2021**

$ million

| | Contractual lease payments | Interest | Lease liabilities |
|---|---|---|---|
| Less than 1 year | 5,805 | 1,667 | 4,138 |
| Between 1 and 5 years | 15,889 | 4,972 | 10,917 |
| 5 years and later | 18,309 | 5,857 | 12,452 |
| Total | 40,003 | 12,496 | 27,507 |

# Notes to the Consolidated Financial Statements continued

## 22. Taxation

### Taxation charge

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Current tax: | | | |
| Charge in respect of current period | 16,383 | 7,254 | 3,272 |
| Adjustments in respect of prior periods | (947) | (719) | (56) |
| Total | 15,436 | 6,535 | 3,216 |
| Deferred tax: | | | |
| Relating to the origination and reversal of temporary differences, tax losses and credits | 5,196 | 2,971 | (9,063) |
| Relating to changes in tax rates and legislation | 785 | 10 | (16) |
| Adjustments in respect of prior periods | 524 | (317) | 430 |
| Total | 6,505 | 2,664 | (8,649) |
| Total taxation charge/(credit) | 21,941 | 9,199 | (5,433) |

Adjustments in respect of prior periods relate to events in the current period and reflect the effects of changes in rules, facts or other factors compared with those used in establishing the current tax position or deferred tax balance in prior periods. In 2022, this included a release of a tax provision in Nigeria of $543 million (2021: $628 million).

Adjustments in respect of changes in tax rates and legislation principally relate to the introduction of the UK Energy Profits Levy Act 2022 (EPL) on July 14, 2022.

Current tax charge in respect of current period includes the European Union (EU) "Council Regulation on an emergency intervention to address high energy prices" (EU solidarity contribution). This resulted in a charge of $528 million recognised in the taxation charge and $940 million recognised in the Shell share of comprehensive income of joint ventures and associates (see Note 13).

On August 16, 2022, the Inflation Reduction Act (IRA) was enacted in the USA. As from 2023, under the IRA a Corporate Minimum Tax on Book Earnings (BMT) applies a 15% tax on adjusted financial statement income. The enactment of the IRA had no impact in 2022.

### Reconciliation of applicable tax charge at statutory tax rates to taxation charge

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Income/(loss) before taxation | 64,815 | 29,829 | (26,967) |
| Less: share of profit of joint ventures and associates | (3,972) | (4,097) | (1,783) |
| Income/(loss) before taxation and share of profit of joint ventures and associates | 60,843 | 25,732 | (28,750) |
| Applicable tax charge/(credit) at standard statutory tax rates | 22,170 | 10,097 | (8,330) |
| Adjustments in respect of prior periods | (424) | (1,036) | 374 |
| Tax effects of: | | | |
| Incentives for investment and development | (1,388) | (467) | (557) |
| Expenses not deductible for tax purposes | 849 | 893 | 1,239 |
| Changes in tax rates and legislation | 785 | 10 | (16) |
| (Recognition)/derecognition of deferred tax assets | (457) | (113) | 1,458 |
| Income not subject to tax at standard statutory rates | 234 | 90 | 6 |
| Exchange rate differences | (102) | 53 | 339 |
| Disposals | 39 | (328) | (34) |
| Other reconciling items | 235 | – | 88 |
| Taxation charge/(credit) | 21,941 | 9,199 | (5,433) |

### Tax rates

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Weighted average of statutory tax rates | 36% | 39% | 29% |
| Effective tax rate based on income before taxation | 34% | 31% | 20% |
| Effective tax rate based on Income before taxation excluding share of profit of joint ventures and associates | 36% | 36% | 19% |

# Notes to the Consolidated Financial Statements continued

## 22. Taxation continued

Compared with 2021, the decrease in the weighted average of statutory tax rates reflects a lower proportion of earnings in the Upstream segment subject to relatively higher tax rates.

### 2022 – Deferred tax

$ million

| Deferred tax asset | Decommissioning and other provisions | Property, plant and equipment | Tax losses and credits carried forward | Retirement benefits | Other | Total |
|---|---|---|---|---|---|---|
| At January 1, 2022 | 6,562 | 4,993 | 10,518 | 2,744 | 4,545 | 29,362 |
| (Charge)/credit to income | (217) | (1,261) | (3,434) | (66) | 160 | (4,818) |
| Currency translation differences | (303) | (63) | (426) | (40) | (109) | (941) |
| Other comprehensive income | – | – | 18 | (618) | 70 | (530) |
| Other | 7 | 621 | (230) | (43) | 161 | 516 |
| At December 31, 2022 | 6,049 | 4,290 | 6,446 | 1,977 | 4,827 | 23,589 |
| Deferred tax liability | | | | | | |
| At January 1, 2022 | | (23,144) | | (2,736) | (3,603) | (29,483) |
| (Charge)/credit to income | | (1,503) | | 93 | (277) | (1,687) |
| Currency translation differences | | 380 | | 287 | 170 | 837 |
| Other comprehensive income | | 4 | | (870) | 18 | (848) |
| Other | | (555) | | 37 | (261) | (779) |
| At December 31, 2022 | | (24,818) | | (3,189) | (3,953) | (31,960) |
| Net deferred tax liability at December 31, 2022 | | | | | | (8,371) |
| Deferred tax asset/liability as presented in the balance sheet at December 31, 2022 | | | | | | |
| Deferred tax asset | | | | | | 7,815 |
| Deferred tax liability | | | | | | (16,186) |

### 2021 – Deferred tax

$ million

| Deferred tax asset | Decommissioning and other provisions | Property, plant and equipment | Tax losses and credits carried forward | Retirement benefits | Other | Total |
|---|---|---|---|---|---|---|
| At January 1, 2021 | 6,567 | 5,232 | 12,496 | 3,774 | 5,084 | 33,153 |
| (Charge)/credit to income | 63 | (163) | (1,669) | (537) | (395) | (2,701) |
| Currency translation differences | (64) | (75) | (252) | (72) | (46) | (509) |
| Other comprehensive income | (3) | – | 64 | (435) | (74) | (448) |
| Other | (1) | (1) | (121) | 14 | (24) | (133) |
| At December 31, 2021 | 6,562 | 4,993 | 10,518 | 2,744 | 4,545 | 29,362 |
| Deferred tax liability | | | | | | |
| At January 1, 2021 | | (23,801) | | (673) | (2,831) | (27,305) |
| Credit/(charge) to income | | 566 | | 319 | (848) | 37 |
| Currency translation differences | | 71 | | 114 | 48 | 233 |
| Other comprehensive income | | (18) | | (2,481) | 4 | (2,495) |
| Other | | 38 | | (15) | 24 | 47 |
| At December 31, 2021 | | (23,144) | | (2,736) | (3,603) | (29,483) |
| Net deferred tax asset at December 31, 2021 | | | | | | (121) |
| Deferred tax asset/liability as presented in the balance sheet at December 31, 2021 | | | | | | |
| Deferred tax asset | | | | | | 12,426 |
| Deferred tax liability | | | | | | (12,547) |

The presentation in the balance sheet takes into consideration the offsetting of deferred tax assets and deferred tax liabilities within the same tax jurisdiction, where this is permitted. The overall deferred tax position in a particular tax jurisdiction determines if a deferred tax balance related to that jurisdiction is presented within deferred tax assets or deferred tax liabilities.

# Notes to the Consolidated Financial Statements continued

## 22. Taxation continued

Other movements in deferred tax assets and liabilities principally related to acquisitions, sales of non-current assets and businesses.

The deferred tax category "Other" primarily includes deferred tax positions in respect of leases, financial assets and liabilities, inventories, intangible assets other goodwill and investments in subsidiaries, joint ventures and associates.

The deferred tax category "Plant, property and equipment" includes deferred tax positions in respect of tangible fixed assets and investments in partnerships in the USA which are considered pass-through entities by its parent for tax purposes.

Deferred tax assets of $7,815 million (2021: $12,426 million) are recognised only to the extent it is considered probable that those assets will be recoverable. This involves an assessment of when those assets are likely to be recovered, and a judgement as to whether or not there will be sufficient taxable profits available to offset the assets. It is considered probable based on business forecasts that such taxable profits will be available. For Marketing as well as Chemicals and Products, additional judgement is required; in some jurisdictions the assessment of forecasted taxable profits resulting in deferred tax asset recognition of $382 million (2021: $854 million) extends for an additional 10 years beyond Shell's regular 10-year planning horizon. In those situations, additional risking has been applied to the forecast of taxable profits. For Integrated Gas and Upstream, deferred tax assets recognised are expected to be recovered within the period of production of each asset. For deferred tax assets of $303 million (2021: $711 million) as at December 31, 2022, this period extends beyond 10 years.

The amount of deferred tax assets which are dependent on future taxable profits not arising from the reversal of existing deferred tax liabilities, and which relate to tax jurisdictions where Shell has suffered a loss in the current or preceding year, was $4,202 million at December 31, 2022 (2021: $10,195 million). The decrease compared with 2021 is primarily attributable to the utilisation of deferred tax assets in 2022 and a higher number of entities which have generated profit in both the current and preceding year.

Unrecognised taxable temporary differences associated with undistributed retained earnings of investments in subsidiaries, joint ventures and associates amounted to $5,521 million at December 31, 2022 (2021: $5,680 million). These retained earnings are subject to withholding tax upon distribution.

Unrecognised deductible temporary differences, unused tax losses and credits carried forward amounted to $32,491 million at December 31, 2022 (2021: $37,410 million), including amounts of $28,199 million (2021: $31,349 million) that are subject to time limits for utilisation of five years or later, or are not time limited.

Furthermore, there are unrecognised losses for Petroleum Resource Rent Tax (PRRT) in Australia which due to the annual augmentation increased to $43,832 million as at the end of the most recent PRRT fiscal year, June 30, 2022 (June 30, 2021: $42,511 million).

## 23. Retirement benefits

Retirement benefits are provided in most of the countries where Shell has operational activities. Shell offers these benefits through funded and unfunded defined benefit plans and defined contribution plans. The most significant pension plans are in the Netherlands, UK and USA.

Other post-employment benefits (OPEB) comprising retirement health care and life insurance are also provided in certain countries. The most significant OPEB plan is in the USA.

### Financial position

| | | $ million |
|---|---|---|
| | Dec 31, 2022 | Dec 31, 2021 |
| Obligations | (73,481) | (107,336) |
| Plan assets | 76,756 | 104,495 |
| Asset ceilings | (371) | (13) |
| Surplus/(deficit) | 2,904 | (2,854) |
| Retirement benefits in the Consolidated Balance Sheet: | | |
| Non-current assets | 10,200 | 8,471 |
| Non-current liabilities: | (7,296) | (11,325) |
| Non-current liabilities - Pensions | (4,417) | (6,458) |
| Non-current liabilities - OPEB | (2,879) | (4,867) |
| Total | 2,904 | (2,854) |

# Notes to the Consolidated Financial Statements continued

## 23. Retirement benefits continued

### Retirement benefit expense

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Defined benefit plans: | | | |
| Current service cost, net of plan participants' contributions | 1,100 | 1,385 | 1,359 |
| Interest expense on defined pension benefit obligations | 1,584 | 1,223 | 1,683 |
| Interest income on plan assets | (1,732) | (1,160) | (1,657) |
| Interest expense on OPEB obligations | 120 | 128 | 145 |
| Current OPEB service cost | 57 | 60 | 72 |
| Other [A] | 246 | (343) | (174) |
| Total | 1,375 | 1,293 | 1,428 |
| Defined contribution plans | 420 | 403 | 423 |
| Total retirement benefit expense | 1,795 | 1,696 | 1,851 |

[A] Mainly related to plan amendments and curtailments on pension and OPEB plans.

Retirement benefit expenses are presented principally within production and manufacturing expenses and selling, distribution and administrative expenses in the Consolidated Statement of Income. Interest income on plan assets is calculated using the same rate as that applied to the related defined benefit obligations for each plan to determine interest expense.

### Remeasurements

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Actuarial gains/(losses) on obligations: | | | |
| Due to changes in financial assumptions on pensions [A] | 28,840 | 1,915 | (9,500) |
| Due to changes in financial assumptions on OPEB [A] | 527 | 59 | (650) |
| Due to experience adjustments on pensions [B] | (2,956) | 136 | 616 |
| Due to experience adjustments on OPEB [B] [C] | 1,480 | 322 | 188 |
| Due to changes in demographic assumptions on pensions [D] | 27 | (320) | 1,310 |
| Due to changes in demographic assumptions on OPEB [D] | 25 | (111) | 65 |
| Total | 27,943 | 2,001 | (7,971) |
| Return on plan assets (shortage)/in excess of interest income | (20,612) | 8,185 | 4,509 |
| Other movements | (349) | 5 | 7 |
| Total remeasurements | 6,982 | 10,191 | (3,455) |

[A] Mainly relates to changes in the discount rate and inflation assumptions.
[B] Experience adjustments arise from differences between the actuarial assumptions made in respect of the year and actual outcomes.
[C] Includes $782 million to reflect the impact of prescription drug rebates.
[D] Mainly relates to updates in mortality assumptions.

# Notes to the Consolidated Financial Statements continued

## 23. Retirement benefits continued

### Defined benefit plan obligations

#### 2022

$ million, except where indicated

| | Pension benefits | | | | Other post-employment benefits | |
|---|---|---|---|---|---|---|
| | The Netherlands | UK | USA | Rest of the world [A] | OPEB [B] | Total |
| At January 1 | 35,340 | 29,913 | 19,003 | 18,213 | 4,867 | 107,336 |
| Current service cost | 286 | 259 | 282 | 261 | 57 | 1,145 |
| Interest expense | 298 | 489 | 417 | 380 | 120 | 1,704 |
| Actuarial gains | (8,806) | (9,793) | (3,730) | (3,582) | (2,032) | (27,943) |
| Benefit payments | (942) | (1,124) | (1,088) | (771) | (178) | (4,103) |
| Other movements | 374 | 130 | (91) | (154) | 37 | 296 |
| Currency translation differences | (1,942) | (2,083) | – | (937) | 8 | (4,954) |
| At December 31 | 24,608 | 17,791 | 14,793 | 13,410 | 2,879 | 73,481 |
| Comprising: | | | | | | |
| Funded pension plans | 24,608 | 17,474 | 13,925 | 11,258 | | 67,265 |
| Weighted average duration | 17 years | 15 years | 12 years | 13 years | | 15 years |
| Unfunded pension plans | | 317 | 868 | 2,152 | | 3,337 |
| Weighted average duration | | 15 years | 9 years | 12 years | | 11 years |
| Unfunded OPEB plans | | | | | 2,879 | 2,879 |
| Weighted average duration | | | | | 14 years | 14 years |

[A] Includes pension plans in Germany ($3,477 million) and Canada ($3,482 million) as the largest pension plans in the rest of the world.
[B] Mainly related to post-retirement medical benefits in the USA.

#### 2021

$ million, except where indicated

| | Pension benefits | | | | Other post-employment benefits | |
|---|---|---|---|---|---|---|
| | The Netherlands | UK | USA | Rest of the world [A] | OPEB [B] | Total |
| At January 1 | 37,268 | 32,269 | 20,367 | 20,520 | 5,368 | 115,792 |
| Current service cost | 377 | 323 | 339 | 339 | 60 | 1,438 |
| Interest expense | 155 | 376 | 357 | 335 | 128 | 1,351 |
| Actuarial (gains)/losses | 1,477 | (1,418) | (695) | (1,095) | (270) | (2,001) |
| Benefit payments | (979) | (1,306) | (1,220) | (870) | (200) | (4,575) |
| Other movements | (27) | 3 | (145) | (167) | (187) | (523) |
| Currency translation differences | (2,931) | (334) | – | (849) | (32) | (4,146) |
| At December 31 | 35,340 | 29,913 | 19,003 | 18,213 | 4,867 | 107,336 |
| Comprising: | | | | | | |
| Funded pension plans | 35,340 | 29,440 | 17,874 | 15,341 | | 97,995 |
| Weighted average duration | 19 years | 19 years | 12 years | 17 years | | 18 years |
| Unfunded pension plans | | 473 | 1,129 | 2,872 | | 4,474 |
| Weighted average duration | | 18 years | 9 years | 14 years | | 13 years |
| Unfunded OPEB plans | | | | | 4,867 | 4,867 |
| Weighted average duration | | | | | 14 years | 14 years |

[A] Includes pension plans in Germany ($4,988 million) and Canada ($4,740 million) as the largest pension plans in rest of the world.
[B] Mainly related to post-retirement medical benefits in the USA.

# Notes to the Consolidated Financial Statements continued

## 23. Retirement benefits continued

### Defined benefit plan assets

#### 2022

$ million, except where indicated

| | Pension benefits | | | | |
|---|---|---|---|---|---|
| | The Netherlands | UK | USA | Rest of the world [A] | Total |
| At January 1 | 37,096 | 33,720 | 18,055 | 15,624 | 104,495 |
| Return on plan assets in excess of interest income | (6,576) | (8,682) | (3,523) | (1,831) | (20,612) |
| Interest income | 314 | 552 | 406 | 460 | 1,732 |
| Employer contributions | 228 | 54 | 408 | 41 | 731 |
| Plan participants' contributions | 11 | 16 | – | 5 | 32 |
| Benefit payments | (942) | (1,124) | (1,088) | (735) | (3,889) |
| Other movements | (9) | 150 | (15) | (184) | (58) |
| Currency translation differences | (2,136) | (2,723) | – | (816) | (5,675) |
| At December 31 | 27,986 | 21,963 | 14,243 | 12,564 | 76,756 |

[A] Includes pension plans in Germany ($2,538 million) and Canada ($3,497 million) as the largest pension plans in the rest of the world.

#### 2021

$ million, except where indicated

| | Pension benefits | | | | |
|---|---|---|---|---|---|
| | The Netherlands | UK | USA | Rest of the world [A] | Total |
| At January 1 | 37,673 | 32,193 | 17,046 | 15,766 | 102,678 |
| Return on plan assets in excess of interest income | 3,199 | 2,575 | 1,377 | 1,034 | 8,185 |
| Interest income | 158 | 376 | 308 | 318 | 1,160 |
| Employer contributions | 170 | 266 | 559 | (58) [B] | 937 |
| Plan participants' contributions | 13 | 19 | – | 7 | 39 |
| Benefit payments | (979) | (1,306) | (1,220) | (821) | (4,326) |
| Other movements | (6) | (13) | (15) | (13) | (47) |
| Currency translation differences | (3,132) | (390) | – | (609) | (4,131) |
| At December 31 | 37,096 | 33,720 | 18,055 | 15,624 | 104,495 |

[A] Includes pension plans in Germany ($3,282 million) and Canada ($4,325 million) as the largest pension plans in the rest of world.
[B] Includes the netted amount of $294 million received from the captive structure in relation to the pension plans reinsured in rest of the world.

### Type of pension assets

| | 2022 | 2021 |
|---|---|---|
| Quoted in active markets: | | |
| Equities | 13% | 22% |
| Debt securities | 70% | 53% |
| Real estate | –% | 1% |
| Other | 1% | –% |
| Unquoted | | |
| Equities | 13% | 10% |
| Debt securities | 2% | 4% |
| Real estate | 7% | 6% |
| Investment funds | 4% | 3% |
| Debt repurchase agreements [A] | (14)% | –% |
| Cash | 4% | 1% |

[A] 'Debt repurchase agreements' are mainly related to UK member defined pension plans to fund liability-driven investments. In addition to these contracts, derivatives including interest rate and inflation swaps are used in the principal defined benefit plan in the Netherlands for liability matching strategies.

Employer contributions to funded defined benefit pension plans are based on actuarial valuations in accordance with local regulations and are estimated to be $836 million in 2023.

# Notes to the Consolidated Financial Statements continued

## 23. Retirement benefits continued

### Characteristics of significant defined benefit and defined contribution plans and regulatory framework

#### The Netherlands

The principal defined benefit pension plan in the Netherlands is a funded career-averaged pension arrangement with retired employees drawing benefits as an annuity, with a surplus of $3,378 million reported as at December 31, 2022, (2021: $1,756 million surplus). Whilst the plan was closed to employees hired or rehired after July 1, 2013, it currently remains open for ongoing accrual for existing active members. 23% (2021: 26%) of the overall defined benefit liability in the Netherlands relates to active members. From July 1, 2013, onwards new employees in the Netherlands are entitled to membership of a defined contribution pension plan.

In line with Dutch regulations, the defined benefit pension plan has a joint Trustee Board with trustee representatives nominated by the Company, the Central Staff Council and retired members. The defined benefit pension plan also has an Accountability Council comprised of members nominated by the company, the Central Staff Council and retired members. Furthermore, there is a Supervisory Committee which includes external experts from the pension industry to oversee management, compliance and operations of the fund. The defined contribution pension plan has a one-tier Trustee Board with an independent chair, and trustee representatives nominated by the company and the Central Staff Council (currently no retired members in the fund to act as trustee) as well as two executive board members. The defined contribution fund also has an Accountability Council comprised of members nominated by the company and the Central Staff Council.

The Dutch House of Representatives approved a new regulatory framework for pensions in the Netherlands in December 2022. The regulatory framework for pensions is subject to approval by the Dutch Senate. The new regulation would have to be implemented by January 2027. When effective, these regulatory changes will have an impact on both the defined benefit pension plan and the defined contribution pension plan. As a consequence, such changes would have an impact on the Dutch pension plans which requires consent of the Central Staff Council.

#### UK

The three largest defined benefit pension plans for employees in the UK are funded final salary pension arrangements with retired employees mainly drawing benefits as an annuity with the option to take a portion as a lump sum. The three plans are separate and independent plans and cannot be netted against each other. In total, the plans reported a surplus of $4,172 million as at December 31, 2022 (2021: surplus of $3,807 million), which is after netting of unfunded plans of $317 million (2021: $473 million) which are reported as non-current liabilities on the balance sheet. All three plans were closed to new employees hired or rehired, however, two plans currently remain open for ongoing accrual for existing active members. 17% (2021: 20%) of the overall defined benefit liability in the UK relates to active members. From March 1, 2013, onwards new employees in the UK are entitled to membership of a defined contribution pension plan.

In line with UK regulations, the principal defined benefit pension plan is governed by a corporate trustee whose board is comprised of four trustee directors nominated by the company including the chair and four member-nominated trustee directors. The defined contribution pension plan is governed by a corporate trustee whose board is comprised of three company-nominated directors including the chair and two member-nominated trustee directors. The trustees are responsible for administering the plans in line with the Trust Deed and Regulations, including setting the investment strategy for the pension plans' assets and paying member benefits, and are required to act in the best interests of the members of the pension plans.

#### USA

The principal defined benefit pension plan in the USA is a funded final average pay pension plan with a surplus of $318 million reported as at December 31, 2022 (2021: $182 million surplus). After retirement, all retirees can choose to draw their benefits as an annuity, whereas others also have the choice to take their benefit in a lump sum. There is also an unfunded defined benefit pension plan with a deficit of $868 million (2021: $1,129 million deficit). The benefits under this plan are taken primarily in a lump sum. In addition, the company provides a defined contribution benefit plan. The funded defined benefit, unfunded defined benefit, and together with Shell's defined contribution pension plans are subject to the provisions of the Employee Retirement Income Security Act (ERISA). 24% (2021: 24%) of the overall defined liability of the funded defined benefit plan in the USA relates to active members.

Both the funded defined benefit pension plan and the defined contribution pension plan are governed by trustees who are appointed by the Plan Sponsor and are named fiduciaries with respect to the plans. The trustees are generally responsible for investment-related matters, appointing the Plan Administrator, maintaining general oversight and deciding appeals of participants.

#### USA OPEB

The company also sponsors "other post-retirement employee benefits" (OPEB) mainly in the USA. The OPEB plans in the USA provide medical, dental, and vision benefits as well as life insurance benefits to eligible retired employees. The plans are unfunded, and the company and retirees share the costs with a deficit of $2,135 million reported as at December 31, 2022 (2021: $4,067 million deficit). The plan that provides post-retirement medical benefits in the USA is closed to employees hired or rehired on or after January 1, 2017. Certain life insurance benefits are paid by the company.

# Notes to the Consolidated Financial Statements continued

## 23. Retirement benefits continued

**Significant funding requirements:**

- Additional contributions to the Dutch defined benefit pension plan would be required if the 12-month rolling average local funding percentage falls below 105% for six months or more. At the most recent (2022) funding valuation the local funding percentage was above this level.
- There are no set minimum statutory funding requirements for the UK plans. A professional qualified independent actuary, appointed by the trustee board, undertakes a local funding valuation typically every three years. The most recent completed funding valuation for the principal defined benefit plan was undertaken as at December 31, 2020, and revealed a funding ratio of 103% and therefore no sponsor contributions (except for salary sacrifice contributions) were payable under the schedule of contributions.
- Under the Pension Protection Act, US pension plans are subject to minimum required contribution levels based on the funding position. No contributions are required based on the most recent funding valuation.

**Associated risks to which retirement benefits are exposed**

There are inherent risks associated with defined benefit pension and OPEB plans. These risks are related to various assumptions made on valuation of the liabilities and the cash funding requirement of the underlying plans. Volatility in capital markets or government policies, and the resulting consequences for investment performance, interest and inflation rates, as well as changes in assumptions for mortality, retirement age or pensionable remuneration at retirement, could result in significant changes to the funding level of future liabilities, and in case of a shortfall, there could be a requirement to make substantial cash contributions (depending on the applicable local regulations).

These inherent risks are managed by a pension forum, chaired by the Chief Financial Officer, which oversees Shell's pension strategy, policy and operations. The forum is supported by a risk committee in reviewing the results of the assurance process with respect to the pension risk.

**Investment strategies**

Long-term investment strategies of plans are generally determined by the relevant pension plan trustees using a structured asset/liability modelling approach to define the asset mix that best meets the objectives of optimising returns within agreed risk levels while maintaining adequate funding levels.

**Principal and actuarial assumptions**

The principal assumptions applied in determining the present value of defined benefit obligations and their bases were as follows:

- rates of increase in pensionable remuneration, pensions in payment and health-care costs: historical experience and management's long-term expectation;
- discount rates: prevailing long-term AA corporate bond yields, chosen to match the currency and duration of the relevant obligation; and
- mortality rates: published standard mortality tables for the individual countries concerned adjusted for Shell experience where statistically significant.

The weighted averages for those assumptions and related sensitivity information at December 31, 2022 are presented below. Sensitivity information indicates by how much the defined benefit obligations would increase or decrease if a given assumption were to increase or decrease with no change in other assumptions. The sensitivity analyses may not be representative of an actual change in the defined benefit obligation as it is unlikely that changes in assumptions would occur in isolation from one another. The weighted averages are at nominal terms and based on market expectations at December 31, 2022.

# Notes to the Consolidated Financial Statements continued

## 23. Retirement benefits continued

$ million, except where indicated

| | Assumptions used at nominal rates | | Effect of using alternative assumptions | | | | |
|---|---|---|---|---|---|---|---|
| | | | | Increase/(decrease) in defined benefit obligations | | | |
| | Dec 31, 2022 | Dec 31, 2021 | Range of assumptions | Dec 31, 2022 | | Dec 31, 2021 | |
| Rate of increase in pensionable remuneration [A] | 4.0% | 3.4% | -1% to +1% | (833) | 921 | (1,519) | 1,672 |
| of which the Netherlands | 3.3% | 2.8% | | | | | |
| of which UK | 4.1% | 3.6% | | | | | |
| of which USA | 4.6% | 4.1% | | | | | |
| Rate of increase in pensions in payment | 2.1% | 2.0% | -1% to +1% | (5,542) | 6,657 | (9,908) | 12,171 |
| of which the Netherlands | 2.6% | 2.2% | | | | | |
| of which UK | 3.0% | 3.0% | | | | | |
| of which USA | –% | –% | | | | | |
| Discount rate for pension plans | 4.5% | 2.0% | -1% to +1% | 10,522 | (8,328) | 18,954 | (14,599) |
| of which the Netherlands | 3.7% | 1.2% | | | | | |
| of which UK | 4.8% | 1.9% | | | | | |
| of which USA | 5.0% | 2.9% | | | | | |
| Inflation rate for defined benefit obligation [B] | 2.2% | 2.1% | -1% to +1% | (6,002) | 7,271 | (10,691) | 13,325 |
| of which the Netherlands | 2.6% | 2.2% | | | | | |
| of which UK | 3.1% | 3.2% | | | | | |
| Expected age at death for persons aged 60: | | | | | | | |
| Men | 87 years | 87 years | -1 year to +1 year | (1,130) | 1,103 | (1,946) | 1,937 |
| of which the Netherlands | 88 years | 88 years | | | | | |
| of which UK | 87 years | 88 years | | | | | |
| of which USA | 85 years | 85 years | | | | | |
| Women | 89 years | 89 years | -1 year to +1 year | (993) | 1,077 | (1,863) | 1,972 |
| of which the Netherlands | 89 years | 89 years | | | | | |
| of which UK | 90 years | 90 years | | | | | |
| of which USA | 86 years | 86 years | | | | | |
| Rate of increase in health-care costs [C] | 6.4% | 6.2% | -1% to +1% | (298) | 372 | (513) | 630 |
| Discount rate for health-care plans [C] | 5.7% | 2.9% | -1% to +1% | 401 | (309) | 678 | (539) |

[A] Based on active members.
[B] Excluding US funds in the weighted average inflation rate, because of the insignificant impact on the defined benefit obligation.
[C] Mainly related to post-retirement health-care benefits in the USA.

# Notes to the Consolidated Financial Statements continued

## 24. Decommissioning and other provisions

$ million

| | Decommissioning and restoration | Onerous contracts | Legal | Environmental | Redundancy | Other | Total |
|---|---|---|---|---|---|---|---|
| At January 1, 2022 | | | | | | | |
| Current | 871 | 653 | 270 | 332 | 410 | 802 | 3,338 |
| Non-current | 21,213 | 1,029 | 1,141 | 847 | 235 | 1,339 | 25,804 |
| | 22,084 | 1,682 | 1,411 | 1,179 | 645 | 2,141 | 29,142 |
| Additions | 618 | 620 | 314 | 178 | 226 | 832 | 2,788 |
| Amounts charged against provisions | (672) | (661) | (272) | (211) | (372) | (333) | (2,521) |
| Accretion expense | 483 | 13 | 16 | 12 | 1 | 5 | 530 |
| Disposals and liabilities classified as held for sale | (1,228) | (66) | (21) | (2) | – | (7) | (1,324) |
| Remeasurements and other movements | (182) | (139) | (44) | (78) | (155) | (354) | (952) |
| Currency translation differences | (818) | 35 | (3) | (27) | (21) | (74) | (908) |
| | (1,799) | (198) | (10) | (128) | (321) | 69 | (2,387) |
| At December 31, 2022 | | | | | | | |
| Current | 856 | 277 | 224 | 321 | 171 | 1,061 | 2,910 |
| Non-current | 19,429 | 1,207 | 1,177 | 730 | 153 | 1,149 | 23,845 |
| | 20,285 | 1,484 | 1,401 | 1,051 | 324 | 2,210 | 26,755 |
| | | | | | | | |
| At January 1, 2021 | | | | | | | |
| Current | 900 | 532 | 521 | 273 | 673 | 723 | 3,622 |
| Non-current | 22,081 | 1,207 | 1,229 | 952 | 265 | 1,382 | 27,116 |
| | 22,981 | 1,739 | 1,750 | 1,225 | 938 | 2,105 | 30,738 |
| Additions | 1,040 | 229 | 197 | 153 | 991 | 752 | 3,362 |
| Amounts charged against provisions | (662) | (264) | (340) | (154) | (733) | (292) | (2,445) |
| Accretion expense | 405 | 14 | 11 | 9 | 1 | 10 | 450 |
| Disposals and liabilities classified as held for sale | (819) | – | (5) | (17) | (1) | (27) | (869) |
| Remeasurements and other movements | (609) | (36) | (196) | (11) | (512) | (339) | (1,703) |
| Currency translation differences | (252) | – | (6) | (26) | (39) | (68) | (391) |
| | (897) | (57) | (339) | (46) | (293) | 36 | (1,596) |
| At December 31, 2021 | | | | | | | |
| Current | 871 | 653 | 270 | 332 | 410 | 802 | 3,338 |
| Non-current | 21,213 | 1,029 | 1,141 | 847 | 235 | 1,339 | 25,804 |
| | 22,084 | 1,682 | 1,411 | 1,179 | 645 | 2,141 | 29,142 |

The amount and timing of settlement in respect of these provisions are uncertain and dependent on various factors that are not always within management's control. Reviews of estimated future decommissioning and restoration costs and the discount rate applied are carried out regularly. The discount rate applied at December 31, 2022, was 3.25% (2021: 2%). An increase of 0.5% or a decrease of 0.5% in the discount rate could result in a decrease of $1.2 billion (2021: $1.5 billion) or an increase of $1.3 billion (2021: $1.7 billion) of decommissioning and restoration provisions, respectively. Such increase or decrease will be reflected in the carrying amount of the related asset. Where applicable that carrying amount is to be tested for impairment.

In 2022, there was a decrease of $3,309 million in the decommissioning and restoration provision as a result of the change in the discount rate, partly offset by an increase in the provision resulting from changes in cost estimates of $3,009 million, reported within remeasurements and other movements.

Other provisions at December 31, 2022, include amounts recognised in respect of employee benefits.

# Notes to the Consolidated Financial Statements continued

## 24. Decommissioning and other provisions continued

The decommissioning and restoration provision at December 31, 2022, is expected to be utilised within:

| | $ million |
|---|---|
| | Dec 31, 2022 |
| Between 1 to 5 years | 4,219 |
| Between 6 to 10 years | 3,882 |
| 11 years and later | 12,184 |
| Total | 20,285 |

## 25. Financial instruments

Financial instruments in the Consolidated Balance Sheet include investments in securities (see Note 14), cash and cash equivalents (see Note 17), finance debt (see Note 20) and derivative contracts.

### Risks

In the normal course of business, financial instruments of various kinds are used for the purposes of managing exposure to interest rate, foreign exchange and commodity price movements.

Treasury standards are applicable to all subsidiaries and each subsidiary is required to adopt a treasury policy consistent with these standards. These policies cover: financing structure; interest rate and foreign exchange risk management; insurance; counterparty risk management; and use of derivative contracts. Wherever possible, treasury operations are carried out through specialist regional organisations without removing from each subsidiary the responsibility to formulate and implement appropriate treasury policies.

Apart from forward foreign exchange contracts to meet known commitments, the use of derivative contracts by most subsidiaries is not permitted by their treasury policy.

Other than in exceptional cases, the use of external derivative contracts is confined to specialist trading and central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems.

Shell's operations expose it to market, credit and liquidity risk, as described below.

### Market risk

Market risk is the possibility that changes in interest rates, foreign exchange rates or the prices of crude oil, natural gas, LNG, refined products, chemical feedstocks, power and environmental certificates will adversely affect the value of assets, liabilities or expected future cash flows.

### Interest rate risk

Most debt is raised from central borrowing programmes. Shell's policy continues to be to have debt principally denominated in dollars and to maintain a largely floating interest rate exposure profile; however, Shell has issued a significant amount of fixed rate debt in recent years, taking advantage of historically low interest rates available in debt markets. As a result, the majority of the debt portfolio at December 31, 2022, is at fixed rates and this reduces Shell's adverse exposure to rising floating dollar interest rates (see Note 2).

The financing of most subsidiaries is structured on a floating-rate basis, and any further interest rate risk management is only applied under exceptional circumstances.

On the basis of the floating-rate net cash position at December 31, 2022, (both issued and hedged), and assuming other factors (principally foreign exchange rates and commodity prices) remained constant and that no further interest rate management action was taken, an increase in interest rates of 1% would have increased 2022 income before taxation by $234 million (2021: $174 million increase).

The carrying amounts and maturities of debt and borrowing facilities are presented in Note 20. Interest expense is presented in Note 10.

### Foreign exchange risk

Many of the markets in which Shell operates are priced, directly or indirectly, in dollars. As a result, the functional currency of most Integrated Gas and Upstream entities and those with significant cross-border business is the dollar. For Chemicals and Products entities, the functional currency is typically the local currency. Consequently, Shell is exposed to varying levels of foreign exchange risk when an entity enters into transactions that are not denominated in its functional currency, when foreign currency monetary assets and liabilities are translated at the balance sheet date and as a result of holding net investments in operations that are not dollar-functional. Each entity is required to adopt treasury policies that are designed to measure and manage its foreign exchange exposures by reference to its functional currency.

# Notes to the Consolidated Financial Statements continued

## 25. Financial instruments continued

Foreign exchange gains and losses arise in the normal course of business from the recognition of receivables and payables and other monetary items in currencies other than an entity's functional currency. Foreign exchange risk may also arise in connection with capital expenditure. For major projects, an assessment is made at the final investment decision stage of whether to hedge any resulting exposure.

Assuming other factors (principally interest rates and commodity prices) remained constant and that no further foreign exchange risk management action were taken, a 10% appreciation against the dollar at December 31 of the main currencies to which Shell is exposed would have the following effects:

$ million

| | Increase/(decrease) in income before taxation | | Increase in net assets | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| 10% appreciation against the dollar of: | | | | |
| Sterling | (168) | (180) | 894 | 738 |
| Euro | 124 | (123) | 1,486 | 601 |
| Malaysian ringgit | 65 | 119 | 313 | 399 |
| Australian dollar | (65) | (3) | 837 | 591 |
| Canadian dollar | (44) | (44) | 1,575 | 1,439 |

The above sensitivity information was calculated by reference to carrying amounts of assets and liabilities at December 31 only. The effect on income before taxation arises in connection with monetary balances denominated in currencies other than an entity's functional currency; the effect on net assets arises principally from the translation of assets and liabilities of entities that are not dollar-functional.

Foreign exchange gains and losses included in income are presented in Note 9.

### Commodity price risk

Certain subsidiaries have a mandate to trade crude oil, natural gas, LNG, refined products, chemical feedstocks, power and environmental certificates, and to use commodity derivative contracts (forwards, futures, swaps and options) as a means of managing price and timing risks arising from this trading activity. In effecting these transactions, the entities concerned operate within procedures and policies designed to ensure that risks, including those relating to the default of counterparties, are managed within authorised limits. A department that is independent from Shell's traders monitors market risk exposures daily.

Value-at-risk (VAR) techniques based on variance/covariance or Monte Carlo simulation models are used to make a statistical assessment of the market risk arising from possible future changes in market values for commodity positions held by these subsidiaries over a 1-day holding period and within a 95% confidence level. The calculation of potential changes in fair value takes into account positions, the history of price movements and the correlation of these price movements. Models are regularly reviewed against actual fair value movements to ensure integrity is maintained. The VAR average and year-end positions in respect of commodities traded in active markets, which are presented in the table below, are calculated on a diversified basis in order to reflect the effect of offsetting risk within combined portfolios. 2022 was a year of high market volatility driving higher VAR than historic levels. As a result, Shell operated with enhanced risk management protocols.

### Value-at-risk (pre-tax)

$ million

| | 2022 | | 2021 | |
|---|---|---|---|---|
| | Average | Year-end | Average | Year-end |
| Global oil | 72 | 56 | 26 | 30 |
| North America gas and power | 18 | 23 | 12 | 15 |
| Europe gas and power | 54 | 40 | 11 | 13 |
| Australia gas and power | 12 | 12 | 8 | 6 |
| Environmental certificates | 10 | 13 | 8 | 10 |

Furthermore, commodity derivative hedge contracts are used to partially mitigate price volatility on future LNG sales and purchases.

As contracts to buy and sell physical LNG are accounted for on an accrual basis (see Note 2) and commodity derivatives are accounted for on a fair-value basis, this creates an accounting mismatch over periods. The fair value accounting of commodity derivatives can result in gains or losses in the income statement, which for Adjusted Earnings are part of identified items.

These derivative contracts are based on a mix of European and North American gas price indices, global crude price indices and Asian LNG price indices. In 2022, Shell has seen high volatility in these markets and volumes of financial derivatives increased. On that basis, a sensitivity analysis has been performed for a 50% price increase or decrease of this basket of derivative contracts at year-end 2022, which would result in a gain or loss of $2.7 billion (pre-tax) in the income statement (2021: $0.3 billion).

# Notes to the Consolidated Financial Statements continued

## 25. Financial instruments continued

### Credit risk

Policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness. These policies include credit analysis and monitoring of trading partners against counterparty credit limits. Credit information is regularly shared between business and finance functions, with dedicated teams in place to quickly identify and respond to cases of credit deterioration. Mitigation measures are defined and implemented for higher-risk business partners and customers, and include shortened payment terms, collateral or other security posting and vigorous collections. In addition, policies limit the amount of credit exposure to any individual financial institution. Elevated commodity prices, mainly in relation to strategic long-term deals in the gas portfolios resulted in a material concentration of credit risk representing around 25% of total Shell net credit exposure after offsetting for cash collateral and other instruments held.

Surplus cash is invested in a range of short-dated, secure and liquid instruments including short-term bank deposits, money market funds, reverse repos and similar instruments. The portfolio of these investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Management monitors the investments regularly and adjusts the investment portfolio in light of new market information where necessary to ensure credit risk is effectively diversified.

In commodity trading, counterparty credit risk is managed within a framework of credit limits with utilisation being regularly reviewed. Credit risk exposure is monitored and the acceptable level of credit exposure is determined by a credit committee. Credit checks are performed by a department independent of traders, and are undertaken before contractual commitment. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage specific risks.

Shell routinely enters into offsetting, master netting and similar arrangements with trading and other counterparties to manage credit risk. Where there is a legally enforceable right of offset under such arrangements and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously, the net asset or liability is recognised in the Consolidated Balance Sheet, otherwise assets and liabilities are presented gross. These amounts, as presented net and gross within trade and other receivables, trade and other payables and derivative financial instruments in the Consolidated Balance Sheet at December 31, were as follows:

**2022**

$ million

| | | Amounts offset | | Amounts not offset | | |
|---|---|---|---|---|---|---|
| | Gross amounts before offset | Amounts offset | Net amounts as presented | Cash collateral received/pledged | Other offsetting instruments | Net amounts |
| Assets: | | | | | | |
| Within trade receivables | 28,259 | 17,200 | 11,059 | 292 | 495 | 10,272 |
| Within derivative financial instruments | 56,154 | 34,685 | 21,469 | 1,904 | 4,563 | 15,002 |
| Liabilities: | | | | | | |
| Within trade payables | 29,981 | 17,200 | 12,781 | 608 | 495 | 11,678 |
| Within derivative financial instruments | 58,991 | 34,710 | 24,281 | 4,788 | 3,364 | 16,129 |

**2021**

$ million

| | | Amounts offset | | Amounts not offset | | |
|---|---|---|---|---|---|---|
| | Gross amounts before offset | Amounts offset | Net amounts as presented | Cash collateral received/pledged | Other offsetting instruments | Net amounts |
| Assets: | | | | | | |
| Within trade receivables | 20,561 | 11,937 | 8,624 | 164 | 283 | 8,177 |
| Within derivative financial instruments | 48,813 | 39,819 | 8,994 | 902 | 3,098 | 4,994 |
| Liabilities: | | | | | | |
| Within trade payables | 19,347 | 11,935 | 7,412 | 61 | 283 | 7,068 |
| Within derivative financial instruments | 54,534 | 40,350 | 14,184 | 697 | 3,109 | 10,378 |

Amounts not offset principally relate to contracts where the intention to settle on a net basis was not clearly established at December 31.

The carrying amount of financial assets pledged as collateral for liabilities or contingent liabilities at December 31, 2022, presented within trade and other receivables, was $11,133 million (2021: $6,968 million). The carrying amount of collateral held at December 31, 2022, presented within trade and other payables, was $1,648 million (2021: $1,909 million). Collateral mainly relates to initial margins held with commodity exchanges and over-the-counter counterparty variation margins. Some derivative contracts are fully cash collateralised, thereby eliminating both counterparty risk and the Group's own non-performance risk.

# Notes to the Consolidated Financial Statements continued

## 25. Financial instruments continued

### Liquidity risk

Liquidity risk is the risk that suitable sources of funding for Shell's business activities may not be available. Management believes that it has access to sufficient debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements. Information about borrowing facilities is presented in Note 20.

### Interbank Offered Rate (IBOR) reform

USD London Interbank Offered Rate (LIBOR) is the most significant IBOR for Shell. USD LIBOR will cease to be representative after June 30, 2023. Significant IBOR exposures, disaggregated by tenure at December 31, 2022, are as follows:

$ million

| | December 31, 2022 | | |
|---|---|---|---|
| | Non-derivative financial assets - carrying value | Non-derivative financial liabilities - carrying value | Derivatives - Nominal amount |
| USD LIBOR (1 month) | 34 | | |
| USD LIBOR (3 months) | 1,898 | 1,176 | 4,754 |
| USD LIBOR (6 months) | 238 | | |
| Cross-currency interest rate swaps: | | | |
| EUR Fixed to USD LIBOR (3 months) | | | 8,311 |
| GBP Fixed to USD LIBOR (3 months) | | | 1,078 |
| CHF Fixed to USD LIBOR (3 months) | | | 1,359 |
| MYR LIBOR (3 months) to USD LIBOR (3 months) | | | 360 |
| Total | 2,170 | 1,176 | 15,862 |

Shell has established a Group-wide IBOR Transition Project, with oversight from the Group Treasurer. The project spans all business lines and has cross-functional senior governance which includes Legal, IT and Finance, including treasury, tax and accounting experts. Shell put in place detailed plans, processes and procedures to support the transition of the affected portfolio including making changes to systems, processes and risk management, as well as related tax and accounting implications. Shell is confident that it has the operational capability to process the transitions to risk-free rates for those interest rate benchmarks such as USD LIBOR that will cease to be representative after June 30, 2023.

### Derivative contracts and hedges

Derivative contracts are used principally as hedging instruments, however, because hedge accounting is not always applied, movements in the carrying amounts of derivative contracts that are recognised in income are not always matched in the same period by the recognition of the income effects of the related hedged items.

### Carrying amounts, maturities and hedges

The carrying amounts of derivative contracts at December 31, designated and not designated as hedging instruments for hedge accounting purposes, were as follows:

**2022**

$ million

| | Assets | | | Liabilities | | | |
|---|---|---|---|---|---|---|---|
| | Designated | Not designated | Total | Designated | Not designated | Total | Net |
| Interest rate swaps | – | 1 | 1 | 169 | – | 169 | (168) |
| Forward foreign exchange contracts | – | 907 | 907 | – | 996 | 996 | (89) |
| Currency swaps and options | 31 | 24 | 55 | 2,925 | 5 | 2,930 | (2,875) |
| Commodity derivatives | – | 23,676 | 23,676 | – | 22,858 | 22,858 | 818 |
| Other contracts | – | 380 | 380 | – | 389 | 389 | (9) |
| Total | 31 | 24,988 | 25,019 | 3,094 | 24,248 | 27,342 | (2,323) |

# Notes to the Consolidated Financial Statements continued

## 25. Financial instruments continued

### 2021

$ million

| | Assets | | | Liabilities | | | |
|---|---|---|---|---|---|---|---|
| | Designated | Not designated | Total | Designated | Not designated | Total | Net |
| Interest rate swaps | 237 | – | 237 | 24 | 14 | 38 | 199 |
| Forward foreign exchange contracts | – | 456 | 456 | – | 280 | 280 | 176 |
| Currency swaps and options | 277 | 22 | 299 | 860 | 33 | 893 | (594) |
| Commodity derivatives | 12 | 10,979 | 10,991 | – | 15,732 | 15,732 | (4,741) |
| Other contracts | – | 201 | 201 | – | 255 | 255 | (54) |
| Total | 526 | 11,658 | 12,184 | 884 | 16,314 | 17,198 | (5,014) |

As part of Shell's normal business, commodity derivative hedge contracts are entered into for mitigation of future purchases, sales and inventory. Net gains before tax on derivative contracts, excluding those accounted for as hedges, were $1,331 million in 2022 (2021: $8,377 million losses; 2020: $3,295 million gains).

Certain contracts, mainly to hedge price risk relating to forecast commodity transactions, were designated in cash flow hedging relationships and are presented after the offset of related margin balances with exchanges. Contracts to hedge foreign exchange risks were also designated in cash flow hedging relationships and the net carrying amount of these contracts at December 31, 2022, was a liability of $828 million (2021: $173 million liability). See Note 28 for the accumulated balance recognised within other comprehensive income.

Certain interest rate and currency swaps were designated in fair value hedges, principally in respect of debt for which the net carrying amount of the related derivative contracts, net of accrued interest, at December 31, 2022, was a liability of $2,191 million (2021: $250 million liability).

In 2022, €3 billion (2021: €3 billion) of debt instruments were designated as hedges of net investments in foreign operations, relating to the foreign exchange risk arising between certain intermediate holding companies and their subsidiaries. See Note 28 for the accumulated balance recognised within other comprehensive income.

In the course of trading operations, certain contracts are entered into for delivery of commodities that are accounted for as derivatives. The resulting price exposures are managed by entering into related derivative contracts. These contracts are managed on a fair value basis and the maximum exposure to liquidity risk is the undiscounted fair value of derivative liabilities.

For a minority of commodity derivatives contracts, carrying amounts cannot be derived from quoted market prices or other observable inputs, in which case fair value is estimated using valuation techniques such as Black-Scholes, option spread models and extrapolation using quoted spreads with assumptions developed internally based on observable market activity.

Other contracts include certain contracts that are held to sell or purchase commodities and others containing embedded derivatives, which are required to be recognised at fair value because of pricing or delivery conditions, even though they were entered into to meet operational requirements. These contracts are expected to mature in 2023-2025, with certain contracts having early termination rights (for either party). Valuations are derived from other observable inputs.

The contractual maturities of derivative liabilities at December 31 compare with their carrying amounts in the Consolidated Balance Sheet as follows:

### 2022

$ million

| | Contractual maturities | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 year | Between 1 and 2 years | Between 2 and 3 years | Between 3 and 4 years | Between 4 and 5 years | 5 years and later | Total | Difference from carrying amount [A] | Carrying amount |
| Interest rate swaps | 120 | 50 | 2 | 1 | 1 | 1 | 175 | (6) | 169 |
| Forward foreign exchange contracts | 629 | 294 | 18 | (1) | (2) | (3) | 935 | 61 | 996 |
| Currency swaps and options | 582 | 554 | 750 | 588 | 507 | 1,353 | 4,334 | (1,404) | 2,930 |
| Commodity derivatives | 17,273 | 3,678 | 1,203 | 515 | 270 | 793 | 23,732 | (874) | 22,858 |
| Other contracts | 212 | 148 | 22 | 1 | 1 | – | 384 | 5 | 389 |
| Total | 18,816 | 4,724 | 1,995 | 1,104 | 777 | 2,144 | 29,560 | (2,218) | 27,342 |

[A] Mainly related to the effect of discounting.

# Notes to the Consolidated Financial Statements continued

## 25. Financial instruments continued

### 2021

$ million

| | Contractual maturities | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Less than 1 year | Between 1 and 2 years | Between 2 and 3 years | Between 3 and 4 years | Between 4 and 5 years | 5 years and later | Total | Difference from carrying amount [A] | Carrying amount |
| Interest rate swaps | 13 | 13 | 5 | 4 | 3 | 4 | 42 | (4) | 38 |
| Forward foreign exchange contracts | 170 | 40 | 114 | – | – | – | 324 | (44) | 280 |
| Currency swaps and options | 321 | 150 | 159 | 287 | 356 | 808 | 2,081 | (1,188) | 893 |
| Commodity derivatives | 12,614 | 1,401 | 783 | 274 | 158 | 531 | 15,761 | (29) | 15,732 |
| Other contracts | 222 | 34 | – | – | – | – | 256 | (1) | 255 |
| Total | 13,340 | 1,638 | 1,061 | 565 | 517 | 1,343 | 18,464 | (1,266) | 17,198 |

[A] Mainly related to the effect of discounting.

**Fair value measurements**

The net carrying amounts of derivative contracts held at December 31, categorised according to the predominant source and nature of inputs used in determining the fair value of each contract, were as follows:

### 2022

$ million

| | Prices in active markets for identical assets/liabilities | Other observable inputs | Unobservable inputs | Total |
|---|---|---|---|---|
| Interest rate swaps | – | (168) | – | (168) |
| Forward foreign exchange contracts | – | (89) | – | (89) |
| Currency swaps and options | – | (2,875) | – | (2,875) |
| Commodity derivatives | 68 | (1,161) | 1,911 | 818 |
| Other contracts | – | (7) | (2) | (9) |
| Total | 68 | (4,300) | 1,909 | (2,323) |

### 2021

$ million

| | Prices in active markets for identical assets/liabilities | Other observable inputs | Unobservable inputs | Total |
|---|---|---|---|---|
| Interest rate swaps | – | 199 | – | 199 |
| Forward foreign exchange contracts | – | 176 | – | 176 |
| Currency swaps and options | – | (594) | – | (594) |
| Commodity derivatives | 41 | (5,171) | 389 | (4,741) |
| Other contracts | 6 | (60) | – | (54) |
| Total | 47 | (5,450) | 389 | (5,014) |

# Notes to the Consolidated Financial Statements continued

## 25. Financial instruments continued

### Net carrying amounts of derivative contracts measured using predominantly unobservable inputs

| | | $ million |
|---|---|---|
| | 2022 | 2021 |
| At January 1 | 389 | 1,077 |
| Net gains/(losses) recognised in revenue | 1,190 | (569) |
| Purchases | 886 | 440 |
| Sales | (623) | (442) |
| Settlements | 46 | (32) |
| Recategorisations (net) | 17 | (87) |
| Currency translation differences | 4 | 2 |
| At December 31 | 1,909 | 389 |

Included in net gains/(losses) recognised in revenue in 2022 were unrealised net gains totalling $449 million relating to assets and liabilities held at December 31, 2022 (2021: $175 million losses).

### Unrecognised day one gains or losses

Certain long-term commodity contracts extend to periods where observable pricing data are limited and their value may include estimates. Where this is more than an insignificant part of the overall contract valuation, any gains or losses will be deferred. Valuation techniques are further described in Note 2. The unrecognised gains on these derivative contracts at December 31, 2022, were as follows:

| | | $ million |
|---|---|---|
| | 2022 | 2021 |
| At January 1 | 1,024 | 968 |
| Movements | 596 | 56 |
| At December 31 | 1,620 | 1,024 |

## 26. Share capital

### Issued and fully paid ordinary shares of €0.07 each [A]

| | Number of shares | | | Nominal value | | | $ million |
|---|---|---|---|---|---|---|---|
| | A | B | Ordinary shares | A | B | Ordinary shares | Total |
| At January 1, 2022 | 4,101,239,499 | 3,582,892,954 | | 345 | 296 | | 641 |
| Repurchases of shares before assimilation | – | (34,106,548) | | – | (3) | | (3) |
| Assimilation of ordinary A and B shares into ordinary shares | (4,101,239,499) | (3,548,786,406) | 7,650,025,905 | (345) | (293) | 638 | |
| Repurchases of B shares on January 27 and 28, 2022, cancelled as ordinary shares on February 2 and 3, 2022 | | | (507,742) | | | – | – |
| Repurchases of shares after assimilation | | | (646,014,770) | | | (54) | (54) |
| At December 31, 2022 | | | 7,003,503,393 | | | 584 | 584 |
| At January 1, 2021 | 4,101,239,499 | 3,706,183,836 | | 345 | 306 | | 651 |
| Repurchases of shares | – | (123,290,882) | | – | (10) | | (10) |
| At December 31, 2021 | 4,101,239,499 | 3,582,892,954 | | 345 | 296 | | 641 |

[A] Share capital at December 31, 2022, and 2021, also included 50,000 issued and fully paid sterling deferred shares of £1 each.

On January 29, 2022, as part of the Simplification announced on December 20, 2021, the Company's A and B shares were assimilated into a single line of ordinary shares. This is reflected in the above table.

At the Company's Annual General Meeting (AGM) on May 24, 2022, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of €177.0 million (representing 2,530 million ordinary shares of €0.07 each), and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 24, 2023, and the end of the AGM to be held in 2023, unless previously renewed, revoked or varied by the Company in a general meeting.

# Notes to the Consolidated Financial Statements continued

## 26. Share capital continued

At the May 24, 2022, AGM, shareholders granted the Company the authority to repurchase (i) up to 758 million ordinary shares "on-market" (excluding any treasury shares), less the number of ordinary shares purchased or committed to be purchased in terms of the buyback contracts ("off-market"), made under the authority in (ii); and (ii) up to 758 million ordinary shares off-market, less any on-market purchases made under the authority in (i).

In the case of both on-market and off-market purchases of the ordinary shares, the minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07 and the maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid in relation to ordinary shares on the trading venues where the purchase is carried out. The authorities for both on-market and off- market purchases of the ordinary shares will expire at the earlier of the close of business on August 24, 2023, and the end of the AGM of the Company to be held in 2023. Ordinary shares purchased by the Company pursuant to these authorities will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company itself.

## 27. Share-based compensation plans and shares held in trust

### Share-based compensation expense

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Equity-settled [A] | 807 | 539 | 359 |

[A] On an incidental basis awards may be cash-settled, where an equity settlement is not possible under local regulations.

The principal share-based employee compensation plans are the PSP and LTIP. Awards of shares and American Depositary Shares (ADS) of the Company under the PSP and LTIP are granted upon certain conditions to eligible employees. The actual number of shares that may vest ranges from 0% to 200% of the awards, depending on the outcomes of prescribed performance conditions over a three-year period beginning on January 1 of the award year.

### Share awards

| | Number of A shares (million) | Number of B shares (million) | Number of ordinary shares (million) [A] | Number of ADSs (million) | Weighted average remaining contractual life (years) |
|---|---|---|---|---|---|
| At January 1, 2022 | 38 | 12 | | 9 | 1.2 |
| Assimilation of ordinary A and B shares into ordinary shares | (38) | (12) | 50 | | |
| Granted | | | 22 | 4 | |
| Vested | | | (16) | (3) | |
| Forfeited | | | (2) | (1) | |
| At December 31, 2022 | | | 54 | 9 | 1.1 |
| At January 1, 2021 | 29 | 10 | | 8 | 1.0 |
| Granted | 20 | 6 | | 4 | |
| Vested | (9) | (3) | | (2) | |
| Forfeited | (2) | (1) | | (1) | |
| At December 31, 2021 | 38 | 12 | | 9 | 1.2 |

[A] On January 29, 2022, as part of the Simplification announced on December 20, 2021, the Company's A and B shares were assimilated into a single line of ordinary shares.

Other plans offer eligible employees opportunities to acquire shares and ADSs of the Company or receive cash benefits measured by reference to the Company's share price.

Shell employee share ownership trusts and trust-like entities purchase the Company's shares in the open market to meet delivery commitments under employee share plans. At December 31, 2022, they held a total of 23.9 million ordinary shares (2021: A shares: 15.6 million and B shares: 4.5 million) and 4.5 million ADSs (2021: 4.5 million).

# Notes to the Consolidated Financial Statements continued

## 28. Other reserves

### Other reserves attributable to Shell plc shareholders

$ million

| | Merger reserve | Share premium reserve | Capital redemption reserve | Share plan reserve | Accumulated other comprehensive income | Total |
|---|---|---|---|---|---|---|
| At January 1, 2022 | 37,298 | 154 | 139 | 964 | (19,646) | 18,909 |
| Other comprehensive income attributable to Shell plc shareholders | – | – | – | – | 2,024 | 2,024 |
| Transfer from other comprehensive income | – | – | – | – | (34) | (34) |
| Repurchases of shares | – | – | 57 | – | – | 57 |
| Share-based compensation | – | – | – | 176 | – | 176 |
| At December 31, 2022 | 37,298 | 154 | 196 | 1,140 | (17,656) | 21,132 |
| At January 1, 2021 | 37,298 | 154 | 129 | 906 | (25,735) | 12,752 |
| Other comprehensive income attributable to Shell plc shareholders | – | – | – | – | 6,134 | 6,134 |
| Transfer from other comprehensive income | – | – | – | – | (45) | (45) |
| Repurchases of shares | – | – | 10 | – | – | 10 |
| Share-based compensation | – | – | – | 58 | – | 58 |
| At December 31, 2021 | 37,298 | 154 | 139 | 964 | (19,646) | 18,909 |
| At January 1, 2020 | 37,298 | 154 | 123 | 1,049 | (24,173) | 14,451 |
| Other comprehensive loss attributable to Shell plc shareholders | – | – | – | – | (1,832) | (1,832) |
| Transfer from other comprehensive income | – | – | – | – | 270 | 270 |
| Repurchases of shares | – | – | 6 | – | – | 6 |
| Share-based compensation | – | – | – | (143) | – | (143) |
| At December 31, 2020 | 37,298 | 154 | 129 | 906 | (25,735) | 12,752 |

The merger reserve and share premium reserve were established as a consequence of the Company becoming the single parent company of Royal Dutch Petroleum Company and The "Shell" Transport and Trading Company, plc, now The Shell Transport and Trading Company Limited, in 2005. The merger reserve increased in 2016 following the issuance of shares for the acquisition of BG Group plc.

The capital redemption reserve was established in connection with repurchases of shares of the Company.

The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 27). The movement comprises the net of the charge for the year and the release as a result of vested awards.

# Notes to the Consolidated Financial Statements continued

## 28. Other reserves continued

Accumulated other comprehensive income comprises the following:

### Accumulated other comprehensive income attributable to Shell plc shareholders

$ million

| | Currency translation differences | Equity instruments remeasurements | Debt instruments remeasurements | Cash flow hedging (losses)/ gains | Net investment hedging (losses)/ gains | Deferred cost of hedging | Retirement benefits remeasurements | Total |
|---|---|---|---|---|---|---|---|---|
| At January 1, 2022 | (9,563) | 1,294 | 3 | (536) | (2,144) | (226) | (8,474) | (19,646) |
| Recognised in other comprehensive income | (3,422) | (524) | (90) | 426 | 180 | 64 | 6,982 | 3,616 |
| Reclassified to income | 437 | – | 12 | (636) | – | 81 | – | (106) |
| Reclassified to the balance sheet | – | – | – | (81) | – | – | – | (81) |
| Reclassified to retained earnings | – | (32) | – | – | – | – | (2) | (34) |
| Tax on amounts recognised/reclassified | (1) | 33 | – | 59 | – | 55 | (1,516) | (1,370) |
| Total, net of tax | (2,986) | (523) | (78) | (232) | 180 | 200 | 5,464 | 2,025 |
| Share of joint ventures and associates | 30 | (283) | – | 244 | – | – | 30 | 21 |
| Other comprehensive income/(loss) for the period | (2,956) | (806) | (78) | 12 | 180 | 200 | 5,494 | 2,046 |
| Less: non-controlling interest | (71) | (1) | – | – | – | – | 16 | (56) |
| Attributable to Shell plc shareholders | (3,027) | (807) | (78) | 12 | 180 | 200 | 5,510 | 1,990 |
| At December 31, 2022 | (12,590) | 487 | (75) | (524) | (1,964) | (26) | (2,964) | (17,656) |
| At January 1, 2021 | (8,175) | 1,144 | 31 | (485) | (2,439) | (187) | (15,624) | (25,735) |
| Recognised in other comprehensive income | (1,841) | 180 | (23) | 88 | 295 | (145) | 10,191 | 8,745 |
| Reclassified to income | 368 | – | (5) | (38) | – | 92 | – | 417 |
| Reclassified to the balance sheet | – | – | – | (13) | – | – | – | (13) |
| Reclassified to retained earnings | – | (45) | – | – | – | – | – | (45) |
| Tax on amounts recognised/reclassified | 60 | (35) | – | (16) | – | 14 | (2,993) | (2,970) |
| Total, net of tax | (1,413) | 100 | (28) | 21 | 295 | (39) | 7,198 | 6,134 |
| Share of joint ventures and associates | (36) | 50 | – | (72) | – | – | (48) | (106) |
| Other comprehensive income/(loss) for the period | (1,449) | 150 | (28) | (51) | 295 | (39) | 7,150 | 6,028 |
| Less: non-controlling interest | 61 | – | – | – | – | – | – | 61 |
| Attributable to Shell plc shareholders | (1,388) | 150 | (28) | (51) | 295 | (39) | 7,150 | 6,089 |
| At December 31, 2021 | (9,563) | 1,294 | 3 | (536) | (2,144) | (226) | (8,474) | (19,646) |
| At January 1, 2020 | (9,415) | 793 | 8 | (233) | (2,016) | (287) | (13,023) | (24,173) |
| Recognised in other comprehensive income | 1,204 | 68 | 31 | (9) | (423) | 17 | (3,455) | (2,567) |
| Reclassified to income | (28) | – | (8) | (173) | – | 94 | – | (115) |
| Reclassified to the balance sheet | – | – | – | 16 | – | – | – | 16 |
| Reclassified to retained earnings | – | 169 | – | – | – | – | 101 | 270 |
| Tax on amounts recognised/reclassified | 3 | (4) | – | 6 | – | (11) | 753 | 747 |
| Total, net of tax | 1,179 | 233 | 23 | (160) | (423) | 100 | (2,601) | (1,649) |
| Share of joint ventures and associates | 51 | 118 | – | (92) | – | – | – | 77 |
| Other comprehensive (loss)/income for the period | 1,230 | 351 | 23 | (252) | (423) | 100 | (2,601) | (1,572) |
| Less: non-controlling interest | 10 | – | – | – | – | – | – | 10 |
| Attributable to Shell plc shareholders | 1,240 | 351 | 23 | (252) | (423) | 100 | (2,601) | (1,562) |
| At December 31, 2020 | (8,175) | 1,144 | 31 | (485) | (2,439) | (187) | (15,624) | (25,735) |

# Notes to the Consolidated Financial Statements continued

## 29. Dividends

### Interim dividends

| | $ per share | | | $ million | | |
|---|---|---|---|---|---|---|
| | 2022 | 2021 [A] | 2020 [A] | 2022 | 2021 [B] | 2020 [B] |
| Cash: | | | | | | |
| March | 0.24 | 0.1665 | 0.47 | 1,829 | 1,290 | 3,482 |
| June | 0.25 | 0.1735 | 0.16 | 1,850 | 1,331 | 1,239 |
| September | 0.25 | 0.24 | 0.16 | 1,818 | 1,854 | 1,236 |
| December | 0.25 | 0.24 | 0.1665 | 1,786 | 1,846 | 1,313 |
| Total | 0.99 | 0.82 | 0.9565 | 7,283 | 6,321 | 7,270 |

[A] In 2021 and 2020 Shell plc declared equal amounts of dividends per A and B share as presented in the table for those years.
[B] Dividends paid on A share totalled in 2021: $3,330 million and in 2020: $3,860 million; dividends paid on B share totalled in 2021: $2,991 million and in 2020: $3,410 million.

On February 2, 2023, the Directors announced a further interim dividend in respect of 2022 of $0.2875 per ordinary share. The total dividend is estimated to be $1,998 million and is payable on March 27, 2023, to shareholders on the register at February 17, 2023.

Shareholders will be able to elect to receive their dividends in US dollars, sterling or euros.

## 30. Earnings per share

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Income/(loss) attributable to Shell plc shareholders ($ million) | 42,309 | 20,101 | (21,680) |
| | | | |
| Weighted average number of shares used as the basis for determining: | | | |
| Basic earnings per share (million of shares) | 7,347.5 | 7,761.7 | 7,795.6 |
| Diluted earnings per share (million of shares) | 7,410.5 | 7,806.8 | 7,795.6 |

Basic earnings per share are calculated by dividing the income attributable to Shell plc shareholders for the year by the weighted average number of shares outstanding during the year. The weighted average number of shares outstanding excludes shares held in trust.

Diluted earnings per share are based on the same income figures. The weighted average number of shares outstanding during the year is increased by dilutive shares related to share-based compensation plans. If the inclusion of potentially issuable shares could decrease diluted loss per share, the potentially issuable shares are excluded from the weighted average number of shares outstanding used to calculate diluted earnings per share.

## 31. Legal proceedings and other contingencies

### General

In the ordinary course of business, Shell subsidiaries are subject to a number of contingencies arising from litigation and claims brought by governmental authorities, including tax authorities, and private parties. The operations and earnings of Shell subsidiaries continue, from time to time, to be affected to varying degrees by political, legislative, fiscal and regulatory developments, including those relating to the protection of the environment and indigenous groups in the countries in which they operate. The industries in which Shell subsidiaries are engaged are also subject to physical risks of various types.

The amounts claimed in relation to such events and, if such claims against Shell were successful, the costs of implementing the remedies sought in the various cases could be substantial. Based on information available to date and taking into account that in some cases it is not practicable to estimate the possible magnitude or timing of any resultant payments, management believes that the foregoing are not expected to have a material adverse impact on Shell's Consolidated Financial Statements. However, there remains a high degree of uncertainty around these contingencies, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

In certain divestment transactions, liabilities related to decommissioning and restoration are de-recognised upon transfer of these obligations to the buyer. For certain of these obligations Shell has issued guarantees to third parties and continues to be liable in case the primary obligor is not able to meet its obligation. These potential obligations arising from issuance of these guarantees are assessed to be remote.

### Decommissioning and restoration of manufacturing facilities

Prior to 2020, in line with industry practice, Shell's policy had been not to recognise decommissioning and restoration provisions associated with manufacturing facilities in Oil Products and Chemicals. This was on the basis that these assets were considered to have indefinite lives and, therefore, that it was considered remote that an outflow of economic benefits would be required.

In 2020, the changed macroeconomic fundamentals were considered, together with Shell's plans to rationalise the Group's manufacturing portfolio. It was also reconsidered whether it remained appropriate not to recognise decommissioning and restoration provisions for manufacturing facilities.

**31. Legal proceedings and other contingencies** continued

It was concluded that the assumption of indefinite lives for manufacturing facilities was no longer appropriate, and the need for either recognition of decommissioning and restoration provisions or contingent liability disclosure was reviewed. In 2020, provisions had been recognised for certain shorter-lived manufacturing facilities, but for the remaining longer-lived facilities, where decommissioning would generally be more than 50 years away, it was concluded that, while there is a present obligation that has arisen from past events, the amount of the obligation cannot be measured with sufficient reliability. This conclusion was reached on the basis that the settlement dates are indeterminate; and that other estimates, such as extremely long-term discount rates for which there is no observable measure, are not reliable. Consequently, a decommissioning and restoration obligation exists that cannot be recognised or quantified and that is disclosed as a contingent liability.

**Pesticide litigation**

Shell USA, Inc. (Shell USA), along with another agricultural chemical pesticide manufacturer and several distributors, has been sued by public and quasi-public water purveyors, water storage districts, and private landowners alleging responsibility for groundwater contamination caused by applications of chemical pesticides. There are approximately 34 such cases currently pending, four claims made but not yet filed, and an active subpoena for records. These matters assert various theories of strict liability and negligence, seeking to recover actual damages, including drinking well treatment and remediation costs. Most assert claims for punitive damages. While Shell USA continues to vigorously defend these actions, in January 2018 an environmental regulatory standard became effective in the State of California, where a majority of the suits are pending. The 2018 standard requires public water systems state-wide to perform quarterly or monthly sampling of their drinking water sources for a chemical contained in certain pesticides. Water systems deemed out of compliance with the regulatory standard must take corrective action to resolve the exceedance or take the potable water source out of service. In response to this regulatory standard, Shell USA monitors the sampling results to determine the number of wells potentially impacted. Based on the claims asserted and Shell USA's history with regard to amounts paid to resolve varying actions, management does not expect the outcome of the matters pending at December 31, 2022, to have a material adverse impact on Shell. However, there remains a high degree of uncertainty regarding the potential outcome of some of these pending lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

**Climate change litigation**

In the USA, 22 lawsuits filed by several municipalities and/or states against oil and gas companies, one industry group, and Shell plc are pending as of December 31, 2022. The plaintiffs seek damages for a variety of claims including harm to their public and private infrastructure from rising sea levels and other alleged impacts of climate change caused by the defendants' fossil fuel products. In the Netherlands, in a case against Shell brought by a group of environmental non-governmental organisations (eNGOs) and individual claimants, the Court found that while Shell is not currently acting unlawfully, Shell must reduce the aggregate annual volume of $CO_2$ emissions of Shell Group operations and energy-carrying products sold across Scopes 1, 2 and 3 by 45% (net) by the end of 2030 relative to its 2019 emissions levels (the "Dutch Court Order"). For Scopes 2 and 3, this is a significant best-efforts obligation. Shell has appealed that ruling. Management believes the outcome of these matters should be resolved in a manner favourable to Shell, but there remains a high degree of uncertainty regarding the ultimate outcome of these lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

In the UK, the environmental law group ClientEarth sent a pre-action letter in March 2022 threatening to commence, purportedly on behalf of Shell plc, a legal claim in the UK courts against Shell plc's Board of Directors (known as a "derivative action") regarding the way in which the Directors have allegedly handled "climate change related risk". On February 8, 2023, ClientEarth filed the claim with the English High Court against Shell plc and the current Board of Directors. The claim does not seek monetary relief but asks the Court to order the Directors to: (i) adopt and implement a different strategy to manage climate risk in compliance with their statutory duties; and (ii) comply immediately with the Dutch Court Order. The High Court must grant permission for ClientEarth to proceed with this claim.

**Louisiana coast litigation**

The State of Louisiana and multiple local governments have initiated 43 lawsuits against more than 200 oil and gas companies, claiming either current or historical oil and gas operations caused or contributed to contamination, land loss and the erosion of the Louisiana coastline. Shell entities are named in 14 of the suits. Although the State and local parishes fail to claim specified amounts, these claims represent potentially material matters. The cases are of first impression, arise out of an untested 1980 Louisiana statute and represent a novel attempt to render illegal operations that federal and state agencies permitted and authorised at the time. In late 2022, certain jurisdictional questions were decided by a federal appeals court in New Orleans, which resulted in the cases being remanded from federal court back to state court. While disappointed, management believes the outcome of these matters should ultimately be resolved in a manner favourable to Shell; there remains a high degree of uncertainty, however, concerning the scope of the claims and the ultimate outcomes, as well as their potential effects on future operations, earnings, cash flows, reputation and Shell's financial condition.

**NAM (Groningen gas field) litigation**

Since 1963, NAM – a joint venture between Shell and ExxonMobil (50%:50%) – has been producing gas from the Groningen field, the largest gas field in Western Europe. After smaller tremors in the 1990s and the late 2000s, an earthquake measuring 3.6 on the Richter scale occurred in 2012, causing damage to properties in the affected area, and the area continues to experience tremor/earthquake-type events. NAM has received more than 100,000 claims for physical damage to property – the majority of which have been successfully settled. The Dutch State has taken over the damage-claim-handling from NAM for all claim categories (strengthening, physical damage to property, housing value loss, emotional damages and loss of living enjoyment), while NAM remains financially responsible. In February 2022, NAM commenced arbitral proceedings against the State to get clarity on these financial responsibilities. NAM still faces a declining number of claims in civil litigation from claimants who elect not to use the government arrangement or from claims pre-dating the governmental arrangements. These claims include but are not limited to housing claims where NAM was found liable for value loss, emotional damages and loss of living enjoyment and other civil litigation matters.

There remains a high degree of uncertainty concerning the ultimate outcomes and their potential effects on future operations, earnings, cash flows, reputation and Shell's financial condition.

## 31. Legal proceedings and other contingencies continued

### Nigerian litigation

Shell subsidiaries and associates operating in Nigeria are parties to various environmental, non-environmental and contractual disputes brought in the courts of Nigeria, England and the Netherlands. These disputes are at different stages in litigation, including at the appellate stage, where judgements have been rendered against Shell entities in some of these disputes. If taken at face value, the aggregate amount of these judgements could be seen as material. Management, however, believes that once the outcomes of these matters are ultimately determined, the overall outcome of these disputes will be favourable to Shell. However, there remains a high degree of uncertainty regarding these cases, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

### OPL 245

On January 27, 2017, the Nigeria Federal High Court issued an Interim Order of Attachment for Oil Prospecting Licence 245 (OPL 245), pending the conclusion of the investigation. SNEPCO applied for and was granted a discharge of this order on constitutional and procedural grounds. Also in Nigeria, in March 2017, criminal charges alleging official corruption and conspiracy to commit official corruption were filed against SNEPCO, one current Shell employee and third parties including ENI SpA and one of its subsidiaries. Those proceedings are in abeyance. In January 2020, criminal charges alleging disobeying direction of law related to tax waivers were filed in Nigeria against Shell Nigeria Ultra Deep Ltd., SNEPCO, and third parties including Nigeria Agip Exploration Limited (NAE). Those proceedings are ongoing. In March 2017, parties alleging to be shareholders of Malabu Oil and Gas Company Ltd. (Malabu) filed two actions to challenge the 2011 settlement and the award of OPL 245 to SNEPCO and an ENI SpA subsidiary by the Federal Government of Nigeria. Both actions are currently stayed awaiting the outcome of appeals filed against procedural decisions. Those appeal proceedings are ongoing. On May 8, 2018, Human Environmental Development Agenda (HEDA) sought permission from the Federal High Court of Nigeria to apply for an order to direct the Attorney General of the Federation to revoke OPL 245 on grounds that the entire Malabu transaction in relation to the OPL is unconstitutional, illegal and void as it was obtained through fraudulent and corrupt practice. On July 3, 2019, the Nigerian Federal High Court upheld objections from SNEPCO and NAE and struck the lawsuit filed by HEDA. The suit was struck because of the statute of limitations and lack of jurisdiction to hear the matter. HEDA has appealed the judgement, which is ongoing.

On December 12, 2018, the Federal Republic of Nigeria (FRN) issued a claim form in the UK against Shell and six of its subsidiaries, ENI SpA and two of its subsidiaries, Malabu as well as two other entities for the amount of $1,092 million plus damages for having participated in a fraudulent and corrupt scheme leading to the acquisition by Shell and ENI corporate defendants in 2011 of OPL 245. The Shell entities were served with proceedings in April and May 2019, following which they, and other defendants, challenged the jurisdiction of the English courts. Following a hearing in April 2020, the English High Court rendered judgement in May 2020, dismissing the claims in England and refusing the FRN's request for permission to appeal. In September 2020, the UK Court of Appeal also refused the FRN's permission to appeal, meaning the case is now concluded.

On February 14, 2017, Shell plc received a notice of request for indictment from the Milan public prosecutor with respect to this matter. On December 20, 2017, Shell plc and four former Shell employees including one former executive were remanded to trial in Milan. On May 14, 2018, a trial commenced in the Court of Milan. The FRN was admitted as a civil claimant by a court decision on July 20, 2018. On September 18, 2018, Shell was joined to the proceedings as the civilly responsible party for the damages caused by the alleged illegal acts of the four former Shell employees. Three other Shell entities (Shell UK Ltd, Shell Petroleum Development Company of Nigeria Ltd. and Shell Exploration and Production Africa Ltd.) also joined the proceedings as responsible civile for their respective former employees at that phase of the proceedings. On March 17, 2021, the Court of Milan acquitted the Shell entities and four former Shell employees of all charges on the grounds that there was no case to answer. The Court of Milan published the full grounds for its decision on June 9, 2021. The Milan public prosecutor and the FRN appealed the decision to the Court of Appeal. On July 19, 2022, the Milan public prosecutor withdrew its appeal, meaning the criminal case is closed and the acquittal of all defendants is final. On November 11, 2022, the Court of Appeal rejected the FRN's appeal and ordered the FRN to pay legal costs. The Court of Appeal issued the full grounds for its decision on January 20, 2023.

On September 20, 2018, a guilty judgement was filed by the Milan Judge of the Preliminary Hearing in a separate OPL 245 fast-track trial of two individuals, neither of whom worked for or on behalf of Shell. That decision was appealed to the Court of Appeal which rendered its judgement on June 24, 2021, acquitting both individuals. Separate OPL 245 pre-trial criminal proceedings are pending against another individual who also did not work for or on behalf of Shell.

On October 2, 2019, the US Department of Justice (DOJ) informed Shell that it was closing its inquiry into Shell in relation to OPL 245. It is understood that the decision was based on the facts available to the DOJ, including ongoing legal proceedings in Europe. On April 22, 2020, the United States Securities and Exchange Commission notified us that it had also closed its inquiry into Shell in relation to OPL 245. On July 21, 2022, the Dutch Public Prosecutor's office announced it had dismissed its investigation into bribery allegations related to OPL 245.

On October 24, 2022, Re:Common, HEDA and Corner House announced that they filed a complaint at the Court of Appeal in The Hague, pursuant to Article 12 of the Dutch Code for Criminal Procedure, challenging the decision by the DPP to dismiss its investigation. There remains a high degree of uncertainty around the OPL 245 matters and contingencies discussed above, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition. Accordingly, at this time, it is not practicable to estimate the magnitude and timing of any possible obligations or payments. Any violation of anti-bribery, anti-corruption or anti-money laundering legislation could have a material adverse effect on Shell plc's earnings, cash flows and financial condition.

# Notes to the Consolidated Financial Statements continued

## 32. Employees

### Employee costs

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Remuneration | 10,509 | 9,038 | 9,128 |
| Social security contributions | 860 | 819 | 793 |
| Retirement benefits (see Note 23) | 1,795 | 1,696 | 1,851 |
| Share-based compensation (see Note 27) | 807 | 539 | 359 |
| Total [A] | 13,971 | 12,092 | 12,131 |

[A] Excludes employees seconded to joint ventures and associates.

### Average employee numbers [A]

Thousand

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Integrated Gas | 6 | 6 | 6 |
| Upstream | 12 | 13 | 15 |
| Marketing | 17 | 14 | 15 |
| Chemicals and Products | 21 | 22 | 23 |
| Renewables and Energy Solutions | 4 | 3 | 3 |
| Corporate | 27 | 25 | 25 |
| - of which Shell Business Service Centre (SBSC) | 20 | 19 | 18 |
| Total [B] | 87 | 83 | 87 |

[A] Employee numbers, including comparatives, have been updated from full time equivalents (FTE) to headcount.
[B] Excludes employees seconded to joint ventures and associates (2022: 2,000 employees; 2021: 2,000 employees; 2020: 2,000 employees).

## 33. Directors and Senior Management

### Remuneration of Directors of the Company

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Emoluments | 12 | 12 | 6 |
| Value of released awards under long-term incentive plans | 7 | 5 | 6 |
| Employer contributions to pension plans | 1 | 1 | 1 |

Emoluments comprise salaries and fees, annual bonuses (for the period for which performance is assessed) and other benefits. The value of released awards under long-term incentive plans for the period is in respect of the performance period ending in that year. In 2022, retirement benefits were accrued in respect of qualifying services under defined benefit plans by one Director.

Further information on the remuneration of the Directors can be found in the Directors' Remuneration Report on pages 178-182.

### Directors and Senior Management expense

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Short-term benefits | 33 | 27 | 14 |
| Retirement benefits | 2 | 3 | 3 |
| Share-based compensation | 17 | 16 | 17 |
| Termination and related amounts | 1 | 2 | 2 |
| Total | 53 | 48 | 36 |

Directors and Senior Management comprise members of the Executive Committee and the Non-executive Directors of the Company.

Short-term benefits comprise salaries and fees, annual bonuses delivered in cash and shares (for the period for which performance is assessed), other benefits and employer social security contributions.

# Notes to the Consolidated Financial Statements continued

## 34. Auditor's remuneration

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Fees in respect of the audit of the Consolidated and Parent Company Financial Statements, including audit of consolidation returns | 45 | 39 | 36 |
| Other audit fees, principally in respect of audits of accounts of subsidiaries | 18 | 18 | 17 |
| Total audit fees | 63 | 57 | 53 |
| Audit-related fees | 3 | 3 | 3 |
| Fees in respect of other non-audit services | 3 | 3 | 2 |
| Total | 69 | 63 | 58 |

In addition, the auditor provided audit services to retirement benefit plans for employees of subsidiaries. Remuneration paid by those benefit plans amounted to $1 million in 2022 (2021: $1 million; 2020: $1 million).

## 35. Post-balance sheet events

On January 30, 2023, Shell announced that it will reduce the size of its Executive Committee from nine to seven members. Under the changes, which are expected to take effect on July 1, 2023, Shell's Integrated Gas and Upstream businesses will be combined to form a new Integrated Gas and Upstream Directorate and the Downstream business will be combined with Renewables and Energy Solutions to form a new Downstream and Renewables Directorate. Separately, the Strategy, Sustainability and Corporate Relations Directorate will be discontinued. The changes announced will not affect Shell's financial reporting segments for the year ending December 31, 2023, which remain unchanged.

On February 2, 2023, Shell announced the commencement of a $4 billion share buyback programme covering an aggregate contract term of approximately three months (the "programme"). The purpose of the programme is to reduce the issued share capital of the Company. All shares repurchased as part of the programme will be cancelled. It is intended that, subject to market conditions, the programme will be completed prior to the Company's First Quarter 2023 results announcement, scheduled for May 4, 2023. The Company has entered into an arrangement with a single broker consisting of three irrevocable, non-discretionary contracts, to enable the purchase of ordinary shares.

On February 20, 2023, Shell completed the acquisition of 100% of the shares of Nature Energy Biogas A/S ("Nature Energy") from Davidson Kempner Capital Management LP, Pioneer Point Partners and Sampension for cash consideration of nearly $2 billion. Based in Denmark, Nature Energy is a producer of Renewable Natural Gas from agricultural, industrial, and household wastes. In Shell's First Quarter 2023 Consolidated Statement of Cash Flows, the cash consideration paid will be reflected as an outflow through 'Cash flow from investing activities'. Measurement is now underway of the fair value of the net assets acquired and any goodwill to be recognised as a result of the acquisition. The acquisition of Nature Energy will be reported through the Marketing operating segment.

On February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC, to IKAV. The total consideration is $2 billion with additional contingent payments based on oil prices and has an effective date of October 1, 2021.

# Supplementary information – oil and gas (unaudited)

## About this section

The purpose of this section is to comply with the requirements of the Financial Accounting Standards Board (FASB) "Extractive Activities – Oil and Gas (Topic 932)". Extractive activities for this purpose include exploration and production activities to extract oil, condensates, natural gas liquids, oil sands and natural gas from their natural reservoirs.

In Shell, extractive activities, or oil and gas exploration and production activities, are undertaken within the Integrated Gas, the Upstream and the Chemicals and Products (includes oil sands) segments. Shell's extractive activities do not represent the full extent of Integrated Gas, Upstream and Chemicals and Products activities, and exclude GTL, some LNG activities, trading and optimisation, as well as other non-extractive activities. As a result, the information in this extractive activities section is not suitable for modelling Shell's integrated businesses, for which we refer to the segment information. Full segment information to the Consolidated Financial Statements is available on pages 265-269.

The information set out on pages 308-326 is referred to as "unaudited" as a means of clarifying that it is not covered by the audit opinion of the independent registered public accounting firm that has audited and reported on the Consolidated Financial Statements.

## Proved reserves

Proved reserves estimates are calculated pursuant to the US Securities and Exchange Commission (SEC) Rules and the FASB's Topic 932. Proved reserves can be either developed or undeveloped. The definitions used are in accordance with the SEC Rule 4–10 (a) of Regulation S-X. We include proved reserves associated with future production that will be consumed in operations.

Proved reserves shown are net of any quantities of crude oil or natural gas that are expected to be (or could be) taken as royalties in kind. Proved reserves outside North America include quantities that will be settled as royalties in cash. Proved reserves include certain quantities of crude oil or natural gas that will be produced under arrangements that involve Shell subsidiaries, joint ventures and associates in risks and rewards but do not transfer title of the product to those entities.

Subsidiaries' proved reserves at December 31, 2022, were divided into 75% developed and 25% undeveloped on a barrel of oil equivalent basis. For the Shell share of joint ventures and associates, the proved reserves at December 31, 2022, were divided into 48% developed and 52% undeveloped on a barrel of oil equivalent basis.

Proved reserves are recognised under various forms of contractual agreements. Shell's proved reserves volumes at December 31, 2022, present in agreements such as production-sharing contracts (PSC), tax/variable royalty contracts or other forms of economic entitlement contracts, where the Shell share of reserves can vary with commodity prices, were 1,920 million barrels of crude oil and natural gas liquids, and 10,202 thousand million standard cubic feet (scf) of natural gas.

Proved reserves cannot be measured exactly because estimation of reserves involves subjective judgement (see "Risk factors" on page 18 and our "Proved reserves assurance process" below). These estimates remain subject to revision and are unaudited supplementary information.

## Proved reserves assurance process

A central group of reserves experts, who on average have around 27 years' experience in the oil and gas industry, undertake the primary assurance of the proved reserves bookings. This group of experts is part of the Resources Assurance and Reporting (RAR) organisation within Shell. A Vice President with 37 years' experience in the oil and gas industry currently heads the RAR organisation. He is a member of the Society of Petroleum Engineers, Society of Petroleum Evaluation Engineers and holds a BA in mathematics from Oxford University and an MEng in Petroleum Engineering from Heriot-Watt University. The RAR organisation reports directly to an Executive Vice President of Finance, who is a member of the Upstream Reserves Committee (URC). The URC is a multidisciplinary committee consisting of senior representatives from the Finance, Legal, Integrated Gas and Upstream organisations. The URC reviews and endorses all major (larger than 20 million barrels of oil equivalent) proved reserves bookings and debookings and endorses the total aggregated proved reserves. Final approval of all proved reserves bookings remains with Shell's CEO, and all proved reserves bookings are reviewed by Shell's Audit Committee. The Internal Audit function also provides secondary assurance through audits of the control framework.

## Crude oil, natural gas liquids, synthetic crude oil and bitumen

Shell subsidiaries' proved reserves of crude oil, natural gas liquids (NGLs), synthetic crude oil and bitumen at the end of the year; their share of the proved reserves of joint ventures and associates at the end of the year; and the changes in such reserves during the year are set out on pages 309-312. Significant changes in these proved reserves are discussed below (except where specific disclosures are prohibited), where "revisions and reclassifications" are changes based on new information that resulted from development drilling, production history, and changes in economic factors.

# Supplementary information – oil and gas (unaudited) continued

## Proved reserves 2022–2021

### Shell subsidiaries

**Canada**

- The increase of 240 million barrels in purchases was mainly in Jackpine Mine.

**South America**

- The increase of 55 million barrels in purchases was in Atapu in Brazil.

## Proved reserves 2021–2020

### Shell subsidiaries

**Asia**

- The net increase of 121 million barrels in revisions and reclassifications was mainly in Kashagan and Upper Salym.

**USA**

- The net increase of 119 million barrels in revisions and reclassifications was mainly in Mars and Stones.
- The decrease of 136 million barrels in sales in place was in Permian.
- The increase of 55 million barrels in extensions and discoveries was mainly in Whale Dev.

**Canada**

- The net decrease of 90 million barrels in revisions and reclassifications was mainly in Jackpine Mine and Muskeg River mine.

**South America**

- The net increase of 325 million barrels in revisions and reclassifications half of which was mainly in Mero.
- The increase of 103 million barrels in extensions and discoveries was mainly in Mero.

**Europe**

- The increase of 67 million barrels in revisions and reclassifications was mainly in Schiehallion and Val d'Agri.

**Africa**

- The decrease of 53 million barrels in revisions and reclassifications was mainly in Nigeria.

# Supplementary information – oil and gas (unaudited) continued

## Proved developed and undeveloped reserves 2022

Million barrels

| | Europe | Asia | Oceania | Africa | North America | | | South America | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | | | | |
| | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Synthetic crude oil | Oil and NGL | Oil and NGL | Synthetic crude oil | All products |
| Shell subsidiaries | | | | | | | | | | | |
| At January 1 | 208 | 1,521 | 80 | 265 | 610 | 5 | 533 | 1,131 | 3,820 | 533 | 4,353 |
| Revisions and reclassifications | 16 | 34 | 11 | (18) | 48 | (1) | (25) | 47 | 137 | (25) | 112 |
| Improved recovery | – | – | – | – | – | – | – | 32 | 32 | – | 32 |
| Extensions and discoveries | 5 | 13 | 24 | – | 7 | 1 | – | 11 | 61 | – | 61 |
| Purchases of minerals in place | – | 12 | – | – | – | – | 240 | 55 | 67 | 240 | 307 |
| Sales of minerals in place | – | (1) | – | – | – | – | – | – | (1) | – | (1) |
| Production [A] | (37) | (168) | (9) | (29) | (122) | (1) | (17) | (138) | (504) | (17) | (521) |
| At December 31 | 192 | 1,411 | 106 | 218 | 543 | 4 | 731 | 1,138 | 3,612 | 731 | 4,343 |
| Shell share of joint ventures and associates | | | | | | | | | | | |
| At January 1 | 7 | 217 | – | – | – | – | – | 4 | 228 | – | 228 |
| Revisions and reclassifications | (3) | (23) | – | – | – | – | – | 1 | (25) | – | (25) |
| Improved recovery | – | – | – | – | – | – | – | – | – | – | – |
| Extensions and discoveries | – | – | – | – | – | – | – | 4 | 4 | – | 4 |
| Purchases of minerals in place | – | 159 | – | – | – | – | – | – | 159 | – | 159 |
| Sales of minerals in place | – | – | – | – | – | – | – | – | – | – | – |
| Production | (1) | (26) | – | – | – | – | – | (2) | (29) | – | (29) |
| At December 31 | 3 | 327 | – | – | – | – | – | 7 | 337 | – | 337 |
| Total [B] | 195 | 1,738 | 106 | 218 | 543 | 4 | 731 | 1,145 | 3,949 | 731 | 4,680 |
| Reserves attributable to non-controlling interest in Shell subsidiaries at December 31 | | | | | | | 365 | | | 365 | 365 |

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.
[B] As announced on February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC, to IKAV. As of December 31, 2022, we had proved reserves of 112 million barrels in crude oil. For more information See Note 35 on page 307.

## Proved developed reserves 2022

Million barrels

| | Europe | Asia | Oceania | Africa | North America | | | South America | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | | | | |
| | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Synthetic crude oil | Oil and NGL | Oil and NGL | Synthetic crude oil | All products |
| Shell subsidiaries | | | | | | | | | | | |
| At January 1 | 140 | 1,348 | 71 | 218 | 397 | 2 | 533 | 786 | 2,962 | 533 | 3,495 |
| At December 31 | 140 | 999 | 73 | 187 | 356 | 3 | 731 | 831 | 2,589 | 731 | 3,320 |
| Shell share of joint ventures and associates | | | | | | | | | | | |
| At January 1 | 7 | 197 | – | – | – | – | – | 4 | 208 | – | 208 |
| At December 31 | 3 | 154 | – | – | – | – | – | 7 | 164 | – | 164 |

## Proved undeveloped reserves 2022

Million barrels

| | Europe | Asia | Oceania | Africa | North America | | | South America | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | | | | |
| | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Synthetic crude oil | Oil and NGL | Oil and NGL | Synthetic crude oil | All products |
| Shell subsidiaries | | | | | | | | | | | |
| At January 1 | 68 | 173 | 9 | 47 | 213 | 3 | – | 345 | 858 | – | 858 |
| At December 31 | 52 | 412 | 33 | 31 | 187 | 1 | – | 307 | 1,023 | – | 1,023 |
| Shell share of joint ventures and associates | | | | | | | | | | | |
| At January 1 | – | 20 | – | – | – | – | – | – | 20 | – | 20 |
| At December 31 | – | 173 | – | – | – | – | – | – | 173 | – | 173 |

# Supplementary information – oil and gas (unaudited) continued

## Proved developed and undeveloped reserves 2021

Million barrels

| | Europe | Asia | Oceania | Africa | North America | | | South America | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | | | | |
| | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Synthetic crude oil | Oil and NGL | Oil and NGL | Synthetic crude oil | All products |
| Shell subsidiaries | | | | | | | | | | | |
| At January 1 | 178 | 1,573 | 73 | 379 | 728 | 15 | 644 | 815 | 3,761 | 644 | 4,405 |
| Revisions and reclassifications | 67 | 121 | 18 | (53) | 119 | – | (90) | 325 | 597 | (90) | 507 |
| Improved recovery | – | – | – | – | 9 | – | – | 21 | 30 | – | 30 |
| Extensions and discoveries | 4 | 11 | – | 1 | 55 | 1 | – | 103 | 175 | – | 175 |
| Purchases of minerals in place | – | – | – | – | – | – | – | – | – | – | – |
| Sales of minerals in place | – | – | – | (21) | (136) | (8) | – | – | (165) | – | (165) |
| Production [A] | (41) | (184) | (11) | (41) | (165) | (3) | (21) | (133) | (578) | (21) | (599) |
| At December 31 | 208 | 1,521 | 80 | 265 | 610 | 5 | 533 | 1,131 | 3,820 | 533 | 4,353 |
| Shell share of joint ventures and associates | | | | | | | | | | | |
| At January 1 | 6 | 210 | – | – | – | – | – | – | 216 | – | 216 |
| Revisions and reclassifications | 2 | 40 | – | – | – | – | – | 4 | 46 | – | 46 |
| Improved recovery | – | – | – | – | – | – | – | – | – | – | – |
| Extensions and discoveries | – | – | – | – | – | – | – | 2 | 2 | – | 2 |
| Purchases of minerals in place | – | – | – | – | – | – | – | – | – | – | – |
| Sales of minerals in place | – | – | – | – | – | – | – | – | – | – | – |
| Production | (1) | (33) | – | – | – | – | – | (2) | (36) | – | (36) |
| At December 31 | 7 | 217 | – | – | – | – | – | 4 | 228 | – | 228 |
| Total [B] | 215 | 1,738 | 80 | 265 | 610 | 5 | 533 | 1,135 | 4,048 | 533 | 4,581 |
| Reserves attributable to non-controlling interest in Shell subsidiaries at December 31 | – | – | – | – | – | – | 267 | – | – | 267 | 267 |

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.
[B] As of December 31, 2021, we had proved reserves of 93 million barrels in crude oil relating to activities in Russia.

## Proved developed reserves 2021

Million barrels

| | Europe | Asia | Oceania | Africa | North America | | | South America | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | | | | |
| | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Synthetic crude oil | Oil and NGL | Oil and NGL | Synthetic crude oil | All products |
| Shell subsidiaries | | | | | | | | | | | |
| At January 1 | 103 | 1,417 | 69 | 316 | 539 | 12 | 644 | 674 | 3,130 | 644 | 3,774 |
| At December 31 | 140 | 1,348 | 71 | 218 | 397 | 2 | 533 | 786 | 2,962 | 533 | 3,495 |
| Shell share of joint ventures and associates | | | | | | | | | | | |
| At January 1 | 6 | 192 | – | – | – | – | – | 1 | 199 | – | 199 |
| At December 31 | 7 | 197 | – | – | – | – | – | 4 | 208 | – | 208 |

## Proved undeveloped reserves 2021

Million barrels

| | Europe | Asia | Oceania | Africa | North America | | | South America | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | | | | |
| | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Synthetic crude oil | Oil and NGL | Oil and NGL | Synthetic crude oil | All products |
| Shell subsidiaries | | | | | | | | | | | |
| At January 1 | 76 | 156 | 5 | 63 | 189 | 3 | – | 141 | 633 | – | 633 |
| At December 31 | 68 | 173 | 9 | 47 | 213 | 3 | – | 345 | 858 | – | 858 |
| Shell share of joint ventures and associates | | | | | | | | | | | |
| At January 1 | – | 18 | – | – | – | – | – | – | 18 | – | 18 |
| At December 31 | – | 20 | – | – | – | – | – | – | 20 | – | 20 |

# Supplementary information – oil and gas (unaudited) continued

## Proved developed and undeveloped reserves 2020

Million barrels

| | Europe | Asia | Oceania | Africa | North America | | | South America | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | | | | |
| | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Synthetic crude oil | Oil and NGL | Oil and NGL | Synthetic crude oil | All products |
| Shell subsidiaries | | | | | | | | | | | |
| At January 1 | 274 | 1,551 | 121 | 395 | 982 | 18 | 607 | 1,033 | 4,374 | 607 | 4,981 |
| Revisions and reclassifications | (46) | 181 | (41) | 42 | (116) | (2) | 57 | (82) | (63) | 57 | (6) |
| Improved recovery | – | – | – | – | – | – | – | – | – | – | – |
| Extensions and discoveries | – | 14 | – | – | 27 | 7 | – | – | 48 | – | 48 |
| Purchases of minerals in place | – | 9 | – | – | – | – | – | – | 9 | – | 9 |
| Sales of minerals in place | (1) | – | – | – | – | – | – | – | (1) | – | (1) |
| Production [A] | (49) | (182) | (7) | (58) | (165) | (9) | (20) | (136) | (606) | (20) | (626) |
| At December 31 | 178 | 1,573 | 73 | 379 | 728 | 15 | 644 | 815 | 3,761 | 644 | 4,405 |
| Shell share of joint ventures and associates | | | | | | | | | | | |
| At January 1 | 12 | 271 | – | – | – | – | – | – | 283 | – | 283 |
| Revisions and reclassifications | (5) | (27) | – | – | – | – | – | – | (32) | – | (32) |
| Improved recovery | – | – | – | – | – | – | – | – | – | – | – |
| Extensions and discoveries | – | – | – | – | – | – | – | 1 | 1 | – | 1 |
| Purchases of minerals in place | – | – | – | – | – | – | – | – | – | – | – |
| Sales of minerals in place | – | – | – | – | – | – | – | – | – | – | – |
| Production | (1) | (34) | – | – | – | – | – | (1) | (36) | – | (36) |
| At December 31 | 6 | 210 | – | – | – | – | – | – | 216 | – | 216 |
| Total | 184 | 1,783 | 73 | 379 | 728 | 15 | 644 | 815 | 3,977 | 644 | 4,621 |
| Reserves attributable to non-controlling interest in Shell subsidiaries at December 31 | – | – | – | – | – | – | 322 | – | – | 322 | 322 |

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

## Proved developed reserves 2020

Million barrels

| | Europe | Asia | Oceania | Africa | North America | | | South America | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | | | | |
| | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Synthetic crude oil | Oil and NGL | Oil and NGL | Synthetic crude oil | All products |
| Shell subsidiaries | | | | | | | | | | | |
| At January 1 | 156 | 1,403 | 106 | 314 | 641 | 15 | 607 | 675 | 3,310 | 607 | 3,917 |
| At December 31 | 103 | 1,417 | 69 | 316 | 539 | 12 | 644 | 674 | 3,130 | 644 | 3,774 |
| Shell share of joint ventures and associates | | | | | | | | | | | |
| At January 1 | 11 | 240 | – | – | – | – | – | – | 251 | – | 251 |
| At December 31 | 6 | 192 | – | – | – | – | – | 1 | 199 | – | 199 |

## Proved undeveloped reserves 2020

Million barrels

| | Europe | Asia | Oceania | Africa | North America | | | South America | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | | | | |
| | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Oil and NGL | Synthetic crude oil | Oil and NGL | Oil and NGL | Synthetic crude oil | All products |
| Shell subsidiaries | | | | | | | | | | | |
| At January 1 | 118 | 149 | 15 | 80 | 341 | 3 | – | 358 | 1,064 | – | 1,064 |
| At December 31 | 76 | 156 | 5 | 63 | 189 | 3 | – | 141 | 633 | – | 633 |
| Shell share of joint ventures and associates | | | | | | | | | | | |
| At January 1 | 1 | 31 | – | – | – | – | – | – | 32 | – | 32 |
| At December 31 | – | 18 | – | – | – | – | – | – | 18 | – | 18 |

# Supplementary information – oil and gas (unaudited) continued

## Natural gas

Shell subsidiaries' proved reserves of natural gas at the end of the year, their share of the proved reserves of joint ventures and associates at the end of the year, and the changes in such reserves during the years are set out on pages 313-316. Significant changes in these proved reserves are discussed below (except where specific disclosures are prohibited).

Volumes are not adjusted to standard heat content. Apart from integrated projects, volumes of gas are reported on an "as-sold" basis. The price used to calculate future revenue and cash flows from proved gas reserves is the contract price or the 12-month average on "as-sold" volumes. Volumes associated with integrated projects are those measured at a designated transfer point between the upstream and downstream portions of the integrated project. Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

### Proved reserves 2022–2021

#### Shell subsidiaries

**Asia**

- The increase of 682 thousand million scf in purchases was mainly in Oman.
- The increase of 581 thousand million scf in extensions and discoveries was mainly in Marjoram and Rosmari in Malaysia.
- The decrease of 906 thousand million scf in revisions and reclassifications was mainly due to higher prices resulting in a lower reserves entitlement in production-sharing contracts.

**Oceania**

- The increase of 959 thousand million scf in revisions and reclassifications was mainly in Surat QGC in Australia.
- The increase of 453 thousand million scf in extensions and discoveries was due to FID of Crux in Australia.

**Canada**

- The decrease of 540 thousand million scf in revisions and reclassifications was mainly in Groundbirch in Canada.

**South America**

- The increase of 288 thousand million scf in revisions and reclassifications was mainly in Trinidad and Tobago.

#### Shell share of joint ventures and associates

**Asia**

- The decrease of 776 thousand million scf in revisions and reclassifications was mainly in Lunskoye in Russia.

### Proved reserves 2021–2020

#### Shell subsidiaries

**Asia**

- The increase of 559 thousand million scf in extensions and discoveries was mainly in Jerun and Timi.

**Oceania**

- The increase of 1,905 thousand million scf in revisions and reclassifications was mainly in Surat QGC, Janzlo and Prelude.

**Europe**

- The increase of 838 thousand million scf in revisions and reclassifications was mainly in Ormen Lange.

**South America**

- The increase of 535 thousand million scf in revisions and reclassifications mainly in Dolphin, Starfish and Mero.
- The increase of 357 thousand million scf in extensions and discoveries was mainly in Cassra and Bounty.

#### Shell share of joint ventures and associates

**Asia**

- The increase of 313 thousand million scf in revisions and reclassifications was mainly in South West Ampa.

# Supplementary information – oil and gas (unaudited) continued

## Proved developed and undeveloped reserves 2022

Thousand million standard cubic feet

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Shell subsidiaries | | | | | | | | |
| At January 1 | 2,991 | 9,573 | 5,307 | 2,016 | 615 | 1,540 | 1,753 | 23,795 |
| Revisions and reclassifications | 131 | (906) | 959 | 15 | 22 | (540) | 288 | (31) |
| Improved recovery | – | – | – | – | – | – | – | – |
| Extensions and discoveries | 64 | 581 | 453 | – | 10 | 81 | 81 | 1,270 |
| Purchases of minerals in place | – | 682 | – | – | – | – | 33 | 715 |
| Sales of minerals in place | – | (53) | – | – | – | – | – | (53) |
| Production [A] | (302) | (799) | (770) | (190) | (126) | (125) | (336) | (2,648) |
| At December 31 | 2,884 | 9,078 | 5,949 | 1,841 | 521 | 956 | 1,819 | 23,048 |
| Shell share of joint ventures and associates | | | | | | | | |
| At January 1 | 312 | 3,560 | 71 | – | – | – | 6 | 3,949 |
| Revisions and reclassifications | (3) | (776) | 45 | – | – | – | 1 | (733) |
| Improved recovery | – | – | – | – | – | – | – | – |
| Extensions and discoveries | – | – | 77 | – | – | – | 3 | 80 |
| Purchases of minerals in place | – | 2,549 | – | – | – | – | – | 2,549 |
| Sales of minerals in place | – | – | – | – | – | – | – | – |
| Production [B] | (134) | (325) | (24) | – | – | – | (3) | (486) |
| At December 31 | 175 | 5,008 | 169 | – | – | – | 7 | 5,359 |
| Total [C] | 3,059 | 14,086 | 6,118 | 1,841 | 521 | 956 | 1,826 | 28,407 |
| Reserves attributable to non-controlling interest in Shell subsidiaries at December 31 | – | – | – | – | – | – | – | – |

[A] Includes 228 thousand million standard cubic feet consumed in operations.
[B] Includes 31 thousand million standard cubic feet consumed in operations.
[C] As announced on February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which holds a 51.8% membership interest in Aera Energy LLC, to IKAV. As of December 31, 2022, we had proved reserves of 31 Thousand million standard cubic feet. See Note 35 on page 307.

## Proved developed reserves 2022

Thousand million standard cubic feet

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Shell subsidiaries | | | | | | | | |
| At January 1 | 2,532 | 8,789 | 4,089 | 981 | 373 | 757 | 1,301 | 18,822 |
| At December 31 | 2,460 | 6,698 | 4,111 | 984 | 275 | 712 | 1,582 | 16,822 |
| Shell share of joint ventures and associates | | | | | | | | |
| At January 1 | 265 | 3,097 | 71 | – | – | – | 6 | 3,439 |
| At December 31 | 175 | 2,261 | 129 | – | – | – | 7 | 2,572 |

## Proved undeveloped reserves 2022

Thousand million standard cubic feet

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Shell subsidiaries | | | | | | | | |
| At January 1 | 459 | 784 | 1,218 | 1,035 | 242 | 783 | 452 | 4,973 |
| At December 31 | 424 | 2,380 | 1,838 | 857 | 246 | 244 | 237 | 6,226 |
| Shell share of joint ventures and associates | | | | | | | | |
| At January 1 | 47 | 463 | – | – | – | – | – | 510 |
| At December 31 | – | 2,747 | 40 | – | – | – | – | 2,787 |

# Supplementary information – oil and gas (unaudited) continued

## Proved developed and undeveloped reserves 2021

Thousand million standard cubic feet

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Shell subsidiaries | | | | | | | | |
| At January 1 | 2,442 | 9,927 | 4,176 | 2,363 | 801 | 1,295 | 1,128 | 22,132 |
| Revisions and reclassifications | 838 | (37) | 1,905 | (63) | 90 | 123 | 535 | 3,391 |
| Improved recovery | – | – | – | – | 5 | – | 4 | 9 |
| Extensions and discoveries | 1 | 559 | – | 126 | 158 | 277 | 357 | 1,477 |
| Purchases of minerals in place | 1 | – | – | – | – | – | – | 1 |
| Sales of minerals in place | – | – | – | (122) | (225) | (37) | – | (384) |
| Production [A] | (291) | (876) | (774) | (288) | (214) | (118) | (271) | (2,831) |
| At December 31 | 2,991 | 9,573 | 5,307 | 2,016 | 615 | 1,540 | 1,753 | 23,795 |
| Shell share of joint ventures and associates | | | | | | | | |
| At January 1 | 262 | 3,678 | 41 | – | – | – | 1 | 3,982 |
| Revisions and reclassifications | 210 | 313 | 51 | – | – | – | 3 | 577 |
| Improved recovery | – | – | – | – | – | – | – | – |
| Extensions and discoveries | – | – | – | – | – | – | 2 | 2 |
| Purchases of minerals in place | – | – | – | – | – | – | – | – |
| Sales of minerals in place | – | – | – | – | – | – | – | – |
| Production [B] | (160) | (431) | (21) | – | – | – | – | (612) |
| At December 31 | 312 | 3,560 | 71 | – | – | – | 6 | 3,949 |
| Total [C] | 3,303 | 13,133 | 5,378 | 2,016 | 615 | 1,540 | 1,759 | 27,744 |
| Reserves attributable to non-controlling interest in Shell subsidiaries at December 31 | – | – | – | – | – | – | – | – |

[A] Includes 232 thousand million standard cubic feet consumed in operations.
[B] Includes 41 thousand million standard cubic feet consumed in operations.
[C] As of December 31, 2021, we had proved reserves of 980 thousand million cubic feet in natural gas relating to activities in Russia.

## Proved developed reserves 2021

Thousand million standard cubic feet

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Shell subsidiaries | | | | | | | | |
| At January 1 | 1,590 | 9,675 | 3,656 | 1,341 | 670 | 720 | 924 | 18,576 |
| At December 31 | 2,532 | 8,789 | 4,089 | 981 | 373 | 757 | 1,301 | 18,822 |
| Shell share of joint ventures and associates | | | | | | | | |
| At January 1 | 227 | 3,175 | 42 | – | – | – | 1 | 3,445 |
| At December 31 | 265 | 3,097 | 71 | – | – | – | 6 | 3,439 |

## Proved undeveloped reserves 2021

Thousand million standard cubic feet

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Shell subsidiaries | | | | | | | | |
| At January 1 | 852 | 252 | 520 | 1,022 | 132 | 575 | 203 | 3,556 |
| At December 31 | 459 | 784 | 1,218 | 1,035 | 242 | 783 | 452 | 4,973 |
| Shell share of joint ventures and associates | | | | | | | | |
| At January 1 | 35 | 502 | – | – | – | – | – | 537 |
| At December 31 | 47 | 463 | – | – | – | – | – | 510 |

# Supplementary information – oil and gas (unaudited) continued

## Proved developed and undeveloped reserves 2020

Thousand million standard cubic feet

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Shell subsidiaries | | | | | | | | |
| At January 1 | 2,998 | 10,618 | 8,360 | 2,608 | 1,868 | 1,281 | 1,259 | 28,992 |
| Revisions and reclassifications | (209) | 249 | (3,512) | 93 | (319) | 59 | 162 | (3,477) |
| Improved recovery | – | – | – | – | – | – | – | – |
| Extensions and discoveries | – | 2 | 33 | 5 | 66 | 122 | – | 228 |
| Purchases of minerals in place | – | – | – | – | – | – | – | – |
| Sales of minerals in place | (28) | (29) | – | – | (542) | – | – | (599) |
| Production [A] | (319) | (913) | (705) | (343) | (272) | (167) | (293) | (3,012) |
| At December 31 | 2,442 | 9,927 | 4,176 | 2,363 | 801 | 1,295 | 1,128 | 22,132 |
| Shell share of joint ventures and associates | | | | | | | | |
| At January 1 | 595 | 4,198 | 36 | – | – | – | – | 4,829 |
| Revisions and reclassifications | (200) | (62) | 27 | – | – | – | 1 | (234) |
| Improved recovery | – | – | – | – | – | – | – | – |
| Extensions and discoveries | – | 1 | – | – | – | – | 1 | 2 |
| Purchases of minerals in place | – | – | – | – | – | – | – | – |
| Sales of minerals in place | – | – | – | – | – | – | – | – |
| Production [B] | (133) | (459) | (22) | – | – | – | (1) | (615) |
| At December 31 | 262 | 3,678 | 41 | – | – | – | 1 | 3,982 |
| Total | 2,703 | 13,605 | 4,219 | 2,363 | 801 | 1,295 | 1,128 | 26,114 |
| Reserves attributable to non-controlling interest in Shell subsidiaries at December 31 | – | – | – | – | – | – | – | – |

[A] Includes 225 thousand million standard cubic feet consumed in operations.
[B] Includes 42 thousand million standard cubic feet consumed in operations.

## Proved developed reserves 2020

Thousand million standard cubic feet

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Shell subsidiaries | | | | | | | | |
| At January 1 | 2,060 | 10,091 | 5,769 | 1,523 | 1,615 | 781 | 968 | 22,807 |
| At December 31 | 1,590 | 9,675 | 3,656 | 1,341 | 670 | 720 | 924 | 18,576 |
| Shell share of joint ventures and associates | | | | | | | | |
| At January 1 | 555 | 3,519 | 36 | – | – | – | – | 4,110 |
| At December 31 | 227 | 3,175 | 42 | – | – | – | 1 | 3,445 |

## Proved undeveloped reserves 2020

Thousand million standard cubic feet

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Shell subsidiaries | | | | | | | | |
| At January 1 | 937 | 528 | 2,591 | 1,085 | 254 | 499 | 291 | 6,185 |
| At December 31 | 852 | 252 | 520 | 1,022 | 132 | 575 | 203 | 3,556 |
| Shell share of joint ventures and associates | | | | | | | | |
| At January 1 | 39 | 680 | – | – | – | – | – | 719 |
| At December 31 | 35 | 502 | – | – | – | – | – | 537 |

# Supplementary information – oil and gas (unaudited) continued

## Standardised measure of discounted future cash flows

The SEC Form 20-F requires the disclosure of a standardised measure of discounted future net cash flows, relating to proved reserves quantities and based on a 12-month unweighted arithmetic average sales price, calculated on a first-day-of-the-month basis, with cost factors based on those at the end of each year, currently enacted tax rates and a 10% annual discount factor. In our view, the information so calculated does not provide a reliable measure of future cash flows from proved reserves, nor does it permit a realistic comparison to be made of one entity with another because the assumptions used cannot reflect the varying circumstances within each entity. In addition, a substantial but unknown proportion of future real cash flows from oil and gas production activities is expected to derive from reserves which have already been discovered, but which cannot yet be regarded as proved.

## Standardised measure of discounted future cash flows relating to proved reserves at December 31

### 2022 – Shell subsidiaries

$ million

| | | | | | North America | | South | |
|---|---|---|---|---|---|---|---|---|
| | Europe | Asia | Oceania | Africa | USA | Canada | America | Total |
| Future cash inflows | 82,513 | 157,030 | 67,551 | 28,054 | 52,231 | 66,059 | 115,529 | 568,967 |
| Future production costs | 16,781 | 32,416 | 22,764 | 9,762 | 23,546 | 28,520 | 46,947 | 180,736 |
| Future development costs | 6,125 | 15,240 | 8,696 | 3,004 | 7,720 | 5,269 | 15,917 | 61,971 |
| Future tax expenses | 43,626 | 50,771 | 6,917 | 9,670 | 3,821 | 7,004 | 15,074 | 136,883 |
| Future net cash flows | 15,981 | 58,603 | 29,174 | 5,618 | 17,144 | 25,266 | 37,591 | 189,377 |
| Effect of discounting cash flows at 10% | 5,193 | 25,770 | 10,529 | 1,580 | 4,056 | 17,478 | 13,104 | 77,710 |
| Standardised measure of discounted future net cash flows | 10,788 | 32,833 | 18,645 | 4,038 | 13,088 | 7,788 | 24,487 | 111,667 |
| Non-controlling Interest Included | – | – | – | – | – | 3,314 | – | 3,314 |

### 2022 – Shell share of joint ventures and associates

$ million

| | | | | | North America | | South | |
|---|---|---|---|---|---|---|---|---|
| | Europe | Asia | Oceania | Africa | USA | Canada | America | Total |
| Future cash inflows | 6,576 | 86,464 | 1,227 | – | – | – | 577 | 94,844 |
| Future production costs | 3,626 | 31,569 | 760 | – | – | – | 162 | 36,117 |
| Future development costs | 778 | 7,139 | 536 | – | – | – | 15 | 8,468 |
| Future tax expenses | 2,257 | 34,551 | – | – | – | – | 81 | 36,889 |
| Future net cash flows | (85) | 13,205 | (69) | – | – | – | 319 | 13,370 |
| Effect of discounting cash flows at 10% | 85 | 6,152 | (130) | – | – | – | 67 | 6,174 |
| Standardised measure of discounted future net cash flows | (170) | 7,053 | 61 | – | – | – | 252 | 7,196 |

### 2021 – Shell subsidiaries

$ million

| | | | | | North America | | South | |
|---|---|---|---|---|---|---|---|---|
| | Europe | Asia | Oceania | Africa | USA | Canada | America | Total |
| Future cash inflows | 37,801 | 115,068 | 37,462 | 22,663 | 41,431 | 34,835 | 81,239 | 370,499 |
| Future production costs | 11,977 | 30,567 | 13,446 | 8,742 | 23,314 | 15,565 | 35,787 | 139,398 |
| Future development costs | 5,347 | 12,989 | 6,718 | 3,078 | 7,787 | 4,063 | 16,130 | 56,112 |
| Future tax expenses | 12,311 | 28,834 | 2,206 | 7,584 | 1,572 | 3,153 | 7,829 | 63,489 |
| Future net cash flows | 8,166 | 42,678 | 15,092 | 3,259 | 8,758 | 12,054 | 21,493 | 111,500 |
| Effect of discounting cash flows at 10% | 1,754 | 18,771 | 4,205 | 497 | 1,207 | 7,331 | 7,270 | 41,035 |
| Standardised measure of discounted future net cash flows | 6,412 | 23,907 | 10,887 | 2,762 | 7,551 | 4,723 | 14,223 | 70,465 |
| Non-controlling Interest Included | – | – | – | – | – | 1,906 | – | 1,906 |

# Supplementary information – oil and gas (unaudited) continued

## 2021 – Shell share of joint ventures and associates

$ million

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Future cash inflows | 4,006 | 36,365 | 326 | – | – | – | 283 | 40,980 |
| Future production costs | 2,869 | 15,653 | 245 | – | – | – | 128 | 18,895 |
| Future development costs | 931 | 6,819 | 82 | – | – | – | 15 | 7,847 |
| Future tax expenses | 1,623 | 6,229 | – | – | – | – | 9 | 7,861 |
| Future net cash flows | (1,417) | 7,664 | (1) | – | – | – | 131 | 6,377 |
| Effect of discounting cash flows at 10% | (316) | 1,630 | (29) | – | – | – | 34 | 1,319 |
| Standardised measure of discounted future net cash flows | (1,101) [A] | 6,034 | 28 | – | – | – | 97 | 5,058 |

[A] While proved reserves are economically producible at the 2021 yearly average price, the standardised measure of discounted future net cash flows was negative for those proved reserves at December 31, 2021, due to addition of overhead, tax and abandonment costs and ongoing commitments post production of proved reserves.

## 2020 – Shell subsidiaries

$ million

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Future cash inflows | 16,581 | 75,128 | 23,787 | 19,743 | 27,891 | 22,447 | 34,502 | 220,079 |
| Future production costs | 6,776 | 26,896 | 10,240 | 9,837 | 20,341 | 15,475 | 19,137 | 108,702 |
| Future development costs | 4,352 | 12,416 | 7,441 | 3,354 | 7,274 | 4,559 | 7,440 | 46,836 |
| Future tax expenses | 4,525 | 12,585 | 254 | 4,713 | 54 | 407 | 1,847 | 24,385 |
| Future net cash flows | 928 | 23,231 | 5,852 | 1,838 | 222 | 2,006 | 6,079 | 40,156 |
| Effect of discounting cash flows at 10% | 338 | 9,792 | 493 | (50) | (1,469) | 1,231 | 1,369 | 11,704 |
| Standardised measure of discounted future net cash flows | 590 | 13,440 | 5,359 [A] | 1,889 | 1,691 | 775 | 4,709 | 28,452 [B] |
| Non-controlling interest included | – | – | – | – | – | 398 | – | 398 |

[A] Corrected from 6,719.
[B] Corrected from 29,813.

## 2020 – Shell share of joint ventures and associates

$ million

| | Europe | Asia | Oceania | Africa | North America | | South America | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | USA | Canada | | |
| Future cash inflows | 1,209 | 22,209 | 139 | – | – | – | 21 | 23,578 |
| Future production costs | 2,801 | 11,472 | 136 | – | – | – | 17 | 14,426 |
| Future development costs | 948 | 5,165 | 111 | – | – | – | 2 | 6,226 |
| Future tax expenses | – | 3,026 | – | – | – | – | – | 3,026 |
| Future net cash flows | (2,540) | 2,546 | (108) | – | – | – | 2 | (100) |
| Effect of discounting cash flows at 10% | (583) | 412 | (35) | – | – | – | – | (206) |
| Standardised measure of discounted future net cash flows | (1,957) [A] | 2,134 | (73) | – | – | – | 2 | 106 |

[A] While proved reserves are economically producible at the 2020 yearly average price, the standardised measure of discounted future net cash flows was negative for those proved reserves at December 31, 2020, due to addition of overhead, tax and abandonment costs and ongoing commitments post production of proved reserves.

# Supplementary information – oil and gas (unaudited) continued

## Change in standardised measure of discounted future net cash flows relating to proved reserves

### 2022

$ million

| | Shell subsidiaries | Shell share of joint ventures and associates | Total |
|---|---|---|---|
| At January 1 | 70,465 | 5,058 | 75,523 |
| Net changes in prices and production costs | 107,637 | 10,441 | 118,078 |
| Revisions of previous reserves estimates | 12,378 | (5,544) | 6,834 |
| Extensions, discoveries and improved recovery | 7,422 | 439 | 7,861 |
| Purchases and sales of minerals in place | 3,187 | 10,374 | 13,561 |
| Development cost related to future production | (11,233) | (1,619) | (12,852) |
| Sales and transfers of oil and gas, net of production costs | (54,486) | (7,029) | (61,515) |
| Development cost incurred during the year | 10,079 | 1,545 | 11,624 |
| Accretion of discount | 9,796 | 888 | 10,684 |
| Net change in income tax | (43,578) | (7,357) | (50,935) |
| At December 31 | 111,667 | 7,196 | 118,863 |

### 2021

$ million

| | Shell subsidiaries | Shell share of joint ventures and associates | Total |
|---|---|---|---|
| At January 1 | 28,452 | 106 | 28,558 |
| Net changes in prices and production costs | 74,896 | 9,188 | 84,084 |
| Revisions of previous reserves estimates | 19,435 | 3,253 | 22,688 |
| Extensions, discoveries and improved recovery | 5,631 | 60 | 5,691 |
| Purchases and sales of minerals in place | (880) | – | (880) |
| Development cost related to future production | (10,652) | (982) | (11,634) |
| Sales and transfers of oil and gas, net of production costs | (35,754) | (4,455) | (40,209) |
| Development cost incurred during the year | 8,594 | 969 | 9,563 |
| Accretion of discount | 3,832 | 170 | 4,002 |
| Net change in income tax | (23,089) | (3,251) | (26,340) |
| At December 31 | 70,465 | 5,058 | 75,523 |

### 2020

$ million

| | Shell subsidiaries | Shell share of joint ventures and associates | Total |
|---|---|---|---|
| At January 1 | 72,854 | 4,893 | 77,747 |
| Net changes in prices and production costs | (71,184) | (6,097) | (77,281) |
| Revisions of previous reserves estimates | 574 | (459) | 115 |
| Extensions, discoveries and improved recovery | 691 | 17 | 709 |
| Purchases and sales of minerals in place | (540) | – | (540) |
| Development cost related to future production | 2,906 | (426) | 2,480 |
| Sales and transfers of oil and gas, net of production costs | (16,990) | (1,954) | (18,944) |
| Development cost incurred during the year | 8,197 | 759 | 8,956 |
| Accretion of discount | 9,881 | 832 | 10,713 |
| Net change in income tax | 22,063 | 2,541 | 24,604 |
| At December 31 | 28,452 [A] | 106 | 28,558 [B] |

[A] Corrected from 29,813.
[B] Corrected from 29,919.

# Supplementary information – oil and gas (unaudited) continued

## Oil and gas exploration and production activities capitalised costs

The aggregate amount of property, plant and equipment and intangible assets, excluding goodwill, relating to oil and gas exploration and production activities, and the aggregate amount of the related depreciation, depletion and amortisation at December 31, are shown in the tables below.

### Shell subsidiaries

$ million

| | 2022 | 2021 |
|---|---|---|
| Cost | | |
| Proved properties [A] | 251,173 | 261,085 |
| Unproved properties | 11,641 | 12,754 |
| Support equipment and facilities | 11,329 | 11,067 |
| | 274,143 | 284,906 |
| Depreciation, depletion and amortisation | | |
| Proved properties [A] | 149,884 | 156,554 |
| Unproved properties | 5,238 | 5,660 |
| Support equipment and facilities | 6,241 | 5,891 |
| | 161,363 | 168,105 |
| Net capitalised costs | 112,780 | 116,801 |

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

### Shell share of joint ventures and associates

$ million

| | 2022 | 2021 |
|---|---|---|
| Cost | | |
| Proved properties [A] | 46,244 | 52,762 |
| Unproved properties | 1,528 | 1,853 |
| Support equipment and facilities | 4,577 | 4,982 |
| | 52,349 | 59,597 |
| Depreciation, depletion and amortisation | | |
| Proved properties [A] | 34,683 | 38,844 |
| Unproved properties | 452 | 452 |
| Support equipment and facilities | 3,023 | 3,182 |
| | 38,158 | 42,478 |
| Net capitalised costs | 14,191 | 17,119 |

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

## Oil and gas exploration and production activities costs incurred

Costs incurred during the year in oil and gas property acquisition, exploration and development activities, whether capitalised or charged to income currently, are shown in the tables below. As a result of the adoption of IFRS 16 Leases as of January 1, 2019, leases are included in all years shown below. Development costs include capitalised asset decommissioning and restoration costs (including increases or decreases arising from changes to cost estimates or to the discount rate applied to the obligations) and exclude costs of acquiring support equipment and facilities, but include depreciation thereon.

### Shell subsidiaries

#### 2022

$ million

| | | | | | North America | | South | |
|---|---|---|---|---|---|---|---|---|
| | Europe | Asia | Oceania | Africa | USA | Other [A] | America | Total |
| Acquisition of properties | | | | | | | | |
| Proved | (1) | – | – | 102 | – | – | 184 | 285 |
| Unproved | – | – | – | (1) | 66 | 8 | 27 | 100 |
| Exploration | 422 | 141 | 21 | 259 | 721 | 140 | 591 | 2,295 |
| Development | 981 | 1,001 | 547 | 727 | 1,951 | 213 | 3,966 | 9,386 |

[A] Comprises Canada, Mexico and Barbados.

# Supplementary information – oil and gas (unaudited) continued

## 2021

$ million

| | Europe | Asia | Oceania | Africa | North America USA | North America Other [A] | South America | Total |
|---|---|---|---|---|---|---|---|---|
| Acquisition of properties | | | | | | | | |
| Proved | 2 | – | – | 246 | – | – | – | 247 |
| Unproved | – | – | – | 2 | 26 | 34 | 42 | 103 |
| Exploration | 298 [B] | 106 [B] | 26 | 136 | 920 | 217 | 170 | 1,873 |
| Development | 996 | 693 | 600 | 166 | 3,116 | 106 | 1,436 | 7,113 |

[A] Comprises Canada and Mexico.
[B] As revised, following a reassessment.

## 2020

$ million

| | Europe | Asia | Oceania | Africa | North America USA | North America Other [A] | South America | Total |
|---|---|---|---|---|---|---|---|---|
| Acquisition of properties | | | | | | | | |
| Proved | 4 | 156 | – | 5 | – | – | – | 165 |
| Unproved | 115 | 19 | – | 48 | 80 | 6 | 180 | 448 |
| Exploration | 271 [B] | 118 [B] | 33 | 168 | 951 | 275 | 390 | 2,206 |
| Development | 1,612 | 1,018 | 1,465 | 807 | 4,186 | 325 | 1,930 | 11,343 |

[A] Comprises Canada and Mexico.
[B] As revised, following a reassessment.

### Shell share of joint ventures and associates

Joint ventures and associates did not incur costs in the acquisition of oil and gas properties in 2022 and 2021.

## 2022

$ million

| | Europe | Asia | Oceania | Africa | North America USA | North America Other | South America | Total |
|---|---|---|---|---|---|---|---|---|
| Exploration | – | 50 | 3 | – | – | – | 51 | 104 |
| Development | (8) | 2,250 | 246 | – | – | – | 87 | 2,575 |

## 2021

$ million

| | Europe | Asia | Oceania | Africa | North America USA | North America Other | South America | Total |
|---|---|---|---|---|---|---|---|---|
| Exploration | – | 69 | 1 | – | – | – | 41 | 111 |
| Development | 101 | 1,648 | 205 | – | – | – | 49 | 2,002 |

## 2020

$ million

| | Europe | Asia | Oceania | Africa | North America USA | North America Other | South America | Total |
|---|---|---|---|---|---|---|---|---|
| Acquisition of properties | | | | | | | | |
| Unproved | – | – | – | – | – | – | 128 | 128 |
| Exploration | – | 94 | 10 | – | – | – | 105 | 209 |
| Development | 124 | 2,225 [A] | 67 | – | – | – | 2 | 2,418 [A] |

[A] As revised, following a reassessment.

# Supplementary information – oil and gas (unaudited) continued

## Oil and gas exploration and production activities earnings

In Shell, extractive activities, or oil and gas exploration and production activities, are undertaken within the Integrated Gas, the Upstream and the Chemicals and Products segments. Shell's extractive activities do not represent the full extent of Integrated Gas, Upstream and Chemicals and Products activities, and exclude GTL, some LNG activities, trading and optimisation, as well as other non-extractive activities.

The earnings disclosed in this "extractive activities" section are only a subset of Shell's total earnings and as a result are not suitable for modelling Shell's integrated businesses, for which we refer to the full segment earnings and descriptions of Integrated Gas, Upstream and Chemicals and Products. These are available on pages 39, 45, and 66 respectively. The earnings disclosed in this "extractive activities" section are not adjusted for items such as impairment charges, restructuring charges and charges for onerous contract provisions. Full segment information to the Consolidated Financial Statements is available on pages 265-269.

The results of operations for oil and gas producing activities are shown in the tables below. Taxes other than income tax include royalties in cash to governments, without option to pay in kind outside USA and Canada.

### Shell subsidiaries

#### 2022

$ million

| | | | | | North America | | South | |
|---|---|---|---|---|---|---|---|---|
| | Europe | Asia | Oceania | Africa | USA | Other [A] | America | Total |
| Revenue | | | | | | | | |
| Third parties | 1,986 | 3,832 | 1,394 | 2,173 | 257 | 888 | 2,459 | 12,989 |
| Sales between businesses | 11,115 | 14,503 | 8,457 | 2,013 | 12,221 | 2,713 | 12,107 | 63,129 |
| Total | 13,101 | 18,335 | 9,851 | 4,186 | 12,478 | 3,601 | 14,566 | 76,118 |
| Production costs excluding taxes | 2,151 | 1,956 | 1,331 | 825 | 1,556 | 731 | 1,331 | 9,881 |
| Taxes other than income tax | 102 | 831 | 688 | 238 | (3) | – | 3,837 | 5,693 |
| Exploration | 274 | 121 | 74 | 233 | 621 | 92 | 297 | 1,712 |
| Depreciation, depletion and amortisation | 1,468 | 2,090 | (211) | 1,090 | 4,462 | 403 | 1,722 | 11,024 |
| Other costs/(income) | 3,772 | 1,089 | 135 | (336) | 629 | 1,557 | 1,030 | 7,876 |
| Earnings before taxation | 5,334 | 12,248 | 7,834 | 2,136 | 5,213 | 818 | 6,349 | 39,932 |
| Taxation charge/(credit) | 5,151 | 7,561 | 3,025 | 527 | 739 | 229 | 1,681 | 18,913 |
| Earnings after taxation | 183 | 4,687 | 4,809 | 1,609 | 4,474 | 589 | 4,668 | 21,019 |

[A] Comprises Canada, Mexico and Barbados.

#### 2021

$ million

| | | | | | North America | | South | |
|---|---|---|---|---|---|---|---|---|
| | Europe | Asia | Oceania | Africa | USA | Other [A] | America | Total |
| Revenue | | | | | | | | |
| Third parties | 1,502 | 3,084 [B] | 681 | 1,849 | 3,411 | 816 | 1,167 [B] | 12,510 [B] |
| Sales between businesses | 5,524 | 11,107 | 5,256 | 2,214 | 8,009 | 1,815 | 8,249 | 42,174 |
| Total | 7,026 | 14,191 [B] | 5,937 | 4,063 | 11,420 | 2,631 | 9,416 [B] | 54,684 [B] |
| Production costs excluding taxes | 1,892 | 1,817 | 1,222 | 1,013 | 2,165 | 679 | 1,045 | 9,833 |
| Taxes other than income tax | 77 | 858 [B] | 234 | 250 | 120 | – | 2,847 [B] | 4,386 [B] |
| Exploration | 239 [B] | 73 [B] | 21 | 133 | 616 | 191 | 150 | 1,423 |
| Depreciation, depletion and amortisation | 1,342 | 2,817 | 1,805 | 1,227 | 5,201 | 181 | 3,973 | 16,546 |
| Other costs/(income) | 3,747 [B] | 1,330 [B] | (155) | (349) | (2,550) | 1,045 | 233 | 3,301 |
| Earnings before taxation | (271) [B] | 7,296 [B] | 2,810 | 1,789 | 5,868 | 535 | 1,168 | 19,195 |
| Taxation charge/(credit) | 494 [B] | 4,452 [B] | 831 | 35 | 1,268 | 180 | 256 | 7,516 |
| Earnings after taxation | (765) [B] | 2,844 [B] | 1,979 | 1,754 | 4,600 | 355 | 912 | 11,679 |

[A] Comprises Canada and Mexico.
[B] As revised, following a reassessment.

# Supplementary information – oil and gas (unaudited) continued

## 2020

$ million

| | Europe | Asia | Oceania | Africa | North America USA | North America Other [A] | South America | Total |
|---|---|---|---|---|---|---|---|---|
| Revenue | | | | | | | | |
| Third parties | 734 [B] | 2,128 [B] | 589 | 1,540 | 1,008 | 753 | 546 [B] | 7,298 [B] |
| Sales between businesses | 2,879 | 6,792 | 3,366 | 1,816 | 5,239 | 943 | 4,656 | 25,691 |
| Total | 3,613 [B] | 8,920 [B] | 3,955 | 3,356 | 6,247 | 1,696 | 5,202 [B] | 32,989 [B] |
| Production costs excluding taxes | 2,023 | 1,811 | 1,040 | 1,064 | 2,615 | 735 | 936 | 10,224 |
| Taxes other than income tax | 31 [B] | 413 [B] | 93 | 245 | 64 | – | 1,473 [B] | 2,319 [B] |
| Exploration | 240 [B] | 165 [B] | 234 | 202 | 325 | 108 | 473 | 1,747 |
| Depreciation, depletion and amortisation | 3,618 | 2,120 | 10,178 | 2,589 | 7,927 | 2,147 | 6,282 | 34,861 |
| Other costs/(income) | 463 [B] | 1,649 [B] | 314 | 645 | 230 | 631 | 161 | 4,093 |
| Earnings before taxation | (2,762) [B] | 2,762 [B] | (7,904) | (1,389) | (4,914) | (1,925) | (4,123) | (20,255) |
| Taxation charge/(credit) | (423) | 1,854 | (3,175) | (104) | (790) | (449) | (300) | (3,387) |
| Earnings after taxation | (2,339) [B] | 908 [B] | (4,729) | (1,285) | (4,124) | (1,476) | (3,823) | (16,868) |

[A] Comprises Canada, Honduras and Mexico.
[B] As revised, following a reassessment.

## Shell share of joint ventures and associates

### 2022

$ million

| | Europe | Asia | Oceania | Africa | North America USA | North America Canada | South America | Total |
|---|---|---|---|---|---|---|---|---|
| Third-party revenue | 2,899 | 5,997 | 190 | – | – | – | 219 | 9,305 |
| Total | 2,899 | 5,997 | 190 | – | – | – | 219 | 9,305 |
| Production costs excluding taxes | 289 | 617 | 97 | – | – | – | 23 | 1,026 |
| Taxes other than income tax | 231 | 1,402 | 18 | – | – | – | 25 | 1,676 |
| Exploration | 1 | 26 | – | – | – | – | – | 27 |
| Depreciation, depletion and amortisation | 155 | 2,910 | 46 | – | – | – | 47 | 3,158 |
| Other costs/(income) | (2,061) | 184 | 14 | – | (2) | – | 18 | (1,847) |
| Earnings before taxation | 4,284 | 858 | 15 | – | 2 | – | 106 | 5,265 |
| Taxation charge | 2,958 | 1,437 | – | – | 1 | – | 22 | 4,418 |
| Earnings after taxation | 1,326 | (579) | 15 | – | 1 | – | 84 | 847 |

### 2021

$ million

| | Europe | Asia | Oceania | Africa | North America USA | North America Canada | South America | Total |
|---|---|---|---|---|---|---|---|---|
| Third-party revenue | 1,632 | 5,236 [A] | 78 | – | – | – | 102 | 7,048 [A] |
| Total | 1,632 | 5,236 [A] | 78 | – | – | – | 102 | 7,048 [A] |
| Production costs excluding taxes | 246 | 770 | 82 | – | – | – | 9 | 1,107 |
| Taxes other than income tax | 48 | 900 | 7 | – | – | – | 12 | 967 |
| Exploration | 2 | 27 | – | – | – | – | – | 29 |
| Depreciation, depletion and amortisation | 254 | 1,262 | 32 | – | – | – | 38 | 1,586 |
| Other costs/(income) | 732 | 118 [A] | (22) | – | (8) | – | 11 | 831 [A] |
| Earnings before taxation | 350 | 2,159 | (21) | – | 8 | – | 32 | 2,528 |
| Taxation charge | 62 | 877 | – | – | 2 | – | (2) | 939 |
| Earnings after taxation | 288 | 1,282 [A] | (21) | – | 6 | – | 34 | 1,589 [A] |

[A] As revised, following a reassessment.

# Supplementary information – oil and gas (unaudited) continued

## 2020

$ million

| | Europe | Asia | Oceania | Africa | North America USA | North America Canada | South America | Total |
|---|---|---|---|---|---|---|---|---|
| Third-party revenue | 514 | 3,313 [A] | 65 | – | – | – | 32 | 3,924 |
| Total | 514 | 3,313 [A] | 65 | – | – | – | 32 | 3,924 |
| Production costs excluding taxes | 272 | 726 | 72 | – | – | – | 8 | 1,078 |
| Taxes other than income tax | 22 | 423 | 5 | – | – | – | 4 | 454 |
| Exploration | 2 | 97 | – | – | – | – | – | 99 |
| Depreciation, depletion and amortisation | 366 | 1,219 | 270 | – | (7) | – | 23 | 1,871 |
| Other costs/(income) | 296 | 214 [A] | (14) | – | (1) | – | 12 | 507 |
| Earnings before taxation | (444) | 634 | (268) | – | 8 | – | (15) | (85) |
| Taxation charge | (281) | 162 | – | – | 2 | – | (9) | (126) |
| Earnings after taxation | (163) | 472 [A] | (268) | – | 6 | – | (6) | 41 |

[A] As revised, following a reassessment.

## Acreage and wells

The tables below reflect acreage and wells of Shell subsidiaries, joint ventures and associates. The term "gross" refers to the total activity in which Shell subsidiaries, joint ventures and associates have an interest. The term "net" refers to the sum of the fractional interests owned by Shell subsidiaries plus the Shell share of joint ventures and associates' fractional interests. Data below are rounded to the nearest whole number.

### Oil and gas acreage (at December 31)

Thousand Acres

| | 2022 | | | | 2021 | | | | 2020 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Developed | | Undeveloped | | Developed | | Undeveloped | | Developed | | Undeveloped | |
| | Gross | Net | Gross | Net | Gross | Net | Gross | Net | Gross | Net | Gross | Net |
| Europe | 6,008 | 1,873 | 6,121 | 3,095 | 6,022 [A] | 1,880 [A] | 8,083 [B] | 3,839 [B] | 6,075 | 1,900 | 13,399 | 5,663 |
| Asia | 20,678 | 7,370 | 33,382 | 18,524 | 21,360 | 7,651 | 31,620 | 17,022 | 21,360 | 7,651 | 34,545 | 18,003 |
| Oceania | 2,368 | 854 | 8,978 | 4,940 | 2,343 [C] | 839 [C] | 9,714 [D] | 5,237 [D] | 2,323 [E] | 824 [E] | 9,977 [F] | 5,418 [F] |
| Africa | 3,086 | 1,141 | 71,934 | 37,199 | 3,937 | 1,457 | 71,398 | 35,633 | 4,764 | 1,996 | 67,197 | 36,944 |
| North America - USA | 486 | 286 | 2,180 | 1,457 | 487 | 286 | 2,049 | 1,555 | 1,145 | 728 | 1,916 | 1,408 |
| North America - Mexico | – | – | 5,406 | 3,335 | – | – | 5,407 | 3,335 | – | – | 5,178 | 3,291 |
| North America - Canada | 379 | 209 | 1,126 | 626 | 367 [G] | 208 [G] | 1,326 [H] | 821 [H] | 498 [I] | 338 [I] | 1,681 [J] | 1,175 [J] |
| South America | 1,669 | 755 | 26,156 | 14,393 | 1,463 | 616 | 23,467 | 12,629 | 1,449 | 609 | 20,037 | 11,709 |
| Total | 34,674 | 12,488 | 155,283 | 83,569 | 35,979 | 12,937 | 153,064 | 80,071 | 37,614 | 14,046 | 153,930 | 83,611 |

[A] Corrected from 6,009 Gross (1,875 Net).
[B] Corrected from 8,090 Gross (3,833 Net).
[C] Corrected from 2485 Gross (947 Net).
[D] Corrected from 9577 Gross (5132 Net).
[E] Corrected from 2653 Gross (993 Net).
[F] Corrected from 9654 Gross (5256 Net).
[G] Corrected from 359 Gross (206 Net).
[H] Corrected from 1334 Gross (823 Net).
[I] Corrected from 490 Gross (336 Net).
[J] Corrected from 1689 Gross (1177 Net).

# Supplementary information – oil and gas (unaudited) continued

## Number of productive wells [A] (at December 31)

| | 2022 | | | | 2021 | | | | 2020 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oil | | Gas | | Oil | | Gas | | Oil | | Gas | |
| | Gross | Net | Gross | Net | Gross | Net | Gross | Net | Gross | Net | Gross | Net |
| Europe | 749 | 199 | 963 | 306 | 796 | 193 | 1,021 | 324 | 814 | 197 | 1,047 | 335 |
| Asia | 8,147 | 2,837 | 316 | 201 | 8,804 [B] | 3,213 [B] | 362 [C] | 209 [C] | 8,492 [D] | 3,100 [D] | 340 [E] | 192 [E] |
| Oceania | – | – | 3,382 | 1,964 | – | – | 3,398 | 1,974 | – | – | 3,369 | 1,920 |
| Africa | 321 | 106 | 84 | 34 | 391 | 126 | 114 | 56 | 567 | 235 | 209 | 141 |
| North America – USA | 13,021 | 6,617 | 26 | 18 | 13,042 | 6,627 | 28 | 20 | 14,505 | 7,402 | 401 | 223 |
| North America – Canada | – | – | 530 | 459 | – | – | 510 | 440 | – | – | 757 | 684 |
| South America | 294 | 145 | 69 | 40 | 229 | 112 | 67 | 39 | 179 | 82 | 63 | 37 |
| Total | 22,532 | 9,904 | 5,370 | 3,022 | 23,262 | 10,271 | 5,500 | 3,062 | 24,557 | 11,016 | 6,186 | 3,532 |

[A] The number of productive wells with multiple completions at December 31, 2022, was 869 Gross (400 Net); December 31, 2021: 956 Gross (427 Net); December 31, 2020: 956 Gross (416 Net).
[B] Corrected from 8,819 Gross (3,219 Net).
[C] Corrected from 364 Gross (210 Net).
[D] Corrected from 8,505 Gross (3,105 Net).
[E] Corrected from 342 Gross (193 Net).

## Number of net productive wells and dry holes drilled [A]

| | 2022 | | 2021 | | 2020 | |
|---|---|---|---|---|---|---|
| | Productive | Dry | Productive | Dry | Productive | Dry |
| Exploratory [A] | | | | | | |
| Europe | 5 | 2 | – | – | – | 1 |
| Asia | 4 | 5 | 5 | 10 | 10 | 8 |
| Oceania | 20 | 1 | – | 2 | – | 6 |
| Africa | – | 2 | – | 11 | 5 | 7 |
| North America - USA | – | 5 | 3 | 39 | 57 | 81 |
| North America - Canada | – | – | – | 15 | 17 | 1 |
| South America | 18 | 2 | 5 | 1 | 5 | 3 |
| Total | 47 | 17 | 13 | 78 | 94 | 107 |
| Development | | | | | | |
| Europe | 3 | – | 3 | 1 | 5 | – |
| Asia | 217 | – | 218 | – | 169 | – |
| Oceania | 84 | 1 | 7 | – | 20 | – |
| Africa | 5 | – | 6 | – | 19 | – |
| North America - USA | 54 | – | 46 | – | 110 | – |
| North America - Canada | 22 | – | – | – | – | – |
| South America | 23 | – | 31 | – | 14 | – |
| Total | 408 | 1 | 311 | 1 | 337 | – |

[A] Productive wells are wells with proved reserves allocated. Wells in the process of drilling are excluded and presented separately below.

# Supplementary information – oil and gas (unaudited) continued

## Number of wells in the process of exploratory drilling [A]

2022

| | At January 1 | | Wells in the process of drilling at January 1 and allocated proved reserves during the year | | Wells in the process of drilling at January 1 and determined as dry during the year | | New wells in the process of drilling at December 31 | | At December 31 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Gross | Net | Gross | Net | Gross | Net | Gross | Net | Gross | Net |
| Europe | 12 | 8 | (5) | (5) | (1) | (1) | 3 | 3 | 9 | 5 |
| Asia | 53 | 20 | (5) | (3) | (11) | (3) | 23 | 8 | 60 | 22 |
| Oceania | 68 | 30 | (36) | (18) | (2) | (1) | 41 | 20 | 71 | 31 |
| Africa | 19 | 11 | | | | | 1 | | 20 | 11 |
| North America - USA | 11 | 9 | | | (4) | (3) | 4 | 3 | 11 | 9 |
| North America - Canada | | | | | | | 6 | 6 | 6 | 6 |
| South America | 29 | 11 | (18) | (7) | (2) | (1) | 15 | 7 | 24 | 10 |
| Total | 192 | 89 | (64) | (33) | (20) | (9) | 93 | 47 | 201 | 94 |

[A] Wells in the process of exploratory drilling includes wells pending further evaluation.

## Number of wells in the process of development drilling

2022

| | At January 1 | | At December 31 | |
|---|---|---|---|---|
| | Gross | Net | Gross | Net |
| Europe | 1 | 1 | 2 | 1 |
| Asia | 38 | 20 | 29 | 16 |
| Oceania | 181 | 111 | 282 | 184 |
| Africa | 5 | 2 | 1 | 1 |
| North America - USA | 9 | 6 | 21 | 12 |
| North America - Canada | 6 | 5 | 6 | 5 |
| South America | 46 | 30 | 18 | 7 |
| Total | 286 | 175 | 359 | 226 |

In addition to the present activities mentioned above, the following recovery methods are operational in the following countries: water flooding (Brazil (including water alternating gas), Brunei, Malaysia, Nigeria, Oman, the UK and the USA); gas injection (Brazil, Brunei, Kazakhstan, Malaysia, Nigeria and Oman); steam injection (the Netherlands, Oman and the USA), and polymer flooding (Oman).

# Supplementary information – EU taxonomy disclosure

## Understanding the EU taxonomy

### What is the EU taxonomy?

Regulation EU 2020/852 (the "Taxonomy Regulation") is a classification system for determining when an economic activity can be considered environmentally sustainable according to EU standards. It aims to encourage investment in a low-carbon economy by creating common definitions of sustainability and mandatory disclosures to help investors make informed decisions.

### How does it work?

Non-financial companies screen their eligible activities against the taxonomy's technical criteria for environmental sustainability and minimum safeguards. This allows them to calculate the share of revenue (turnover), capital expenditure (capex) and operating expenditure (opex) that can be classified as aligned.

### Why does Shell report voluntarily?

Shell supports the EU's ambition to achieve net zero emissions, which aligns with our own target to become a net-zero emissions energy business by 2050. We report against the taxonomy voluntarily because we recognise the importance of increasing transparency about how companies are progressing in the energy transition, even if the regulation is evolving and not yet mature.

### What is the reporting scope?

The taxonomy's reporting scope covers Shell's global business, based on the financial consolidation boundary. Shell's eligible activities include elements of our chemicals, power, hydrogen, biofuels, electric vehicle charging, carbon capture and storage (CCS) and nature-based solutions (NBS) businesses. Our remaining businesses are non-eligible.

### How does it compare with Shell's other disclosures?

The taxonomy's reporting basis differs from that used in our financial statements, which are based on International Financial Reporting Standards (IFRS). For example, it does not recognise our interests in equity accounted joint ventures and associates, goodwill, feasibility expenses or integrated value chains. These and other differences result in lower reported turnover, capex and opex under the taxonomy compared to our other disclosures.

### What is the significance of the technical criteria?

The taxonomy's technical criteria recognise stringent levels of environmental performance rather than transitional steps or alternative pathways. Due to their complexity and reliance on EU standards, the criteria can be difficult to interpret and apply, especially for activities outside the EU.

### What share of Shell's business is eligible and aligned?

In 2022, Shell's eligible turnover was 3%, capex was 21% and opex was 16%. At present, there is a lack of consensus in the market about how to interpret various aspects of the technical screening criteria. Shell elects to take a prudent approach, which for 2022 implies zero alignment. However, we assess elements of our solar, wind, hydrogen, low-carbon road transport and renewable energy technology activities to be close to alignment. When fully aligned, this would result in a range of 0.1-0.2% for turnover, 9-10% for capex and 0.3-1.5% for opex.

### What is Shell doing to increase transparency?

The taxonomy does not, in our view, provide a complete picture of Shell's low-carbon business. Nevertheless, we support efforts to improve the framework and advance climate-related disclosure more broadly. For more information, see "Our Journey to Net Zero" on pages 78-105.

### Scope of taxonomy-eligible activities

| | | | | | | |
|---|---|---|---|---|---|---|
| **1.4** Conservation forestry | Equity accounted JVAs | Feasibility | Eligible projects | Non-eligible projects | Trading | |
| **3.14** Manufacture of chemicals<br>**3.17** Manufacture of plastics | Equity accounted JVAs | Feasibility | Manufacturing | Non-eligible products | Trading | |
| **3.10** Manufacture of hydrogen<br>**4.13** Manufacture of biogas and biofuels | Equity accounted JVAs | Feasibility | Manufacturing | Trading | Feedstock (biofuels only) | |
| **4.1** Electricity from wind<br>**4.3** Electricity from solar | Equity accounted JVAs | Feasibility | Power generation | Trading and B2B/B2C sales | Decarbonisation of non-eligible activities | |
| **4.29** Electricity from fossil gas | Equity accounted JVAs | Feasibility | Power generation | Trading and B2B/B2C sales | Upstream, midstream, LNG, GTL | |
| **5.11** Transport of $CO_2$<br>**5.12** Storage of $CO_2$ | Equity accounted JVAs | Feasibility | Transport & storage | Carbon capture | | |
| **6.15** Infrastructure enabling low-carbon road transport | Equity accounted JVAs | Feasibility | Infastructure | Retail power and hydrogen sales | B2B/B2C solutions | |
| **7.6** Installation of renewable energy technologies | Equity accounted JVAs | Feasibility | B2C solutions | | | |

**B2B** Business-to-Business **B2C** Business-to-Consumer **JVA** Joint Ventures & Associates **LNG** Liquified Natural Gas **GTL** Gas-to-Liquids

**Taxonomy-eligible**

**Taxonomy non-eligible**

# Supplementary information – EU taxonomy disclosure continued

## Overview

The EU taxonomy is a classification system that translates the European Union's environmental objectives into criteria for determining when an economic activity can be considered environmentally sustainable for investment purposes.

The taxonomy is designed as a transparency tool to enable investors to compare companies and investment portfolios on a consistent basis. It is not a mandatory list of activities for investors to invest in, nor does it set mandatory environmental performance requirements for companies or financial products.

## The taxonomy framework

The Taxonomy Regulation establishes technical criteria for environmental sustainability across more than 100 economic activities and six environmental objectives. So far, criteria have been approved for activities contributing to the first two objectives, climate change mitigation and climate change adaptation. Criteria for the four remaining objectives – water, circular economy, pollution control and biodiversity – are expected to be adopted by the EU in 2023.

An activity is "taxonomy-eligible" if it is described in a delegated act adopted under the Taxonomy Regulation. Such an activity is eligible irrespective of whether it complies with the technical screening criteria.

An activity is "taxonomy-aligned" if it contributes substantially to one or more environmental objectives, does no significant harm to any of the other objectives, is carried out in compliance with minimum human and labour rights safeguards, and complies with the relevant technical screening criteria.

The taxonomy's disclosure requirements have been phased-in over two years. In 2021, the first year of reporting, non-financial undertakings were required to disclose the total share of turnover, capex and opex associated with their eligible activities. From 2022, they are required to disclose detailed activity-level data on eligibility and alignment as well as additional contextual information.

The EU has stated that the taxonomy will develop over time. The fact that an activity is not recognised as substantially contributing to one of the EU's environmental objectives does not necessarily mean it is not sustainable. In addition, not all activities with the potential to make a substantial contribution to the environmental objectives are yet included in the framework.

As a UK company with its registered office and headquarters in London, Shell plc is not currently subject to the Taxonomy Regulation. We expect to come into scope in 2024 via the EU's Corporate Sustainability Reporting Directive (CSRD), which extends the Taxonomy Regulation's reporting obligation to third country issuers that list on European exchanges.

## Our eligibility

In 2022, Shell's taxonomy-eligible turnover was $12 billion, capex was $6.7 billion and opex was $0.8 billion. Eligible capex increased by $2.2 billion in 2022 compared to the previous year, driven by higher expenditure for wind, solar, low-carbon road transport and hydrogen. Opex remained steady. Turnover decreased by $3 billion, mainly due to lower chemicals revenues.

Eligible capex as a share of total capex increased to 21% in 2022 from 18% in 2021. Opex increased to 16% in 2022 from 15% in 2021 due in part to lower non-eligible expenditure. Turnover is particularly sensitive to the performance of our non-eligible businesses, decreasing to 3% in 2022 from 6% in 2021 due to a combination of lower chemicals revenue and a 50% increase in turnover for non-eligible activities driven by higher commodity prices.

At present, there is a lack of consensus in the market about how to interpret various aspects of the technical screening criteria. In view of these uncertainties, Shell elects to take an approach which for 2022 implies zero alignment. However, we assess elements of our solar, wind, hydrogen, low-carbon road transport and renewable energy technology activities to be close to alignment. When fully aligned, this would result in a range of 0.1-0.2% for turnover, 9-10% for capex and 0.3-1.5% for opex.

## Basis of preparation

Shell seeks to prepare its disclosure in accordance with Delegated Regulation EU 2021/2178 (the "Disclosures Delegated Act") as well as several Commission Notices containing answers to frequently asked questions about taxonomy reporting issued in 2021 and 2022.

Shell has adopted a three-step process to prepare its taxonomy disclosure. Firstly, we begin by identifying our eligible activities and mapping these to our assets and projects. Secondly, we screen those activities for alignment with the technical criteria and the minimum safeguards. Finally, we calculate the metrics for eligibility and alignment, based on the screening results. Each step is discussed below.

## Identification of eligible activities

Shell has assessed its business against the economic activities qualifying for the taxonomy's climate mitigation and climate adaptation objectives. These include the activities listed in Delegated Regulation EU 2021/2139 (the "Climate Delegated Act") and the gas-related activities listed in Delegated Regulation EU 2022/1214 (the "Complementary Climate Delegated Act").

### EU taxonomy eligibility 2022

$ million, except where indicated

| | 2022 | | | 2021 | | |
|---|---|---|---|---|---|---|
| | Turnover | Capex | Opex | Turnover | Capex | Opex |
| Eligible | 11,986 | 6,744 | 796 | 14,984 | 4,548 | 820 |
| Non-eligible | 369,328 | 25,556 | 4,138 | 246,520 | 20,845 | 4,479 |
| Total | 381,314 | 32,300 | 4,934 | 261,504 | 25,393 | 5,299 |
| Eligible % of total | 3% | 21% | 16% | 6% | 18% | 15% |
| Non-eligible % of total | 97% | 79% | 84% | 94% | 82% | 85% |

# Supplementary information – EU taxonomy disclosure continued

The Taxonomy Regulation does not provide criteria for determining when an economic activity is in scope for reporting. According to EU guidance, an economic activity takes place when resources such as capital, goods, labour, manufacturing techniques or intermediary products are combined to produce specific goods or services. Based on this definition, Shell treats economic activities as in scope for reporting if they correspond to final goods or services offered for sale to customers, or if they are intended to be offered for sale in the future based on current business plans. We do not report on factors of production or overheads, such as real estate or IT, since these do not represent a final good or service. We also do not report on activities which are immaterial to our results and are not intended to operate as stand-alone businesses, such as sales of waste heat or electricity from refineries and chemical plants. In our view, reporting on such activities results in a more complex disclosure and creates double-counting risks, reducing transparency and comparability for users.

For 2022, we identified a total of 12 economic activities as eligible for reporting. All of these contribute to the climate change mitigation objective. The only addition to our activities since last year is 4.29 Electricity Generation from Fossil Gaseous Fuels, which became an eligible activity with the adoption of the Complementary Climate Delegated Act in 2022.

Electric vehicle charging is referenced by multiple economic activities in the taxonomy, each of which has a different set of technical screening criteria. There is a lack of consensus in the market about which one to apply. For 2022, Shell has elected to categorise all its electric vehicle charging businesses under the activity with the most stringent criteria, 6.15 Infrastructure Enabling Low-Carbon Road Transport and Public Transport.

## Alignment screening

The Taxonomy Regulation does not prescribe how screening for alignment should be carried out. Shell has developed an internal process to assess its eligible activities for alignment with the technical screening criteria and minimum safeguards, based on our understanding of the requirements of the Disclosures Delegated Act.

For each eligible activity, we begin by identifying the assets in scope for reporting. An asset is typically a discrete element of physical plant or equipment that contributes to an economic activity, such as a chemical plant or a wind farm, or a project in development that is intended to become an asset in the future.

Once the assets for each activity have been defined, we review the Substantial Contribution and Do No Significant Harm (DNSH) criteria and proceed to screen the assets. Screening is carried out by subject matter experts and subject to cross-checking at various levels.

The technical criteria are highly detailed, with extensive references to European standards and regulations which are not widely used outside the region. Applying them poses several challenges. Examples include situations where it is difficult to translate EU standards or regulations to a non-EU context; where Shell is materially aligned with a complex technical standard but varies in certain details; where the criteria are expressed in qualitative terms that are open to interpretation; or where the criteria are designed for narrower range of applications than the one implied by the activity description. These situations require us to apply judgement in determining whether the criteria are met.

Sometimes it is not possible to associate eligible turnover, capex or opex with a specific asset. For example, this can happen when we incur research and development expenses for an activity but the expenditure cannot be tied to a specific project for screening purposes. If alignment cannot be reasonably established, the relevant amounts are classified as eligible but non-aligned.

Situations can arise where we may not be able to screen all assets in scope of an activity. This can occur when an activity contains a large number of early-stage projects and it is more efficient to focus on the most material projects and treat the remaining ones as eligible but non-aligned. This situation can also arise when assets are acquired late in the reporting cycle and there is insufficient time to conduct a high quality screening, or when it has not been possible to obtain information about a non-operated asset from joint venture partners. Such assets are treated as eligible but non-aligned by default.

Assets that do not have eligible turnover, capex or opex to report are non-eligible and are not subject to technical screening. In practice, many early-stage projects are non-eligible because they have no turnover or capex to report, while feasibility expenditures incurred prior to a Final Investment Decision (FID) are non-eligible under the opex KPI. Technical screening outcomes described in this disclosure apply only to eligible assets that have been screened in 2022.

Where uncertainty exists with regard to how to interpret or apply any of the technical screening criteria, the relevant assets are assessed as non-aligned. In such cases, we intend to monitor future developments and update our approach as appropriate.

### Substantial Contribution

The Substantial Contribution criteria are designed to ensure that an economic activity either has a substantial positive impact on one of the environmental objectives or substantially reduces negative impacts on the environment. The exact criteria vary from activity to activity.

In 2022, all of Shell's eligible economic activities contribute to the climate change mitigation objective. For five activities, assets in scope for screening were assessed as aligned with the Substantial Contribution criteria, including solar, wind, hydrogen manufacturing, low-carbon road transport, and installation, maintenance and repair of renewable energy technology.

Assets in scope for our remaining activities were assessed as non-aligned. For two activities, alignment could not be established due to uncertainty about how to interpret and apply the technical screening criteria. This was the case for carbon transport and storage, where there are questions as to whether local standards are equivalent to the international and EU standards referenced by the criteria, and for conservation forestry, where the technical criteria differ from internationally recognised carbon credit standards.

### Do No Significant Harm

The Do No Significant Harm criteria are designed to ensure that an economic activity does not impede other environmental objectives being reached. The combination of the Substantial Contribution and DNSH criteria are intended to ensure coherence between the taxonomy's objectives and to avoid progress towards one objective being made at the expense of another.

The DNSH criteria for activities contributing to climate change mitigation include detailed requirements for climate change adaptation, water, circular economy, pollution prevention and biodiversity. The exact criteria vary per objective and activity.

There are four so-called "generic" DNSH criteria, addressing the objectives of climate adaptation, water, pollution control and biodiversity. These generic criteria apply to several of our eligible activities.

Although mitigation of physical risks, whether or not related to climate change, are considered and embedded in the design, construction and operation of assets, Shell's current approach differs from the Generic Criteria for DNSH to Climate Change Adaptation (Appendix A). We

# Supplementary information – EU taxonomy disclosure continued

therefore assess ourselves as non-aligned in 2022. For more information, see "Climate Related Physical Risk" on page 85.

We assess our operating standards as aligned with the Generic Criteria for DNSH to Sustainable Use and Protection of Water and Marine Resources (Appendix B) and Protection and Restoration of Biodiversity and Ecosystems (Appendix D). We review the application of these standards at an asset level during the screening process.

The Generic Criteria for DNSH to Pollution Prevention and Control Regarding Use and Presence of Chemicals (Appendix C) specify that an economic activity should not lead to the manufacture, placing on the market or use of certain specified substances. Shell assesses itself as aligned with paragraphs (a) to (e), with the exception of one chemicals site located outside the EU containing non-aligned electrical equipment. Paragraphs (f) and (g) expand the scope of these substances "except where their use has proven to be essential for society". As the criteria for determining "essential use" are not yet defined in EU regulation, it is not possible to determine alignment with these paragraphs.

### Minimum safeguards

The Taxonomy Regulation defines the minimum safeguards as procedures implemented by a company to ensure alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights.

Respect for human rights is embedded in the Shell General Business Principles and our Code of Conduct. We have an integrated approach to human rights that is embedded into our policies and processes, which are applicable to all employees and contractors. This approach is informed by the UN Guiding Principles on Business and Human Rights.

We assess our taxonomy-eligible activities as compliant with the minimum safeguards. For more information, see "Human Rights" on page 113.

### Capex Plan assessment

As specified in points 1.1.2.2 and 1.1.3.2 of the Disclosures Delegated Act, capex and opex can be treated as aligned when such expenditures form part of a "Capex Plan" aimed at expanding an aligned activity or upgrading an eligible activity to enable it to become aligned.

To qualify, a Capex Plan must be approved by management and disclosed at the economic activity aggregated level. The expansion or upgrade must take place within five years unless a longer period is justified by the specific features of the activity and the upgrade concerned, up to a maximum of ten years. The justification for a longer transition period must feature in the Capex Plan and be included in the disclosure. If the Capex Plan fails to meet the conditions within the specified timeframe, previously published KPIs must be restated.

Due to a lack of consensus in the market about how to interpret various aspects of the technical screening criteria, and uncertainty about how the criteria might apply to future performance conditions, Shell has elected not to recognise any capex or opex as aligned under the Capex Plan provision in 2022.

## Calculating the key performance indicators

The taxonomy KPIs consist of separate measures for eligible and aligned turnover, capex and opex. Each measure is calculated as the amount associated with eligible or aligned economic activities (numerator) divided by the total (denominator).

### Turnover

The turnover KPI comprises the Revenue line from the Consolidated Statement of Income. This measure is reconciled as follows.

**EU taxonomy turnover 2022**

| | | $ million |
|---|---|---|
| | 2022 | 2021 |
| Revenue from contracts with customers | 369,606 | 261,378 |
| Revenue from other sources | 11,708 | 126 |
| Total EUT Turnover | 381,314 | 261,504 |

There is uncertainty about the conditions under which hedging effects should be included or excluded when calculating the numerator and denominator for the turnover KPI. Shell's reporting of revenue in the Consolidated Statement of Income follows the IFRS definition, under which realised and unrealised gains and losses from hedging are recognised in revenue. We follow the same principles when calculating the numerator and denominator for the turnover KPI. In 2022, excluding hedging effects would have an immaterial impact on the numerator and denominator.

### Capex

The capex KPI comprises the Additions line from Note 11 – Goodwill and Other Intangible Assets and the Additions line from Note 12 – Property, Plant and Equipment of the Consolidated Financial Statements. As the treatment of goodwill under the taxonomy is uncertain, it is excluded from the measure.

When business combinations involving an eligible activity occur in a prior reporting period but Purchase Price Allocation takes place within the current period, we recognise the resulting movements to Property, Plant and Equipment and Intangible Assets as an addition. These amounts are contained within Note 11 – Goodwill and Other Intangible Assets and Note 12 – Property, Plant and Equipment in the Sales, Retirements and Other Movements line and are added to the numerator and denominator.

This measure is reconciled as follows.

**EU taxonomy capex 2022**

| | | $ million |
|---|---|---|
| | 2022 | 2021 |
| Additions to property, plant and equipment | 28,254 | 21,719 |
| Additions to goodwill and other intangible assets | 5,555 | 5,220 |
| Less: Goodwill | 1,954 | 1,546 |
| Add: Other movements | 445 | – |
| Total EUT Capex | 32,300 | 25,393 |

The numerator for aligned capex comprises the part of eligible capex that is (a) associated with taxonomy-aligned economic activities; (b) part of a Capex Plan to expand an aligned activity or to enable a non-aligned activity to become aligned; and (c) related to the purchase of output from taxonomy-eligible activities. Due to limited guidance about how (c) should be calculated, our reporting focuses on (a) and (b) only.

# Supplementary information – EU taxonomy disclosure continued

The capex KPI as defined by the Taxonomy Regulation differs from Shell's cash capital expenditure measure. The latter monitors investing activities on a cash basis, excluding items such as lease additions which do not necessarily result in cash outflows in the period. This measure comprises the following lines from the Consolidated Statement of Cash Flows: Capital expenditure, Investments in joint ventures and associates and Investments in equity securities. The cash capex measure is presented on page 364.

### Opex

The Taxonomy Regulation defines the opex KPI as costs associated with maintenance and repair, research and development and short-term leases. This is narrower than Shell's definition of operating expenses and does not capture all of our expenditure on otherwise eligible activities. This measure is reconciled as follows.

**EU taxonomy opex 2022**

| | | $ million |
|---|---|---|
| | 2022 | 2021 |
| Production and manufacturing expenses | 25,518 | 23,822 |
| Selling, distribution and administrative expenses | 12,883 | 11,328 |
| Research and development | 1,075 | 815 |
| Total operating expenses | 39,476 | 35,964 |
| Less: Non-maintenance expenses | 22,211 | 19,981 |
| Less: Selling, distribution and administrative expenses | 12,883 | 11,328 |
| Add: Expenses relating to short-term leases | 552 | 644 |
| Total EUT Opex | 4,934 | 5,299 |

The numerator for aligned opex comprises the part of eligible opex that is (a) associated with taxonomy-aligned economic activities; (b) part of a Capex Plan to expand an aligned activity or to enable a non-aligned activity to become aligned; and (c) related to the purchase of output from taxonomy-eligible activities. Due to limited guidance about how (c) should be calculated, our reporting focuses on (a) and (b) only.

### Other accounting policies

Eligibility and alignment are calculated separately for each economic activity.

The reporting boundary for each activity is determined by the description contained in the relevant delegated act. This boundary frequently differs from our integrated value chains and segmental reporting. As a result, various adjustments are needed to calculate the required figures. For example, we exclude sales of third-party products as well as trading and retailing from the calculation of the KPIs. These are significant for Shell's integrated business model but are not eligible for the taxonomy. Although intra-group sales are non-eligible, sales to our trading and marketing business are used in certain circumstances to calculate the turnover attributable to eligible parts of the value chain.

When a reporting entity is engaged in multiple economic activities, an allocation method is applied so that only the appropriate part is counted. Reconciliation is made to total turnover, capex and opex to avoid double counting.

In some cases, a subsidiary or other related undertaking may have interests in more than one economic activity but there is insufficient data available to disaggregate turnover, capex and opex. In these cases, we allocate the KPIs to the activity that best describes the primary business of the entity.

Shell's eligible and aligned turnover, capex and opex are presented on pages 333-335 in accordance with templates specified in Annex II of the Disclosures Delegated Act. Disclosures concerning our gas-related activities are presented on pages 336-339 in accordance with the requirements of the Disclosures Delegated Act, Articles 8(6) and (7), including the templates specified in Annex XII.

### Contextual information on the KPIs

This section provides additional contextual information to accompany the presentation of the turnover, capex and opex KPIs on pages 333-335.

### Turnover

In 2022, Shell's taxonomy-eligible turnover was $12 billion or 3% of the total. The economic activities that made the biggest contribution to eligible turnover were chemicals and plastics, renewable power (including wind, solar and installation of renewable energy technologies), gas-fired power and low-carbon road transport.

Eligible turnover for renewable power (including wind, solar and installation of renewable energy technologies) increased to $462 million in 2022 from $228 million in 2021. For low-carbon road transport, eligible turnover increased to $99 million in 2022 from $71 million in 2021. The addition of gas-fired power as an economic activity in 2022 added $153 million to turnover in 2022.

### Capex

In 2022, Shell's taxonomy-eligible capex was $6.7 billion or 21% of the total. The economic activities that made the biggest contribution to eligible capex include chemicals and plastics, wind, solar, biofuels, low-carbon road transport and hydrogen.

Eligible capex for solar and wind was a combined $2.9 billion in 2022 compared to $259 million in 2021, driven by business acquisitions and organic growth. Eligible capex for low-carbon transport, which includes electric vehicle charging and hydrogen mobility, was $346 million in 2022 compared to $118 million in 2021. Eligible capex for biofuels increased to $580 million in 2022 from $273 million in 2021, driven by business acquisitions and the construction of our new biofuels facility in Rotterdam. Eligible capex for hydrogen was $139 million in 2022 compared to $11 million in 2021. Eligible capex for plastics fell to $1.9 billion in 2022 from $3 billion in 2021, reflecting the completion of construction activity at our Shell Polymers Monaca polyethylene production facility in Pennsylvania.

### Opex

In 2022, Shell's taxonomy-eligible opex was $796 million or 16% of the total. The economic activities that made the biggest contribution to eligible opex include chemicals, biofuels and hydrogen. Our chemicals business is relatively mature compared to our other eligible activities and accounts for the largest share of opex.

Eligible opex decreased to $796 million in 2022 from $820 million in 2021. A decrease in opex for chemicals was partly offset by increased opex for hydrogen. Eligible opex as share of the total increased to 16% in 2022 from 15% in 2021, due in part to lower non-eligible expenditure.

# Supplementary information – EU taxonomy disclosure continued

## Scope of taxonomy-eligible activities

| No | Economic activity | Scope | Notes |
|---|---|---|---|
| 1.4 | Conservation forestry | Nature-based solutions projects that meet the EU taxonomy activity description for conservation forestry and generate capital assets. | [A], [B], [C] |
| 3.10 | Manufacture of hydrogen | Development and operation of hydrogen manufacturing assets. | [A], [B], [C], [D], [E] |
| 3.14 | Manufacture of organic basic chemicals | Manufacture of taxonomy-eligible chemical products. | [A], [B], [C], [D], [F] |
| 3.17 | Manufacture of plastics in primary form | Manufacture of polyethylene. | [A], [B], [C], [D] |
| 4.1 | Electricity generation using solar photovoltaic technology | Development and operation of solar photovoltaic power assets. | [A], [B], [C], [D], [G], [H] |
| 4.3 | Electricity generation from wind power | Development and operation of wind power assets. | [A], [B], [C], [D], [G], [H] |
| 4.13 | Manufacture of biogas and biofuels for use in transport and of bioliquids | Development and operation of assets for the manufacture of biogas and biofuels for use in transport. | [A], [B], [C], [D], [I] |
| 4.29 | Electricity generation from fossil gaseous fuels | Development and operation of gas-fired power assets. | [A], [B], [C], [D], [J], [K] |
| 5.11 | Transport of $CO_2$ | Development and operation of $CO_2$ transport assets. | [A], [B], [L], [M] |
| 5.12 | Underground permanent geological storage of $CO_2$ | Development and operation of $CO_2$ storage assets. | [A], [B], [L], [M] |
| 6.15 | Infrastructure enabling low-carbon road transport and public transport | Development and operation of electric vehicle charging points and hydrogen infrastructure for road transport. | [A], [B], [G] |
| 7.6 | Installation, maintenance and repair of renewable energy technologies | Installation, maintenance and repair of renewable energy technologies, on-site. | [A], [B], [H] |

[A] Excludes interests in equity-accounted joint ventures and associates.
[B] Excludes feasibility expenses incurred prior to final investment decision.
[C] Excludes trading activity.
[D] Excludes sales of third-party products.
[E] Excludes integrated hydrogen units whose outputs are primarily intended for internal consumption, such as desulphurisation in refineries.
[F] Excludes taxonomy non-eligible chemical products.
[G] Excludes B2B/B2C retail sales of electricity.
[H] Excludes expenditure on renewable power projects to reduce Scope 1 and 2 emissions for taxonomy non-eligible target activities.
[I] Excludes ventures engaged in the development of feedstocks for biofuels manufacturing.
[J] Does not include integrated generation or cogeneration units whose outputs are primarily intended for internal consumption.
[K] Does not include upstream exploration and production, midstream, LNG or GTL.
[L] Excludes carbon capture, subject to the remarks in Note [M].
[M] For integrated CCS projects where it not practically possible to distinguish carbon capture, transport and/or storage, the "Storage of $CO_2$" activity is used.

# Supplementary information – EU taxonomy disclosure continued

## Turnover KPI

### Proportion of turnover from products or services associated with taxonomy-aligned economic activities, 2022 [A]

| Economic Activities (1) | NACE Code (2) | Absolute turnover (3) | Proportion of turnover (4) | Substantial contribution criteria: Climate change mitigation (5) | Climate change adaptation (6) | Water and marine resources (7) | Circular economy (8) | Pollution (9) | Biodiversity and ecosystems (10) | DNSH criteria: Climate change mitigation (11) | Climate change adaptation (12) | Water and marine resources (13) | Circular economy (14) | Pollution (15) | Biodiversity and ecosystems (16) | Minimum Safeguards (17) | Taxonomy-aligned proportion of turnover 2022 (18) | Taxonomy-aligned proportion of turnover 2021 (19) | Category (enabling activity) (20) | Category (transitional activity) (21) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $ million | % | % | % | % | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| **A. Taxonomy-eligible activities** | | | | | | | | | | | | | | | | | | | | |
| **A.1 Environmentally sustainable activities (taxonomy-aligned)** | | | | | | | | | | | | | | | | | | | | |
| Turnover of A.1 | | 0 | 0% | | | | | | | | | | | | | | 0% | N/A | | |
| **A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)** | | | | | | | | | | | | | | | | | | | | |
| 1.4 Conservation forestry | A2.10 | – | –% | | | | | | | | | | | | | | | | | |
| 3.10 Manufacture of hydrogen | C20.11 | – | –% | | | | | | | | | | | | | | | | | |
| 3.14 Manufacture of organic basic chemicals | C20.14 | 11,187 | 3% | | | | | | | | | | | | | | | | | |
| 3.17 Manufacture of plastics in primary form | C20.16 | 69 | 0% | | | | | | | | | | | | | | | | | |
| 4.1 Electricity generation using solar photovoltaic technology | D35.11 | 38 | 0% | | | | | | | | | | | | | | | | | |
| 4.3 Electricity generation from wind power | D35.11 | 59 | 0% | | | | | | | | | | | | | | | | | |
| 4.13 Manufacture of biogas and biofuels for use in transport and of bioliquids | C35.21 | – | –% | | | | | | | | | | | | | | | | | |
| 4.29 Electricity generation from fossil gaseous fuels | D35.11 | 153 | 0% | | | | | | | | | | | | | | | | | |
| 5.11 Transport of $CO_2$ | H49.50 | – | –% | | | | | | | | | | | | | | | | | |
| 5.12 Underground permanent geological storage of $CO_2$ | E39.00 | 16 | 0% | | | | | | | | | | | | | | | | | |
| 6.15 Infrastructure enabling low-carbon road transport and public transport | M71 | 99 | 0% | | | | | | | | | | | | | | | | | |
| 7.6 Installation, maintenance and repair of renewable energy technologies | C27 | 366 | 0% | | | | | | | | | | | | | | | | | |
| Turnover of A.2 | | 11,986 | 3% | | | | | | | | | | | | | | | | | |
| Total turnover A1 + A2 | | 11,986 | 3% | | | | | | | | | | | | | | | | | |
| **B. Taxonomy non-eligible activities** | | | | | | | | | | | | | | | | | | | | |
| Turnover of B | | 369,328 | 97% | | | | | | | | | | | | | | | | | |
| Total turnover A + B | | 381,314 | 100% | | | | | | | | | | | | | | | | | |

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared to our other disclosures.

# Supplementary information – EU taxonomy disclosure continued

## Capex KPI

### Proportion of capex from products or services associated with taxonomy-aligned economic activities, 2022 [A]

| Economic Activities (1) | NACE Code (2) | Absolute capex (3) | Proportion of capex (4) | Substantial contribution criteria: Climate change mitigation (5) | Climate change adaptation (6) | Water and marine resources (7) | Circular economy (8) | Pollution (9) | Biodiversity and ecosystems (10) | DNSH criteria: Climate change mitigation (11) | Climate change adaptation (12) | Water and marine resources (13) | Circular economy (14) | Pollution (15) | Biodiversity and ecosystems (16) | Minimum Safeguards (17) | Taxonomy-aligned proportion of capex 2022 (18) | Taxonomy-aligned proportion of capex 2021 (19) | Category (enabling activity) (20) | Category (transitional activity) (21) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $ million | % | % | % | % | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| **A. Taxonomy-eligible activities** | | | | | | | | | | | | | | | | | | | | |
| **A.1 Environmentally sustainable activities (taxonomy-aligned)** | | | | | | | | | | | | | | | | | | | | |
| Capex of A.1 | | 0 | 0% | | | | | | | | | | | | | | 0% | N/A | | |
| **A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)** | | | | | | | | | | | | | | | | | | | | |
| 1.4 Conservation forestry | A2.10 | 6 | 0% | | | | | | | | | | | | | | | | | |
| 3.10 Manufacture of hydrogen | C20.11 | 139 | 0% | | | | | | | | | | | | | | | | | |
| 3.14 Manufacture of organic basic chemicals | C20.14 | 800 | 2% | | | | | | | | | | | | | | | | | |
| 3.17 Manufacture of plastics in primary form | C20.16 | 1,914 | 6% | | | | | | | | | | | | | | | | | |
| 4.1 Electricity generation using solar photovoltaic technology | D35.11 | 1,753 | 5% | | | | | | | | | | | | | | | | | |
| 4.3 Electricity generation from wind power | D35.11 | 1,109 | 3% | | | | | | | | | | | | | | | | | |
| 4.13 Manufacture of biogas and biofuels for use in transport and of bioliquids | C35.21 | 580 | 2% | | | | | | | | | | | | | | | | | |
| 4.29 Electricity generation from fossil gaseous fuels | D35.11 | 45 | 0% | | | | | | | | | | | | | | | | | |
| 5.11 Transport of $CO_2$ | H49.50 | – | –% | | | | | | | | | | | | | | | | | |
| 5.12 Underground permanent geological storage of $CO_2$ | E39.00 | 17 | 0% | | | | | | | | | | | | | | | | | |
| 6.15 Infrastructure enabling low-carbon road transport and public transport | M71 | 346 | 1% | | | | | | | | | | | | | | | | | |
| 7.6 Installation, maintenance and repair of renewable energy technologies | C27 | 35 | 0% | | | | | | | | | | | | | | | | | |
| Capex of A.2 | | 6,744 | 21% | | | | | | | | | | | | | | | | | |
| Total capex A1 + A2 | | 6,744 | 21% | | | | | | | | | | | | | | | | | |
| **B. Taxonomy non-eligible activities** | | | | | | | | | | | | | | | | | | | | |
| Capex of B | | 25,556 | 79% | | | | | | | | | | | | | | | | | |
| Total capex A + B | | 32,300 | 100% | | | | | | | | | | | | | | | | | |

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared to our other disclosures.

# Supplementary information – EU taxonomy disclosure continued

## Opex KPI

### Proportion of opex from products or services associated with taxonomy-aligned economic activities, 2022 [A]

| Economic Activities (1) | NACE Code (2) | Absolute opex (3) | Proportion of opex (4) | Substantial contribution criteria: Climate change mitigation (5) | Climate change adaptation (6) | Water and marine resources (7) | Circular economy (8) | Pollution (9) | Biodiversity and ecosystems (10) | DNSH criteria: Climate change mitigation (11) | Climate change adaptation (12) | Water and marine resources (13) | Circular economy (14) | Pollution (15) | Biodiversity and ecosystems (16) | Minimum Safeguards (17) | Taxonomy-aligned proportion of opex 2022 (18) | Taxonomy-aligned proportion of opex 2021 (19) | Category (enabling activity) (20) | Category (transitional activity) (21) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $ million | % | % | % | % | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| **A. Taxonomy-eligible activities** | | | | | | | | | | | | | | | | | | | | |
| **A.1 Environmentally sustainable activities (taxonomy-aligned)** | | | | | | | | | | | | | | | | | | | | |
| Opex of A.1 | | 0 | 0% | | | | | | | | | | | | | | 0% | N/A | | |
| **A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)** | | | | | | | | | | | | | | | | | | | | |
| 1.4 Conservation forestry | A2.10 | – | –% | | | | | | | | | | | | | | | | | |
| 3.10 Manufacture of hydrogen | C20.11 | 56 | 1% | | | | | | | | | | | | | | | | | |
| 3.14 Manufacture of organic basic chemicals | C20.14 | 658 | 13% | | | | | | | | | | | | | | | | | |
| 3.17 Manufacture of plastics in primary form | C20.16 | 4 | 0% | | | | | | | | | | | | | | | | | |
| 4.1 Electricity generation using solar photovoltaic technology | D35.11 | 0 | 0% | | | | | | | | | | | | | | | | | |
| 4.3 Electricity generation from wind power | D35.11 | 12 | 0% | | | | | | | | | | | | | | | | | |
| 4.13 Manufacture of biogas and biofuels for use in transport and of bioliquids | C35.21 | 56 | 1% | | | | | | | | | | | | | | | | | |
| 4.29 Electricity generation from fossil gaseous fuels | D35.11 | – | –% | | | | | | | | | | | | | | | | | |
| 5.11 Transport of $CO_2$ | H49.50 | 0 | 0% | | | | | | | | | | | | | | | | | |
| 5.12 Underground permanent geological storage of $CO_2$ | E39.00 | 4 | 0% | | | | | | | | | | | | | | | | | |
| 6.15 Infrastructure enabling low-carbon road transport and public transport | M71 | 6 | 0% | | | | | | | | | | | | | | | | | |
| 7.6 Installation, maintenance and repair of renewable energy technologies | C27 | – | –% | | | | | | | | | | | | | | | | | |
| Opex of A.2 | | 796 | 16% | | | | | | | | | | | | | | | | | |
| Total opex A1 + A2 | | 796 | 16% | | | | | | | | | | | | | | | | | |
| **B. Taxonomy non-eligible activities** | | | | | | | | | | | | | | | | | | | | |
| Opex of B | | 4,138 | 84% | | | | | | | | | | | | | | | | | |
| Total opex A + B | | 4,934 | 100% | | | | | | | | | | | | | | | | | |

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared to our other disclosures.

# Supplementary information – EU taxonomy disclosure continued

## Disclosures for nuclear and fossil gas activities

### Template 1: Nuclear and fossil gas related activities

| Row | | 2022 |
|---|---|---|
| **Nuclear energy related activities** | | |
| 1 | The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle. | No |
| 2 | The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies. | No |
| 3 | The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades. | No |
| **Fossil gas related activities** | | |
| 4 | The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels. | Yes |
| 5 | The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels. | No [A] |
| 6 | The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels. | No [A] |

[A] Shell's facilities include integrated gas-fired heating, cooling and power generation units which support one or more primary activities. Such units do not operate on a stand-alone basis and are not treated as a separate economic activity for reporting purposes.

### Template 2: Taxonomy-aligned economic activities (denominator), 2022

$ million, except where indicated

| | | Turnover | | | | | | Capex | | | | | | Opex | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | |
| Row | Economic activities | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| 1 | Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 2 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 3 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 4 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – |
| 5 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 6 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| **7** | **Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI** | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – |
| **8** | **Total applicable KPI** | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – |

# Supplementary information – EU taxonomy disclosure continued

## Template 3: Taxonomy-aligned economic activities (numerator), 2022

$ million, except where indicated

| | | Turnover | | | | | | Capex | | | | | | Opex | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | |
| Row | Economic activities | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| 1 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 2 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 3 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 4 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – |
| 5 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 6 | Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| **7** | **Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI** | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – |
| **8** | **Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI** | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – | 0 | 0% | 0 | 0% | – | – |

# Supplementary information – EU taxonomy disclosure continued

## Template 4: Taxonomy-eligible but not taxonomy-aligned economic activities, 2022

$ million, except where indicated

| | | Turnover | | | | | | Capex | | | | | | Opex | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | |
| Row | Economic activities | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % | Amount | % |
| 1 | Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 2 | Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 3 | Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 4 | Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | 153 | 1.3% | 153 | 1.3% | – | – | 45 | 0.7% | 45 | 0.7% | – | – | – | –% | – | –% | – | – |
| 5 | Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 6 | Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| **7** | **Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI** | 11,833 | 98.7% | 11,833 | 98.7% | – | – | 6,699 | 99.3% | 6,699 | 99.3% | – | – | 796 | 100% | 796 | 100% | – | – |
| **8** | **Total amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI** | 11,986 | 100% | 11,986 | 100% | – | – | 6,744 | 100% | 6,744 | 100% | – | – | 796 | 100% | 796 | 100% | – | – |

# Supplementary information – EU taxonomy disclosure continued

## Template 5: Taxonomy non-eligible economic activities, 2022

$ million, except where indicated

| | | Turnover | | Capex | | Opex | |
|---|---|---|---|---|---|---|---|
| Row | Economic activities | Amount | % | Amount | % | Amount | % |
| 1 | Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy non-eligible in accordance with Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – |
| 2 | Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy non-eligible in accordance with Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – |
| 3 | Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy non-eligible in accordance with Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – |
| 4 | Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy non-eligible in accordance with Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI [A] | 0 | 0% | 0 | 0% | 0 | 0% |
| 5 | Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy non-eligible in accordance with Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – |
| 6 | Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy non-eligible in accordance with Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI | – | – | – | – | – | – |
| **7** | **Amount and proportion of other taxonomy non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI** | 369,328 | 100% | 25,556 | 100% | 4,138 | 100% |
| **8** | **Total amount and proportion of taxonomy non-eligible economic activities in the denominator of the applicable KPI** | 369,328 | 100% | 25,556 | 100% | 4,138 | 100% |

[A] The scope of this requirement is not possible to determine based on current EU guidance. Shell intends to monitor future developments and update our approach as appropriate

# Parent Company Financial Statements

The Parent Company Financial Statements have not been audited in accordance with the standards of the Public Company Accounting Oversight Board (United States).


| | |
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# Parent Company Financial Statements continued

## Statement of Income

$ million

| | Notes | 2022 | 2021 |
|---|---|---|---|
| Dividend income | | 20,200 | 19,098 |
| Interest and other income | 3 | 117 | 3 |
| Administrative expenses | | (326) | (70) |
| Interest and other expense | 3 | (2) | (1) |
| **Income before taxation** | | **19,989** | **19,030** |
| Taxation credit | 7 | 22 | 8 |
| **Income for the period** | | **20,011** | **19,038** |

## Statement of Comprehensive Income

$ million

| | 2022 | 2021 |
|---|---|---|
| Income for the period | 20,011 | 19,038 |
| **Comprehensive income for the period** | **20,011** | **19,038** |

## Balance Sheet

$ million

| | Notes | Dec 31, 2022 | Dec 31, 2021 |
|---|---|---|---|
| **Assets** | | | |
| **Non-current assets** | | | |
| Investments in subsidiaries | 4 | 257,455 | 256,953 |
| Deferred tax asset | 7 | 1 | – |
| | | **257,456** | **256,953** |
| **Current assets** | | | |
| Accounts receivable | 5 | 6,111 | 11,522 |
| Cash and cash equivalents | | – | – |
| | | **6,111** | **11,522** |
| **Total assets** | | **263,567** | **268,475** |
| **Liabilities** | | | |
| **Current liabilities** | | | |
| Accounts payable and accrued liabilities | 6 | 2,087 | 1,868 |
| **Total liabilities** | | **2,087** | **1,868** |
| **Equity** | | | |
| Share capital | 9 | 584 | 641 |
| Other reserves | 10 | 235,721 | 235,488 |
| Retained earnings | | 25,175 | 30,478 |
| **Total equity** | | **261,480** | **266,607** |
| **Total liabilities and equity** | | **263,567** | **268,475** |

Signed on behalf of the Board

**/s/ Sinead Gorman**

**Sinead Gorman**
Chief Financial Officer
March 8, 2023

# Parent Company Financial Statements continued

## Statement of Changes in Equity

$ million

| | Notes | Share capital | Other reserves | Retained earnings | Total equity |
|---|---|---|---|---|---|
| **At January 1, 2022** | | **641** | **235,488** | **30,478** | **266,607** |
| Comprehensive income for the period | | – | – | 20,011 | 20,011 |
| Dividends | 11 | – | – | (7,283) | (7,283) |
| Repurchases of shares [A] | 9 | (57) | 57 | (18,547) | (18,547) |
| Share-based compensation | 10 | – | 176 | 516 | 692 |
| **At December 31, 2022** | | **584** | **235,721** | **25,175** | **261,480** |
| **At January 1, 2021** | | **651** | **235,419** | **20,832** | **256,902** |
| Comprehensive income for the period | | – | – | 19,038 | 19,038 |
| Dividends | 11 | – | – | (6,321) | (6,321) |
| Repurchases of shares | 9 | (10) | 10 | (3,509) | (3,509) |
| Share-based compensation | 10 | – | 59 | 438 | 497 |
| **At December 31, 2021** | | **641** | **235,488** | **30,478** | **266,607** |

[A] Includes shares committed to repurchase under an irrevocable contract and repurchases subject to settlement at the end of the year (see Note 9).

## Statement of Cash Flows

$ million

| | Notes | 2022 | 2021 |
|---|---|---|---|
| Income before taxation for the period | | 19,989 | 19,030 |
| Adjustment for: | | | |
| Dividend income | | (20,200) | (19,098) |
| Interest income | | (114) | – |
| Interest expense | | 2 | 1 |
| Share-based compensation | | 7 | 22 |
| (Increase)/decrease in net working capital [B] | | 219 | (53) |
| **Cash flow from operating activities** | | **(97)** | **(98)** |
| Dividends received | | 20,200 | 19,098 |
| (Increase)/decrease in deposits with subsidiary undertakings [B] | 14 | 5,445 | (10,041) |
| Interest received | | 114 | – |
| Share-based compensation | | 182 | 184 |
| **Cash flow from investing activities** | | **25,941** | **9,241** |
| Cash dividends paid [A] | 11 | (7,405) | (6,253) |
| Shares repurchased | 9 | (18,437) | (2,890) |
| Interest and other expenses paid | | (2) | (1) |
| **Cash flow from financing activities** | | **(25,844)** | **(9,144)** |
| Change in cash and cash equivalents | | – | (1) |
| Cash and cash equivalents at beginning of the year | | – | 1 |
| **Cash and cash equivalents at end of the year** | | **–** | **–** |

[A] Cash dividends paid represents the payment of net dividends (after deduction of withholding taxes where applicable) and payment of withholding taxes on dividends paid in the previous quarter.
[B] The movement in deposits held with subsidiary undertakings has been reclassified from cash flow from operating activities to cash flow from investing activities. This is following a reassessment during the year. Prior year amounts have been restated for comparability.

# Notes to the Parent Company Financial Statements

## 1. Basis of preparation

The Financial Statements of Shell plc (the "Company") have been prepared in accordance with UK-adopted international accounting standards and with the requirements of the UK Companies Act 2006 as applicable to companies reporting under those standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

As described in the accounting policies in Note 2, the Financial Statements have been prepared under the historical cost convention except for certain items measured at fair value. Those accounting policies have been applied consistently in all periods.

The Financial Statements have been prepared on the going concern basis of accounting, as set out in Note 1 to the Consolidated Financial Statements (see page 242).

The preparation of financial statements in conformity with IFRS requires the use of certain accounting estimates. It also requires management to exercise its judgement in the process of applying the Company's accounting policies. Actual results may differ from those estimates.

The financial results of the Company are included in the Consolidated Financial Statements on pages 237-307. The financial results of the Company incorporate the results of the Royal Dutch Shell Dividend Access Trust (the "Trust"), the financial statements of which are presented on pages 352-356.

The Company's principal activity is being the parent company for Shell, as described in Note 1 to the Consolidated Financial Statements (see page 242).

## 2. Significant accounting policies

The Company's accounting policies follow those of Shell as set out in Note 2 to the Consolidated Financial Statements on pages 242-252. The following are Company-specific policies.

### Presentation and functional currency

The Company's presentation and functional currency is US dollars (dollars).

### Investments

Investments in subsidiaries are stated at cost, net of any impairment. Investments are tested for impairment whenever events or changes in circumstances indicate that the carrying amounts for those investments may not be recoverable. For the purposes of determining whether impairment of investments in subsidiaries has occurred, and the extent of any impairment loss or its reversal, management performs an assessment of value in use or fair value less costs of disposal. Management's conclusion may be determined by using one or both of these methodologies as appropriate. For key judgements applied in reaching management's conclusion, please see Note 4.

The original cost of the Company's investment in Royal Dutch Petroleum Company (Royal Dutch) was based on the fair value of the shares transferred to the Company by the former shareholders of Royal Dutch in exchange for A shares in the Company during the public exchange offer in 2005. The original cost of the Company's investment in The "Shell" Transport and Trading Company p.l.c., now The Shell Transport and Trading Company Limited (Shell Transport), was the fair value of the shares held by the former shareholders of The "Shell" Transport and Trading Company p.l.c., transferred in consideration for the issuance of B shares as part of the Scheme of Arrangement in 2005. The Company's investments in Royal Dutch and Shell Transport subsequently became an investment in Shell Petroleum N.V. (Shell Petroleum); this change had no impact on the cost of investments in subsidiaries. On February 15, 2016, the Company acquired all the voting rights in BG Group plc via the issuance of shares and cash payments of a total fair value of $53,086 million. In September 2016, the Company's shares in BG Group Limited (BG), formerly BG Group plc, were exchanged for an increased investment in Shell Petroleum. This change had no impact on the cost of investment in subsidiaries.

### Dividend income

Dividends are recognised on a paid basis unless the dividend has been confirmed by a general meeting of Shell Petroleum, in which case income is recognised on the date at which receipt is deemed virtually certain.

### Share-based compensation plans

The fair value of share-based compensation for equity-settled plans granted to employees of subsidiaries under the Company's plans is recognised as an investment in subsidiaries from the date of grant over the vesting period with a corresponding increase in equity.

In the year of vesting of a plan, the costs for the actual deliveries are charged to the relevant employing subsidiaries. This is recognised as a realisation of the investment originally booked. If the actual vesting costs are higher than the cumulatively recognised share-based compensation charge, the difference is recognised in income.

See Note 27 to the Consolidated Financial Statements (see page 300) for information on the Company's principal plan.

### Taxation

The Company is tax-resident in the United Kingdom with effect from December 31, 2021 (see Note 9).

Tax is recognised in profit or loss, except that tax attributable to an item of income or expense recognised as other comprehensive income is also recognised directly in other comprehensive income or directly in equity.

# Notes to the Parent Company Financial Statements continued

## 2. Significant accounting policies continued

The current income tax charge is calculated on the basis of tax rates and laws that have been enacted, or substantively enacted, by the balance sheet date for tax payable to HM Revenue and Customs, or for tax loss Group relief to be surrendered to or to be received from other Group undertakings, and for which payment may be requested.

Provisions for uncertain income tax positions/treatments are measured at the most likely amount or the expected value, whichever method is more appropriate. Generally, uncertain tax treatments are assessed on an individual basis, except where they are expected to be settled collectively. It is assumed that taxing authorities will examine positions taken if they have the right to do so and that they have full knowledge of the relevant information.

Deferred tax is recognised on temporary differences arising between the tax bases of assets and liabilities, and their carrying amounts in the financial statements at the balance sheet date. Deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which the deductible temporary differences, unused tax losses and credits carried forward can be utilised. Deferred tax assets and liabilities are measured using corporation tax rates that are expected to apply in the periods in which the temporary differences are expected to reverse and are based on tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred income tax assets and liabilities are presented separately except where there is a legally enforceable right and an intention to settle such balances on a net basis.

Amounts relating to deferred tax are undiscounted.

## 3. Interest and other income/expense

| | $ million | |
|---|---|---|
| | 2022 | 2021 |
| Interest and other income: | | |
| Interest income | 114 | – |
| Foreign exchange gains | 3 | 3 |
| Total | 117 | 3 |
| Interest and other expenses: | | |
| Interest expense | (2) | (1) |
| Foreign exchange losses | – | – |
| Total | (2) | (1) |

## 4. Investments in subsidiaries

| | $ million | |
|---|---|---|
| | 2022 | 2021 |
| At January 1 | 256,953 | 256,663 |
| Share-based compensation | 805 | 517 |
| Recovery of vested share-based compensation | (303) | (227) |
| At December 31 | 257,455 | 256,953 |

As at December 31, 2022, the market capitalisation of the Company and its subsidiaries (collectively referred to as the "Group") was less than the Company's carrying value of its investment in the Group. Management has therefore performed an impairment test to determine whether recoverable amount exceeded the cost of investment recognised.

Recoverable amount was assessed by reference to fair value less costs of disposal. This was calculated by comparing the cost of investment with the Group's market capitalisation, adjusted to reflect a control premium. In determining the premium and costs of disposal, available data from recent market transactions in comparable industries, conducted at arm's length for similar assets, have been taken into account.

This resulted in a recoverable amount exceeding the cost of investment recognised and is consistent with management's expectation of the future recoverability of the Company's investment in the Group. As fair value less costs of disposal exceeded cost, no separate value in use calculation was undertaken.

The recoverability of the Company's investment in the Group may be influenced by the risk factors of the Group, including commodity prices, market supply and demand, expected production volumes and developments related to climate change and the energy transition (see Note 4 to the Consolidated Financial Statements on pages 252-260).

# Notes to the Parent Company Financial Statements continued

## 5. Accounts receivable

| | $ million | |
|---|---|---|
| | Dec 31, 2022 | Dec 31, 2021 |
| Amounts due from subsidiaries (see Note 14) | 6,074 | 11,522 |
| Tax assets | 34 | – |
| Other receivables | 3 | – |
| Total | 6,111 | 11,522 |

## 6. Accounts payable and accrued liabilities

| | $ million | |
|---|---|---|
| | Dec 31, 2022 | Dec 31, 2021 |
| Amounts due to subsidiaries (see Note 14) | 1,088 | 836 |
| Accruals and other liabilities | 989 | 901 |
| Withholding tax payable | – | 121 |
| Unclaimed dividends | 10 | 10 |
| Total | 2,087 | 1,868 |

Accruals and other liabilities at December 31, 2022, principally comprise commitments for share repurchases undertaken on the Company's behalf under irrevocable, non-discretionary arrangements of $947 million (2021: $838 million).

## 7. Taxation

| | $ million | |
|---|---|---|
| | 2022 | 2021 |
| Current tax: | | |
| Charge/(credit) in respect of current period | (21) | (10) |
| Charge/(credit) in respect of prior period | – | – |
| Total | (21) | (10) |
| Deferred tax: | | |
| Relating to the origination and reversal of tax losses and credits | (1) | 2 |
| Relating to changes in tax rates and legislation | – | – |
| Total | (1) | 2 |
| Taxation charge/(credit) | (22) | (8) |

In 2022, a current tax credit of $22 million has been recognised in the Company's accounts. It primarily comprises $37 million receipt from other UK Group companies for tax losses surrendered and $15 million payment to the tax authorities in respect of profits which may not be offset by losses.

### Reconciliation of applicable tax charge at statutory tax rate to taxation charge

| | $ million | |
|---|---|---|
| | 2022 | 2021 |
| Income before taxation | 19,989 | 19,030 |
| Applicable tax charge at the statutory tax rate of 19% (2021: NL tax rate 25.0%) | 3,798 | 4,758 |
| Derecognition of deferred tax assets | – | – |
| Tax effects of: | | |
| Income not subject to tax at statutory rates | (3,837) | (4,774) |
| Expenses not deductible for tax purposes | 2 | 20 |
| Controlled Foreign Companies charge | 15 | – |
| Adjustments in respect of prior periods | – | – |
| Other | – | (12) |
| Taxation credit | (22) | (8) |

In line with the tax residency change from the Netherlands to the UK, the applicable taxes and the tax reconciliation for 2022 are based on the UK tax rates and laws and those for 2021 are based on tax rates and laws applicable in the Netherlands.

Taxes receivable are reported within accounts receivable (see Note 5).

# Notes to the Parent Company Financial Statements continued

## 7. Taxation continued

### Deferred tax assets

| | $ million | |
|---|---|---|
| | 2022 | 2021 |
| At January 1 | – | – |
| Recognised in income statement | 1 | (2) |
| Other movements | – | 2 |
| At December 31 | 1 | – |

The UK corporate income tax rate applicable for the year ended December 31, 2022, is 19%. Deferred taxes on the Balance Sheet have been measured at 25%, which represents the future corporate income tax rate that was enacted at the balance sheet date. The Finance Act 2021 (enacted on May 24, 2021) increased the main rate of UK corporate income tax to 25% with effect from April 1, 2023.

## 8. Financial instruments

Financial assets and liabilities measured at amortised cost in the Company's Balance Sheet comprise amounts due from subsidiaries (see Note 14) and certain amounts reported within accounts payable and accrued liabilities (see Note 6). The fair value of financial assets and liabilities at December 31, 2022, and December 31, 2021, approximates their carrying amount.

Information on financial risk management is presented in Note 25 to the Consolidated Financial Statements (see pages 293-296). Foreign currency derivatives are used by the Company to manage foreign exchange risk, which arises when certain transactions are denominated in a currency that is not the Company's functional currency. No derivative financial instruments were held at December 31, 2022, or December 31, 2021.

## 9. Share capital

### Issued and fully paid ordinary shares of €0.07 each [A]

| | Number of shares | | | Nominal value ($ million) | | | |
|---|---|---|---|---|---|---|---|
| | A | B | Ordinary shares | A | B | Ordinary shares | Total |
| At January 1, 2022 | 4,101,239,499 | 3,582,892,954 | | 345 | 296 | | 641 |
| Repurchases of shares before assimilation | – | (34,106,548) | | – | (3) | | (3) |
| Assimilation of ordinary A and B shares into ordinary shares on January 29, 2022 | (4,101,239,499) | (3,548,786,406) | 7,650,025,905 | (345) | (293) | 638 | |
| Repurchases of B shares on January 27 and 28, 2022, cancelled as ordinary shares on February 2 and 3, 2022 | | | (507,742) | | | – | – |
| Repurchases of shares after assimilation | | | (646,014,770) | | | (54) | (54) |
| At December 31, 2022 | | | 7,003,503,393 | | | 584 | 584 |
| At January 1, 2021 | 4,101,239,499 | 3,706,183,836 | | 345 | 306 | | 651 |
| Repurchases of shares | – | (123,290,882) | | – | (10) | | (10) |
| At December 31, 2021 | 4,101,239,499 | 3,582,892,954 | | 345 | 296 | | 641 |

[A] Share capital at December 31, 2022, and 2021, also included 50,000 issued and fully paid sterling deferred shares of £1 each (see Note 16).

At the Company's Annual General Meeting (AGM) on May 24, 2022, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of €177.0 million (representing 2,530 million ordinary shares of €0.07 each) and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 24, 2023, and the end of the AGM to be held in 2023, unless previously renewed, revoked or varied by the Company in a general meeting.

At the May 24, 2022, AGM, shareholders granted the Company the authority to repurchase (i) up to 758 million ordinary shares "on-market" (excluding any treasury shares), less any "off-market" purchases made under the authority in (ii); and (ii) up to 758 million ordinary shares off-market (excluding any treasury shares), less any on-market purchases made under the authority in (i).

In the case of both on-market and off-market purchases of ordinary shares, the minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07 and the maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid in relation to ordinary shares on the trading venues where the purchase is carried out. The authorities for both on-market and off-market purchases will expire at the earlier of the close of business on August 24, 2023, and the end of the AGM of the Company to be held in 2023. Ordinary shares purchased by the Company pursuant to these authorities will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company.

# Notes to the Parent Company Financial Statements continued

## 9. Share capital continued

All shares repurchased in 2022 under the Company's share buyback programme were cancelled except for repurchases on December 29 and December 30 which were cancelled in January 2023.

The sterling deferred shares (see Note 16) are redeemable only at the discretion of the Company for £1 each and carry no voting rights. There are no further rights to participate in profits or assets, including the right to receive dividends. Upon winding-up or liquidation, the shares carry a right to repayment of paid-up nominal value, ranking ahead of ordinary shares.

For information on the number of shares in the Company held by Shell employee share ownership trusts and trust-like entities to meet delivery commitments under employee share plans, see Note 27 to the Consolidated Financial Statements (see page 300).

### Assimilation of A and B shares

On January 29, 2022, the Company completed the assimilation of A and B shares into a single class of share, following a change in tax residence to the UK with effect from December 31, 2021. As a result, dividend payments during the period were made by the Company, with the use of the dividend access mechanism restricted to the settlement of amounts unclaimed in respect of dividends declared on Class B shares prior to assimilation.

Dividends paid on ordinary shares during the period were not subject to Dutch withholding tax. In prior periods, A shares had a Dutch source for tax purposes and were subject to Dutch withholding tax. Dividends paid on B shares were settled through the dividend access mechanism, with a UK source for UK and Dutch tax purposes. There was no Dutch withholding tax on such dividends.

### Description of dividend access mechanism prior to the assimilation of A and B shares

Shell Transport and BG have each issued a dividend access share to Computershare Trustees (Jersey) Limited as Trustee. The Company, Shell Transport and BG can procure the termination of the dividend access mechanism at any time. Pursuant to a declaration of trust, the Trustee arranges for disbursement of dividends to holders of B shares when claimed. Interest and other income earned on unclaimed dividends will be for the account of Shell Transport and BG and any dividends which are unclaimed after 12 years will revert to Shell Transport and BG once forfeited. Holders of B shares did not have any interest in either dividend access share and did not have any rights against Shell Transport and BG as issuers of the dividend access shares. The only assets held on trust for the benefit of the holders of B shares were dividends paid to the Trustee in respect of the dividend access shares.

The declaration and payment of dividends on the dividend access shares required board action by Shell Transport and BG (as applicable) and was subject to any applicable limitations in law or in the Shell Transport or BG (as appropriate) articles of association in effect. In no event was the aggregate amount of the dividend paid by Shell Transport and BG under the dividend access mechanism for a particular period to exceed the aggregate of the dividend announced by the Board of the Company on B shares in respect of the same period (after giving effect to currency conversions).

In particular, under their respective articles of association, Shell Transport and BG were each only able to pay a dividend on their respective dividend access shares which represented a proportional amount of the aggregate of any dividend announced by the Company on the B shares in respect of the relevant period, where such proportions were calculated by reference to, in the case of Shell Transport, the number of B shares in existence prior to completion of the Company's acquisition of BG and, in the case of BG, the number of B shares issued as part of the acquisition, in each case as against the total number of B shares in issue immediately following completion of the acquisition of BG. No further dividends are expected to be declared in respect of the dividend access shares.

### Operation of the dividend access mechanism prior to the assimilation of A and B shares

If, in connection with the announcement of a dividend by the Company on B shares, the Board of Shell Transport and/or the Board of BG elected to declare and pay a dividend on their respective dividend access shares to the Trustee, the holders of B shares were beneficially entitled to receive their share of those dividends pursuant to the declaration of trust (and arrangements were made to ensure that the dividend was paid in the same currency in which they would have received a dividend from the Company).

If any amount was paid by Shell Transport or BG by way of a dividend on the dividend access shares and paid by the Trustee to any holder of B shares, the dividend which the Company would otherwise have paid on B shares was reduced by an amount equal to the amount paid to such holders of B shares by the Trustee.

The Company would have had a full and unconditional obligation, in the event that the Trustee did not pay an amount to holders of B shares on a cash dividend payment date (even if that amount had been paid to the Trustee), to pay immediately the dividend announced on B shares. The right of holders of B shares to receive distributions from the Trustee would have been reduced by an amount equal to the amount of any payment actually made by the Company on account of any dividend on B shares.

If for any reason no dividend was paid on the dividend access shares, holders of B shares would only have received dividends from the Company directly.

### Operation of the dividend access mechanism subsequent to the assimilation of A and B shares

As a result of the assimilation of each A share and each B share into one ordinary share of the Company the dividend access mechanism no longer operates to pay dividends to the holders of B shares and amounts paid through the dividend access mechanism will be limited to the settlement of amounts unclaimed in respect of dividends declared prior to assimilation of B shares.

# Notes to the Parent Company Financial Statements continued

## 10. Other reserves

$ million

| | Merger reserve | Share premium reserve | Capital redemption reserve | Share plan reserve | Total |
|---|---|---|---|---|---|
| At January 1, 2022 | 234,231 | 154 | 139 | 964 | 235,488 |
| Repurchases of shares | – | – | 57 | – | 57 |
| Share-based compensation | – | – | – | 176 | 176 |
| At December 31, 2022 | 234,231 | 154 | 196 | 1,140 | 235,721 |
| At January 1, 2021 | 234,231 | 154 | 129 | 905 | 235,419 |
| Repurchases of shares | – | – | 10 | – | 10 |
| Share-based compensation | – | – | – | 59 | 59 |
| At December 31, 2021 | 234,231 | 154 | 139 | 964 | 235,488 |

The merger reserve was established as a consequence of the Company becoming the single parent company of Royal Dutch and Shell Transport and represented the difference between the cost of the investment in those companies and the nominal value of shares issued in exchange for those investments as required by the prevailing legislation at that time, section 131 of the Companies Act 1985. On February 15, 2016, the Company acquired all shares in BG Group plc by means of a Scheme of Arrangement under Part 26 of the Act, via the issuance of 218.7 million A shares and 1,305.1 million B shares and cash payments. This resulted in an increase in the merger reserve, representing the difference between the fair value and the nominal value of the shares issued by the Company.

On January 6, 2006, loan notes were converted into 4,827,974 A shares. The difference between the carrying value of the loan notes and the nominal value of the new shares issued was credited to the share premium reserve. The capital redemption reserve was established in connection with repurchases of shares of the Company. The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 27 to the Consolidated Financial Statements) and movement in share-based compensation for the year is the net of the charge to equity and the release as a result of vested awards.

## 11. Dividends

See Note 29 to the Consolidated Financial Statements (see page 303).

## 12. Legal proceedings and other contingencies

See Note 31 to the Consolidated Financial Statements (see pages 303-305).

## 13. Directors and Senior Management

See Note 33 to the Consolidated Financial Statements (see page 306) for the remuneration of Directors of the Company. In 2022, the Company recognised $14 million (2021: $23 million) in administrative expenses for the compensation of Directors and Senior Management.

## 14. Related parties

Information about the Company's subsidiaries, and whether these are held directly or indirectly, and other related undertakings (all of which are held indirectly), at December 31, 2022, is set out in 'Appendix 1: Significant Subsidiaries and Other Related Undertakings'.

$ million

| | Amounts due from subsidiaries (see Note 5) | | Amounts due to subsidiaries (see Note 6) | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Shell Petroleum | – | – | 797 | 836 |
| Shell Treasury Centre Limited | 6,066 | 11,511 | – | – |
| The Shell Transport and Trading Company Limited | – | 5 | 291 | – |
| Other | 8 | 6 | – | – |
| Total | 6,074 | 11,522 | 1,088 | 836 |

The amount due from Shell Treasury Centre Limited (STCL) comprises call deposits and overdrafts in dollars, sterling and euros. Interest is calculated using arm's-length benchmark 3-day median quotes on dollar, sterling and euro balances. Net interest income in 2022 from STCL was $114 million (2021: $0 million).

# Notes to the Parent Company Financial Statements continued

## 14. Related parties continued

### Other transactions and balances

The Company periodically enters into forward and spot foreign currency contracts with Treasury companies, which are subsidiaries. There were no open foreign currency contracts at December 31, 2022, or December 31, 2021.

The Company settles general and administrative expenses of the Trust, including the auditor's remuneration.

The Company has guaranteed contractual payments totalling $50,981 million at December 31, 2022 (December 31, 2021: $54,653 million), and related interest, in respect of listed debt issued by Shell International Finance B.V. The fair value of this guarantee was considered to be immaterial at initial recognition and since the likelihood of default is considered remote no subsequent expected credit losses have been recognised.

## 15. Auditor's remuneration

See Note 34 to the Consolidated Financial Statements (see page 307).

## 16. Post-balance sheet events

On January 11, 2023, the Company became the guarantor of contractual payments totalling $1,500 million and €900 million, plus related interest, in respect of debt issued by BG Energy Capital plc, in place of the previous guarantor, BG Energy Holdings Limited. Both entities are subsidiaries of the Company. The fair value of this guarantee is considered to be immaterial since the likelihood of default is considered remote.

On February 2, 2023, Shell announced the commencement of a $4 billion share buyback programme covering an aggregate contract term of approximately three months (the "programme"). The purpose of the programme is to reduce the issued share capital of the company. All shares repurchased as part of the programme will be cancelled. It is intended that, subject to market conditions, the programme will be completed prior to the Company's first quarter 2023 results announcement, scheduled for May 4, 2023. The Company has entered into an arrangement with a single broker consisting of three irrevocable, non-discretionary contracts, to enable the purchase of ordinary shares.

The Board has approved the redemption and cancellation of the Company's sterling deferred shares which will be effected in due course, in accordance with the Company's Articles of Association. Upon redemption, the sterling deferred shares will be treated as cancelled and the Company's issued share capital will be reduced by the nominal value of the shares redeemed, in accordance with section 688 of the UK Companies Act 2006.

# Independent Auditor's Report to Computershare Trustees (Jersey) limited as trustee of the Royal Dutch Shell Dividend Access Trust and the Board of Directors and shareholders of Shell plc

**To computershare Trustees (Jersey) Limited as trustee of the Royal Dutch Shell Dividend Access Trust and the Board of Directors and shareholders of Shell plc**

## Opinion on the Financial Statements

We have audited the non-statutory financial statements of the Royal Dutch Shell Dividend Access Trust (the Financial Statements) for the year ended December 31, 2022 which comprise the Statement of Income, the Statement of Comprehensive Income, the Balance Sheet, the Statement of Changes in Equity, the Statement of Cash Flows and the related notes 1 to 9, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

In our opinion the Financial Statements give a true and fair view of the Royal Dutch Shell Dividend Access Trust's (the Trust) affairs as at December 31, 2022 and of its income for the year then ended; and have been properly prepared in accordance with IFRS as issued by the IASB.

## Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the "Auditor's responsibilities for the audit of the financial statements" section of our report. We are independent of the Trust in accordance with the ethical requirements that are relevant to our audit of the Financial Statements in the UK, including the Financial Reporting Council's (FRC) Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a suitable basis for our opinion.

## Conclusions relating to going concern

In auditing the financial statements, we have concluded that the Trustee of Royal Dutch Shell Dividend Access Trust's (the Trustee) use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Trust's ability to continue as a going concern for a period until 31 March 2024 (the going concern period).

Our responsibilities and the responsibilities of the Trustee with respect to going concern are described in the relevant sections of this report. However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the Trust's ability to continue as a going concern.

## Other information

The other information comprises the information included in the annual report other than the Financial Statements and our auditor's report thereon. The Board of Directors of Shell plc (the Directors) are responsible for the other information contained within the annual report.

Our opinion on the Financial Statements does not cover the other information and, except to the extent otherwise stated explicitly within this report, we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Financial Statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the Financial Statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

We have nothing to report in this regard.

## Responsibilities of the Trustee and the Board of Directors of Shell plc

The Trustee and the Board of Directors of Shell plc are responsible for the preparation of the Financial Statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustee and the Board of Directors of Shell plc determine is necessary to enable the preparation of Financial Statements that are free from material misstatement, whether due to fraud or error.

In preparing the Financial Statements, the Trustee and the Board of Directors of Shell plc are responsible for assessing the Trust's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors of Shell plc either intends to liquidate the Trust or to cease operations, or have no realistic alternative but to do so.

## Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the Financial Statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these Financial Statements.

# Independent Auditor's Report to Computershare Trustees (Jersey) limited as trustee of the Royal Dutch Shell Dividend Access Trust and the Board of Directors and shareholders of Shell plc continued

**Explanation as to what extent the audit was considered capable of detecting irregularities, including fraud**

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect irregularities, including fraud. The risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below. However, the primary responsibility for the prevention and detection of fraud rests with both the Trustee and those charged with governance of Shell plc and its management.

- We obtained an understanding of the legal and regulatory frameworks that are applicable to the Trust and determined that the most significant are those that relate to the reporting framework (IFRS and the US Securities Exchange Act of 1934).
- We understood how the Trust is complying with those frameworks by making enquiries of the Trustee, Shell plc management and those responsible for legal and compliance procedures over the Trust. We corroborated our enquiries through our review of Resolutions of the Trust Committee of the Trustee, papers provided to the Shell plc Audit Committee and correspondence received from regulatory bodies and noted that there was no contradictory evidence.
- We assessed the susceptibility of the Trust's financial statements to material misstatement, including how fraud might occur by regular meetings with the Trustee, Shell plc management and those responsible for legal and compliance procedures over the Trust to understand where it was considered there was susceptibility to fraud. We considered the programmes and design, implementation and maintenance of internal controls that the Trustee and Shell plc have established to prevent and detect fraud over the Trust and how the Trustee, Shell plc management and those responsible for legal and compliance procedures over the Trust monitor those programmes and controls.
- Based on this understanding we designed our audit procedures to identify noncompliance with such laws and regulations. Our procedures involved review of Resolutions of the Trust Committee of the Trustee and Shell plc Audit Committee minutes to identify noncompliance with laws and regulations, journal entry testing with a focus on journals meeting our defined risk criteria based on our understanding of the Trust and enquiries of the Trustee, Shell plc management and those responsible for legal and compliance procedures over the Trust.

A further description of our responsibilities for the audit of the Financial Statements is located on the Financial Reporting Council's website at https://www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

**Use of our report**

This report is made solely to the Trustee and the Board of Directors and Shareholders of Shell plc as a body, in accordance with our engagement letter. Our audit work has been undertaken so that we might state to the Trustee and the Board of Directors and Shareholders of Shell plc those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Trustee and the Board of Directors and Shareholders of Shell plc as a body, for our audit work, for this report, or for the opinions we have formed.

**/s/ Mark Woodward**

for and on behalf of Ernst & Young LLP Statutory Auditor
London
March 8, 2023

# Royal Dutch Shell Dividend Access Trust Financial Statements


| | |
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# Royal Dutch Shell Dividend Access Trust Financial Statements continued

## Statement of Income

£ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Dividend income | – | 2,201 | 2,777 |
| **Income for the period** | **–** | **2,201** | **2,777** |

## Statement of Comprehensive Income

£ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Income for the period | – | 2,201 | 2,777 |
| **Comprehensive income for the period** | **–** | **2,201** | **2,777** |

## Balance Sheet

£ million

| | Notes | Dec 31, 2022 | Dec 31, 2021 |
|---|---|---|---|
| **Assets** | | | |
| Other current assets | | 6 | 7 |
| Cash and cash equivalents | | – | – |
| **Total assets** | | **6** | **7** |
| **Liabilities** | | | |
| Unclaimed dividends | 4 | 6 | 7 |
| **Total liabilities** | | **6** | **7** |
| **Equity** | | | |
| Capital account | 5 | – | – |
| Revenue account | | – | – |
| **Total equity** | | **–** | **–** |
| **Total liabilities and equity** | | **6** | **7** |

Signed on behalf of Computershare Trustees (Jersey) Limited as Trustee of the Royal Dutch Shell Dividend Access Trust.

/s/ John Le Marquand

**John Le Marquand**
March 8, 2023

/s/ Martin Fish

**Martin Fish**

# Royal Dutch Shell Dividend Access Trust Financial Statements continued

## Statement of Changes in Equity

£ million

| | Notes | Capital account | Revenue account | Total equity |
|---|---|---|---|---|
| **At January 1, 2022** | | – | – | – |
| Comprehensive income for the period | | – | – | – |
| Distributions made | 6 | – | – | – |
| **At December 31, 2022** | | – | – | – |
| **At January 1, 2021** | | – | – | – |
| Comprehensive income for the period | | – | 2,201 | 2,201 |
| Distributions made | 6 | – | (2,201) | (2,201) |
| **At December 31, 2021** | | – | – | – |
| **At January 1, 2020** | | – | – | – |
| Comprehensive income for the period | | – | 2,777 | 2,777 |
| Distributions made | 6 | – | (2,777) | (2,777) |
| **At December 31, 2020** | | – | – | – |

## Statement of Cash Flows

£ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Income for the period | – | 2,201 | 2,777 |
| Adjustment for: | | | |
| Dividends received | – | (2,201) | (2,777) |
| **Cash flow from operating activities** | **–** | **–** | **–** |
| Dividends received | – | 2,200 | 2,772 |
| **Cash flow from investing activities** | **–** | **2,200** | **2,772** |
| Cash distributions made | – | (2,200) | (2,775) |
| **Cash flow from financing activities** | **–** | **(2,200)** | **(2,775)** |
| Change in cash and cash equivalents | – | – | (3) |
| Cash and cash equivalents at January 1 | – | – | 3 |
| **Cash and cash equivalents at December 31** | **–** | **–** | **–** |

# Notes to the Royal Dutch Shell Dividend Access Trust Financial Statements

## 1. The Trust

The Royal Dutch Shell Dividend Access Trust (the "Trust") was established on May 19, 2005, by The "Shell" Transport and Trading Company, p.l.c., now The Shell Transport and Trading Company Limited (Shell Transport), and Royal Dutch Shell plc, now Shell plc (the "Company"). The Trust is governed by the applicable laws of England and Wales and is resident and domiciled in Jersey. The Trust is not subject to taxation. The Trustee of the Trust is Computershare Trustees (Jersey) Limited, registration number 92182 (the "Trustee"), 13 Castle Street, St Helier, Jersey, JE1 1ES. The Trust was established as part of a dividend access mechanism.

Shell Transport and BG Group Limited (BG) have each issued a dividend access share to the Trustee. Prior to the assimilation outlined below, following the announcement of a dividend by the Company on the B shares, Shell Transport and BG declared a dividend on their dividend access shares.

The primary purposes of the Trust prior to the assimilation outlined below were to receive, on behalf of the B shareholders of the Company and in accordance with their respective holdings of B shares in the Company, any amounts paid by way of dividend on the dividend access shares and to pay such amounts to the B shareholders on the same pro rata basis. The Trust is not subject to significant market risk, credit risk or liquidity risk.

On January 29, 2022, one line of shares was established through assimilation of A shares and B shares into a single line of ordinary shares of the Company. This assimilation had no impact on voting rights or dividend entitlements. Dutch withholding tax, applied previously on dividends on A shares, no longer applies on dividends paid on the ordinary shares following assimilation. No further dividends are expected to be declared on the dividend access shares.

The Trust will continue in existence for the foreseeable future to facilitate the payment of unclaimed dividend liabilities for B shareholders, declared prior to the assimilation of the Company's Class A and B shares, until these are either claimed or forfeited in line with the terms outlined (see Note 4).

As these unclaimed dividends relate to dividends that were announced by the Company during the period the Company was still named Royal Dutch Shell plc, and it is expected that the Company will not announce any further dividends on the dividend access shares, the Trust continues to be named The Royal Dutch Shell Dividend Access Trust.

The Trust shall not endure for a period in excess of 80 years from May 19, 2005, being the date on which the Trust Deed was executed.

## 2. Basis of preparation

The Financial Statements of the Trust have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

The Financial Statements have been prepared under the historical cost convention and on a going concern basis. The accounting policies described in Note 3 have been applied consistently in all periods presented.

The Financial Statements were approved and authorised for issue by the Trustee on March 8, 2023.

The financial results of the Trust are included in the Consolidated Financial Statements on pages 237-307.

## 3. Significant accounting policies

The Trust's accounting policies follow those of Shell as set out in Note 2 to the Consolidated Financial Statements (see pages 242-252). The following are Trust-specific policies.

### Presentation and functional currency

The Trust's presentation and functional currency is sterling. The Trust's dividend income and dividends paid prior to the assimilation were principally in sterling.

### Dividend income

Dividends on the dividend access shares prior to the assimilation were recognised on a paid basis unless the dividend had been confirmed by a general meeting of Shell Transport or BG, in which case income was recognised on the date on which receipt was deemed virtually certain. Dividend income included amounts receivable from Shell Transport and BG in respect of dividends declared but unclaimed (see Note 4).

### Distributions made

Amounts prior to the assimilation were recorded as distributed once a payment was made in the appropriate currency using various electronic transfer methods, or an unconditional payment obligation was established. Shell Transport or BG (as appropriate) may have, each at their respective discretion, withheld any part of the funding relating to an unpayable dividend until such time as the relevant B shareholder provided accurate or complete details for payment of any such dividend.

## 4. Unclaimed dividends

Unclaimed dividends of £6 million (2021: £7 million) include any pre-electronic transfer dividend cheque payments that have not been presented, have expired or have been returned unpresented. Dividends are also classified as unclaimed where amounts have been withheld due to incomplete or incorrect electronic payment details. Dividends which are unclaimed after 12 years will unconditionally revert to Shell Transport and BG once forfeited.

# Notes to the Royal Dutch Shell Dividend Access Trust Financial Statements continued

## 5. Capital account

The capital account is represented by the dividend access share of 25 pence settled in the Trust by Shell Transport and the dividend access share of 10 pence settled in the Trust by BG. There have been no changes in the capital account in the current or prior year.

## 6. Distributions made

Distributions prior to the assimilation were made to the B shareholders of the Company in accordance with the Trust Deed. See Note 29 to the Consolidated Financial Statements (see page 303) for information about dividends per share.

## 7. Related parties

The Trust recognised dividend income of £0 million (2021: £1,437 million; 2020: £1,805 million) in respect of the dividend access share from Shell Transport and £0 million (2021: £764 million; 2020: £972 million) in respect of the dividend access share from BG. The Trust made distributions of £0 million (2021: £2,201 million; 2020: £2,777 million) to the B shareholders of the Company.

As at December 31, 2022, the Trust recorded amounts due from Shell Transport of £4 million and BG of £2 million relating to unclaimed dividends (see Note 4).

The Company pays the general and administrative expenses of the Trust, including the auditor's remuneration.

## 8. Auditor's remuneration

Auditor's remuneration for 2022 audit services was £53,868 (2021: £33,750; 2020: £33,750).

# Additional Information




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# Shareholder information

Shell plc (the Company) was incorporated in England and Wales on February 5, 2002, as a private company under the Companies Act 1985, as amended. On October 27, 2004, the Company was re-registered as a public company limited by shares and changed its name from Forthdeal Limited to Royal Dutch Shell plc. On January 21, 2022, the Company changed its name from Royal Dutch Shell plc to Shell plc. The Company is registered at Companies House, Cardiff, under company number 4366849. The Legal Entity Identifier (LEI) issued by the London Stock Exchange is 21380068P1DRHMJ8KU70. The business address for the Directors and Senior Management is Shell Centre, London, SE1 7NA.

On December 31, 2021, the Company became tax resident in the United Kingdom. Its primary objective is to carry on the business of a holding company. It is not directly or indirectly owned or controlled by another corporation or by any government and does not know of any arrangements that may result in a change of control of the Company.

## Nature of trading market

On January 29, 2022, the Company established one single line of ordinary shares, each having a nominal value of €0.07. All shares are listed and able to trade at Euronext Amsterdam and the London Stock Exchange. Furthermore, all shares are transferable between these two markets. This makes both these exchanges primary exchanges for the ordinary shares.

Ordinary shares are traded in registered form.

The Company's American Depositary Shares (ADSs) are listed on the New York Stock Exchange [A]. A depositary receipt is a certificate that evidences ADSs. Depositary receipts are issued, cancelled and exchanged at the office of JP Morgan Chase Bank, N.A., 383 Madison Avenue, New York, New York 10179, USA, as depositary (the Depositary), under a deposit agreement between the Company, the Depositary and the holders of ADSs. Each ADS is equivalent to two ordinary shares of Shell plc deposited under the agreement. All ordinary shares are capable of being deposited with the Depository in exchange for the corresponding amount of ADSs which may be traded at the New York Stock Exchange. This makes the New York Stock Exchange the primary exchange for the Company's ADRs. More information relating to ADSs is given on page 359.

[A] At February 20, 2023, 490,387,002 ADSs were outstanding, representing 14.12% of the ordinary share capital, held by holders of record with an address in the USA. In addition to holders of ADSs, at February 20, 2023, 911,437 ordinary shares of €0.07 each were outstanding, representing 0.0131% of the ordinary share capital, held by 3,031 holders of record registered with an address in the USA.

### Listing information

| | Euronext Amsterdam | London Stock Exchange | NYSE |
|---|---|---|---|
| Identifiers | Ordinary share | Ordinary share | ADS [A] |
| Market | Primary | Primary | Primary |
| Ticker symbol | SHELL | SHEL | SHEL |
| ISIN | GB00BP6MXD84 | GB00BP6MXD84 | US7802593050 |
| SEDOL | BP6MXT4 | BP6MXD8 | BPK3CG3 |
| CUSIP | G80827 101 | G80827 101 | 780259 305 |
| Index weight at 31/12/22 | AEX: 14.47% | FTSE: 8.60% | – |

[A] Each ADS represents two ordinary shares of €0.07 each.

## Share capital

On January 29, 2022 as part of the Simplification announced on 20 December 2021, the Company's share capital was assimilated from ordinary A shares and ordinary B shares, into a single line of ordinary shares. Below we provide information on our share capital as at December 31, 2022.

### Share capital as at December 31, 2022

The issued and fully paid share capital of the Company at December 31, 2022, was as follows:

| | Issued and fully paid | |
|---|---|---|
| | Number | Nominal value |
| Ordinary shares of €0.07 each | 7,003,503,393 | €490,245,238 |
| Sterling deferred shares of £1 each [A] | 50,000 | £50,000 |

[A] See Note 9 to the "Parent Company Financial Statements" on page 346.

### Share capital as at February 20, 2023

The issued and fully paid share capital of the Company at February 20, 2023, was as follows:

| | Issued and fully paid | |
|---|---|---|
| | Number | Nominal value |
| Ordinary shares of €0.07 each | 6,948,045,092 | €486,363,156 |
| Sterling deferred shares of £1 each [A] | 50,000 | £50,000 |

[A] See Note 9 to the "Parent Company Financial Statements" on page 346.

The Directors may only allot new ordinary shares if they have authority from shareholders to do so. The Company seeks to renew this authority annually at its AGM. Under the resolution passed at the Company's 2022 AGM, the Directors were granted authority to allot ordinary shares up to an aggregate nominal amount equivalent to approximately one-third of the issued ordinary share capital of the Company (in line with the guidelines issued by institutional investors).

The following is a summary of the material terms of the Company's ordinary shares, including brief descriptions of the provisions contained in the Articles of Association (the Articles) and applicable laws of England and Wales in effect on the date of this document. This summary does not purport to include complete statements of these provisions:

- upon issuance, the ordinary shares are fully paid and free from all liens, equities, charges, encumbrances and other interest of the Company and not subject to calls of any kind;
- all ordinary shares rank equally for all dividends and distributions on ordinary share capital; and
- all ordinary shares are admitted to the Official List of the UK Financial Conduct Authority and to trading on the market for listed securities of the London Stock Exchange. Ordinary shares are also admitted to trading on Euronext Amsterdam. ADSs are listed on the New York Stock Exchange.

At December 31, 2022, trusts and trust-like entities holding shares for the benefit of employee share plans of Shell held (directly and indirectly) 33 million shares of the Company with an aggregate market value of $811 million and an aggregate nominal value of €3 million.

# Shareholder Information continued

## Significant shareholdings

The Company's ordinary shares have voting rights on all matters that are subject to shareholder approval, including the election of directors. The Company's major shareholders do not have different voting rights.

## Notification of major shareholdings

The Company received one notification pursuant to Disclosure Guidance and Transparency Rule (DTR) 5 from Blackrock, Inc. during the year and up to February 20, 2023, (being a date not more than one month prior to the date of the Company's Notice of Annual General Meeting). The information provided includes the percentage of issued capital as at the date of the notifications.

**Investor**

| | Ordinary shares | |
|---|---|---|
| | Number | % |
| Blackrock [A] | 513,401,704 | 6.71 |

[A] The notification for Blackrock was announced on February 3, 2022.

## Designation of the Netherlands as EU Home Member State for regulatory purposes

Following the exit of the UK from the EU and the end of the transition period, the Company announced that the EU Home Member State of the Company for the purposes of the EU Transparency Directive would be the Netherlands as from January 1, 2021. As a consequence, the Company files Transparency Directive and Market Abuse Regulation-related regulatory information with the Netherlands Authority for the Financial Markets (Autoriteit Financiële Markten, or AFM). Major shareholders are required to report substantial holdings in Shell to the AFM in accordance with applicable Dutch law, in addition to their ongoing disclosure obligations under the UK Disclosure Guidance and Transparency Rules (DTR).

## Method of holding shares or an interest in shares

There are several ways in which Shell plc registered shares or an interest in these shares can be held, including:

- directly as registered shares either in uncertificated form or in certificated form in a shareholder's own name;
- indirectly through Euroclear Nederland (in respect of which the Dutch Securities Giro Act (Wet giraal effectenverkeer) is applicable);
- through the Shell Corporate Nominee Service;
- through another third-party nominee or intermediary company; and
- as a direct or indirect holder of either ADS with the Depositary.

## American Depositary Shares

The Depositary is the registered shareholder of the shares underlying the ADSs and enjoys the rights of a shareholder under the Articles. Holders of ADSs will not have shareholder rights. The rights of the holder of an ADS are specified in the Deposit Agreement with the Depositary and are summarised below.

The Depositary will receive all cash dividends and other cash distributions made on the deposited shares underlying the ADSs and, where possible and on a reasonable basis, will distribute such dividends and distributions to holders of ADSs. Rights to purchase additional shares will also be made available to the Depositary who may make such rights available to holders of ADSs. All other distributions made on the Company's shares will be distributed by the Depositary in any means that the Depositary thinks is equitable and practical. The Depositary may deduct its fees and expenses and the amount of any taxes owed from any payments to holders and it may sell a holder's deposited shares to pay any taxes owed. The Depositary is not responsible if it decides that it is unlawful or impractical to make a distribution available to holders of ADSs.

The Depositary will notify holders of ADSs of shareholders' meetings of the Company and will arrange to deliver voting materials to such holders of ADSs if requested by the Company. Upon request by a holder, the Depositary will endeavour to appoint such holder as proxy in respect of such holder's deposited shares entitling such holder to attend and vote at shareholders' meetings. Holders of ADSs may also instruct the Depositary to vote their deposited securities and the Depositary will try, as far as practical and lawful, to vote deposited shares in accordance with such instructions. The Company cannot ensure that holders will receive voting materials or otherwise learn of an upcoming shareholders' meeting in time to ensure that holders can instruct the Depositary to vote their shares.

Upon payment of appropriate fees, expenses and taxes: (i) shareholders may deposit their shares with the Depositary and receive the corresponding class and amount of ADSs; and (ii) holders of ADSs may surrender their ADSs to the Depositary and have the corresponding class and amount of shares credited to their account.

Further, subject to certain limitations, holders may, at any time, cancel ADSs and withdraw their underlying shares or have the corresponding class and amount of shares credited to their account.

## Fees paid by holders of ADSs

The Depositary collects its fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The Depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The Depositary may generally refuse to provide fee-attracting services until its fees for those services are paid. See page 360.

## Payments by Depositary to the Company

J.P. Morgan Chase Bank, N.A., as Depositary, has agreed to share with the Company portions of certain fees collected, less ADS programme expenses paid by the Depositary. For example, these expenses include the Depositary's annual programme fees, transfer agency fees, custody fees, legal expenses, postage and envelopes for mailing annual and interim financial reports, printing and distributing dividend cheques, electronic filing of US federal tax information, mailing required tax forms, stationery, postage, facsimile and telephone calls and the standard out-of-pocket maintenance costs for the ADSs. From January 1, 2022, to December 31, 2022, the Company received $2,744,521.66 from the Depositary.

# Shareholder Information continued

| Persons depositing or withdrawing shares must pay: | For: |
|---|---|
| $5.00 or less per 100 ADSs (or portion of 100 ADSs) | ▪ Issuance of ADSs, including those resulting from a distribution of shares, rights or other property;<br>▪ Cancellation of ADSs for the purpose of their withdrawal, including if the deposit agreement terminates; and<br>▪ Distribution of securities to holders of deposited securities by the Depositary to ADS registered holders. |
| Registration and transfer fees | ▪ Registration and transfer of shares on the share register to or from the name of the Depositary or its agent when they deposit or withdraw shares. |
| Expenses of the Depositary | ▪ Cable, telex and facsimile transmissions (when expressly provided in the deposit agreement); and<br>▪ Converting foreign currency into dollars. |
| Taxes and other governmental charges the Depositary or the custodian has to pay on any ADS or share underlying an ADS, for example, share transfer taxes, stamp duty or withholding taxes | ▪ As necessary. |

In addition to the above, the Depositary may charge: (i) a dividend fee of $5.00 or less per 100 ADSs (or portion of 100 ADSs) for cash dividends or issuance of ADSs resulting from share dividends and (ii) an administrative fee of $5.00 or less per 100 ADSs (or portion of 100 ADSs) per calendar year. The Company and Depositary have agreed not to charge these fees at this time.

## Dividend Reinvestment Plan

Equiniti Financial Services Limited, part of the same group of companies as the Company's Registrar, Equiniti Limited, operates a Dividend Reinvestment Plan (DRIP) which enables Shell plc shareholders to elect to have their dividend payments used to purchase Shell plc ordinary shares. More information can be found at www.shareview.co.uk/info/drip or by contacting Equiniti.

ABN AMRO Bank N.V. and JP Morgan Chase Bank N.A. also operate dividend reinvestment options. More information can be found by contacting the relevant provider.

## Exchange controls and other limitations affecting security holders

Other than restrictions affecting those individuals, entities, government bodies, corporations, or activities that are targeted by European Union (EU) or UK sanctions for example, regarding Syria, Russia or North Korea, and the general EU prohibition to transfer funds to and from for example, North Korea or Syria, we are not aware of any other legislative or other legal provision currently in force in the UK, the Netherlands, the EU or arising under the Articles restricting remittances to holders of the Company's ordinary shares who are non-residents of the UK, or affecting the import or export of capital.

## Taxation

### General

The Company is incorporated in England and Wales and was tax-resident in the Netherlands during 2021. The Company changed tax residence from the Netherlands to the UK on December 31, 2021.

As a tax resident of the Netherlands, it is generally required by Dutch law to withhold tax at a rate of 15% on dividends on its ordinary shares and ADSs, subject to the provisions of any applicable tax convention or domestic law. Depending on their particular circumstances, non-Dutch tax-resident holders may be entitled to a full or partial refund of Dutch withholding tax. The following sets forth the operation of other provisions on dividends on the Company's various ordinary shares and ADSs to UK and US holders, as well as certain other tax rules pertinent to holders for the 2021 financial year. Holders should consult their own tax adviser if they are uncertain as to the tax treatment of any dividend.

### Dividends paid on the dividend access shares

As part of the Simplification, the A ordinary shares and B ordinary shares were assimilated into one single line of ordinary shares. Prior to the assimilation, there was no Dutch withholding tax on dividends on B shares or B ADSs, provided that such dividends are paid on the dividend access shares pursuant to the dividend access mechanism (see "Dividend access mechanism for B shares" on page 347). Dividends paid on the dividend access shares are treated as UK-source for tax purposes and there is no UK withholding tax on them.

In 2021, all dividends with respect to B shares and B ADSs were paid on the dividend access shares pursuant to the dividend access mechanism.

### Dutch withholding tax

On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one single line of ordinary shares of the Company. This assimilation had no impact on voting rights or dividend entitlements. Dutch dividend withholding tax, applied previously on dividends on A shares, no longer applies on dividends paid on the now assimilated ordinary shares following the move of the Company's tax residence to the UK.

The following applies to dividends paid in the 2021 and prior financial years and is included in the report for reference:

When Dutch withholding tax applies on dividends paid to a US holder (that is, dividends on A shares or A ADSs, or on B shares or B ADSs that are not paid on the dividend access shares pursuant to the dividend access mechanism), the US holder will be subject to Dutch withholding tax at the rate of 15%. A US holder who is entitled to the benefits of the 1992 Double Taxation Convention (the Convention) between the USA and the Netherlands as amended by the protocol signed on March 8, 2004, will be entitled to a reduction in the Dutch withholding tax, either by way of a full or a partial exemption at source or by way of a partial refund or a credit as follows:

- if the US holder is an exempt pension trust as described in article 35 of the Convention, or an exempt organisation as described in article 36 thereof, the US holder will be exempt from Dutch withholding tax; or
- if the US holder is a company that holds directly at least 10% of the voting power in the Company, the US holder will be subject to Dutch withholding tax at a rate not exceeding 5%.

In general, the entire dividend (including any amount withheld) will be dividend income to the US holder and the withholding tax will be treated as a foreign income tax that is eligible for credit against the US holder's income tax liability or a deduction subject to certain limitations. A "US holder" includes, but is not limited to, a citizen or resident of the USA, or a corporation or other entity organised under the laws of the USA or any of its political subdivisions.

When Dutch withholding tax applies on dividends paid to UK tax-resident holders (that is, dividends on A shares or A ADSs, or on B shares or B ADSs that are not paid on the dividend access shares pursuant to the dividend access mechanism), the dividend will typically be subject to withholding tax at a rate of 15%. Such UK tax-resident holder may be entitled to a credit (not repayable) for withholding tax against their UK tax liability. However, certain corporate shareholders are, subject to conditions, exempt from UK tax on dividends. Withholding tax suffered cannot be offset against such exempt dividends. UK tax-resident holders should also be entitled to claim a refund of one-third of the Dutch withholding tax from the Dutch tax authorities in reliance on the tax convention between the Netherlands and the UK. Pension plans meeting certain defined criteria can, however, be entitled to claim a full refund or exemption at source of the dividend tax withheld. Also, UK tax-resident corporate shareholders holding at least a 5% shareholding and meeting other defined criteria are exempted at source from dividend tax.

For holders who are tax-resident in any other country, the availability of a whole or partial exemption or refund of Dutch withholding tax is governed by Dutch tax law and/or the tax convention, if any, between the Netherlands and the country of the holder's residence.

There may be other grounds on which holders who are tax-resident in the UK, the USA or any other country can obtain a full or partial refund of the Dutch withholding tax, depending on their particular circumstances; see "Taxation: General" above.

### Dutch capital gains taxation

Capital gains on the sale of shares of a Dutch tax-resident company by a US holder are generally not subject to taxation by the Netherlands unless the US holder has a permanent establishment therein and the capital gain is derived from the sale of shares that are part of the business property of the permanent establishment.

### Dutch succession duty and gift taxes

Shares of a Dutch tax-resident company held by an individual who is not a resident or a deemed resident of the Netherlands will generally not be subject to succession duty in the Netherlands on the individual's death.

A gift of shares of a Dutch tax-resident company by an individual who is not a resident or a deemed resident of the Netherlands is generally not subject to Dutch gift tax.

### UK stamp duty and stamp duty reserve tax

Sales or transfers of the Company's ordinary shares within a clearance service (such as Euroclear Nederland) or of the Company's ADSs within the ADS depositary receipts system will not give rise to a stamp duty reserve tax (SDRT) liability and should not in practice require the payment of UK stamp duty.

The transfer of the Company's ordinary shares to a clearance service (such as Euroclear Nederland) or to an issuer of depositary shares (such as ADSs) will generally give rise to a UK stamp duty or SDRT liability at the rate of 1.5% of consideration given or, if none, of the value of the shares. A sale of the Company's ordinary shares that are not held within a clearance service (for example, settled through the UK's CREST system of paperless transfers) will generally be subject to UK stamp duty or SDRT at the rate of 0.5% of the amount of the consideration, normally paid by the purchaser.

### Capital gains tax

For the purposes of UK capital gains tax, the market values [A] of the shares of the former public parent companies of the Shell Group at the relevant dates were:

| | | £ |
|---|---|---|
| | March 31, 1982 | July 20, 2005 |
| Royal Dutch Petroleum Company (N.V. Koninklijke Nederlandsche Petroleum Maatschappij) which ceased to exist on December 21, 2005 | 1.1349 | 17.6625 |
| The "Shell" Transport and Trading Company, p.l.c. which delisted on July 19, 2005 | 1.4502 | Not applicable |

[A] Restated where applicable to reflect all capitalisation issues since the relevant date. This includes the change in the capital structure in 2005, when Shell plc (at the time known as Royal Dutch Shell plc) became the single parent company of Royal Dutch Petroleum Company and of The "Shell" Transport and Trading Company, p.l.c., now The Shell Transport and Trading Company Limited, and one share in Royal Dutch Petroleum Company was exchanged for two Royal Dutch Shell plc A shares and one share in The "Shell" Transport and Trading Company, p.l.c. was exchanged for 0.287333066 Royal Dutch Shell plc B shares.

# Non-GAAP measures reconciliations

These non-GAAP measures, also known as alternative performance measures, are financial measures other than those defined in International Financial Reporting Standards, which Shell considers provide useful information. With effect from January 1, 2022, the reporting segments are aligned with Shell's Powering Progress strategy. The Renewables and Energy Solutions business is now reported separately from Integrated Gas. Shales assets in Canada are now reported as part of the Integrated Gas segment instead of the Upstream segment. The Oil Products and Chemicals segments are reorganised into two segments – Marketing, and Chemicals and Products. Prior period comparatives have been revised to conform with current year presentation. The reporting segment changes have no impact at a Group level.

## Earnings on a current cost of supplies basis

Segment earnings are presented on a current cost of supplies basis (CCS earnings), which is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance. On this basis, the purchase price of volumes sold during the period is based on the current cost of supplies during the same period after making allowance for the tax effect. CCS earnings therefore exclude the effect of changes in the oil price on inventory carrying amounts. The current cost of supplies adjustment does not impact cash flow from operating activities in the "Consolidated Statement of Cash Flows".

### Reconciliation of income for the period to CCS earnings

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Income/(loss) attributable to Shell plc shareholders | 42,309 | 20,101 | (21,680) |
| Income/(loss) attributable to non-controlling interest | 565 | 529 | 146 |
| Income/(loss) for the period | 42,874 | 20,630 | (21,534) |
| Current cost of supplies adjustment | (1,312) | (3,148) | 1,833 |
| Of which: | | | |
| Attributable to Shell plc shareholders | (1,196) | (3,029) | 1,759 |
| Attributable to non-controlling interest | (116) | (119) | 74 |
| CCS earnings | 41,562 | 17,482 | (19,701) |
| Of which: | | | |
| Attributable to Shell plc shareholders | 41,113 | 17,072 | (19,921) |
| Attributable to non-controlling interest | 449 | 410 | 220 |

## Adjusted Earnings and Adjusted Earnings Before Interest, Taxes, Depreciation and Amortisation (EBITDA)

The "Adjusted Earnings" measure aims to facilitate a comparative understanding of Shell's financial performance from period to period by removing the effects of oil price changes on inventory carrying amounts and removing the effects of identified items. These items are in some cases driven by external factors and may, either individually or collectively, hinder the comparative understanding of Shell's financial results from period to period.

The "Adjusted EBITDA (CCS basis)" measure is used by management to evaluate Shell's performance in the period and over time. We define "Adjusted EBITDA (CCS basis)" as "Income/(loss) for the period" adjusted for current cost of supplies; identified items; tax charge/(credit); depreciation, amortisation and depletion; exploration well write-offs and net interest expense. All items include the non-controlling interest component.

### Adjusted Earnings

$ million

| | 2022 | | | | | | | 2021 | | | | | | | 2020 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Shell | IG | UP | Mark | C&P | R&ES | Corp | Shell | IG | UP | Mark | C&P | R&ES | Corp | Shell | IG | UP | Mark | C&P | R&ES | Corp |
| CCS Earnings [A] | 41,562 | 22,212 | 16,222 | 2,133 | 4,515 | (1,059) | (2,461) | 17,482 | 8,060 | 9,603 | 3,535 | 404 | (1,514) | (2,606) | (19,701) | (7,230) | (9,300) | 4,081 | (3,821) | (479) | (2,952) |
| Less: Identified items | 1,259 | 6,075 | (1,096) | (622) | (204) | (2,805) | (90) | (2,235) | (988) | 1,587 | 68 | (1,712) | (1,272) | 81 | (24,777) | (11,443) | (6,874) | 13 | (6,656) | (277) | 460 |
| Adjusted Earnings - segments | | 16,137 | 17,319 | 2,754 | 4,719 | 1,745 | (2,371) | | 9,048 | 8,015 | 3,468 | 2,115 | (243) | (2,686) | | 4,213 | (2,426) | 4,068 | 2,835 | (202) | (3,412) |
| Less: CCS earnings attributable to NCI | 449 | | | | | | | 410 | | | | | | | 220 | | | | | | |
| Add: Identified items attributable to NCI | 15 | | | | | | | (19) | | | | | | | (10) | | | | | | |
| Adjusted Earnings | 39,870 | | | | | | | 19,289 | | | | | | | 4,846 | | | | | | |

[A] See Note 8 to the Consolidated Financial Statements on pages 265-269.
[B] Non-controlling interest (NCI).
[C] Segments above are as follows: Integrated Gas (IG); Upstream (UP); Marketing (Mark); Chemicals and Products (C&P); Renewables and Energy Solutions (R&ES); and Corporate (Corp).

# Non-GAAP measures reconciliations continued

## Adjusted EBITDA

$ million

| | 2022 | | | | | | | 2021 | | | | | | | 2020 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Shell | IG | UP | Mark | C&P | R&ES | Corp | Shell | IG | UP | Mark | C&P | R&ES | Corp | Shell | IG | UP | Mark | C&P | R&ES | Corp |
| Adjusted Earnings | 39,870 | | | | | | | 19,289 | | | | | | | 4,846 | | | | | | |
| Add: NCI | 434 | | | | | | | 429 | | | | | | | 230 | | | | | | |
| Adjusted Earnings plus NCI | 40,304 | 16,137 | 17,319 | 2,754 | 4,719 | 1,745 | (2,371) | 19,718 | 9,048 | 8,015 | 3,468 | 2,115 | (243) | (2,686) | 5,076 | 4,213 | (2,426) | 4,068 | 2,835 | (202) | (3,412) |
| Add: Taxation charge/(credit) excluding tax impact of identified items | 18,578 | 4,704 | 11,831 | 952 | 841 | 346 | (96) | 8,482 | 2,231 | 5,662 | 955 | 277 | (55) | (588) | 2,252 | 1,314 | 992 | 893 | (398) | (14) | (535) |
| Add: Depreciation, depletion and amortisation excluding impairments | 22,393 | 5,544 | 11,889 | 1,573 | 3,004 | 365 | 18 | 23,071 | 5,389 | 12,574 | 1,575 | 3,235 | 281 | 17 | 24,981 | 5,851 | 13,805 | 1,455 | 3,604 | 244 | 22 |
| Add: Exploration well write-offs | 881 | 142 | 738 | | | | – | 639 | 15 | 624 | | | | – | 815 | 452 | 363 | | | | – |
| Add: Interest expense excluding identified items | 3,181 | 84 | 345 | 45 | 22 | 2 | 2,683 | 3,607 | 71 | 331 | 26 | 44 | – | 3,135 | 4,089 | 78 | 368 | 43 | 15 | 3 | 3,582 |
| Less: Interest income | 1,046 | 43 | 22 | – | 24 | (2) | 959 | 511 | – | 37 | 3 | 36 | 4 | 431 | 679 | – | 56 | 4 | 25 | 5 | 589 |
| Adjusted EBITDA (CCS basis) | 84,289 | 26,569 | 42,100 | 5,324 | 8,561 | 2,459 | (725) | 55,004 | 16,754 | 27,170 | 6,021 | 5,635 | (21) | (554) | 36,533 | 11,908 | 13,045 | 6,455 | 6,032 | 25 | (933) |

[A] Non-controlling interest (NCI).
[B] Segments above are as follows: Integrated Gas (IG); Upstream (UP); Marketing (Mark); Chemicals and Products (C&P); Renewables and Energy Solutions (R&ES); and Corporate (Corp).

## Identified items

The objective of identified items is to remove material impacts on net income/loss arising from transactions which are generally uncontrollable and unusual (infrequent or non-recurring) in nature or giving rise to a mismatch of accounting and economic results, or certain transactions that are generally excluded from underlying results in the industry.

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Identified items included in Income/(loss) before taxation | | | |
| Divestment gains/(losses) | 657 | 5,996 | 316 |
| Impairment reversals/(impairments) | 2,260 | (3,884) | (28,061) |
| Redundancy and restructuring | 44 | (227) | (883) |
| Provisions for onerous contracts | (508) | (340) | (1,392) |
| Fair value accounting of commodity derivatives and certain gas contracts | 3,244 | (3,249) | (1,151) |
| Other | (1,519) [A] | (621) | (706) |
| Total identified items included in Income/(loss) before taxation | 4,178 | (2,326) | (31,877) |
| Total identified items included in Taxation charge/(credit) | (2,919) [B] | 91 | 7,100 |
| Identified items included in Income/(loss) for the period | 1,259 | (2,235) | (24,777) |
| Divestment gains/(losses) | 418 | 4,632 | 4 |
| Impairment reversals/(impairments) | 725 | (2,993) | (21,267) |
| Redundancy and restructuring | 43 | (140) | (644) |
| Provisions for onerous contracts | (487) | (299) | (1,120) |
| Fair value accounting of commodity derivatives and certain gas contracts | 3,421 | (2,764) | (1,034) |
| Impact of exchange rate movements on tax balances | (57) | (128) | (240) |
| Other | (2,804) [C] | (543) | (475) |
| Impact on CCS earnings | 1,259 | (2,235) | (24,777) |
| Of which: | | | |
| Integrated Gas | 6,075 | (988) | (11,443) |
| Upstream | (1,096) | 1,587 | (6,874) |
| Marketing | (622) | 68 | 13 |
| Chemicals and Products | (204) | (1,712) | (6,656) |
| Renewables and Energy Solutions | (2,805) | (1,272) | (277) |
| Corporate | (90) | 81 | 460 |
| Identified items attributable to Non-controlling interest | 15 | (19) | (10) |
| Identified items attributable to Shell plc shareholders | 1,243 | (2,216) | (24,767) |

[A] Includes $(940) million related to the EU solidarity contribution.
[B] Includes $(528) million related to the EU solidarity contribution and $(802) million related to the UK Energy Profits Levy.
[C] Includes $(2,270) million related to the EU solidarity contribution and to the UK Energy Profits Levy.

# Non-GAAP measures reconciliations continued

## Cash capital expenditure

Cash capital expenditure monitors investing activities on a cash basis, excluding items such as lease additions which do not necessarily result in cash outflows in the period. The measure comprises the following lines from the Consolidated Statement of Cash flows: Capital expenditure, Investments in joint ventures and associates and Investments in equity securities.

The reconciliation of "Capital expenditure" to "Cash capital expenditure" is as follows.

### Cash capital expenditure

$ million

| | 2022 | | | | | | | 2021 | | | | | | | 2020 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Shell | IG | UP | Mark | C&P | R&ES | Corp | Shell | IG | UP | Mark | C&P | R&ES | Corp | Shell | IG | UP | Mark | C&P | R&ES | Corp |
| Capital expenditure [A] | 22,600 | 3,432 | 8,020 | 4,527 | 3,835 | 2,609 | 175 | 19,000 | 3,306 | 6,277 | 2,122 | 5,091 | 2,069 | 135 | 16,585 | 3,491 | 6,714 | 1,684 | 4,163 | 363 | 169 |
| Investments in joint ventures and associates [A] | 1,973 | 833 | 123 | 304 | 2 | 703 | 9 | 479 | 196 | (109) | 149 | 80 | 154 | 10 | 1,024 | 68 | 379 | 84 | 34 | 458 | – |
| Investments in equity securities [A] | 260 | – | – | – | 1 | 157 | 103 | 218 | – | | 3 | 4 | 136 | 75 | 218 | 7 | 6 | 6 | 1 | 107 | 92 |
| Cash capital expenditure | 24,833 | 4,265 | 8,143 | 4,831 | 3,838 | 3,469 | 287 | 19,698 | 3,502 | 6,168 | 2,273 | 5,175 | 2,359 | 221 | 17,827 | 3,566 | 7,099 | 1,774 | 4,198 | 928 | 262 |

[A] Included within Cash flow from investing activities in the "Consolidated Statement of Cash Flows".
[B] Segments above are as follows: Integrated Gas (IG); Upstream (UP); Marketing (Mark); Chemicals and Products (C&P); Renewables and Energy Solutions (R&ES); and Corporate (Corp).

## Operating expenses and underlying operating expenses

Operating expenses is a measure of Shell's cost management performance, comprising the following items from the "Consolidated Statement of Income": production and manufacturing expenses; selling, distribution and administrative expenses; and research and development expenses.

Underlying operating expenses is a measure aimed at facilitating a comparative understanding of performance from period to period by removing the effects of identified items, which, either individually or collectively, can cause volatility, in some cases driven by external factors.

### Operating expenses and underlying operating expenses

$ million

| | 2022 | | | | | | | 2021 | | | | | | | 2020 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Shell | IG | UP | Mark | C&P | R&ES | Corp | Shell | IG | UP | Mark | C&P | R&ES | Corp | Shell | IG | UP | Mark | C&P | R&ES | Corp |
| Production and manufacturing expenses | 25,518 | 4,907 | 9,676 | 810 | 7,583 | 2,520 | 22 | 23,822 | 4,194 | 9,797 | 950 | 6,815 | 2,098 | (32) | 24,001 | 4,957 | 10,195 | 779 | 6,952 | 1,091 | 27 |
| Selling, distribution and administrative expenses | 12,883 | 218 | 233 | 7,351 | 3,592 | 972 | 517 | 11,328 | 231 | 186 | 6,384 | 3,375 | 596 | 556 | 9,881 | 60 | (31) | 5,380 | 3,391 | 606 | 475 |
| Research and development | 1,075 | 112 | 456 | 222 | 187 | 98 | – | 815 | 101 | 339 | 167 | 157 | 51 | – | 907 | 84 | 486 | 147 | 171 | 19 | – |
| Total | 39,477 | 5,238 | 10,364 | 8,384 | 11,361 | 3,590 | 540 | 35,964 | 4,526 | 10,324 | 7,501 | 10,347 | 2,745 | 524 | 34,789 | 5,100 | 10,650 | 6,305 | 10,514 | 1,716 | 505 |
| Identified items | (21) | (354) | 438 | (103) | 7 | (7) | (1) | (655) | (230) | (238) | (135) | (48) | (8) | 4 | (2,287) | (782) | (756) | (144) | (597) | (5) | (3) |
| Underlying operating expenses | 39,456 | 4,884 | 10,802 | 8,281 | 11,368 | 3,583 | 539 | 35,309 | 4,295 | 10,086 | 7,366 | 10,298 | 2,737 | 527 | 32,502 | 4,318 | 9,894 | 6,161 | 9,916 | 1,711 | 501 |

[A] Segments above are as follows: Integrated Gas (IG); Upstream (UP); Marketing (Mark); Chemicals and Products (C&P); Renewables and Energy Solutions (R&ES); and Corporate (Corp)

# Non-GAAP measures reconciliations continued

## Return on average capital employed

Return on average capital employed (ROACE) measures the efficiency of our utilisation of the capital that we employ. In this calculation, ROACE is defined as income for the period, adjusted for after-tax interest expense, as a percentage of the average capital employed for the period. Capital employed consists of total equity, current debt and non-current debt.

### Calculation of return on average capital employed

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Income for the period | 42,874 | 20,630 | (21,534) |
| Interest expense after tax | 2,290 | 2,741 | 2,822 |
| Income before interest expense | 45,164 | 23,371 | (18,712) |
| Capital employed - opening | 264,413 | 266,551 | 286,887 |
| Capital employed - closing | 276,392 | 264,413 | 266,551 |
| Capital employed - average | 270,402 | 265,482 | 276,719 |
| ROACE | 16.7% | 8.8% | (6.8)% |

## Net debt and gearing

Net debt is defined as the sum of current and non-current debt, less cash and cash equivalents, adjusted for the fair value of derivative financial instruments used to hedge foreign exchange and interest rate risk relating to debt, and associated collateral balances.

Gearing is a measure of Shell's capital structure and is defined as net debt (total debt less cash and cash equivalents) as a percentage of total capital (net debt plus total equity).

### Calculation of net debt and gearing

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Current debt | 9,001 | 8,218 | 16,899 |
| Non-current debt | 74,794 | 80,868 | 91,115 |
| Total debt | 83,795 | 89,086 | 108,014 |
| Add: Debt-related derivative financial instruments: net liability / (asset) | 3,071 | 424 | (1,979) |
| Add: Collateral on debt-related : net liability / (asset) | (1,783) | 16 | 1,181 |
| Less: Cash and cash equivalents | (40,246) | (36,970) | (31,830) |
| Net Debt | 44,837 | 52,556 | 75,386 |
| Add: Total equity | 192,597 | 175,326 | 158,537 |
| Total capital | 237,434 | 227,882 | 233,923 |
| Gearing | 18.9% | 23.1% | 32.2% |

## Free cash flow and organic free cash flow

Free cash flow is used to evaluate cash available for financing activities, including shareholder distributions and debt servicing, after investment in maintaining and growing our business.

Organic free cash flow is defined as Free cash flow excluding the cash flows from acquisition and divestment activities. It is a measure used by management to evaluate generation of cash flow without these activities.

### Free cash flow and Organic free cash flow

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Cash flow from operating activities | 68,414 | 45,104 | 34,105 |
| Cash flow from investing activities | (22,448) | (4,761) | (13,278) |
| Free cash flow | 45,965 | 40,343 | 20,828 |
| Less: Cash inflows related to divestments [A] | 2,059 | 15,113 | 4,010 |
| Add: Tax paid on divestments | 17 | 188 | – |
| Add: Cash outflows related to inorganic capital expenditure [B] | 4,205 | 1,658 | 817 |
| Organic free cash flow | 48,128 | 27,076 | 17,634 |

[A] Cash inflows related to divestments includes Proceeds from sale of property, plant and equipment and businesses, Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans, and Proceeds from sale of equity securities as reported in the "Consolidated Statement of Cash Flows".

[B] Cash outflows related to inorganic capital expenditure includes portfolio actions which expand Shell's activities through acquisitions and restructuring activities as reported in capital expenditure lines in the "Consolidated Statement of Cash Flows".

## Shareholder distribution

Shareholder distribution is used to evaluate the level of cash distribution to shareholders. It is defined as the sum of Cash dividends paid to Shell plc shareholders and Repurchases of shares, both of which are reported in the Consolidated Statement of Cash Flows.

### Calculation of shareholder distribution

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Cash dividends paid to Shell plc shareholders | (7,405) | (6,253) | (7,424) |
| Repurchases of shares | (18,437) | (2,889) | (1,702) |
| Shareholder distribution | (25,842) | (9,142) | (9,126) |

## Divestment proceeds

Divestment proceeds represent cash received from divestment activities in the period. Management regularly monitors this measure as a key lever to deliver sustainable cash flow.

### Calculation of divestment proceeds

$ million

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Proceeds from sale of property, plant and equipment and businesses | 1,431 | 14,233 | 2,489 |
| Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans | 511 | 584 | 1,240 |
| Proceeds from sale of equity securities | 117 | 296 | 281 |
| Divestment proceeds | 2,059 | 15,113 | 4,010 |
| Of which: | | | |
| Integrated Gas | 241 | 3,931 | 486 |
| Upstream | 558 | 10,147 | 1,903 |
| Marketing | 266 | 42 | 56 |
| Chemicals and Products | 776 | 903 | 1,338 |
| Renewables and Energy Solutions | 191 | 47 | 22 |
| Corporate | 26 | 44 | 205 |

# Appendices

# Appendix 1

## Significant subsidiaries and other related undertakings (audited)

Significant subsidiaries and other related undertakings at December 31, 2022, are set out below. These are included in the "Consolidated Financial Statements" on pages 237-307. Shell's percentage of share capital is shown to the nearest whole number. Subsidiaries are disclosed separately from all other undertakings. Subsidiaries directly held by the Company are marked with the annotation *. A number of the entities listed are dormant or not yet operational. Entities that are proportionately consolidated are identified by the annotation [a]. Shell-owned shares are ordinary (voting) shares unless identified with one of the following annotations against the company name: [b] Membership interest; [c] Partnership capital; [d] Non-redeemable; [e] Ordinary, Partnership capital; [f] Ordinary, Redeemable; [g] Ordinary, Redeemable, Non-redeemable; and [h] Redeemable, Non-redeemable.

### Subsidiaries including Shell plc Direct Holdings

| Company by country and address of incorporation | % |
|---|---|
| **ARGENTINA** | |
| AVENIDA PTE. ROQUE SÁENZ PENA 788, 2ND FLOOR, CIUDAD DE BUENOS AIRES, 1035 | |
| Shell Argentina S.A. | 100 |
| **AUSTRALIA** | |
| LEVEL 15, 357 COLLINS STREET, MELBOURNE, VIC 3000 | |
| Powershop Australia Pty Ltd | 100 |
| Shell Energy Operations No. 2 Pty Ltd | 100 |
| Shell Energy Retail Finance Pty Ltd | 100 |
| Shell Energy Retail Markets Pty Ltd | 100 |
| LEVEL 30, 275 GEORGE STREET, BRISBANE, QLD 4000 | |
| BC 789 Holdings Pty Ltd | 100 |
| BG CPS Pty Limited | 100 |
| BNG (SURAT) PTY. LTD. | 100 |
| CCM Energy Solutions Pty Ltd | 100 |
| Condamine 1 Pty Ltd | 100 |
| Condamine 2 Pty Ltd | 100 |
| Condamine 3 Pty Ltd | 100 |
| Condamine 4 Pty Ltd | 100 |
| Condamine Power Station Pty Ltd | 100 |
| ERM Braemar 3 Power Pty Ltd | 100 |
| ERM Braemar 3 Pty Ltd | 100 |
| ERM Employee Share Plan Administrator Pty Ltd | 100 |
| ERM Energy Solutions Holdings Pty Ltd | 100 |
| ERM Financial Services Pty Ltd | 100 |
| ERM Holdings Pty Ltd | 100 |
| ERM Land Holdings Pty Ltd | 100 |
| ERM Neerabup Power Pty Ltd | 100 |
| ERM Power International Pty Ltd | 100 |
| ERM Power Investments Pty Ltd | 100 |
| ERM Power Services Pty Ltd | 100 |
| ERM Power Utility Systems Pty Ltd | 100 |
| ERM Wellington 1 Holdings Pty Ltd | 100 |
| Gangarri Solar Farm Pty Ltd | 100 |
| Greensense Pty Ltd | 100 |
| Lumaled Pty Ltd | 100 |
| NATURE BASED SOLUTIONS PTY LTD | 100 |
| New South Oil Pty Ltd | 100 |
| OME RESOURCES AUSTRALIA PTY. LTD. | 100 |
| Petroleum Resources (Thailand) Pty. Limited | 100 |
| Powermetric Metering Pty Ltd | 100 |
| Pure Energy Resources Pty Limited | 100 |
| QCLNG Operating Company Pty Ltd [f] | 75 |
| QCLNG Pty Ltd | 100 |
| QGC (B7) Pty Ltd | 100 |
| QGC (Exploration) Pty Ltd | 100 |
| QGC (Infrastructure) Pty Ltd | 100 |
| QGC Common Facilities Company Pty Ltd | 100 |

| Company by country and address of incorporation | % |
|---|---|
| QGC Holdings 2 Pty Ltd | 100 |
| QGC Holdings 3 Pty Ltd | 100 |
| QGC Holdings 4 Pty Ltd | 100 |
| QGC Holdings 5 Pty Ltd | 100 |
| QGC Holdings 6 Pty Ltd | 100 |
| QGC Holdings 7 Pty Ltd | 100 |
| QGC Holdings 8 Pty Ltd | 100 |
| QGC Holdings 9 Pty Ltd | 100 |
| QGC Midstream Holdings Pty Ltd | 100 |
| QGC Midstream Investments Pty Ltd | 100 |
| QGC Midstream Land Pty Ltd | 100 |
| QGC Midstream Limited Partnership | 100 |
| QGC Midstream Services Pty Ltd | 100 |
| QGC Northern Forestry Pty Ltd | 100 |
| QGC Pty Limited | 100 |
| QGC Sales Qld Pty Ltd | 100 |
| QGC Train 1 Pty Ltd | 100 |
| QGC Train 1 Tolling Pty Ltd | 100 |
| QGC Train 1 UJV Manager Pty Ltd | 100 |
| QGC Train 2 Pty Ltd | 100 |
| QGC Train 2 Tolling No.2 Pty Ltd | 100 |
| QGC Train 2 Tolling Pty Ltd | 100 |
| QGC Train 2 UJV Manager Pty Ltd | 100 |
| QGC Upstream Finance Pty Ltd | 100 |
| QGC Upstream Holdings Pty Ltd | 100 |
| QGC Upstream Investments Pty Ltd | 100 |
| QUEENSLAND ELECTRICITY INVESTORS PTY. LTD. | 100 |
| QUEENSLAND GAS COMPANY PTY LIMITED | 100 |
| Richmond Valley Solar Thermal Pty Ltd | 100 |
| Roma Petroleum Pty Limited | 100 |
| Select Carbon Pty Ltd | 100 |
| SGA (Queensland) Pty Ltd | 100 |
| SGAI Pty Limited | 100 |
| Shell Energy Australia Pty Ltd | 100 |
| Shell Energy BESS 1 Pty Ltd | 100 |
| Shell Energy Certificate Trading Pty Ltd | 100 |
| Shell Energy Engineering Pty Ltd | 100 |
| Shell Energy Environmental Products Australia Pty Ltd | 100 |
| Shell Energy Neerabup Pty Ltd | 100 |
| SHELL ENERGY OPERATIONS NO. 2 HOLDINGS PTY LTD | 100 |
| Shell Energy Operations Pty Ltd | 100 |
| Shell Energy Power Generation Pty Ltd | 100 |
| Shell Energy Projects Pty Ltd | 100 |
| Shell Energy Retail Pty Ltd | 100 |
| Shell Energy Wallerawang 9 BESS Pty Ltd | 100 |
| Shell New Energies Australia Pty Ltd | 100 |
| Shell QGC Pty Ltd | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **AUSTRALIA** continued | |
| Starzap Pty Ltd | 100 |
| Sunshine 685 Pty Limited | 100 |
| Walloons Coal Seam Gas Company Pty Limited [f] | 75 |
| LEVEL 52, 111 EAGLE STREET, BRISBANE, QLD 4000 | |
| ERM Innovation Labs Pty Ltd | 100 |
| SHELL HOUSE, 562 WELLINGTON STREET, PERTH, WA 6000 | |
| Austen & Butta Pty Ltd | 100 |
| North West Shelf LNG Pty Ltd | 100 |
| SASF PTY. LTD. | 100 |
| Shell Australia FLNG Pty Ltd | 100 |
| Shell Australia Pty Ltd | 100 |
| Shell Australia Services Company Pty Ltd | 100 |
| Shell Development (PSC19) Pty Ltd | 100 |
| Shell Development (PSC20) Pty Ltd | 100 |
| Shell Energy Holdings Australia Limited | 100 |
| Shell Global Solutions Australia Pty Ltd | 100 |
| Shell Tankers Australia Pty Ltd | 100 |
| Trident LNG Shipping Services Pty Ltd | 100 |
| TENANCY 6, LIONSGATE BUSINESS PARK, 180 PHILIP HIGHWAY, ELIZABETH SOUTH, SA 5112 | |
| Sonnen Australia Pty Limited | 100 |
| LEVEL 25, 275 GEORGE STREET, BRISBANE, QLD 4000 | |
| QGC Upstream Limited Partnership | 100 |
| QGC LIMITED, LEVEL 30, 275 GEORGE STREET, BRISBANE, QLD 4000 | |
| E.R.M. Oakey Power Pty Ltd | 100 |
| Oakey Power Holdings Pty Ltd | 100 |
| Shell Energy Oakey Power Holdings Pty Ltd | 100 |
| Shell Energy Power Developments Pty Ltd | 100 |
| **AUSTRIA** | |
| FRANZ-JOSEFS-KAI 27, VIENNA, 1010 | |
| Next Kraftwerke AT GmbH | 100 |
| SCHULHOF 6/1, VIENNA, 1010 | |
| Shell China Holding GmbH | 100 |
| TECH GATE, DONAU-CITY-STR. 1, VIENNA, 1220 | |
| SHELL AUSTRIA GESELLSCHAFT M.B.H. | 100 |
| Shell Brazil Holding GmbH | 100 |
| **BAHAMAS** | |
| GTC CORPORATE SERVICES LIMITED, SASSOON HOUSE, SHIRLEY STREET & VICTORIA AVENUE, NASSAU | |
| Shell Western Supply and Trading Limited | 100 |
| P.O. BOX N4805, ST. ANDREW'S COURT, FREDERICK STREET STEPS, NASSAU | |
| Shell Bahamas Power Company Inc. | 100 |
| **BARBADOS** | |
| ONE WELCHES, WELCHES, ST. THOMAS, BB22025 | |
| Shell Trinidad and Tobago Resources SRL | 100 |
| **BELGIUM** | |
| BORSBEEKSEBRUG 34/1, ANTWERPEN, 2600 | |
| Shell EV Charging Solutions Belgium | 100 |
| CANTERSTEEN 47, BRUSSELS, 1000 | |
| Belgian Shell | 100 |
| New Market Belgium | 100 |
| PALEIZENSTRAAT 153 RUE DES PALAIS, GEBOUW/BÂTIMENT: LUSTRERIE, BRUSSELS, 1030 | |
| Next Kraftwerke Belgium | 100 |
| PANTSERSCHIPSTRAAT 331, GENT, 9000 | |
| Shell Catalysts & Technologies Belgium N.V. | 100 |
| **BERMUDA** | |
| 3RD FLOOR CONTINENTAL BUILDING, 25 CHURCH STREET, HAMILTON, HM 12 | |
| Gas Investments & Services Company Limited | 85 |

| Company by country and address of incorporation | % |
|---|---|
| Qatar Shell GTL Limited | 100 |
| Shell Holdings (Bermuda) Limited | 100 |
| Shell Markets (Middle East) Limited | 100 |
| Shell Oman Trading Limited | 100 |
| Shell Petroleum (Malaysia) Ltd | 100 |
| Shell Saudi Arabia (Refining) Limited | 100 |
| Shell Trust (Bermuda) Limited | 100 |
| Solen Life Insurance Limited | 100 |
| **BOLIVIA** | |
| ABDON SAAVEDRA N° 2265, SOPOCACHI, LA PAZ | |
| Pennzoil Bolivia S.A. | 100 |
| **BRAZIL** | |
| ÁREA RURAL DE JANAÚBA, S/N°, STATE OF MINAS GERAIS, JANAÚBA, 39.448-899 | |
| BRENERGY GERACAO SOLAR JANAUBA SPE II LTDA. | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE III LTDA. | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE IV LTDA. | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE IX LTDA | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE LTDA. | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE V LTDA. | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE VI LTDA | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE VII LTDA | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE VIII LTDA | 100 |
| Brenergy Geração Solar Janaúba SPE X Ltda. | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE XI LTDA | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE XII LTDA | 100 |
| BRENERGY GERACAO SOLAR JANAUBA SPE XIII LTDA. | 100 |
| AV REPUBLICA DO CHILE 330, BLC 2 SAL 2301, CENTRO, RIO DE JANEIRO, 20031-170 | |
| Heze Holding II LTDA | 100 |
| AV REPUBLICA DO CHILE, 330 BLC 2 SAL 2401, RIO DE JANEIRO, 20031170 | |
| Shell Brasil Renewables & Energy Solutions Ltda | 100 |
| AVENIDA BRIGADEIRO FARIA LIMA N° 3.311, CONJUNTO 82, ITAIM BIBI, SÃO PAULO, 04538-133 | |
| Shell Energy do Brasil Ltda. | 100 |
| AVENIDA DAS REPUBLICA DO CHILE 330, 23° ANDAR (PARTE) - TORRE 2, CENTRO, RIO DE JANEIRO, 20031-170 | |
| BG Petroleo & Gas Brasil Ltda. | 100 |
| AVENIDA DAS REPUBLICA DO CHILE 330, 23° ANDAR, TORRE 2, CENTRO, RIO DE JANEIRO, 20031-170 | |
| BG Comercio e Importacao Ltda. | 100 |
| AVENIDA REPÚBLICA DO CHILE N° 330, BLOCO 2, SALA 2001, CENTRO, RIO DE JANEIRO, 20031-170 | |
| SHELL BRASIL PETROLEO LTDA. | 100 |
| Shell Energy do Brasil Gás Ltda. | 100 |
| AVENIDA REPÚBLICA DO CHILE N° 330, BLOCO 2, SALA 2301, CENTRO, RIO DE JANEIRO, 20031-170 | |
| Pecten do Brasil Servicos de Petroleo Ltda. | 100 |
| AVENIDA REPÚBLICA DO CHILE N° 330, BLOCO 2, SALA 2401, CENTRO, RIO DE JANEIRO, 20031-170 | |
| Seapos Ltda. | 100 |
| NO 330,ROOM 2301, AVENIDA REPÚBLICA DO CHILE, BUILDING 2, RIO DE JANEIRO, 20031-170 | |
| Heze I Holding S.A. | 100 |
| AVENIDA BRIGADEIRO FARIA LIMA, ITAIM BIBI, SAO PAULO, 4538133 | |
| SHELL TRADING BRASIL LTDA | 100 |
| **BRUNEI** | |
| C/O BSP HEAD OFFICE, NDCO BLOCK, GROUND FLOOR, JALAN UTARA, PANAGA SERIA, KB3534 | |
| Shell Borneo Sendirian Berhad | 100 |
| **BULGARIA** | |
| 48, SITNYAKOVO BLVD., SERDIKA OFFICES, 8TH FLOOR, SOFIA, 1505 | |
| Shell Bulgaria Ead | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **CAMBODIA** | |
| 186C, STREET NO. 155, N/A - TUOL TUMPUNG MUOY, CHAMKAR MON, PHNOM PENH | |
| Angkor Resources Company Limited | 49 |
| OFFICE NO. 186 C, STREET 155 SANGKAT TOUL TUMPOUNG I, KHAN CHAMKAMORN, PHNOM PENH | |
| Shell Company of Cambodia Limited S.A. | 100 |
| **CANADA** | |
| 2100, 855 - 2ND STREET S.W., CALGARY, ALBERTA, T2P 4J8 | |
| 1745844 Alberta Ltd. | 50 |
| 400 4TH AVENUE S.W, CALGARY, ALBERTA, T2P 0J4 | |
| 10084751 Canada Limited | 100 |
| 7026609 Canada Inc. | 100 |
| 7645929 Canada Limited | 100 |
| Cansolv Technologies Inc. | 100 |
| Coral Cibola Canada Inc. | 100 |
| SCL Pipeline Inc. | 100 |
| Shell Americas Funding (Canada) Limited | 100 |
| Shell Canada BROS Inc. | 100 |
| Shell Canada Energy [b] | 100 |
| Shell Canada Limited | 100 |
| Shell Canada OP Inc. | 100 |
| Shell Canada Products | 100 |
| Shell Canada Services Limited | 100 |
| Shell Catalysts & Technologies Canada Inc. | 100 |
| Shell Chemicals Canada [b] | 100 |
| Shell Energy North America (Canada) Inc. | 100 |
| Shell Global Solutions Canada Inc. | 100 |
| Shell Quebec Limitée | 100 |
| Shell Trading Canada [b] | 100 |
| Zeco Systems (Canada) Inc. | 100 |
| **CAYMAN ISLANDS** | |
| CALEDONIAN TRUST (CAYMAN) LIMITED, CALEDONIAN HOUSE, 69 DR ROY'S DRIVE P.O. BOX 1043, GEORGE TOWN, GRAND CAYMAN, KY1-1102 | |
| Schiehallion Oil & Gas Limited | 100 |
| CAMPBELLS, FLOOR 4, WILLOW HOUSE, CRICKET SQUARE, GEORGE TOWN, GRAND CAYMAN, KY1-9010 | |
| BG Exploration and Production India Limited | 100 |
| MAPLES CORPORATE SERVICES LIMITED, UGLAND HOUSE, P.O. BOX 309, GEORGE TOWN, GRAND CAYMAN, KY1-1104 | |
| Shell North Sea Holdings Limited | 100 |
| PICCADILLY CENTRE, 28 ELGIN AVENUE, SUITE 201, P.O. BOX 2570, GEORGE TOWN, GRAND CAYMAN, KY1-1103 | |
| BG EGYPT SA | 100 |
| Gas Resources Limited | 100 |
| Shell Bolivia Corporation | 100 |
| STERLING TRUST (CAYMAN) LIMITED, WHITEHALL HOUSE, 238 NORTH CHURCH STREET, P.O. BOX 1043, GEORGE TOWN, GRAND CAYMAN, KY1-1102 | |
| Beryl North Sea Limited | 100 |
| **CHILE** | |
| C/O CAREY Y CIA ABOGADOS, MIRAFLORES 222, PISO 28, SANTIAGO | |
| Shell Chile S.A. | 100 |
| **CHINA** | |
| 30/F UNIT 01-02, NO. 16 BUILDING, NO. 1 COURTYARD, JIAN GUO MEN WAI AVENUE, CHAOYANG DISTRICT, BEIJING, 100004 | |
| Shell (China) Limited | 100 |
| 8/F, BUILDING 1, NO. 818 SHENCHANG ROAD, MINHANG DISTRICT, SHANGHAI, 201106 | |
| Shell Management and Consulting Company Limited | 100 |
| Shell Ventures Company Limited | 100 |
| 8/F, NO. 818 SHENCHANG ROAD, MINHANG DISTRICT, SHANGHAI, 201107 | |
| Shell (Shanghai) Petroleum Company Limited | 100 |
| BUILDING 4, JIN CHUANG BUILDING, NO. 4560, JIN KE ROAD, PILOT FREE TRADE ZONE, SHANGHAI | |
| Shell (Shanghai) Technology Limited | 100 |
| NANJIN WAN, GAOLAN DAO, GAOLAN HARBOUR ECONOMIC ZONE, ZHUHAI, 519050 | |
| Shell (Zhuhai) Lubricants Company Limited | 100 |
| NO. 1 WANGJIABA, XINMIAOZHI VILLAGE, PUYUAN TOWN, TONGXIANG, JIAXING, ZHEJIANG, 314502 | |
| Shell (Zhejiang) Petroleum Trading Limited | 100 |
| NO. 286 NANSAN ROAD, TIANJIN HARBOUR NANJIANG DEV. ZONE, TANGGU, BINHAI NEWDISTRICT, TIANJIN, 300452 | |
| Shell (Tianjin) Oil and Petrochemical Company Limited | 100 |
| NO. 68 XIANIEJIA, DAGANG, ZHENJIANG NEW DISTRICT, ZHENJIANG, 212132 | |
| Shell Road Solutions (Zhenjiang) Co. Ltd | 100 |
| NO.50 DONGHAI WEST ROAD, SHINAN, DISTRICT, QINGDAO CITY, SHANDONG PROVINC, QINGDAO, 266071 | |
| Qingdao Shell Oil Co., Ltd. | 89 |
| NORTH TO GANG BEI ROAD AND EAST TO HAI GANG ROAD, NANGANG INDUSTRIAL ZONE, TIANJIN ECONOMIC-TECHNOLOGICAL DEVELOPMENT AREA, TIANJIN, 300280 | |
| Shell (Tianjin) Lubricants Company Limited | 100 |
| RM 1503, BUILDING 2, PLAZA OF ZBA, NO. 939 MINHE ROAD, NINGWEI STREET, XIAOSHAN, HANGZHOU, ZHEJIANG, 311215 | |
| Zhejiang Shell Energy Development Company Limited | 100 |
| ROOM 1801, BUILDING 1, INTERNATIONAL FINANCE CENTER, NO. 347, JIANGDONG MIDDLE ROAD, JIANYE DISTRICT, NANJING, JIANGSU, 210019 | |
| Jiangsu Shell Energy Company Limited | 100 |
| ROOM 2407-2409, BUILDING 15, FANGMAOYUAN (PHASE II), NO. 1177 HUANHU ROAD, YUELU DISTRICT, CHANGSHA, 410006 | |
| Hunan Shell Energy Company Limited | 100 |
| ROOM 530, 5TH FLOOR, BUILDING 1, NO. 239 GANG'AO ROAD, CHINA (SHANGHAI) FREE TRADE ZONE, SHANGHAI, 200137 | |
| Shell Energy (China) Limited | 100 |
| ROOM 611,6TH FLOOR, BUILDING B, VITALITY BUSINESS SQUARE, 185 JUMAO STREET, XIANGCHENG, SUZHOU, 215100 | |
| Suzhou Yiwei NewEnergy Technology Company Limited | 100 |
| THE PORT OF ZHAPU, JIAXING MUNICIPALITY, ZHEJIANG, 314201 | |
| Zhejiang Shell Oil and Petrochemical Company Limited | 100 |
| UNIT 01, 32/F, NO. 16 BUILDING, NO. 1 COURTYARD, JIAN GUO MEN WAI AVENUE, CHAOYANG DISTRICT, BEIJING, 100004 | |
| Shell (Beijing) Real Estate Consulting Ltd. | 100 |
| UNIT 01-08, LEVEL 31, NO. 16 BUILDING, NO. 1 JIAN GUO MEN WAI AVENUE, CHAOYANG DISTRICT, BEIJING, 100004 | |
| Shell (China) Projects & Technology Limited | 100 |
| NO. 60, F7, NO. 1 BUILDING, HEADQUARTER PARK, CAIJIA FREE TRADE ZONE, SHENGHE ROAD, BEIBEI DISTRICT, CHONGQING | |
| Chongqing Shell Energy Company Limited | 100 |
| NO.4,5,12/F, UNIT A, OCEANWIDE INTERNATIONAL CENTER OFFICE, 249 HUAIHAI ROAD, 187 YUNXIA ROAD,CBD, JIANHAN DISTRICT, WUHAN, 430000 | |
| Hubei Shell Energy Company Limited | 100 |
| FLOOR 23 CHINA LIFE INSURANCE ANHUI FINANCIAL CENTER, LUZHOU AVENUE, BAOBINHU NEW AREA, HEFEI CITY, ANHUI PROVINCE, HEFEI, 230000 | |
| Anhui Shell Energy Company Limited | 100 |
| SHENZHEN,GUANGDONG, SHENZHEN, 518118 | |
| Shenzhen BYD Electric Vehicle Investment Company Limited | 80 |
| RUNXIANG BUSINESS CENTER A707D, ZHELU STREET, JINGHU DISTRICT, WUHU, 241000 | |
| Wuhu Shell Energy Company Limited | 100 |
| UNIT 1502, BUILDING A, ZHONGCHU PLAZA, XINHUA DISTRICT, SHIJIAZHUANG, 050051 | |
| Hebei Shell Oil Sales Co., Ltd | 89 |
| 51, 27TH FLOOR, BLOCK A, SHANDONG CHAMBER OF COMMERCE BUILDING, WEIER ROAD, SHIZHONG DISTRICT, SHANDONG PROVINCE, JINAN, 250001 | |
| Shandong Shell Oil Co., Ltd. | 89 |
| FLOOR 3, NO.3, XICHA ROAD, SHIJING STREET, BAIYUN DISTRICT, GUANGZHOU, 510000 | |
| GUANGZHOU YADI NEW ENERGY CO., LTD | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **CHINA** continued | |
| NO.723, BUILDING A1, CHUANGGU INDUSTRIAL ZONE, NO.568 QUEYUAN ROAD, TIANXIN DISTRICT, CHANGSHA, 410000 | |
| CHANGSHA YADI NEW ENERGY CO., LTD | 100 |
| 186, NO.1, FLOOR 16, DONGHUA BUILDING, NO.5, DONGCHENG E. ROAD, GANGBEI COMMUNITY, DONGCHE NG SUB-D, DONGGUAN, 523000 | |
| DONGGUAN YADI CHARGING TECHNOLOGY CO., LTD | 100 |
| NO.3, LINGNAN ROAD, EAST SUBURBAN AREA, ZHENJIANG DISTRICT, SHAOGUAN, 512023 | |
| SHAOGUAN YADI CHARGING TECHNOLOGY CO., LTD | 100 |
| LONGSHAN 7TH ROAD, DAYAWAN WEST ZONE, HUIZHOU, 516083 | |
| HUIZHOU YADI CHARGING TECHNOLOGY CO., LTD | 100 |
| OFFICE BUILDING, NO.2, YADI ROAD, XILIU JIEBAN XINXING INDUSTRIAL PARK, HIGH-TEC H ZONE, XIAN, 710000 | |
| XI'AN YADI CHARGING TECHNOLOGY CO., LTD | 100 |
| **COLOMBIA** | |
| CALLE 90 NO. 19 - 41, OFICINA 702- EDIFICIO QUANTUM, BOGOTÁ, 452 | |
| Shell Colombia S.A. | 100 |
| Shell Comercializadora Colombia S.A.S. | 100 |
| **CZECH REPUBLIC** | |
| ANTALA STAŠKA 2027/77, PRAGUE, 140 00 | |
| Shell Czech Republic a.s. | 100 |
| **DENMARK** | |
| C/O BJØRNHOLM LAW, STRANDVEJEN 60, COPENHAGEN, HELLERUP, 2900 | |
| Shell EP Holdingselskab Danmark ApS | 100 |
| **EGYPT** | |
| BUSINESS VIEW BUILDING, NO. 79, 90 STREET (SOUTH), FIFTH SETTLEMENT- NEW CAIRO, CAIRO, 11835 | |
| Shell Egypt Trading | 100 |
| Shell Lubricants Egypt | 100 |
| **EL SALVADOR** | |
| BLVDLOS PROCERES FRENTEA REPARTO, LOS HEROES, E/S SHELL MONUMENTAL, SAN SALVADOR, SV | |
| Shell Química de El Salvador S.A. | 100 |
| **FINLAND** | |
| TEKNOBULEVARDI 3-5, VANTAA, 01530 | |
| Shell Aviation Finland Oy | 100 |
| **FRANCE** | |
| 10 PLACE DE CATALOGNE, PARIS, 75014 | |
| Airefsol Energies | 67 |
| Airefsol Energies 2 | 67 |
| Airefsol Energies 8 | 67 |
| Airefsol Energies 9 | 67 |
| Centrale Photovoltaïque Bouches-du-Rhône 1 | 100 |
| Centrale Photovoltaïque Haute-Vienne 1 | 100 |
| Centrale Photovoltaïque Landes 1 | 100 |
| Centrale Photovoltaïque Var 1 | 100 |
| Eolfi SAS | 100 |
| Ferme Eolienne Flottante Stenella Rhône | 100 |
| Parc Eolien Aisne 1 | 100 |
| Parc Eolien Corrèze 1 | 100 |
| Parc Eolien Côtes Armor 1 | 100 |
| Parc Eolien de la Vrine | 100 |
| Parc Eolien De Mervent | 100 |
| Parc Eolien Haute-Saône 1 | 100 |
| Parc Eolien HM1 | 100 |
| Parc Eolien Jura 1 | 100 |
| Parc Eolien Marne 1 | 100 |
| Parc Eolien Oise 1 | 100 |
| Parc Eolien Oise 2 | 100 |
| Parc Eolien Somme 1 | 100 |
| Parc Eolien Somme 2 | 100 |
| Parc Eolien Yonne 1 | 100 |
| Parc Eolien Yonne 2 | 100 |
| 75 AVENUE PARMENTIER, PARIS, 75544 | |
| Centrales Next S.A.S | 100 |
| TOUR PACIFIC, 11/13 COURS VALMY - LA DÉFENSE, PUTEAUX, 92800 | |
| Avitair SAS | 100 |
| Shell EV Charging Solutions France SAS | 100 |
| Shell France SAS | 100 |
| Shell Retraites SAS | 100 |
| Société de Gestion Mobilière et Immobilière SAS | 100 |
| **GERMANY** | |
| AM HAUPTTOR, BAU 8322, LEUNA, 06237 | |
| CRI Deutschland GmbH | 100 |
| Shell Catalysts & Technologies Leuna GmbH | 100 |
| AM RIEDBACH 1, WILDPOLDSRIED, 87499 | |
| Sonnen eServices Deutschland GmbH | 100 |
| Sonnen eServices GmbH | 100 |
| Sonnen GmbH | 100 |
| Sonnen Holding GmbH | 100 |
| AUF DEM SCHOLLBRUCH 24-26, GELSENKIRCHEN, 45899 | |
| Rheinland Kraftstoff GmbH | 100 |
| EUREF-CAMPUS 7-8, BERLIN, 10829 | |
| Ubimeter GmbH | 100 |
| Ubitricity Gesellschaft für verteilte Energiesysteme mbH | 100 |
| HOHE-SCHAAR-STRAßE 36, HAMBURG, 21107 | |
| Shell Global Solutions (Deutschland) GmbH | 100 |
| HÜNXER STRAßE 149, DINSLAKEN, 46537 | |
| SBRS GmbH | 100 |
| LICHTSTRAßE 43G, KOELN, 50825 | |
| Next Kraftwerke GmbH | 100 |
| ST.-LEONHARD-STRAßE 26, BALZHAUSEN, 86483 | |
| Energeticum Energiesysteme GmbH | 100 |
| SUHRENKAMP 71 - 77, HAMBURG, 22335 | |
| Carissa Verwaltungsgesellschaft mbH | 100 |
| Deutsche Shell Holding GmbH | 100 |
| Deutsche Shell Verwaltungsgesellschaft mbH | 100 |
| euroShell Deutschland GmbH & Co. KG | 100 |
| euroShell Deutschland Verwaltungsgesellschaft mbH | 100 |
| Shell Deutschland Additive GmbH | 100 |
| Shell Deutschland GmbH | 100 |
| Shell Deutschland Wasserstoff GmbH | 100 |
| Shell Energy Deutschland GmbH | 100 |
| Shell Energy Retail GmbH | 100 |
| Shell Erdgas Beteiligungsgesellschaft mbH | 100 |
| Shell Erdgas Marketing GmbH & Co. KG | 67 |
| Shell Erdoel und Erdgas Exploration GmbH | 100 |
| Shell Exploration and Development Libya GmbH I | 100 |
| Shell Exploration and Production Colombia GmbH | 100 |
| Shell Exploration and Production Libya GmbH | 100 |
| Shell Exploration et Production du Maroc GmbH | 100 |
| Shell Exploration New Ventures One GmbH | 100 |
| Shell Hydrogen Deutschland GmbH | 100 |
| Shell Tunisia Offshore GmbH | 100 |
| Shell Verwaltungsgesellschaft für Erdgasbeteiligungen mbH | 100 |
| SPNV Deutschland Beteiligungsges. mbH | 100 |
| WATTSTRAßE 11, BERLIN, 13355 | |
| Shell EV Charging Solutions Germany GmbH | 100 |
| WILLINGHUSENER WEG 5 D-E, OSTSTEINBEK, 22113 | |
| Carissa Einzelhandel- und Tankstellenservice GmbH & Co. KG | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **GERMANY** continued | |
| EINSTEINSTR. 47, VAIHINGEN, 71665 | |
| Enersol GmbH | 100 |
| **GHANA** | |
| 8TH FLOOR, ONE AIRPORT SQUARE, AIRPORT BYPASS ROAD, AIRPORT, ACCRA, GL-126-6169 | |
| Shell Energy Ghana Limited | 100 |
| **GUAM** | |
| 643 CHALAN SAN ANTONIO, SUITE 100, TAMUNING, GU 96911 | |
| Shell Guam Inc. | 100 |
| **HONG KONG** | |
| 35/F AIA KOWLOON TOWER, LANDMARK EAST, 100 HOW MING STREET, KWUN TONG, KOWLOON | |
| Fulmart Limited | 100 |
| Ocean Century Tf Limited [f] | 100 |
| Shell Developments (HK) Limited [f] | 100 |
| Shell Hong Kong Limited | 100 |
| Shell Korea Limited | 100 |
| Shell Macau Limited | 100 |
| **HUNGARY** | |
| BOCSKAI ÚT 134-146., BUDAPEST, 1113 | |
| Shell Hungary Trading close Company Limited by shares | 100 |
| **INDIA** | |
| 2ND FLOOR, CAMPUS 4A, RMZ MILLENIA BUSINESS PARK II, 143 DR MGR ROAD, KANDHANCHAVADY, PERUNGUDI, CHENNAI, TN 600096 | |
| Shell Energy Marketing and Trading India Private Limited | 100 |
| Shell India Markets Private Limited | 100 |
| 3-C WORLD TRADE TOWER, NEW BARAKHAMBA LANE, NEW DELHI, 110001 | |
| BG LNG Regas India Private Limited | 100 |
| 7, BANGALORE HARDWARE PARK, DEVANAHALLI INDUSTRIAL PARK, MAHADEVA-KODIGEHALLI, BANGALORE, 562149 | |
| Shell Pahal Social Welfare Association | 100 |
| 8-2-293/82/A/732 SASI ICON, ROAD NO.36, JUBILEE HILLS, HYDERABAD, TELANGANA, 500033 | |
| Machine Max India Private Limited | 100 |
| OFFICE NO 2008, WESTGATE - D BLOCK, NR YMCA CLUB, S.G.HIGHWAY, MAKARBA, AHMEDABAD, GUJARAT, 380051 | |
| Hazira Port Private Limited | 100 |
| Shell Energy India Private Limited | 100 |
| PLATINA TOWER MG ROAD, NEAR SIKANDARPUR METRO STATION, SECTION, HARYANA, GURUGRAM, 122001 | |
| Greenlots Technology India LLP | 100 |
| UNIT NO FF, FIRST FLOOR, OMAXE SQUARE, PLOT NO.14, JASOLA DISTRICT CENTRE, NEW DELHI, 110025 | |
| Sprng Energy Private Limited | 100 |
| 301 WORLD TRADE TOWER, BARAKHAMBA LANE, NEW DELHI, 110001 | |
| BG India Energy Private Limited | 100 |
| BG India Energy Services Private Limited | 100 |
| BG India Energy Solutions Private Limited | 100 |
| **INDONESIA** | |
| TALAVERA OFFICE PARK 22-26TH FLOOR, JL. LETJEN. TB SIMATUPANG KAV. 22-26, JAKARTA SELATAN, JAKARTA, 12430 | |
| PT. Gresik Distribution Terminal | 100 |
| PT Shell LNG Indonesia | 100 |
| PT. Shell Indonesia | 100 |
| PT. Shell Manufacturing Indonesia | 100 |
| PT. Shell Solar Indonesia | 100 |
| WISMA GKBI, 39TH FLOOR, JL. JENDERAL SUDIRMAN KAV. 28, BENDUNGAN HILIR, TANAH ABANG, CENTRAL JAKARTA, 61151 | |
| PT EcoOils Jaya Indonesia | 90 |
| **IRELAND** | |
| 1ST FLOOR, TEMPLE HALL, TEMPLE ROAD, BLACKROCK, CO. DUBLIN, A94 K3K0 | |
| Asiatic Petroleum Company (Dublin) Limited | 100 |
| Irish Shell Trust Designated Activity Company | 100 |

| Company by country and address of incorporation | % |
|---|---|
| **ISLE OF MAN** | |
| EUROMANX HOUSE, FREEPORT, BALLASALLA, IM9 2AP | |
| Shell Marine Personnel (I.O.M.) Limited | 100 |
| Shell Ship Management Limited | 100 |
| FIRST NAMES HOUSE, VICTORIA ROAD, DOUGLAS, IM2 4DF | |
| Petrolon Europe Limited | 100 |
| Petrolon International Limited | 100 |
| **ITALY** | |
| CONTRADA SAN GIOVANNI IN GOLFO 140, CAMPOBASSO, 86100 | |
| Suncore 5 Amaranto 1 S.r.l. | 100 |
| GALLERIA VINTLER 17, BOLZANO, 39100 | |
| Anagni S.r.l. | 100 |
| Barberio S.r.l. | 100 |
| Baroni S.r.l. | 100 |
| Baroninuovi S.r.l | 100 |
| Bonacaro S.r.l. | 100 |
| Carlucci S.r.l. | 100 |
| Colangelo S.r.l. | 100 |
| Depalma S.r.l. | 100 |
| Dimassa S.r.l. | 100 |
| Mesagne S.r.l. | 100 |
| Natuzzi S.r.l. | 100 |
| Ottobiano S.r.l. | 100 |
| Paliano S.r.l. | 100 |
| Ricchiuti S.r.l. | 100 |
| Rotello S.r.l. | 100 |
| Sanfrancesco S.r.l. | 100 |
| Sasso S.r.l. | 100 |
| Serracapriola S.r.l. | 100 |
| Sicilia S.r.l. | 100 |
| Solar-Konzept Italia S.r.l. | 100 |
| Teodoro S.r.l. | 100 |
| Tuturano S.r.l. | 100 |
| Vulci S.r.l. | 100 |
| Zamboni S.r.l. | 100 |
| GALLERIA VINTLER 17, BOLZANO, 39100 AVV | |
| Guarini S.r.l. | 100 |
| PIAZZA SAN SILVESTRO 8, ROME, 00187 | |
| Shell International Exploration and Development Italia S.p.A. | 100 |
| Shell Italia E&P S.p.A. | 100 |
| VIA AUTOSTRADA 32, BERGAMO, 24126 | |
| Sonnen eServices Italia S.R.L. | 100 |
| Sonnen S.R.L. | 100 |
| VIA CLELIA BERTINI ATTILJ 34/D, ROME, 00137 | |
| Centrali Next Srl | 100 |
| VIA SUSA 40, TORINO, 10138 | |
| Shell Fleet Solutions Consorzio | 100 |
| VIA TORTONA 25, MILANO, 20144 | |
| BG Italia Power S.r.l | 100 |
| VIA VITTOR PISANI 16, MILANO, 20124 | |
| Alle S.R.L. | 100 |
| Aquila S.p.A. | 100 |
| Development S.R.L. | 100 |
| Marco Polo Solar 2 S.R.L. | 100 |
| Marco Polo Solar S.R.L. | 100 |
| Ramacca Solar S.R.L | 100 |
| Sardinia Solar Energy S.R.L. | 100 |
| Shell Energy Italia S.R.L. | 100 |
| Shell Italia Holding S.p.A. | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **ITALY** continued | |
| Shell Italia Oil Products S.R.L. | 100 |
| Shell Mobility Italia S.r.l. | 100 |
| VIA VITTORIO VENETO, 137, ROVIGO, 45100 | |
| Elios Energy S.r.l. | 100 |
| VIA GIOVANNI GIOLITTI, TORINO, 10123 | |
| MSTS Consorzio [b] | 100 |
| **JAPAN** | |
| 12F PACIFIC CENTURY PLACE MARUNOUCHI, 1-11-1, MARUNOUCHI, CHIYODA-KU, TOKYO, 100-6212 | |
| Shell Lubricants Japan K.K. | 100 |
| 13F FUKOKU SEIMEI BUILDING, 2-2-2 UCHISAIWAI-CHO, CHIYODA-KU, TOKYO, 100-0011 | |
| K.K. Red and Yellow | 100 |
| 2-1-13, MOTOAZABU, MINATO-KU, TOKYO, 106-0046 | |
| Fukuoka Offshore Wind Power No. 1 K.K | 80 |
| 4052-2 NAKATSU, AIKAWA-CHO, AIKO-GUN, KANAGAWA, 243-0303 | |
| K.K. SVC Tokyo | 100 |
| KUWANO BUILDING 2F, SHIBUYA-KU, TOKYO, 23-4JINGUMAE 6-CHOME | |
| Shell Solar Japan G.K. | 100 |
| 12F PACIFIC CENTURY PLACE MARUNOUCHI, 1-11-1, MARUNOUCHI, CHIYODA-KU, TOKYO, 100-6216 | |
| Shell Japan Limited | 100 |
| Sonnen Japan Kabushiki Kaisha | 100 |
| 1-11-1 MARUNOUCHI, CHIYODA-KU, TOKYO, 100-0005 | |
| Nagaoka Power Generation Limited | 100 |
| **JERSEY** | |
| 13 CASTLE STREET, ST HELIER, JE1 1ES | |
| Shell Service Station Properties Limited | 100 |
| **KENYA** | |
| LR 209/4266 KAMPALA ROAD,, P.O. BOX 46644, NAIROBI, 00100 | |
| Shell Bitumen East Africa Limited | 100 |
| SHELL & BP HOUSE,, HARAMBEE AVENUE, P.O. BOX 43561, NAIROBI, 00100 | |
| Shell Chemicals East Africa Limited | 100 |
| **LUXEMBOURG** | |
| 7, RUE DE L'INDUSTRIE, BERTRANGE, LUXEMBOURG, L-8005 | |
| Shell Luxembourgeoise Sarl | 100 |
| 7, RUE DE L'INDUSTRIE, BERTRANGE, LUXEMBOURG, L-8069 | |
| Shell Finance Luxembourg Sarl | 100 |
| **MACAO** | |
| 876 AVENIDA DA AMIZADE, EDIFICIO MARINA GARDENS, ROOM 310, 3RD FLOOR | |
| Shell Macau Petroleum Company Limited | 100 |
| **MALAYSIA** | |
| KENSINGTON GARDENS, NO. U1317, LOT 7616, JALAN JUMIDAR BUYONG, LABUAN F.T., 87000 | |
| Shell Treasury Malaysia (L) Limited | 100 |
| LEVEL 11, 1 SENTRAL, JALAN RAKYAT, KUALA LUMPUR SENTRAL, 50470 KUALA LUMPUR, MALAYSIA, KUALA LUMPUR, 50470 | |
| Shell Business Service Centre Sdn. Bhd. | 100 |
| Shell People Services Asia Sdn. Bhd. | 100 |
| LOT 303, JALAN PEKELILING, PASIR GUDANG INDUSTRIAL ESTATE, 81700 PASIR GUDANG, JOHOR, 81700 | |
| EcoInnovation Sdn. Bhd. | 100 |
| LOT NO. 303, JALAN PEKELILING, PASIR GUDANG INDUSTRIAL ESTATE, 81707 PASIR GUDANG, JOHOR, 81707 | |
| EcoOils (Negeri Sembilan) Sdn. Bhd. | 100 |
| SUITE 9D, LEVEL 9, MENARA ANSAR, 65 JALAN TRUS, 80000 JOHOR BAHRU, JOHOR, 80000 | |
| EcoOils Sdn. Bhd. | 100 |
| LEVEL 11, MENARA TH 1 SENTRAL, JALAN RAKYAT, KUALA LUMPUR SENTRAL, WILAYAH PERSEKUTUAN, KUALA LUMPUR, 50470 | |
| Pertini Vista Sdn. Bhd. | 100 |
| Provista Ventures Sdn. Bhd. | 100 |
| Sarawak Shell Berhad | 100 |
| Shell Global Solutions (Malaysia) Sdn. Bhd. | 100 |
| Shell Malaysia Trading Sendirian Berhad | 100 |
| Shell MDS (Malaysia) Sendirian Berhad | 72 |
| Shell New Ventures Malaysia Sdn. Bhd. [f] | 100 |
| Shell Sabah Selatan Sendirian Berhad | 100 |
| Shell Timur Sdn. Bhd. | 70 |
| **MAURITIUS** | |
| 33 EDITH CAVELL STREET, PORT LOUIS, 11324 | |
| Pennzoil Products International Company | 100 |
| 6TH FLOOR, TOWER A, 1 CYBERCITY, EBENE, 72201 | |
| BG Mauritius LNG Holdings Ltd | 100 |
| LES CASCADES EDITH CAVELL STREET, PORT LOUIS | |
| Solenergi Power Private Limited | 100 |
| C/O OCORIAN CORPORATE SERVICES LTD, 6TH FLOOR TOWER A, 1 CYBERCITY, EBENE | |
| BG Mumbai Holdings Limited | 100 |
| **MEXICO** | |
| AVENIDA PASEO DE LAS PALMAS 340, 1ST FLOOR, COLONIA LOMAS DE CHAPULTEPEC, DELEGACIÓN MIGUEL HIDALGO, CIUDAD DE MÉXICO, 11000 | |
| Gas Del Litoral, S. de R.L. de C.V. | 75 |
| Shell Energy Mexico, S.A. de C.V. | 100 |
| Shell Exploracion y Exrtraccion de Mexico, S.A. de C.V. | 100 |
| Shell México Gas Natural, S. de R.L. de C.V. | 100 |
| Shell México, S.A. de C.V. | 100 |
| Shell Servicios México, S.A. de C.V. | 100 |
| Shell Solutions Mexico S.A. de C.V. | 100 |
| Shell Trading México, S. de R.L. de C.V. | 100 |
| **NETHERLANDS** | |
| 2E HAVENSTRAAT 5B, IJMUIDEN, 1976 CE | |
| Noordzeewind C.V. [c] | 100 |
| CAREL VAN BYLANDTLAAN 16, THE HAGUE, 2596 HR | |
| Shell International Exploration and Production B.V. | 100 |
| CAREL VAN BYLANDTLAAN 30, DEN HAAG, 2596 HP | |
| Solar-EW II B.V. | 100 |
| CAREL VAN BYLANDTLAAN 30, THE HAGUE, 2596 HR | |
| Attiki Gas B.V. | 100 |
| B.V. Dordtsche Petroleum Maatschappij | 100 |
| B.V. Petroleum Assurantie Maatschappij | 100 |
| BG Gas Brazil E&P 12 B.V. | 100 |
| BG Gas Brazil Holdings B.V. | 100 |
| BG GAS INTERNATIONAL HOLDINGS BV | 100 |
| BG Gas Netherlands Holdings B.V. | 100 |
| BG Gas Sao Paulo Investments B.V. | 100 |
| BJSA Exploration and Production B.V. | 100 |
| Chosun Shell B.V. | 100 |
| Energiepark Pottendijk B.V. | 100 |
| HKN LP 1 B.V. | 100 |
| HKN LP 2 B.V. | 100 |
| HKN LP 3 B.V. | 100 |
| HKN LP 4 B.V. | 100 |
| HKN LP 5 B.V. | 100 |
| HKN LP 6 B.V. | 100 |
| Integral Investments B.V. | 100 |
| Jordan Oil Shale Company B.V. | 100 |
| KE STP Company B.V. | 100 |
| KE Suriname B.V. | 100 |
| LNG Shipping Operation Services Netherlands B.V. | 100 |
| Netherlands Alng Holding Company B.V. | 100 |
| Portfolio Holdings B.V. | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **NETHERLANDS** continued | |
| Pottendijk Energie B.V. | 100 |
| Pottendijk Wind B.V. | 100 |
| Pottendijk Zon B.V. | 100 |
| POWER LINE UTILISING GRID B.V. | 100 |
| Raffinaderij Shell Mersin N.V. | 100 |
| RESCO B.V. | 100 |
| Rotterdam Hydrogen Company B.V. | 100 |
| Shell Abu Dhabi B.V. | 100 |
| Shell Additives Holdings (I) B.V. | 100 |
| Shell Additives Holdings (II) B.V. | 100 |
| Shell Albania Block 4 B.V. | 100 |
| Shell Brazil Holding B.V. | 100 |
| Shell Business Development Central Asia B.V. | 100 |
| Shell Caspian B.V. | 100 |
| Shell Caspian Pipeline Holdings B.V. | 100 |
| Shell China B.V. | 100 |
| Shell China Holdings B.V. | 100 |
| Shell Deepwater Borneo B.V. | 100 |
| Shell Deepwater Tanzania B.V. | 100 |
| Shell Development Iran B.V. | 100 |
| Shell E and P Offshore Services B.V. | 100 |
| Shell Egypt N.V. [d] | 100 |
| Shell Energy Europe B.V. | 100 |
| Shell EP Holdings (EE&ME) B.V. | 100 |
| Shell EP Middle East Holdings B.V. | 100 |
| Shell EP Oman B.V. | 100 |
| Shell EP Russia Investments (III) B.V. | 100 |
| Shell EP Russia Investments (V) B.V. | 100 |
| Shell EP Somalia B.V. | 100 |
| Shell EP Wells Equipment Services B.V. | 100 |
| Shell Exploration and Production (100) B.V. | 100 |
| Shell Exploration and Production (101) B.V. | 100 |
| Shell Exploration and Production (102) B.V. | 100 |
| Shell Exploration and Production (103) B.V. | 100 |
| Shell Exploration and Production (107) B.V. | 100 |
| Shell Exploration and Production (82) B.V. | 100 |
| Shell Exploration and Production (84) B.V. | 100 |
| Shell Exploration and Production (89) B.V. | 100 |
| Shell Exploration and Production (92) B.V. | 100 |
| Shell Exploration and Production (93) B.V. | 100 |
| Shell Exploration and Production (94) B.V. | 100 |
| Shell Exploration and Production (96) B.V. | 100 |
| Shell Exploration and Production (99) B.V. | 100 |
| Shell Exploration and Production (LI) B.V. | 100 |
| Shell Exploration and Production (LVIII) B.V. | 100 |
| Shell Exploration and Production (LXI) B.V. | 100 |
| Shell Exploration and Production (LXII) B.V. | 100 |
| Shell Exploration and Production (LXV) B.V. | 100 |
| Shell Exploration and Production (LXVI) B.V. | 100 |
| Shell Exploration and Production (LXXI) B.V. | 100 |
| Shell Exploration and Production (LXXV) B.V. | 100 |
| Shell Exploration and Production Brunei B.V. | 100 |
| Shell Exploration and Production Holdings B.V. | 100 |
| Shell Exploration and Production Investments B.V. | 100 |
| Shell Exploration and Production Mauritania (C10) B.V. | 100 |
| Shell Exploration and Production Mauritania (C19) B.V. | 100 |
| Shell Exploration and Production Services (RF) B.V. | 100 |
| Shell Exploration and Production South Africa B.V. | 100 |
| Shell Exploration and Production Ukraine Investments (I) B.V. | 100 |
| Shell Exploration and Production Ukraine Investments (II) B.V. | 100 |
| Shell Exploration and Production West-Siberia B.V. | 100 |
| Shell Exploration B.V. | 100 |
| Shell Exploration Company (RF) B.V. | 100 |
| Shell Exploration Company (West) B.V. | 100 |
| Shell Exploration Company B.V. | 100 |
| Shell Exploration Venture Services B.V. | 100 |
| Shell Finance (Netherlands) B.V. | 100 |
| Shell Gas & Power Developments B.V. | 100 |
| Shell Gas (LPG) Holdings B.V. | 100 |
| Shell Gas B.V. | 100 |
| Shell Gas Iraq B.V. | 100 |
| Shell Gas Nigeria B.V. | 100 |
| Shell Gas Venezuela B.V. | 100 |
| Shell Generating (Holding) B.V. | 100 |
| Shell Geothermal B.V. | 100 |
| Shell Global Solutions (Eastern Europe) B.V. | 100 |
| Shell Global Solutions International B.V. | 100 |
| Shell Global Solutions Services B.V. | 100 |
| Shell HKW-A LP 1 B.V. | 100 |
| Shell HKW-A LP 2 B.V. | 100 |
| Shell HKW-A LP 3 B.V. | 100 |
| Shell HKW-A LP 4 B.V. | 100 |
| Shell HKW-A LP 5 B.V. | 100 |
| Shell HKW-A LP 6 B.V. | 100 |
| Shell HKW-A LP 7 B.V. | 100 |
| Shell HKW-B B.V. | 100 |
| Shell HKW-B LP 1 B.V. | 100 |
| Shell HKW-B LP 2 B.V. | 100 |
| Shell HKW-B LP 3 B.V. | 100 |
| Shell HKW-B LP 4 B.V. | 100 |
| Shell HKW-B LP 5 B.V. | 100 |
| Shell HKW-B LP 6 B.V. | 100 |
| Shell HKW-B LP 7 B.V. | 100 |
| Shell Hydrogen Operations & Production BV | 100 |
| Shell Information Technology International B.V. | 100 |
| Shell Integrated Gas Oman B.V. | 100 |
| Shell International B.V. | 100 |
| Shell International Finance B.V.* | 100 |
| Shell Internationale Research Maatschappij B.V. | 100 |
| Shell Internet Ventures B.V. | 100 |
| Shell Iraq Petroleum Development B.V. | 100 |
| Shell Iraq Services B.V. | 100 |
| Shell Kazakhstan B.V. | 100 |
| Shell Kazakhstan Development B.V. | 100 |
| Shell Kuwait Exploration and Production B.V. | 100 |
| Shell LNG Bunkering B.V. | 100 |
| Shell LNG Port Spain B.V. | 100 |
| Shell Low Carbon Fuels B.V. | 100 |
| Shell Manufacturing Services B.V. | 100 |
| Shell Mozambique B.V. | 100 |
| Shell Namibia Upstream B.V. | 100 |
| Shell Nanhai B.V. | 100 |
| Shell Nederland B.V. | 100 |
| Shell Netherlands Canada Financing B.V. | 100 |
| Shell New Energies Holding Europe B.V. | 100 |
| Shell New Energies NL B.V. | 100 |
| Shell Offshore (Personnel) Services B.V. | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **NETHERLANDS** continued | |
| Shell Offshore Services B.V. | 100 |
| Shell Offshore Upstream South Africa B.V. | 100 |
| Shell OKLNG Holdings B.V. | 100 |
| Shell Olie OG Gas Holding B.V. [h] | 100 |
| Shell Oman Exploration and Production B.V. | 100 |
| Shell Overseas Holdings (Oman) B.V. | 100 |
| Shell Overseas Investments B.V. | 100 |
| Shell Petroleum N.V.* | 100 |
| Shell Project Development (VIII) B.V. | 100 |
| Shell RDS Holding B.V. | 100 |
| Shell Renewables and Energy Solutions Europe B.V. | 100 |
| Shell Sakhalin Holdings B.V. | 100 |
| Shell Sakhalin Services B.V. | 100 |
| Shell Salym Development B.V. | 100 |
| Shell Sao Tome and Principe B.V. | 100 |
| Shell Services Oman B.V. | 100 |
| Shell Shared Services (Asia) B.V. | 100 |
| Shell South Syria Exploration B.V. | 100 |
| Shell Trademark Management B.V. | 100 |
| Shell Trading Russia B.V. | 100 |
| Shell Upstream Albania B.V. | 100 |
| Shell Upstream Development B.V. | 100 |
| Shell Upstream Indonesia Services B.V. | 100 |
| Shell Upstream Turkey B.V. | 100 |
| SHELL VENTURES BV | 100 |
| Shell Ventures Investments B.V. | 100 |
| Shell Western LNG B.V. | 100 |
| Shell Windenergy Netherlands B.V. | 100 |
| Shell Windenergy NZW I B.V. | 100 |
| Solar-EP II B.V. | 100 |
| Syria Shell Petroleum Development B.V. [g] | 65 |
| The Green Near Future 5 B.V. | 100 |
| Solar-EP I B.V. | 100 |
| CHEMIEWEG 25, P.O. BOX 6060, MOERDIJK, 4780 LN | |
| Shell Nederland Chemie B.V. [f] | 100 |
| GRAAF ENGELBERTLAAN 75, BREDA, 4837DS | |
| Next Kraftwerke Benelux B.V. | 100 |
| HERIKERBERGWEG 28, AMSTERDAM, 1101 | |
| STICHTING FOR THE HOLDING AND ADMIN OF SHARES UNDER THE RDS EMPLOYEE SHARE PLANS | 100 |
| RIGAKADE 20, AMSTERDAM, 1013 BC | |
| Shell EV Charging Solutions B.V. | 100 |
| VOLMERLAAN 5, RIJSWIJK, 2288 GC | |
| MS Europe B.V. | 100 |
| VONDELINGENWEG 601, VONDELINGENPLAAT, ROTTERDAM, 3196 KK | |
| Shell MSPO 2 Holding B.V. | 100 |
| Shell Nederland Raffinaderij B.V. | 100 |
| VOORSTRAAT 67, GROOT-AMMERS, 2964AJ | |
| PTC Kampen B.V. | 80 |
| WEENA 505, ROTTERDAM, 3013 AL | |
| B.R.E. B.V. | 100 |
| Euroshell Cards B.V. | 100 |
| Shell Chemicals Europe B.V. | 100 |
| Shell Downstream Services International B.V. | 100 |
| Shell Energy Retail B.V. | 100 |
| Shell Lubricants Supply Company B.V. | 100 |
| Shell Nederland Verkoopmaatschappij B.V. | 100 |
| Shell TapUp B.V. | 100 |
| Shell Trading Rotterdam B.V. | 100 |
| Snijders Olie B.V. | 100 |
| Tankstation Exploitatie Maatschappij Holding B.V. | 100 |
| Waalbrug Exploitatie Maatschappij B.V. | 100 |
| CAREL VAN BYLANDTLAAN 30, GRAVENHAGE, 2596 HR | |
| Noordzeewind B.V. | 100 |
| **NEW ZEALAND** | |
| C/O BAKER TILLY STAPLES RODWAY TARANAKI LIMITED, 109-113 POWDERHAM STREET, P.O. BOX 146, NEW PLYMOUTH, TARANAKI, 4340 | |
| Energy Finance NZ Limited | 100 |
| Energy Holdings Offshore Limited | 100 |
| Shell (Petroleum Mining) Company Limited | 100 |
| Shell Energy Asia Limited | 100 |
| Shell Investments NZ Limited | 100 |
| Southern Petroleum No Liability | 100 |
| MERCER (N.Z.) LIMITED, FLOOR 2, 20 CUSTOMHOUSE QUAY, WELLINGTON, 6011 | |
| Shell New Zealand Pensions Limited | 100 |
| **NIGERIA** | |
| FREEMAN HOUSE, 21/22 MARINA, P.M.B. 2418, LAGOS | |
| Delta Business Development Limited | 100 |
| Shell Exploration and Production Africa Limited | 100 |
| Shell Nigeria Business Operations Limited | 100 |
| Shell Nigeria Closed Pension Fund Administrator Ltd | 100 |
| Shell Nigeria Exploration and Production Company Ltd | 100 |
| Shell Nigeria Exploration Properties Charlie Limited | 100 |
| Shell Nigeria Gas Ltd (SNG) | 100 |
| Shell Nigeria Infrastructure Development Limited | 100 |
| SHELL NIGERIA SUPPORT SERVICES LTD | 100 |
| Shell Nigeria Oil Products Limited (SNOP) | 100 |
| Shell Nigeria Ultra Deep Limited | 100 |
| Shell Nigeria Upstream Ventures Limited | 100 |
| Shell Thrift & Loan Fund Trustees Nig Ltd | 99 |
| SHELL INDUSTRIAL AREA, P.O. BOX 263, RIVERS STATE, PORT HARCOURT, 500272 | |
| The Shell Petroleum Development Company of Nigeria Limited | 100 |
| FREEMAN HOUSE, 21/22 MARINA, LAGOS | |
| All on Partnerships for Energy Access Limited by Guarantee | 100 |
| BG Exploration and Production Nigeria Limited | 100 |
| BG Upstream A Nigeria Limited | 100 |
| **NORWAY** | |
| TANKVEGEN 1, TANANGER, 4056 | |
| A/S Norske Shell | 100 |
| **OMAN** | |
| BAIT SALAM, SALAM SQUARE, P.O. BOX 74, MUSCAT, P.C. 116 | |
| Shell Development Oman LLC | 100 |
| P.O. BOX 38, MINA AL FAHAL, MUSCAT, 116 | |
| Shell Oman Marketing Company SAOG | 49 |
| P.O. BOX 398, SOHAR FREE ZONE, NORTH AL BATINAH GOVERNORATE, SOHAR, 322 | |
| Sohar Solar Qabas (FZC) LLC | 100 |
| **PAKISTAN** | |
| SHELL HOUSE, 6 CH. KHALIQUZZAMAN ROAD, KARACHI, 75530 | |
| Shell Energy Pakistan (Private) Limited | 100 |
| Shell Pakistan Limited | 77 |
| **PERU** | |
| CALLE DEAN VALDIVIA 111, OFICINA 802, SAN ISIDRO, LIMA, LIMA 27 | |
| Shell GNL Peru S.A.C. | 100 |
| Shell Operaciones Peru S.A.C. | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **PHILIPPINES** | |
| 41ST FLOOR, THE FINANCE CENTER, 26TH STREET CORNER 9TH AVENUE, BONIFACIO GLOBAL CITY, TAGUIG, METRO MANILA, 1635 | |
| Pilipinas Shell Petroleum Corporation | 55 |
| Shell Chemicals Philippines, Inc. | 100 |
| Shell Energy Philippines Inc | 100 |
| Shell Gas and Energy Philippines Corporation | 100 |
| Shell Solar Philippines Corporation | 100 |
| SUBIC BAY FREE PORT ZONE, OLANGAPO CITY, 2200 | |
| Shell Gas Trading (Asia Pacific), Inc. | 100 |
| **POLAND** | |
| ASTORIA, PRZESKOK 2, WARSAW, 00-032 | |
| Next Kraftwerke Sp. z o.o. | 100 |
| BITWY WARSZAWSKIEJ 1920 ROKU 7A, WARSAW, 02-366 | |
| Amber Baltic Wind 1 Sp z o.o. | 100 |
| Amber Baltic Wind 10 Sp z o.o. | 100 |
| Amber Baltic Wind 11 Sp z o.o. | 100 |
| Amber Baltic Wind 2 Sp z o.o. | 100 |
| Amber Baltic Wind 3 Sp z o.o. | 100 |
| Amber Baltic Wind 4 Sp z o.o. | 100 |
| Amber Baltic Wind 5 Sp z o.o. | 100 |
| Amber Baltic Wind 6 Sp z o.o. | 100 |
| Amber Baltic Wind 7 Sp z o.o. | 100 |
| Amber Baltic Wind 8 Sp z o.o. | 100 |
| Amber Baltic Wind 9 Sp z o.o. | 100 |
| UL. BITWY WARSZAWSKIEJ 1920 R. NR 7A, WARSAW, 02-366 | |
| Shell Polska Sp. z o.o. | 100 |
| UL. PAWIA 21, KRAKOW, 31-154 | |
| Shell Energy Retail Poland Sp. z o.o. | 100 |
| UL. BITWY WARSZAWSKIEJ 1920R. 7A, WARSAW, 02-366 | |
| Shell Mobility Polska Sp. z o.o. | 100 |
| **PUERTO RICO** | |
| P.O. BOX 186, YABUCOA, PR 00767-0186 | |
| Station Managers of Puerto Rico, Inc. | 100 |
| **QATAR** | |
| QATAR SCIENCE & TECHNOLOGY PARK TECH1, OFFICE 101, P.O. BOX 3747, DOHA | |
| Qatar Shell Research & Technology Centre QSTP-LLC | 100 |
| TOWER 121, 6TH FLOOR, ZONE NO.66, STREET NO.100, BUILDING.121, DOHA, P.O. BOX 3747 | |
| Qatar Shell Service Company W.L.L. | 100 |
| **ROMANIA** | |
| ING. GEORGE CONSTANTINESCU STREET, NO. 4B AND 2-4, BUILDING A, FLOOR 7, OFFICE 727, DISTRICT 2, BUCHAREST, 20337 | |
| Shell Romania S.R.L. | 100 |
| **RUSSIA** | |
| 9 LESNAYA STREET, FLOOR 4, MOSCOW, 125196 | |
| Limited Liability Company "Shell Neftegaz Development (V)" | 100 |
| LLC Shell NefteGaz Development | 100 |
| Syriaga Neftegaz Development LLC | 100 |
| **SAINT KITTS AND NEVIS** | |
| MORNING STAR HOLDINGS LIMITED, MAIN STREET, SUITE 556, CHARLESTOWN | |
| Shell Oil & Gas (Malaysia) LLC | 90 |
| **SAINT LUCIA** | |
| MERCURY COURT, CHOC ESTATE, CASTRIES | |
| BG Atlantic 2/3 Holdings Limited | 100 |
| **SAUDI ARABIA** | |
| P.O. BOX 16996, RIYADH, 11474 | |
| Shell Global Solutions Saudi Arabia LLC | 100 |
| **SINGAPORE** | |
| 1 COMMONWEALTH LANE, #09-30, ONE COMMONWEALTH, SINGAPORE, 149544 | |
| Zeco Systems Pte. Ltd. | 99 |
| 54 CHULIA STREET, 49-01 OCBC CENTRE, OCBC CENTRE, 04951 | |
| EcoOils Limited | 100 |
| THE METROPOLIS TOWER 1, 9 NORTH BUONA VISTA DRIVE, #07-01, SINGAPORE, 138588 | |
| BG Asia Pacific Holdings Pte. Limited | 100 |
| BG Exploration & Production Myanmar Pte. Ltd. | 100 |
| BG Myanmar Pte. Ltd. | 100 |
| Shell Catalysts & Technologies Pte. Ltd. | 100 |
| Shell Chemicals Seraya Pte. Ltd. | 100 |
| Shell Eastern Petroleum (Pte) Ltd [f] | 100 |
| Shell Eastern Trading (Pte) Ltd [f] | 100 |
| Shell Gas Marketing Pte. Ltd. | 100 |
| Shell Integrated Gas Thailand Pte.Limited | 100 |
| Shell International Shipping Services (Pte) Ltd | 100 |
| Shell Myanmar Energy Pte. Ltd. | 100 |
| Shell Pulau Moa Pte Ltd | 100 |
| Shell Tankers (Singapore) Private Limited | 100 |
| Shell Treasury Centre East (Pte) Ltd | 100 |
| 8 MARINA VIEW, #11-03, ASIA SQUARE TOWER 1, SINGAPORE, 18960 | |
| BG Asia Pacific Services Pte. Ltd. | 100 |
| 10 COLLYER QUAY, #10-01, OCEAN FINANCIAL CENTRE, SINGAPORE, 49315 | |
| BG INSURANCE COMPANY (SINGAPORE) PTE. LTD. | 100 |
| **SLOVAKIA** | |
| EINSTEINOVA 23, BRATISLAVA, 851 01 | |
| SHELL Slovakia s.r.o. | 100 |
| **SLOVENIA** | |
| BRAVNICARJEVA ULICA 13, LJUBLJANA, 1000 | |
| Shell Adria d.o.o. | 100 |
| **SOUTH AFRICA** | |
| 10 RUA VASCO DE GAMA, FORESHORE, CAPE TOWN, 8000 | |
| Shell Global Customer Services Centre Cape Town (Pty) Ltd | 100 |
| TWICKENHAM, THE CAMPUS, 57 SLOAN STREET, EPSOM DOWNS, BRYANSTON, 2021 | |
| Shell Downstream South Africa (Pty) Ltd | 72 |
| Shell South Africa Energy (Pty) Ltd | 100 |
| Shell South Africa Exploration (Pty) Limited | 100 |
| Shell South Africa Holdings (Pty) Ltd | 100 |
| STISA (Pty) Limited | 72 |
| **SOUTH KOREA** | |
| 7FL., CHONGKUNDANG BUILDING, 8, CHOONGJEONG-RO, SEOUL, 3742 | |
| Shell Renewables Korea Co., Ltd. | 100 |
| NO. 250, SINSUN-RO, NAM-GU, BUSAN, 48561 | |
| Hankook Shell Oil Company | 54 |
| UNIT 210, 164, JANGCHUN-RO, JUNG-GU, ULSAN, 44530 | |
| MunmuBaram Co.,Ltd. | 80 |
| **SPAIN** | |
| PASEO DE LA CASTELLANA, 257-6°, MADRID, 28046 | |
| BG ENERGY IBERIAN HOLDINGS S.L. | 100 |
| Shell España, S.A. | 100 |
| Shell Spain LNG, S.A.U. | 100 |
| C/ CLAUDIO GUERIN, SEVILLA, 41005 | |
| EXAENERGIA S.L.U. | 100 |
| AVENIDA DE GIRONA 2, GIRONA, OLOT, 17800 | |
| SONNEN IBÉRICA, S.L. | 100 |
| 2 FLOOR 18 TORRE SEVILLA, PLAZA ALCALDE SANCHEZ MONTESEIRIN, SEVILLA, 41092 | |
| Shell Desarrollo 5, S.L. | 100 |
| Shell Desarrollo 7, S.L. | 100 |
| Shell Desarrollo 10 S.L. | 100 |
| Shell Desarrollo 11 S.L. | 100 |
| Shell Desarrollo 12 S.L. | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **SPAIN** continued | |
| Shell Desarrollo 14 S.L. | 100 |
| Shell Desarrollo 1 S.L. | 100 |
| Shell Desarrollo 2 S.L. | 100 |
| Shell Desarrollo 3 S.L. | 100 |
| Shell Desarrollo 4 S.L. | 100 |
| **SWEDEN** | |
| DELOITTE, P.O. BOX 450, ÖSTERSUND, 831 26 | |
| BG International Services AB | 100 |
| VASAGATAN 28, STOCKHOLM, 111 20 | |
| Shell Aviation Sweden AB | 100 |
| **SWITZERLAND** | |
| BAARERMATTE, BAAR, 6340 | |
| Shell (Switzerland) AG | 100 |
| Shell Brands International AG | 100 |
| Shell Holdings Switzerland AG | 100 |
| Shell Trading Switzerland AG | 100 |
| Solen Versicherungen AG | 100 |
| BAHNHOFSTR. 10, ZURICH, 8001 | |
| Suisse Next GmbH | 100 |
| STEIGERHUBELSTRASSE 8, BERN, 3008 | |
| Shell Lubricants Switzerland AG | 100 |
| **TAIWAN** | |
| INTERNATIONAL TRADE BUILDING, ROOM 2001, 20TH FLOOR, 333, KEELUNG ROAD SECTION 1, TAIPEI, 110 | |
| Shell Taiwan Limited | 100 |
| **TANZANIA** | |
| 1ST FLOOR KILWA HOUSE, PLOT 369, TOURE DRIVE, OYSTER BAY, P.O. BOX 105833, DAR ES SALAAM | |
| Shell Tanzania Limited | 100 |
| Tanzania LNG Limited | 100 |
| **THAILAND** | |
| 10 SOONTHORNKOSA ROAD, KLONGTOEY, BANGKOK, 10110 | |
| Pattanadhorn Company Limited | 42 |
| Sahapanichkijphun Company Limited | 42 |
| Shell Global Solutions (Thailand) Limited | 100 |
| Shell Global Solutions Holdings (Thailand) Limited | 100 |
| Shell Global Solutions Service (Thailand) Company Limited | 100 |
| Unitas Company Limited | 42 |
| 90 CYBERWORLD TOWER A, ROOM A 2401, 24TH FLOOR, RATCHADAPISEK ROAD KWAENG HUAYKWANG, KHET HUAY KWANG, BANGKOK, 10110 | |
| Thai Energy Company Limited | 100 |
| **TRINIDAD AND TOBAGO** | |
| 5 SAINT CLAIR AVENUE, SAINT CLAIR, PORT OF SPAIN | |
| Shell Gas Supply Trinidad Limited | 100 |
| Shell LNG T&T Ltd | 100 |
| Shell Manatee Limited | 100 |
| Shell T&T Investments Limited | 100 |
| Shell Trinidad Central Block Limited | 100 |
| Shell Trinidad North Coast Limited | 100 |
| TRINLING Limited | 100 |
| SHELL ENERGY HOUSE, 5 ST. CLAIR AVENUE, PORT OF SPAIN | |
| Shell Trinidad Ltd | 100 |
| AVENIDA BRIGADEIRO FARIA LIMA, PORT OF SPAIN, TRINIDAD | |
| SHELL RENEWABLES CARIBBEAN LIMITED | 100 |
| **TUNISIA** | |
| IMMEUBLE LE TANIT DU LAC, RUE DU LAC WINDERMERE, LES BERGES DU LAC, TUNIS, 1053 | |
| Shell Tunisia LPG S.A. | 100 |
| Tunisian Processing S.A. | 100 |

| Company by country and address of incorporation | % |
|---|---|
| **TURKEY** | |
| GULBAHAR MAH.SALIH TOZAN SOK., KARAMANCILAR IS MERKEZI B BLOK NO:18, ESENTEPE, SISLI, ISTANBUL, 34394 | |
| Shell & Turcas Petrol A.S. | 70 |
| Shell Enerji A.S. | 100 |
| Shell Petrol A.S. | 70 |
| **UK** | |
| 1 ALTENS FARM ROAD, NIGG, ABERDEEN, AB12 3FY | |
| Shell Trustee Solutions Limited | 100 |
| 10 FLEET PLACE, LONDON, EC4M 7QS | |
| Meteor Lead Limited | 100 |
| 10 FLEET PLACE, LONDON, EC4M 7RB | |
| BG Global Employee Resources Limited | 100 |
| 15 CANADA SQUARE, LONDON, E14 5GL | |
| Enterprise Oil Operations Limited | 100 |
| 16 GREAT QUEEN STREET, COVENT GARDEN, LONDON, WC2B 5AH | |
| Ubitricity Distributed Energy Systems UK Limited | 100 |
| 3 WATERHOUSE SQUARE, 138 - 142 HOLBORN, LONDON, EC1N 2SW | |
| Shell EV Charging Solutions UK Limited | 100 |
| 30 FINSBURY SQUARE, LONDON, EC2A 1AG | |
| BG Employee Shares Trustees Limited | 100 |
| BG Group Employee Shares Trustees Limited | 100 |
| BG Netherlands | 100 |
| BG Norge Limited | 100 |
| BG Overseas Investments Limited | 100 |
| Shell Chemicals (Hellas) Limited | 100 |
| 7 EXCHANGE CRESCENT, CONFERENCE SQUARE, EDINBURGH, EH3 8AN | |
| BG General Partner Limited | 100 |
| CANTERBURY COURT, KENNINGTON PARK, 1-3 BRIXTON ROAD, LONDON, SW9 6DE | |
| Limejump Intermediate 1 Limited | 100 |
| Limejump Ltd | 100 |
| Limejump Virtual 1 Limited | 100 |
| Limejump Virtual 10 Limited | 100 |
| Limejump Virtual 11 Limited | 100 |
| Limejump Virtual 12 Limited | 100 |
| Limejump Virtual 13 Limited | 100 |
| Limejump Virtual 14 Limited | 100 |
| Limejump Virtual 15 Limited | 100 |
| Limejump Virtual 2 Limited | 100 |
| Limejump Virtual 3 Limited | 100 |
| Limejump Virtual 4 Limited | 100 |
| Limejump Virtual 5 Limited | 100 |
| Limejump Virtual 6 Limited | 100 |
| Limejump Virtual 7 Limited | 100 |
| Limejump Virtual 8 Limited | 100 |
| Limejump Virtual 9 Limited | 100 |
| SHELL CENTRE, LONDON, SE1 7NA | |
| BG CENTRAL HOLDINGS LIMITED | 100 |
| BG Cyprus Limited | 100 |
| BG Delta Limited | 100 |
| BG Energy Capital Plc | 100 |
| BG Energy Holdings Limited | 100 |
| BG Energy Marketing Limited | 100 |
| BG Equatorial Guinea Limited | 100 |
| BG Gas Services Limited | 100 |
| BG General Holdings Limited | 100 |
| BG Great Britain Limited | 100 |
| BG GROUP LIMITED | 100 |
| BG Group Pension Trustees Limited | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **UK** continued | |
| BG Group Trustees Limited | 100 |
| BG Intellectual Property Limited | 100 |
| BG International Limited | 100 |
| BG Karachaganak Limited | 100 |
| BG Kenya L10A Limited | 100 |
| BG Kenya L10B Limited | 100 |
| BG LNG Investments Limited | 100 |
| BG Mongolia Holdings Limited | 100 |
| BG Netherlands Financing Unlimited | 100 |
| BG North Sea Holdings Limited | 100 |
| BG OKLNG Limited | 100 |
| BG Overseas Holdings Limited | 100 |
| BG Overseas Limited | 100 |
| BG Rosetta Limited | 100 |
| BG South East Asia Limited | 100 |
| BG Subsea Well Project Limited | 100 |
| BG Tanzania Holdings Limited | 100 |
| BG Trinidad LNG Limited | 100 |
| BG UK Holdings Limited | 100 |
| Brazil Shipping I Limited | 100 |
| B-Snug Limited | 100 |
| CRI Catalyst Company Europe Limited | 100 |
| Derivatives Trading Atlantic Limited | 100 |
| Enterprise Oil Limited | 100 |
| Enterprise Oil Middle East Limited | 100 |
| Enterprise Oil Norge Limited | 100 |
| Enterprise Oil U.K. Limited | 100 |
| Gainrace Limited | 100 |
| Glossop Limited | 100 |
| GOGB Limited | 100 |
| Machine Max Limited | 100 |
| Methane Services Limited | 100 |
| Murphy Schiehallion Limited | 100 |
| Private Oil Holdings Oman Limited | 85 |
| Sabah Shell Petroleum Company Limited | 100 |
| Saxon Oil Limited | 100 |
| Saxon Oil Miller Limited | 100 |
| SELAP LIMITED | 100 |
| SHELL AIRCRAFT LIMITED | 100 |
| Shell Aviation Limited | 100 |
| Shell Business Development Middle East Limited | 100 |
| Shell Caribbean Investments Limited | 100 |
| Shell Catalysts & Technologies Limited | 100 |
| Shell Chemical Company of Eastern Africa Limited | 100 |
| Shell Chemicals Limited | 100 |
| Shell Chemicals U.K. Limited | 100 |
| Shell China Exploration and Production Company Limited | 100 |
| Shell Clair UK Limited | 100 |
| Shell Club Corringham Limited | 100 |
| SHELL COMPANY (HELLAS) LIMITED | 100 |
| Shell Company (Pacific Islands) Limited | 100 |
| Shell Corporate Director Limited | 100 |
| Shell Corporate Secretary Limited | 100 |
| Shell Distributor (Holdings) Limited | 100 |
| Shell Employee Benefits Trustee Limited | 100 |
| Shell Energy Europe Limited | 100 |
| Shell Energy Investments Limited | 100 |
| SHELL ENERGY SUPPLY UK LTD | 100 |

| Company by country and address of incorporation | % |
|---|---|
| Shell EP Offshore Ventures Limited | 100 |
| Shell Exploration and Production Tanzania Limited | 100 |
| Shell Finance GB Limited | 100 |
| Shell Gas Holdings (Malaysia) Limited | 100 |
| Shell Gas Marketing U.K Limited | 100 |
| Shell Global LNG Limited | 100 |
| Shell Hasdrubal Limited | 100 |
| Shell Holdings (U.K.) Limited | 100 |
| Shell Information Technology International Limited | 100 |
| Shell International Gas Limited | 100 |
| Shell International Limited | 100 |
| Shell International Petroleum Company Limited | 100 |
| Shell International Trading and Shipping Company Limited | 100 |
| Shell Malaysia Limited | 100 |
| Shell Marine Products Limited | 100 |
| Shell New Energies Holding Limited | 100 |
| Shell New Energies UK Ltd | 100 |
| Shell Overseas Holdings Limited | 100 |
| Shell Overseas Services Limited | 100 |
| Shell Pension Reserve Company (SIPF) Limited | 100 |
| Shell Pension Reserve Company (SOCPF) Limited | 100 |
| Shell Pension Reserve Company (UK) Limited | 100 |
| Shell Pensions Trust Limited | 100 |
| Shell Property Company Limited | 100 |
| Shell QGC Holdings Limited [f] | 100 |
| Shell QGC Midstream 1 Limited [f] | 100 |
| Shell QGC Midstream 2 Limited | 100 |
| Shell QGC Upstream 1 Limited | 100 |
| Shell QGC Upstream 2 Limited | 100 |
| Shell Research Limited | 100 |
| Shell Response Limited | 100 |
| Shell South Asia LNG Limited | 100 |
| Shell Supplementary Pension Plan Trustees Limited | 100 |
| Shell Tankers (U.K.) Limited | 100 |
| Shell Trading International Limited | 100 |
| Shell Treasury Centre Limited | 100 |
| Shell Treasury Dollar Company Limited | 100 |
| Shell Treasury Euro Company Limited | 100 |
| Shell Treasury UK Limited | 100 |
| Shell Trinidad 5(A) Limited | 100 |
| Shell Trinidad and Tobago Limited | 100 |
| Shell Trinidad Block E Limited | 100 |
| Shell Tunisia Upstream Limited | 100 |
| Shell U.K. Limited | 100 |
| Shell U.K. North Atlantic Limited | 100 |
| Shell U.K. Oil Products Limited | 100 |
| Shell Upstream Overseas Services (I) Limited | 100 |
| Shell Ventures New Zealand Limited | 100 |
| Shell Ventures U.K. Limited | 100 |
| STOEL Limited | 100 |
| STT (Das Beneficiary) Limited* | 100 |
| Synthetic Chemicals (Northern) Limited | 100 |
| Telegraph Service Stations Limited | 100 |
| The Anglo-Saxon Petroleum Company Limited | 100 |
| The Asiatic Petroleum Company Limited | 100 |
| The Mexican Eagle Oil Company Limited | 100 |
| The Shell Company (W.I.) Limited | 100 |
| The Shell Company of Hong Kong Limited | 100 |
| The Shell Company of India Limited | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **UK** continued | |
| The Shell Company of Nigeria Limited | 100 |
| The Shell Company of Thailand Limited | 100 |
| The Shell Company of The Philippines Limited | 75 |
| The Shell Marketing Company of Borneo Limited | 100 |
| The Shell Petroleum Company Limited | 100 |
| The Shell Transport and Trading Company Limited | 100 |
| Thermocomfort Limited | 100 |
| UK Shell Pension Plan Trust Limited | 100 |
| SHELL COMPANY OF TURKEY LIMITED (THE) | 100 |
| SHELL CENTRE, YORK ROAD, LONDON, SE1 7NA | |
| Shell Group Limited | 100 |
| SHELL ENERGY HOUSE, WESTWOOD BUSINESS PARK, WESTWOOD WAY, COVENTRY, CV4 8HS | |
| First Telecommunications Limited | 100 |
| First Utility Limited | 100 |
| Impello Limited | 100 |
| Shell Energy Retail Limited | 100 |
| Shell Energy UK Limited | 100 |
| UNIT 2.13, CANTERBURY COURT, KENNINGTON PARK, 1-3 BRIXTON ROAD, LONDON, SW9 6DE | |
| Limejump Energy Limited | 100 |
| 8 DEVONSHIRE SQUARE, LONDON, EC2M 4PL | |
| CSE23 Limited | 100 |
| Corallian Energy Limited | 100 |
| **UKRAINE** | |
| 100 CHERVONOARMIYSKA STR, 8TH FLOOR, KYIV, 03150 | |
| Shell Energy Ukraine LLC | 100 |
| MYKOLY GRINCHENKA STR, 4B, KIEV, 03038 | |
| Shell Oil Products Ukraine [c] | 100 |
| **UNITED ARAB EMIRATES** | |
| JAFZA BUILDING #LB10, POBOX 16968, JEBEL ALI FREE ZONE, DUBAI, 0000 | |
| Shell International Trading Middle East Limited FZE | 100 |
| **URUGUAY** | |
| LA CUMPARSITA, 1373 4TH FLOOR, MONTEVIDEO, 11200 | |
| BG (Uruguay) S.A. | 100 |
| **USA** | |
| 1013 CENTRE ROAD, COUNTY OF NEW CASTLE, DELAWARE, WILMINGTON, DE 19805 | |
| Zeco Holdings, Inc. | 100 |
| Zeco Systems, Inc. | 100 |
| 11111 WILCREST GREEN, SUITE 100, HOUSTON, TX 77042 | |
| Texas Petroleum Group LLC | 100 |
| 2048 WEEMS ROAD, BLDG C, TUCKER, GA 30084 | |
| Sonnen Inc | 100 |
| 422 ADMIRAL BLVD, KANSAS CITY, MO 64106 | |
| Blackjack Plains Solar Project, LLC | 100 |
| Savion Solar Equipment, LLC | 100 |
| Sugar Tree Solar Project, LLC | 100 |
| Sun Cactus Solar Project, LLC | 100 |
| Wild Peach Solar Project, LLC | 100 |
| 422 ADMIRAL BLVD, KANSAS, MO 64106 | |
| ACADIAN SUN ENERGY CENTER, LLC [b] | 100 |
| Adams Creek Solar Project, LLC [b] | 100 |
| ADMIRAL BLVD LAND GROUP, LLC [b] | 100 |
| ANABRANCH ENERGY CENTER, LLC [b] | 100 |
| ATHENS CREEK ENERGY CENTER, LLC [b] | 100 |
| Austin Parkway Solar Project, LLC [b] | 100 |
| Bankson Solar Project, LLC [b] | 100 |
| BELL BRANCH SOLAR PROJECT, LLC [b] | 100 |

| Company by country and address of incorporation | % |
|---|---|
| Between The Rows, LLC [b] | 100 |
| Black Hawk Solar Project, LLC [b] | 100 |
| BLACKS CREEK ENERGY CENTER, LLC [b] | 100 |
| Bluegrass Plains Solar Project, LLC [b] | 100 |
| Bogalusa West Pv i, LLC [b] | 100 |
| Bronx Shores Energy Storage, LLC [b] | 100 |
| Buchanan County Solar Project, LLC [b] | 100 |
| BUFFALO GRASS ENERGY CENTER, LLC [b] | 100 |
| Buffalo Meadow Solar Project, LLC [b] | 100 |
| Calhoun County Solar Project, LLC [b] | 100 |
| CALLOWAY ENERGY CENTER, LLC [b] | 100 |
| CANADIAN COUNTY SOLAR PROJECT, LLC [b] | 100 |
| Cane Flats Solar Project, LLC [b] | 100 |
| CASS COUNTY SOLAR PROJECT, LLC [b] | 100 |
| CATTLE STAR ENERGY CENTER, LLC [b] | 100 |
| Centennial Sky Solar Project, LLC [b] | 100 |
| Centerville Pike Solar Project, LLC [b] | 100 |
| Chimney Hill Solar Project, LLC [b] | 100 |
| Choctaw County Solar Project, LLC [b] | 100 |
| Choctaw Fields Solar Project, LLC [b] | 100 |
| CLEAR MOUNTAIN ENERGY CENTER, LLC [b] | 100 |
| Crab Run Solar Project, LLC [b] | 100 |
| Crane Brook Solar Project, LLC [b] | 100 |
| CRAY FIELDS ENERGY CENTER, LLC [b] | 100 |
| Cumberland Road North Solar Project, LLC [b] | 100 |
| Cumberland Road South Solar Project, LLC [b] | 100 |
| DAKOTA PRAIRIE ENERGY CENTER, LLC [b] | 100 |
| Dale County Solar Project, LLC [b] | 100 |
| Dillon Solar Project, LLC [b] | 100 |
| Dove Run Solar Project, LLC [b] | 100 |
| East Setauket Energy Storage, LLC [b] | 100 |
| Elkhart County Solar Project, LLC [b] | 100 |
| EMERGENT VALLEY SOLAR PROJECT, LLC [b] | 100 |
| Energy Pastures Solar Project, LLC [b] | 100 |
| Escambia County Solar Project, LLC [b] | 100 |
| Fairborn Solar Project, LLC [b] | 100 |
| FALKIRK FIELDS ENERGY CENTER, LLC [b] | 100 |
| Farnham Solar Project, LLC [b] | 100 |
| Fentress Energy Storage, LLC [b] | 100 |
| Five Oaks Solar Project, LLC [b] | 100 |
| Flickertail Solar Project, LLC [b] | 100 |
| FOGHORN ENERGY CENTER, LLC [b] | 100 |
| Free State Solar Project, LLC [b] | 100 |
| Gold Harvest Solar Project, LLC [b] | 100 |
| GOLDEN SPIRIT ENERGY CENTER, LLC [b] | 100 |
| Goose Creek Solar Project, LLC [b] | 100 |
| GOOSE QUILL ENERGY CENTER, LLC [b] | 100 |
| Great River Solar Project, LLC [b] | 100 |
| Gsd Farming Co. LLC [b] | 100 |
| Gunlock Solar Project, LLC [b] | 100 |
| Hancock County Solar Project, LLC [b] | 100 |
| Haycraft Solar Project, LLC [b] | 100 |
| Headland-Wiregrass Solar Project, LLC [b] | 100 |
| Herman Solar Project, LLC [b] | 100 |
| HERRINGTON SOLAR PROJECT, LLC [b] | 100 |
| High Oasis II Solar Project, LLC [b] | 100 |
| Hill Tucker Solar Project, LLC [b] | 100 |
| Holbrook Energy Storage, LLC [b] | 100 |
| Holtsville Energy Storage, LLC [b] | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **USA** continued | |
| Huckleberry Line Solar Project, LLC [b] | 100 |
| Irwin Solar I, LLC [b] | 100 |
| K RIVER ENERGY CENTER, LLC [b] | 100 |
| Kcr Rto Da, LLC [b] | 100 |
| Keller Solar Project, LLC [b] | 100 |
| Kidman Solar Project, LLC [b] | 100 |
| Kings Fork Solar Project, LLC [b] | 100 |
| Kiowa County Solar Project, LLC [b] | 100 |
| KLAMATH FALLS ENERGY CENTER, LLC [b] | 100 |
| Lake County Solar Project, LLC [b] | 100 |
| Lawrence County Solar Project, LLC [b] | 100 |
| Levy Solar I, LLC [b] | 100 |
| Longnecker Solar Project, LLC [b] | 100 |
| LOPEZ CANYON ENERGY CENTER, LLC [b] | 100 |
| Macon County Solar Project, LLC [b] | 100 |
| Macon Parkway Solar Project, LLC [b] | 100 |
| Madison County Solar Project, LLC [b] | 100 |
| Madison Fields Solar Project, LLC [b] | 100 |
| Manor River Energy Storage, LLC [b] | 100 |
| Maple Pv I, LLC [b] | 100 |
| Marion County Solar Project, LLC [b] | 100 |
| Marquette County Solar Project, LLC [b] | 100 |
| MARTHA FIELDS ENERGY CENTER, LLC [b] | 100 |
| Martin County II Solar Project, LLC [b] | 100 |
| Martin County Solar Project, LLC [b] | 100 |
| May Valley Solar Project, LLC [b] | 100 |
| Mchenry County Solar Project, LLC [b] | 100 |
| Mercer County II Solar Project, LLC [b] | 100 |
| Mercer County III Solar Project, LLC [b] | 100 |
| Mercer County Solar Project, LLC [b] | 100 |
| MICHAELS CREEK ENERGY CENTER, LLC [b] | 100 |
| MIDLAND VALLEY SOLAR PROJECT, LLC [b] | 100 |
| Midland-Wiregrass Solar Project, LLC [b] | 100 |
| Muscatine County Solar Project, LLC [b] | 100 |
| Muskegon Green Solar Project, LLC [b] | 100 |
| Mustang Country Solar Project, LLC [b] | 100 |
| NEW MOON ENERGY CENTER, LLC [b] | 100 |
| Nicholas County Solar Project, LLC [b] | 100 |
| North Seneca Solar Project, LLC [b] | 100 |
| Oak Ridge Solar Project, LLC [b] | 100 |
| Oak Run Solar Project, LLC [b] | 100 |
| Orangeburg County Solar Project, LLC [b] | 100 |
| Orangeburg South Solar Project, LLC [b] | 100 |
| Orangeburg West Solar Project, LLC [b] | 100 |
| OZARK PRAIRIE ENERGY CENTER, LLC [b] | 100 |
| Page Street Development, LLC [b] | 100 |
| Painted Rock Solar Project, LLC [b] | 100 |
| Payne County Solar Project, LLC [b] | 100 |
| Pike County Solar Project, LLC [b] | 100 |
| Pine Flats Solar Project, LLC [b] | 100 |
| PLANO SKIES ENERGY CENTER, LLC [b] | 100 |
| Port Jefferson Energy Storage, LLC [b] | 100 |
| Portage County Solar Project, LLC [b] | 100 |
| POWERS BUTTE ENERGY CENTER, LLC [b] | 100 |
| Prairie Canyon Solar Project, LLC [b] | 100 |
| PRAIRIE NOON ENERGY CENTER, LLC [b] | 100 |
| Qmb 1 Energy Storage, LLC [b] | 100 |
| Qmb 2 Energy Storage, LLC [b] | 100 |

| Company by country and address of incorporation | % |
|---|---|
| Queen Flats Solar Project, LLC [b] | 100 |
| Quogue Energy Storage, LLC [b] | 100 |
| Randolph County Solar Project, LLC [b] | 100 |
| RANEGRAS PLAINS ENERGY CENTER, LLC [b] | 100 |
| Rayos Del Sol II Solar Project, LLC [b] | 100 |
| RED CYPRESS ENERGY CENTER, LLC [b] | 100 |
| RIVER DUNE ENERGY CENTER, LLC [b] | 100 |
| ROLLING BLUFF ENERGY CENTER, LLC [b] | 100 |
| SAGE MEADOW ENERGY CENTER, LLC [b] | 100 |
| SARAH LAKE SOLAR PROJECT, LLC [b] | 100 |
| Saratoga Solar Project, LLC [b] | 100 |
| Savion Chesapeake Solar Project, LLC [b] | 100 |
| Savion Construction Management, LLC [b] | 100 |
| Savion LLC [b] | 100 |
| Setauket Energy Storage, LLC [b] | 100 |
| Sherburne County Solar Project, LLC [b] | 100 |
| Sheridan Solar Project, LLC [b] | 100 |
| SOUTH HILL SOLAR PROJECT, LLC [b] | 100 |
| South Suffolk Energy Storage, LLC [b] | 100 |
| Southern Plains Solar Project, LLC [b] | 100 |
| St. Clair County Solar Project, LLC [b] | 100 |
| Stamp Bainbridge Solar Project, LLC [b] | 100 |
| Stamp Hilltop Solar Project, LLC [b] | 100 |
| Steel Branch Solar Project, LLC [b] | 100 |
| STEEL RAIL ENERGY CENTER, LLC [b] | 100 |
| STILLY WAY ENERGY CENTER, LLC [b] | 100 |
| Stony Landing Energy Storage, LLC [b] | 100 |
| Stony Run Solar Project, LLC [b] | 100 |
| STRAWBERRY ACRES ENERGY CENTER, LLC [b] | 100 |
| Sturgeon Solar Project, LLC [b] | 100 |
| Su Ranch Solar Project, LLC [b] | 100 |
| Suffolk County Energy Storage II, LLC [b] | 100 |
| Suffolk County Energy Storage, LLC [b] | 100 |
| Sugar Harvest Solar Project, LLC [b] | 100 |
| Sun Park Solar, LLC [b] | 100 |
| Sunflower Sky Solar Project, LLC [b] | 100 |
| Sunflower Solar Project, LLC [b] | 100 |
| SUNSET PRAIRIE SOLAR PROJECT, LLC [b] | 100 |
| Superior Solar Project, LLC [b] | 100 |
| Sutherland Solar Project, LLC [b] | 100 |
| Sweeney Run Solar Project, LLC [b] | 100 |
| SWEET VALLEY ENERGY CENTER, LLC [b] | 100 |
| The Bootheel Solar Project, LLC [b] | 100 |
| The Panhandle Solar Project, LLC [b] | 100 |
| Thibodaux Solar Project, LLC [b] | 100 |
| TONTOGANY PLAINS SOLAR PROJECT, LLC [b] | 100 |
| Tri-State II Solar Project, LLC [b] | 100 |
| Tri-State Solar Project, LLC [b] | 100 |
| TWENTY-SIX MILE ENERGY CENTER, LLC [b] | 100 |
| Walworth County Solar Project, LLC [b] | 100 |
| Washington Vines Solar Project, LLC [b] | 100 |
| West Babylon Energy Storage, LLC [b] | 100 |
| White Moon Solar Project, LLC [b] | 100 |
| WILD PLUM ENERGY CENTER, LLC [b] | 100 |
| Wild Rose Solar Project, LLC [b] | 100 |
| Wildwood Energy Storage, LLC [b] | 100 |
| Wolfe County Solar Project, LLC [b] | 100 |
| Yaphank Energy Storage, LLC [b] | 100 |
| YELLOW FEATHER ENERGY CENTER, LLC [b] | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **USA** continued | |
| YELLOW ROSEBUSH ENERGY CENTER, LLC [b] | 100 |
| C T CORPORATION SYSTEM, 1999 BRYAN STREET, SUITE 900, DALLAS, TX 75201 | |
| ERM Business Energy LLC [c] | 100 |
| ORYX CASPIAN PIPELINE L.L.C. [b] | 100 |
| Shell Legacy Holdings LLC | 100 |
| Source Operations Group LLC [c] | 100 |
| Source Power & Gas LLC [c] | 100 |
| SPG Energy Group LLC | 100 |
| CT CORPORATION SYSTEM, 7700 E ARAPAHOE RD, STE 220, CENTENNIAL, CO 80112-1268 | |
| Positive Energies, LLC [b] | 100 |
| THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, 1209 ORANGE STREET, WILMINGTON, DE 19801 | |
| Arizona A1 LLC [b] | 100 |
| BG Brasilia, LLC [b] | 100 |
| BG Energy Merchants, LLC [b] | 100 |
| BG Gulf Coast LNG, LLC [b] | 100 |
| BG LNG Services, LLC [b] | 100 |
| BG LNG Trading, LLC | 100 |
| BG North America, LLC [b] | 100 |
| BG US Services, Inc. | 100 |
| Brazos Wind Ventures, LLC [b] | 100 |
| California Western Grid Development, LLC [b] | 100 |
| Concha Chemical Pipeline LLC [b] | 100 |
| CRI Sales and Services Inc. | 100 |
| CRI Zeolites Inc. | 100 |
| Ellwood Land Holdings, LLC (f/k/a Rilette Springs, LLC) [b] | 100 |
| Enterprise Oil North America Inc. | 100 |
| Equilon Enterprises LLC [b] | 100 |
| Hyder PVS LLC [b] | 100 |
| Inspire Digital Services California, LLC [b] | 100 |
| Inspire Digital Services PJM, LLC [b] | 100 |
| Inspire Digital Services USA, LLC [b] | 100 |
| Inspire Energy Capital, LLC | 100 |
| Inspire Energy Holdings, LLC [b] | 100 |
| Inspire Energy Technologies, LLC [b] | 100 |
| Jiffy Lube International, Inc. | 100 |
| Odyssey Pipeline L.L.C. [b] | 71 |
| Pecten Arabian Company | 100 |
| Pecten Brazil Exploration Company | 100 |
| Pecten Midstream LLC [b] | 100 |
| Pecten Orient Company | 100 |
| Pecten Orient Company LLC [b] | 100 |
| Pecten Producing Company | 100 |
| Pecten Trading Company | 100 |
| Pecten Victoria Company | 100 |
| Pecten Yemen Masila Company | 100 |
| Pennzoil-Quaker State Company | 100 |
| Pennzoil-Quaker State International Corporation | 100 |
| Power Limited Partnership [c] | 100 |
| PR Microgrids LLC [b] | 100 |
| Premium Velocity Auto LLC [b] | 100 |
| Pulse Power, LLC | 100 |
| Quaker State Investment Corporation | 100 |
| RK Caspian Shipping Company, LLC [b] | 100 |
| S T Exchange, Inc. | 100 |
| Sand Dollar Pipeline LLC [b] | 100 |
| SCOGI GP [c] | 100 |

| Company by country and address of incorporation | % |
|---|---|
| Shell (US) Gas & Power M&T Holdings, Inc. | 100 |
| Shell California Pipeline Company LLC [b] | 100 |
| Shell Catalysts & Technologies Americas LP [c] | 100 |
| Shell Catalysts & Technologies Company | 100 |
| Shell Catalysts & Technologies Holdings Inc. | 100 |
| Shell Catalysts & Technologies LP [c] | 100 |
| Shell Catalysts & Technologies US LP [c] | 100 |
| Shell Catalysts Ventures Inc. | 100 |
| Shell Chemical Appalachia LLC [b] | 100 |
| Shell Chemical LP [c] | 100 |
| Shell Chemicals Arabia L.L.C. [b] | 100 |
| Shell Communications, Inc. | 100 |
| Shell Deepwater Royalties Inc. | 100 |
| Shell Downstream Inc. | 100 |
| Shell Energy Company | 100 |
| Shell Energy Holding GP LLC [b] | 100 |
| Shell Energy North America (US), L.P. [c] | 100 |
| Shell Energy Resources Company | 100 |
| Shell Enterprises LLC | 100 |
| Shell EP Holdings Inc. | 100 |
| Shell Expatriate Employment US Inc. | 100 |
| Shell Exploration & Production Company | 100 |
| Shell Exploration Company Inc. | 100 |
| Shell Frontier Oil & Gas Inc. | 100 |
| Shell Gas Gathering Corp. #2 | 100 |
| Shell Global Solutions (US) Inc. | 100 |
| Shell GOM Pipeline Company LLC [b] | 100 |
| Shell Gulf of Mexico Inc. | 100 |
| Shell Information Technology International Inc. | 100 |
| Shell International Exploration and Production Inc. | 100 |
| Shell Lake Charles Operations, LLC [b] | 100 |
| Shell Leasing Company | 100 |
| Shell Marine Products (US) Company | 100 |
| Shell Midstream LP Holdings LLC [b] | 100 |
| Shell Midstream Operating LLC [b] | 100 |
| Shell Midstream Partners GP LLC [b] | 100 |
| Shell Midstream Partners, L.P. | 100 |
| Shell NA Gas & Power Holding Company | 100 |
| Shell NA LNG LLC [b] | 100 |
| Shell New Energies US LLC [b] | 100 |
| Shell North America Gas & Power Services Company | 100 |
| Shell Offshore and Chemical Investments Inc. | 100 |
| Shell Offshore Inc. | 100 |
| Shell Offshore Response Company LLC [b] | 100 |
| Shell Oil Company Investments Inc. | 100 |
| Shell Oil Products Company LLC [b] | 100 |
| SHELL ONSHORE VENTURES LLC | 100 |
| Shell Petroleum Inc. | 100 |
| Shell Pipeline Company LP [c] | 100 |
| Shell Pipeline GP LLC [b] | 100 |
| Shell Retail and Convenience Operations LLC [b] | 100 |
| Shell RSC Company | 100 |
| Shell Thailand E&P Inc. | 100 |
| Shell Trademark Management Inc. | 100 |
| Shell Trading (US) Company | 100 |
| Shell Trading North America Company | 100 |
| Shell Trading Risk Management, LLC [b] | 100 |
| Shell Trading Services Company | 100 |
| Shell Transportation Holdings LLC [b] | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **USA** continued | |
| Shell Treasury Center (West) Inc. | 100 |
| Shell US E&P Investments LLC [b] | 100 |
| Shell US Gas & Power LLC [b] | 100 |
| Shell US Hosting Company | 100 |
| Shell US LNG, LLC [b] | 100 |
| Shell USA, Inc. | 100 |
| Shell Ventures LLC [b] | 100 |
| Shell WindEnergy Inc. | 100 |
| Shell WindEnergy Services Inc. | 100 |
| SOI Finance Inc. | 100 |
| SOPC Holdings East LLC [b] | 100 |
| SOPC Holdings West LLC [b] | 100 |
| SOPC SOUTHEAST INC. (F/K/A MOTIVA COMPANY) | 100 |
| Studio X LLC [b] | 100 |
| SWEPI LLC | 100 |
| Tejas Coral GP, LLC [b] | 100 |
| Tejas Coral Holding, LLC [b] | 100 |
| Tejas Power Generation, LLC [b] | 100 |
| Texas-New Mexico Pipe Line Company | 100 |
| TFH Reliability Group, LLC | 100 |
| The Valley Camp Coal Company | 100 |
| TMR Company LLC | 100 |
| Triton Diagnostics Inc. | 100 |
| Triton Terminaling LLC [b] | 100 |
| Triton West LLC [b] | 100 |
| Zydeco Pipeline Company LLC [b] | 100 |
| C T CORPORATION SYSTEM, 1999 BRYAN STREET, SUITE 900, DALLAS, TX 75201-3136 | |
| EPP LLC [b] | 100 |
| MP2 Energy LLC [b] | 100 |
| MP2 Energy NE LLC [b] | 100 |
| MP2 Energy NY LLC [b] | 100 |
| MP2 Energy Retail Holdings LLC [b] | 100 |
| MP2 Energy Texas LLC [b] | 100 |
| MP2 Generation LLC [b] | 100 |
| MP2 Mesquite Creek Wind LLC [b] | 100 |
| Mpower2 LLC [b] | 100 |
| Noble Assurance Company | 100 |
| CT CORPORATION SYSTEM, 1200 SOUTH PINE ISLAND ROAD, PLANTATION, 33324 | |
| Shell MS Fuel Card, LLC [b] | 100 |
| CT CORPORATION SYSTEM, 701 S. CARSON STREET, SUITE 200, CARSON CITY, NV 89701 | |
| Pennzoil-Quaker State Nominee Company | 100 |
| C/ CLAUDIO GUERIN, KANSAS, MO/64106 | |
| Red Clover Solar Project, LLC [b] | 100 |
| **VANUATU** | |
| 422 ADMIRAL BLVD, KANSAS CITY, MO 64106 | |
| Savannah Oaks Solar Project, LLC | 100 |
| **VENEZUELA** | |
| AVENIDA ORINOCO, EDIFICO CENTRO EMPRESARIAL, PREMIUM PISO 2 OFICINA 2-B, URBANIZACIÓN LAS MERCEDES, CARACAS, 1060 | |
| Shell Venezuela Productos, C.A. | 100 |
| AVENIDA ORINOCO, EDIFICO CENTRO EMPRESARIAL, PREMIUM PISO 2 OFICINAS 2-A Y 2-B, URBANIZACIÓN LAS MERCEDES, CARACAS, 1060 | |
| Shell Venezuela, S.A. | 100 |
| **VIETNAM** | |
| GO DAU INDUSTRIAL ZONE, PHUOC THAI COMMUNE, LONG THANH DISTRICT, DONG NAI PROVINCE | |
| Shell Vietnam Ltd | 100 |

# Significant subsidiaries and other related undertakings (audited) continued

## Other related undertakings

| Company by country and address of incorporation | % |
|---|---|
| **ARGENTINA** | |
| AVENIDA PTE. ROQUE SÁENZ PENA 788, 2ND FLOOR, CIUDAD DE BUENOS AIRES, 1035 | |
| Bandurria Sur Investments S.A. | 50 |
| **AUSTRALIA** | |
| 5 TULLY ROAD, EAST PERTH, 6004 | |
| OVIDRIVE APPLABS PTY LTD | 42 |
| C/- FORESIGHT AUSTRALIA FUNDS MANAGEMENT, SUITE 3, LEVEL 5, 20 HUNTER STREET, SYDNEY, 2000 | |
| Kondinin Renewables Holdings Pty Ltd ATF Kondinin Renewables Holdings Trust | 50 |
| C/O JEFFERY ZIVIN, UNIT 4, 4 GEORGE STREET, CAMBERWELL, VIC 3124 | |
| Solpod Pty Ltd | 24 |
| INFRASTRUCTURE CAPITAL GROUP, LEVEL 15 MARTIN PLACE, SYDNEY, NSW 2000 | |
| NewGen Neerabup Pty Ltd [a] | 50 |
| NewGen Power Neerabup Pty Ltd [a] | 50 |
| LEVEL 39, 111 EAGLE STREET, BRISBANE, QLD 4000 | |
| Arrow Energy Holdings Pty Ltd | 50 |
| LEVEL 4, 13 CREMORNE STREET, RICHMOND, VIC 3121 | |
| ESCO Pacific Holdings Pty Ltd | 49 |
| LEVEL 4, 459 LITTLE COLLINS STREET, MELBOURNE, VIC 3000 | |
| 1st Energy Pty Ltd | 30 |
| OFFICE 4, 17 GOODE STREET, GISBORNE, VIC 3437 | |
| WestWind Energy Development Pty Ltd | 49 |
| **AUSTRIA** | |
| INNSBRUCKER BUNDESSTRASSE 95, SALZBURG, 5020 | |
| Salzburg Fuelling GmbH | 33 |
| KIENBURG 11, MATREI IN OSTTIROL, 9971 | |
| Transalpine Ölleitung in Österreich GmbH | 19 |
| RETTENLACKSTRASSE 3, SALZBURG, 5020 | |
| TBG Tanklager Betriebsgesellschaft m.b.H. | 50 |
| **BERMUDA** | |
| CLARENDON HOUSE, 2 CHURCH STREET, HAMILTON, HM 11 | |
| Egypt LNG Shipping Limited | 25 |
| Sakhalin Energy Investment Company Ltd | 28 |
| **BRAZIL** | |
| AVENIDA DAS ALMIRANTE BARROSO, N° 81, 36° ANDAR, SALA 36A104, RIO DE JANEIRO, 20031-004 | |
| Raizen S.A. | 44 |
| AVENIDA PAULISTA, 1274, 8° ANDAR, CONJUNTO 23, SALA B, BELA VISTA, SÃO PAULO, 01310-100 | |
| Marlim Azul Energia S.A. | 30 |
| **BRUNEI** | |
| BRUNEI SHELL PETROLEUM COMPANY, SENDIRIAN BERHAD, SERIA, KB2933 | |
| Brunei Shell Marketing Company Sendirian Berhad | 50 |
| JALAN UTARA, PANAGA, SERIA, KB2933 | |
| Brunei Shell Petroleum Company Sendirian Berhad | 50 |
| Brunei Shell Tankers Sendirian Berhad | 25 |
| LUMUT, SERIA, KC2935 | |
| Brunei LNG Sendirian Berhad | 25 |
| **CANADA** | |
| 1701 HOLLIS STREET, SUITE 1400, HALIFAX, NOVA SCOTIA, B3J 3M8 | |
| Sable Offshore Energy Inc. | 33 |
| 199 BAY STREET, SUITE 5300, COMMERCE COURT WEST, TORONTO, ONTARIO, M5L 1B9 | |
| SFJ Inc. | 50 |
| 400 4TH AVENUE S.W., CALGARY, ALBERTA, T2P 0J4 | |
| FP Solutions Corporation | 33 |
| LNG Canada Development Inc. [a] | 40 |

| Company by country and address of incorporation | % |
|---|---|
| 45 VOGEL ROAD, SUITE 310, RICHMOND HILL, ONTARIO, L4B 3P6 | |
| Trans-Northern Pipelines Inc. | 33 |
| 5305 MCCALL WAY N.E., CALGARY, ALBERTA, T2E 7N7 | |
| Alberta Products Pipe Line Ltd. | 20 |
| 830 HIGHWAY NO. 6 NORTH, FLAMBOROUGH, ONTARIO, L0R 2H0 | |
| Sun-Canadian Pipe Line Company Limited | 45 |
| **CHINA** | |
| 18TH FLOOR, TOWER 1, YONGLI INTERNATIONAL FINANCE CENTRE, JINYE NO. 1 ROAD, HIGH-TECH DISTRICT, XI'AN, 710075 | |
| Yanchang and Shell Petroleum Company Limited | 45 |
| 23F, YANLORD SQUARE, SECTION 2, RENMIN SOUTH ROAD, CHENGDU, SICHUAN, 610016 | |
| Yanchang and Shell (Sichuan) Petroleum Company Limited | 45 |
| BAISHA, HEKOU, SANSHUI DISTRICT, FOSHAN, GUANGDONG, 528133 | |
| Shell Road Solutions Xinyue (Foshan) Co. Ltd. | 60 |
| BUILDING NO. 2, HEBEI GUOKONG NORTHERN SILICON VALLEY HIGH-TECH NEW CITY, NO. 28 EAST ZHANQIAN STREET, QIAODONG DISTRICT, ZHANGJIAKOU, 075000 | |
| Zhangjiakou City Transport and Shell New Energy Co., Ltd | 48 |
| DAYAWAN PETROCHEMICAL INDUSTRIAL PARK, HUIZHOU, GUANGDONG, 516086 | |
| CNOOC and Shell Petrochemicals Company Limited | 50 |
| NO. 1 DONGXIN ROAD, JIANGSU YANGTZE RIVER INTERNATIONAL CHEMICAL INDUSTRY PARK, ZHANGJIAGANG, JIANGSU, 215600 | |
| Infineum (China) Co. Ltd. | 50 |
| NO. 100, XINGANG DADAO, NANJING ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE, NANJING, JIANGSU, 210000 | |
| Sinopec and Shell (Jiangsu) Petroleum Marketing Company Limited | 40 |
| NO. 358 ZHUHUI ROAD, SUZHOU, 215000 | |
| Suzhou Liyuan Retail Site Management Co., Ltd. | 50 |
| ROOM 2103, NORTH TOWER, YEFENG MODERN CENTER, NO. 161, SHAOXING ROAD, XIACHENG DISTRICT, HANGZHOU, ZHEJIANG, 310004 | |
| Zhejiang Shell Fuels Company Limited | 49 |
| ROOM 518, 5TH FLOOR, OFFICE BUILDING, TIANJIN FOOD GROUP COMPANY LTD, NO. 96, QIXIANGTAI ROAD, HEXI DISTRICT, TIANJIN, 300074 | |
| Shell North China Petroleum Group Co., Ltd. | 49 |
| ROOM 609, BUILDING NO. 1, NO. 388 NORTH MU HUA ROAD, FENGXIAN DIST, SHANGHAI, 200120 | |
| Climate Bridge (Shanghai) Ltd. | 49 |
| UNIT 1101-1104, LEVEL 11, BUILDING 1, NO. 19 CHAOYANG PARK ROAD, CHAOYANG DISTRICT, BEIJING, 100125 | |
| Beijing Shell Petroleum Company Ltd. | 49 |
| UNIT 604, 6/F, BUILDING C, NO. 3 YUNAN FOURTH ROAD, FTPZ XIAMEN SUB-ZONE (TARIFF-FREE ZONE), XIAMEN, 361000 | |
| Fujian Xiangyu and Shell Petroleum Company Limited | 49 |
| 39TH FLOOR, LEATOP PLAZA, NO. 32 EAST ZHUJIANG ROAD, ZHUJIANG NEW TOWN, TIANHE DISTRICT, GUANGDONG, 510623 | |
| Yanchang and Shell (Guangdong) Petroleum Co., Ltd. | 49 |
| BLOCK 10, NO.860 XINYANG ROAD, LINGANG SPECIAL AREA, PILOT FREE TRADE ZONE, SHANGHAI, 201413 | |
| Shanghai Shenergy and Shell New Energy Company Limited | 50 |
| **CÔTE D'IVOIRE** | |
| 14, BLVD CARDE, IMM. LES HEVEAS, PLATEAU, ABIDJAN, BP V 194 | |
| Cote d'Ivoire GNL | 13 |
| **CYPRUS** | |
| METOCHIOU STR, 37, AGIOS ANDREAS, NICOSIA, CY-1101 | |
| Rosneft-Shell Caspian Ventures Limited | 49 |
| **DENMARK** | |
| BREDGADE 30, KØBENHAVN K, 1260 | |
| TetraSpar Demonstrator ApS | 66 |
| NÆRUM HOVEDGADE 8, NAERUM, 2850 | |
| DCC & Shell Aviation Denmark A/S | 49 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **EGYPT** | |
| 28 ROAD 270, MAADI, CAIRO | |
| **Burullus Gas Company S.A.E. [a]** | 25 |
| 38 STREET NO. 270, MAADI, CAIRO | |
| **Rashid Petroleum Company S.A.E. [a]** | 50 |
| CITY OF RASHID, EL BEHERA GOVERNORATE | |
| **El Behera Natural Gas Liquefaction Company S.A.E.** | 36 |
| **IDKU Natural Gas Liquefaction Company S.A.E.** | 38 |
| **The Egyptian LNG Company S.A.E.** | 36 |
| THE EGYPTIAN OPERATING COMPANY FOR NATURAL GAS LIQUEFACTION PROJECTS S.A.E. | 36 |
| **FRANCE** | |
| 10 PLACE DE CATALOGNE, PARIS, 75014 | |
| **Eolfi Offshore France** | 10 |
| **Ferme Eolienne Flottante de Groix & Belle-Ile** | 30 |
| 135, BD BINEAU, NEUILLY SUR SEINE, F - 92200 | |
| **Soc. de. Part. Dans "SPITP" Sarl** | 53 |
| AÉROPORT ROISSY CHARLES DE GAULLE, ZONE DE FRÊT 1, 3 RUE DES VIGNES, TREMBLAY-EN-FRANCE, 93290 | |
| **Groupement Pétrolier Aviation SNC** | 20 |
| CHEMIN DÉPARTEMENTAL 54, BERRE-L'ETANG, 13130 | |
| **Infineum France** | 50 |
| ORLY SUD NO. 144 - BAT. 438, ORLY AEROGARES, 94541 | |
| **Service Aviation Paris SNC** | 33 |
| ROUTE D'ARLES, LA FENOUILLÈRE, FOS-SUR-MER, 13270 | |
| **Ste du Pipeline Sud Européen S.A.** | 21 |
| **GERMANY** | |
| BERGHAUSENER STRAßE 96, LANGENFELD, 40764 | |
| **AGES Maut System GmbH & Co. KG** | 25 |
| BRUEHLER STR. 95, WESSELING, 50389 | |
| **Wasserbeschaffungsverband Wesseling-Hersel** | 35 |
| CAFFAMACHERREIHE 5, HAMBURG, 20355 | |
| **BEB Holding GmbH [a]** | 50 |
| DEA-SCHOLVEN-STR., KARLSRUHE, 76187 | |
| **Mineraloelraffinerie Oberrhein Verwaltungs GmbH** | 32 |
| **Oberrheinische Mineraloelwerke GmbH [a]** | 42 |
| **EUREF-CAMPUS 10-11, BERLIN, 10829** | |
| **H2 Mobility Deutschland GmbH and Co. KG** | 27 |
| FRANZÖSISCHE STRAßE 33 A-C, BERLIN, 10117 | |
| **Toll4Europe GmbH** | 15 |
| **GODORFER HAUPTSTRASSE 186, KÖLN, 50997** | |
| **Rhein-Main-Rohrleitungstransportgesellschaft mbH [a]** | 63 |
| **NEUSSER LANDSTRAßE 16, KÖLN, 50735** | |
| **Deutsche Infineum GmbH & Co. KG** | 50 |
| **Infineum Deutschland Verwaltungsgesellschaft mbH** | 50 |
| PASSOWER CHAUSSEE 111, SCHWEDT/ODER, 16303 | |
| **PCK Raffinerie GmbH [a]** | 38 |
| PAUL WASSERMANN STR. 3, MUNICH, 81829 | |
| **Deutsche Transalpine Oelleitung GmbH** | 19 |
| VAHRENWALDER STRASSE 238, HANNOVER, 30179 | |
| **BEB Erdgas und Erdoel GmbH & Co. KG [a]** | 33 |
| **Erdoel-Raffinerie Deurag-Nerag GmbH** | 33 |
| ZUM OELHAFEN 207, WILHELMSHAVEN, 26384 | |
| **Nord-West Oelleitung GmbH [a]** | 20 |
| BROOK 2,BLOCK H, HAMBURG, 20457 | |
| **OLF Deutschland GmbH** | 50 |
| **GIBRALTAR** | |
| 57/63 LINE WALL ROAD, P.O. BOX 199, GIBRALTAR | |
| **Shell LNG Gibraltar Limited** | 51 |
| **GREECE** | |
| 151 KIFISIAS AVE., MAROUSI, ATHENS, 15124 | |
| **Shell & MOH Aviation Fuels A.E.** | 51 |

| Company by country and address of incorporation | % |
|---|---|
| **HONG KONG** | |
| 3 SCENIC ROAD, CHEK LAP KOK, LANTAU | |
| **AFSC Operations Limited** | 11 |
| **AFSC Refuelling Limited** | 11 |
| ESSO TSING YI TERMINAL, LOT 46 TSING YI ROAD, TSING YI ISLAND, NEW TERRITORIES | |
| **Hong Kong Response Limited** | 25 |
| **INDIA** | |
| 102, PRESTIGE SIGMA, VITTAL MALLYA ROAD, BANGALORE, 560001 | |
| **Shell MRPL Aviation Fuels and Services Limited** | 50 |
| ENKING EMBASSY, PLOT 48, SCHEME 78 PART-2, VIJAY NAGAR, INDORE, 452010 | |
| **Amrut Nature Solutions Private Limited** | 49 |
| TIKI TAR INDUSTRIES VILLAGE ROAD, NEAR BHANDUP VILLAGE, BHANDUP WEST MUMBAI, MUMBAI, MH 400078 | |
| **Tiki Tar and Shell India Private Limited** | 50 |
| **IRAQ** | |
| KHOR AL ZUBAIR, BASRAH | |
| **Basrah Gas Company** | 44 |
| **IRELAND** | |
| SUITE 7 NORTHWOOD HOUSE, NORTHWOOD BUSINESS PARK, SANTRY, DUBLIN, 9 | |
| **Shell and Topaz Aviation Ireland Limited** | 50 |
| WOODBINE HILL, YOUGHAL, COUNTY CORK, P36 NW52 | |
| **Emerald Offshore Wind Limited** | 51 |
| **Western Star Wind Limited** | 51 |
| **ISRAEL** | |
| DERECH ABA HILEL 16, RAMAT GAN, 5250608 | |
| **Ravin AI Ltd.** | 36 |
| **ITALY** | |
| STRADA DI SCORRIMENTO 2, VADO LIGURE, SAVONA, 17047 | |
| **Infineum Italia S.R.L.** | 50 |
| VIA GIORGIO RIBOTTA 51, ROME, 00144 | |
| **Societa' Oleodotti Meridionali S.p.A.** | 30 |
| VIA MUGGIA #1, SAN DORLIGO DELLA VALLE, TRIESTE, 34147 | |
| **Societa Italiana per l'Oleodotto Transalpino S.p.A.** | 19 |
| **JAPAN** | |
| 1-1-5 WAKAMIYA-CHO, SUMA-KU, KOBE-SHI, HYOGO, 654-0049 | |
| **Y.K. Nishi-Kobe Bosai Center** | 33 |
| 2-3, KANDA, AWAJI-CHO, CHIYODA-KU, TOKYO, 101-0063 | |
| **Sakhalin LNG Services Company Ltd.** | 50 |
| 72-34, HORIKAWA-CHO, SAIWAI-KU, KAWASAKI, KAWASAKI, 212-8585 | |
| **Next Kraftwerke Toshiba Corporation** | 49 |
| 7F KOKURYU SHIBA KOEN BUILDING 2-6-15, SHIBA KOEN, MINATO-KU, TOKYO, 105-0011 | |
| **CO2-free Hydrogen Energy Supply-chain TRA** | 25 |
| SUMITOMO FUDOSAN ONARIMON-EKIMAE BLDG, 6-17-21, SHIMBASHI, MINATO-KU, TOKYO, 105-0004 | |
| **AJIGASAWA OFFSHORE WIND POWER GENERATION K.K** | 50 |
| **LUXEMBOURG** | |
| 412F, ROUTE D'ESCH, LUXEMBOURG, L-2086 | |
| **Denham International Power SCSp [c]** | 32 |
| **MALAYSIA** | |
| LEVEL 30, TOWER 1, PETRONAS TWIN TOWERS, KLCC, KUALA LUMPUR/FEDERAL TERRITORY, 50088 | |
| **P S Pipeline Sendirian Berhad** | 50 |
| LEVEL 8, SYMPHONY HOUSE, BLOCK D13, PUSAT DAGANGAN DANA 1, JALAN PJU 1A/46, PETALING JAYA/SELANGOR DARUL EHSAN, 47301 | |
| **Bonuskad Loyalty Sdn. Bhd. [f]** | 33 |
| LOT 7689 AND LOT 7690, SECTION 64, KUCHING TOWN LAND DISTRICT, JALAN PENDING, KUCHING, SARAWAK, 93450 | |
| **IOT Management Sdn. Bhd.** | 7 |
| **Tanjung Manis Oil Terminal Management Sdn. Bhd.** | 14 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **MALAYSIA** continued | |
| SUITE 13.03, 13 FLOOR, MENARA TAN & TAN, 207 TUN RAZAK, KUALA LUMPUR/ FEDERAL TERRITORY, 50400 | |
| Kebabangan Petroleum Operating Company Sdn. Bhd. [a] | 30 |
| LEVEL 11, MENARA TH 1 SENTRAL, JALAN RAKYAT, KUALA LUMPUR SENTRAL, WILAYAH PERSEKUTUAN, KUALA LUMPUR, 50470 | |
| P S Terminal Sendirian Berhad | 35 |
| WISMA GOSHEN, 2ND FLOOR, 60, 62 & 64, JALAN SS22/21, DAMANSARA JAYA, 47400 PETALING JAYA, SELANGOR, PETALING JAYA, 47400 | |
| Pixelbyte Sdn Bhd | 50 |
| **MEXICO** | |
| AVENIDA CERRO GORDO DEL CAMPESTRE, NUMBER 201, INTERIOR 202, OF COLONIA LAS QUINTAS, LEÓN, GUANAJUATO, 37125 | |
| Mega Gasolineras SA de CV | 50 |
| GUILLERMO GONZÁLEZ CAMARENA NO. 400, SANTA FE, LVARO OBREGÓN, CIUDAD DE MÉXICO, 1210 | |
| Concilia Asesores y Servicios, S.A. de C.V. | 50 |
| PROLONGACION PAESO DE LA REFOMA NO. 600, SANTA FE, ALVARO OBREGÓN, CIUDAD DE MÉXICO, 1210 | |
| Comercial Importadora S.A. De C.V. | 50 |
| **NETHERLANDS** | |
| AMSTERDAMSEWEG 55, 1182 GP AMSTELVEEN, P.O. BOX 75650, LUCHTHAVEN SCHIPHOL, 1118 ZS | |
| Amsterdam Schiphol Pijpleiding Beheer B.V. | 40 |
| BUTAANWEG 215, VONDELINGPLAAT, ROTTERDAM, 3196 KC | |
| N.V. Rotterdam-Rijn Pijpleiding Maatschappij [a] | 56 |
| CAREL VAN BYLANDTLAAN 30, THE HAGUE, 2596 HR | |
| BJS Oil Operations B.V. | 80 |
| Cicerone Holding B.V. | 51 |
| Geocombinatie Leeuwarden B.V. | 30 |
| Salym Petroleum Development N.V. | 50 |
| Shell and Vivo Lubricants B.V. | 50 |
| Tamba B.V. | 50 |
| DR. HUB VAN DOORNEWEG 183, TILBURG, 5026 RD | |
| Travis Road Services International B.V. | 34 |
| EUROPAWEG 975, MAASVLAKTE, ROTTERDAM, 3199 LC | |
| Maasvlakte Olie Terminal C.V. [c] | 16 |
| HERIKERBERGWEG 238, AMSTERDAM, 1101 CM | |
| Bogstone Holding B.V. | 51 |
| Infineum Holdings B.V. | 50 |
| HOFPLEIN 20, ROTTERDAM, 3032AC | |
| CrossWind Beheer B.V. [a] | 80 |
| Crosswind C.V. [a] [c] | 80 |
| MUIDERSTRAAT 1, AMSTERDAM, 1011 PZ | |
| Caspi Meruerty Operating Company B.V. [a] | 40 |
| OOSTDUINLAAN 2, THE HAGUE, 2596 JM | |
| North Caspian Operating Company N.V. [a] | 17 |
| OOSTERHORN 36, FARMSUM, 9936 HD | |
| Zeolyst C.V. | 50 |
| P.O. BOX 477, GRONINGEN, 9700 AL | |
| Gasterra B.V. | 25 |
| REACTORWEG 301, UNIT 1.3, UTRECHT, 3542 AD | |
| Paqell B.V. | 50 |
| SCHEPERSMAAT 2, ASSEN, 9405 TA | |
| NAM Offshore B.V. | 25 |
| Nederlandse Aardolie Maatschappij B.V. | 50 |
| STATIONSPLEIN 45, 4TH FLOOR, ROTTERDAM, 3013 AK | |
| Investancia Group B.V. [a] | 30 |
| STRAWINSKYLAAN 1343, AMSTERDAM, 1077 XX | |
| Shell & AMG Recycling B.V [c] | 50 |
| STRAWINSKYLAAN 1345, AMSTERDAM, 1077 XX | |
| Karachaganak Petroleum Operating B.V. [a] | 29 |

| Company by country and address of incorporation | % |
|---|---|
| VONDELINGENWEG 601, VONDELINGENPLAAT, ROTTERDAM, 3196 KK | |
| Ellba B.V. [a] | 50 |
| Ellba C.V. [a] [c] | 50 |
| VOORSTRAAT 67, GROOT-AMMERS, 2964 AJ | |
| BlueAlp Holding B.V. | 21 |
| WEENA 70, ROTTERDAM, 3012 CM | |
| Blauwwind II C.V. [c] | 20 |
| Blauwwind Management II B.V. | 20 |
| WEENA 762, 9E VERDIEPING, ROTTERDAM, 3014 DA | |
| Guara B.V. | 30 |
| Iara B.V. | 4 |
| Lapa Oil & Gas B.V. | 30 |
| Libra Oil & Gas B.V. | 20 |
| Tupi B.V. | 23 |
| WIJNAND VAN ARNHEMVEG 8, OOSTERBEEK, 6862 XM | |
| iLNG B.V. | 28 |
| ZEELANDSESTRAAT 1, MILLINGEN AAN DE RIJN, 6566 DE | |
| SolarNow B.V. | 23 |
| LAARDERHOOGTWEG 18, AMSTERDAM, 1101 EA | |
| Aecorsis B.V. | 23 |
| ANTARESLAAN 39, P.O. BOX 3068, HOOFDDORP, 2132 JE | |
| Multi Tank Card B.V. | 30 |
| POLARIS AVENUE 81, P.O. BOX 2047, HOOFDDORP, 2132 JH | |
| Loyalty Management Netherlands B.V. | 40 |
| **NIGERIA** | |
| CORPORATE OFFICE, INTELS ABA ROAD ESTATE, KM16 ABA EXPRESSWAY, PORT HARCOURT, 500211 | |
| Nigeria LNG Limited | 26 |
| NLNG Shipping Management Limited | 20 |
| **NORWAY** | |
| BYFJORDPARKEN 15, STAVANGER, 4007 | |
| Northern Lights JV DA [c] | 33 |
| KONGSGÅRDBAKKEN 1, STAVANGER, 4005 | |
| Enhanced Well Technologies Group AS | 22 |
| KRISTIAN AUGUSTS GATE 13, OSLO, 0164 | |
| Aviation Fuelling Services Norway AS | 50 |
| MONGSTAD 71A, MONGSTAD, 5954 | |
| Technology Centre Mongstad DA | 9 |
| NYHAMNA, AUKRA, 6480 | |
| Ormen Lange Eiendom DA | 18 |
| **OMAN** | |
| P.O. BOX 560, MINA AL FAHAL, MUSCAT, 116 | |
| Oman LNG LLC | 30 |
| P.O. BOX 81, MINA AL FAHAL, MUSCAT, 113 | |
| Petroleum Development Oman LLC | 33 |
| **PAKISTAN** | |
| E110, KHAYABAN E JINNAH, LAHORE CANTONEMENT, PUNJAB, CANTONEMENT, 54810 | |
| Pakistan Energy Gateway Limited | 33 |
| OFFICE NO 8, LEVEL 3, GROUND FLOOR, SERENA BUSINESS COMPLEX, KHAYABAN-E-SUHRDWARDY, G-5/1, ISLAMABAD, 44000 | |
| Pak Arab Pipeline Company Limited | 20 |
| **PHILIPPINES** | |
| 2ND FLOOR, BONIFACIO TECHNOLOGY CENTER, 31ST STREET CORNER 2ND AVENUE, BONIFACIO GLOBAL CITY, TAGUIG, METRO MANILA, 1635 | |
| Bonifacio Gas Corporation | 24 |
| LEVEL 3B, 111 PASEO DE ROXAS BLDG., PASEO DE ROXAS AVE, LEGASPI VILLAGE, SAN LORENZO, MAKATI CITY, 0000 | |
| Tablas Strait Offshore Wind Power Corporation [a] | 39 |
| NDC BLDG., 116 TORDESILLAS ST., SALCEDO VILLAGE, MAKATI CITY, METRO MANILA, 1227 | |
| Kamayan Realty Corporation | 22 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **PHILIPPINES** continued | |
| UNIT D 9TH FLOOR INOZA TOWER, 40TH STREET, NORTH BONIFACIO, BONIFACIO GLOBAL CITY, TAGUIG, METRO MANILA, 1634 | |
| **Tabangao Realty, Inc.** | 40 |
| UNIT 1, 9TH FLOOR, ORE CENTRAL TOWER, 31ST STREET CORNER 9TH AVENUE, BONIFACIO GLOBAL CITY, TAGUIG CITY, METRO MANILA, FORT BONIFACIO 1634 | |
| **Greenlight Renewables Holding Inc** | 40 |
| **QATAR** | |
| 1ST FLOOR, AL-MIRQAB TOWER, DOHA | |
| **Marine LNG Solutions LLC [a]** | 50 |
| **P.O. BOX 22666, DOHA** | |
| **Qatar Liquefied Gas Company Limited (4)** | 30 |
| QATARENERGY HQ TOWER 4, PODIUM LEVEL, BUILDING NO. 4, STREET NO. 951, DOHA, ZONE 63 | |
| **Qatar Liquefied Gas Company Limited (6)** | 25 |
| **RUSSIA** | |
| 24 A YAKUBOVICHA UL., SAINT PETERSBURG, 190000 | |
| **Khanty-Mansiysk Petroleum Alliance Closed Joint Stock Company [a]** | 50 |
| **SAUDI ARABIA** | |
| P.O. BOX 41467, RIYADH, 11521 | |
| **Al Jomaih and Shell Lubricating Oil Co.Ltd.** | 50 |
| **SINGAPORE** | |
| 1 HARBOURFRONT AVENUE, #08-01/08, KEPPEL BAY TOWER, SINGAPORE, 098632 | |
| **Infineum Singapore LLP** | 50 |
| 100 PECK SEAH STREET, #10-18 PS100, SINGAPORE, 079333 | |
| **LRDTECH PTE LTD** | 0 |
| 15, AIRLINE ROAD, SINGAPORE, 819828 | |
| **Changi Airport Fuel Hydrant Installation Pte. Ltd.** | 11 |
| 160 TUAS SOUTH AVENUE 5, SINGAPORE, 637364 | |
| **Singapore Lube Park Pte. Ltd. [a]** | 44 |
| 25 CHURCH STREET, 03-04 CAPITAL SQUARE THREE, SINGAPORE, 049482 | |
| **Cleantech Renewable Assets Pte Ltd** | 49 |
| 5 BENOI PLACE, #02, SINGAPORE, 629926 | |
| **Best Petrol and Diesel Supply Pte. Ltd. [c]** | 45 |
| 50 GUL ROAD, SINGAPORE, 629351 | |
| **Fuelng Pte. Ltd [a]** | 50 |
| 50 RAFFLES PLACE #06-00, SINGAPORE LAND TOWER, SINGAPORE, 048623 | |
| **Orb Energy Pte Ltd.** | 24 |
| THE METROPOLIS TOWER 1, 9 NORTH BUONA VISTA DRIVE, #07-01, SINGAPORE, 138588 | |
| **Connected Freight Pte. Ltd.** | 78 |
| **QPI and Shell Petrochemicals (Singapore) Pte Ltd** | 51 |
| **Sirius Well Manufacturing Services Pte. Ltd.** | 50 |
| **SOUTH AFRICA** | |
| 1ST FLOOR OXFORD PARKS, 199 OXFORD ROAD, DUNKELD, GAUTENG, 2196 | |
| **Sekelo Oil Trading (Pty) Limited** | 43 |
| HONSHU ROAD, DURBAN, 4001 | |
| **Blendcor (Pty) Ltd. [a]** | 36 |
| **REUNION, DURBAN, 4001** | |
| **Shell & BP South African Petroleum Refineries (Pty) Limited [a]** | 36 |
| TWICKENHAM, THE CAMPUS, 57 SLOAN STREET, EPSOM DOWNS, BRYANSTON, 2021 | |
| **Bituguard Southern Africa (Pty) Ltd** | 36 |
| **SOUTH KOREA** | |
| 640-6, DAEJUK-RI, DAESAN-EUP, SEOSAN-SHI, CHUNGCHONGNAM-DO, 356-713 | |
| **Hyundai and Shell Base Oil Co., Ltd** | 40 |
| #704-3, TOWER B.HYUNDAI KNOWLEDGE INDUSTRIAL CENTER, 70 DUSAN-RO, GEUMCHEON-GU, SEOUL, 08584 | |
| **Korea Impact Carbon Corporation** | 40 |
| **SPAIN** | |
| RIO BULLAQUE, 2, MADRID, 28034 | |
| **Shell & Disa Aviation España, S.L.** | 50 |

| Company by country and address of incorporation | % |
|---|---|
| **SWEDEN** | |
| P.O. BOX 135, STOCKHOLM-ARLANDA, 190 46 | |
| **A Flygbränslehantering Aktiebolag** | 25 |
| P.O. BOX 2154, GOTHENBURG, 438 14 | |
| **Gothenburg Fuelling Company AB** | 33 |
| P.O. BOX 85, STOCKHOLM-ARLANDA, 190 45 | |
| **Stockholm Fuelling Services AB** | 25 |
| STURUP FLYGPLATS, P.O. BOX 22, MALMÖ, 230 32 | |
| **Malmö Fuelling Services AB** | 33 |
| **SWITZERLAND** | |
| AUTOSTRADA A2 (DIREZIONE GOTTARDO), HOTEL BELLINZONA SUD, MONTE CARASSO, 6513 | |
| **Stazioni Autostradali Bellinzona SA** | 50 |
| ROUTE DE PRÉ-BOIS 17, COINTRIN, 1216 | |
| **Saraco SA** | 20 |
| ROUTE DE VERNIER 132, VERNIER, 1214 | |
| **SOGEP Société Genevoise des Pétroles SA** | 34 |
| ZWÜSCHETEICH, RÜMLANG, 8153 | |
| **UBAG - Unterflurbetankungsanlage Flughafen Zürich AG** | 20 |
| **SYRIA** | |
| DAMASCUS NEW SHAM WESTERN DUMMAR, ISLAND NO. 1 - PROPERTY 2299, P.O. BOX 7660, DAMASCUS | |
| **Al Badiah Petroleum Company** | 22 |
| **Al Furat Petroleum Company** | 20 |
| **TAIWAN** | |
| NO. 2, TSO-NAN ROAD, NAN-TZE DISTRICT, P.O. BOX 25-30, KAOHSIUNG, 811 | |
| **CPC Shell Lubricants Co. Ltd** | 51 |
| **TANZANIA** | |
| 1ST FLOOR KILWA HOUSE, PLOT 369, TOURE DRIVE, OYSTER BAY, P.O. BOX 105833, DAR ES SALAAM | |
| **Fahari Gas Marketing Company Limited** | 53 |
| **Mzalendo Gas Processing Company Limited** | 53 |
| **Ruvuma Pipeline Company Limited** | 53 |
| **TRINIDAD AND TOBAGO** | |
| 1 INTERNATIONAL DRIVE, WESTMOORINGS | |
| **The International School of Port of Spain Limited** | 25 |
| 5 SAINT CLAIR AVENUE, SAINT CLAIR, PORT OF SPAIN | |
| **Point Fortin LNG Exports Limited** | 81 |
| **TUNISIA** | |
| IMMEUBLE MEZGHENNI, RUE DU LAC WINDERMERE, LES BERGES DU LAC, TUNIS, 1053 - BP 36 | |
| **Amilcar Petroleum Operations S.A.** | 50 |
| **TURKEY** | |
| DILOVASI ORGANIZE SANAYI BOLGESI 1.KISIM, 1004 SOKAK NO:10, DILOVASI, KOCAELI | |
| **Samsun Akaryakit VE Depolama A.S.** | 35 |
| LIMAN MAHALLESI 60. SOKAK NO. 25, KONYAALTI, ANTALYA, 07070 | |
| **Cekisan Depolama Hizmetleri Ltd. Sti.** | 46 |
| SULTANKOY MAHALLESI MALTEPE SOKAK NO:66, MARMARA EREGLISI, TEKIRDAG, 59750 | |
| **Marmara Depoculuk Hizmetleri A.S.** | 35 |
| YAKUPLU MAH. GENCOSMAN CAD. NO:7, BEYLIKDUZU, ISTANBUL, 34524 | |
| **Ambarli Depolama Hizmetleri Ltd. Sti.** | 35 |
| **UK** | |
| 44-46 OLD STEINE, BRIGHTON, BN1 1NH | |
| **Stansted Fuelling Company Limited** | 14 |
| 50 LOTHIAN ROAD, FESTIVAL SQUARE, EDINBURGH, EH3 9WJ | |
| **CAMPIONWIND LIMITED [a]** | 50 |
| **MARRAMWIND LIMITED [a]** | 50 |
| 5-7 ALEXANDRA ROAD, HEMEL HEMPSTEAD, HERTFORDSHIRE, HP2 5BS | |
| **British Pipeline Agency Limited** | 50 |

# Significant subsidiaries and other related undertakings (audited) continued

| Company by country and address of incorporation | % |
|---|---|
| **UK** continued | |
| United Kingdom Oil Pipelines Limited [a] | 48 |
| Walton-Gatwick Pipeline Company Limited [a] | 52 |
| West London Pipeline and Storage Limited [a] | 38 |
| ATHENA HOUSE, ATHENA DRIVE, TACHBROOK PARK, WARWICK, CV34 6RL | |
| Autogas Limited | 50 |
| BUILDING 1204, SANDRINGHAM ROAD, HEATHROW AIRPORT, HOUNSLOW, MIDDLESEX, TW6 3SH | |
| Heathrow Airport Fuel Company Limited | 14 |
| Heathrow Hydrant Operating Company Limited | 10 |
| JOHNSTON CARMICHAEL OFFICE, G08 (GROUND FLOOR) BIRCHIN COURT, 20 BIRCHIN LANE, LONDON, EC3V9DU | |
| Kite Power Systems Limited | 34 |
| LEVEL 39, ONE CANADA SQUARE, LONDON, E14 5AB | |
| Applied Blockchain Ltd | 22 |
| MAIN ROAD, WATERSTON, MILFORD HAVEN, PEMBROKESHIRE, SA73 1DR | |
| Dragon LNG Group Limited [a] | 50 |
| ONE BARTHOLOMEW CLOSE, LONDON, EC1A 7BL | |
| Gatwick Airport Storage and Hydrant Company Limited | 13 |
| Manchester Airport Storage and Hydrant Company Limited | 25 |
| PANNONE CORPORATE LLP, 378-380 DEANSGATE, CASTLEFIELD, MANCHESTER, M3 4LY | |
| Steama Company Limited | 33 |
| PO BOX 1, MILTON HILL, ABINGDON, OXFORDSHIRE, OX13 6BB | |
| Infineum International Limited | 50 |
| SHELL CENTRE, LONDON, SE1 7NA | |
| Eastham Refinery Limited [a] | 50 |
| The Consolidated Petroleum Company Limited | 50 |
| SHELL MEX AND B.P. LIMITED | 60 |
| SM Realisations Limited | 60 |
| **UKRAINE** | |
| M. HRINCHENKO, 4, KIEV, 03038 | |
| Alliance Holding LLC [c] | 51 |
| Invest-Region LLC [c] | 51 |
| **UNITED ARAB EMIRATES** | |
| EMDAD AVIATION FUEL STORAGE FZCO, P.O. BOX 261781, JEBEL ALI, DUBAI | |
| Emdad Aviation Fuel Storage FZCO | 33 |
| P.O. BOX 665, ABU DHABI | |
| Abu Dhabi Gas Industries Limited (GASCO) | 15 |
| **URUGUAY** | |
| LA CUMPARSITA, 1373 4TH FLOOR, MONTEVIDEO, 11200 | |
| Dinarel S.A. | 50 |
| Gasoducto Cruz del Sur S.A. | 40 |
| **USA** | |
| 10000 MING AVENUE, BAKERSFIELD, CA 93311 | |
| Aera Energy LLC [a] | 52 |
| Aera Energy Services Company | 50 |
| 10346 BRECKSVILLE RD, BRECKSVILLE, OH 44141 | |
| True North Energy LLC | 50 |
| 150 N. DAIRY ASHFORD, HOUSTON, TX 77079 | |
| Gaviota Terminal Company [c] | 20 |
| 16285 PARK TEN PLACE, SUIT 300, HOUSTON, TX 77084 | |
| Bluware Headwave Ventures Inc. | 20 |
| 1740 ED TEMPLE BLVD, NASHVILLE, TN 37208 | |
| Tri Star Energy LLC | 33 |
| 1900 EAST LINDEN AVENUE, LINDEN, NJ 07036 | |
| Infineum USA Inc | 50 |
| 2050 PLAINFIELD PIKE, CRANSTON, RI 02921 | |
| Colbea Enterprises, LLC | 50 |
| 2100 GENG ROAD, SUITE 210, SANTA CLARA, PALO ALTO, CA 94303 | |
| D.Light Design Inc. | 34 |
| 2237 HATCHER HILL ROAD, BACONTON, GA 31716 | |
| Baconton Power LLC [b] | 35 |
| 2441 HIGH TIMBERS DRIVE, SUITE 220, THE WOODLANDS, TX 77380 | |
| Distributed Generation Solutions LLC | 33 |
| 3333 HWY 6 SOUTH, HOUSTON, TX 77082 | |
| Zeolyst International | 50 |
| 3450 E. COMMERCIAL CT., MERIDIAN, ID 83642 | |
| Pacwest Energy, LLC. | 50 |
| 4080 WEST JONATHAN MOORE PIKE, COLUMBUS, IN 47201 | |
| RDK Ventures, LLC | 50 |
| 41805 ALBRAE STREET, FREMONT, CA 94538 | |
| Au Energy, LLC | 50 |
| 850 NEW BURTON ROAD, SUITE 201, DOVER, DELAWARE, DE 19904 | |
| Eleox LLC [b] | 17 |
| 930 WHITMORE DRIVE, ROCKWALL, 75087 | |
| Shell & Whitmore Reliability Solutions, LLC [b] | 50 |
| BECHTEL ENTERPRISES, 12011 SUNSET HILLS ROAD, RESTON, VA 20190 | |
| Maple Power Holdings LLC [a] | 68 |
| CORPORATION SERVICE COMPANY, 251 LITTLE FALLS DRIVE, WILMINGTON, DE 19808 | |
| Atlantic Shores Offshore Wind, LLC [b] | 50 |
| Bengal Pipeline Company LLC | 58 |
| Colonial Pipeline Company | 16 |
| Cumulus Digital Systems, Inc. | 30 |
| Quantico Energy Solutions, Inc. | 38 |
| West Shore Pipe Line Company | 19 |
| CORPORATION SERVICE COMPANY, 2711 CENTERVILLE ROAD, SUITE 400, WILMINGTON, DE 19808 | |
| Infineum USA L.P. [e] | 50 |
| RL & F SERVICE CORP, 920 N KING ST FLOOR 2, NEW CASTLE, WILMINGTON, DE 19801 | |
| Atlantic 1 Holdings LLC [b] | 46 |
| Atlantic 2/3 Holdings LLC [b] | 58 |
| Atlantic 4 Holdings LLC [b] | 51 |
| THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, 1209 ORANGE STREET, WILMINGTON, DE 19801 | |
| Amberjack Pipeline Company LLC [b] | 63 |
| Caesar Oil Pipeline Company, LLC [b] | 15 |
| Crestwood Permian Basin LLC | 50 |
| Diamond Energy. LLC [b] | 50 |
| Endymion Oil Pipeline Company, LLC [b] | 10 |
| Explorer Pipeline Company | 39 |
| Husk Power Systems, Inc. | 30 |
| LOCAP LLC | 41 |
| LOOP LLC | 46 |
| Mars Oil Pipeline Company LLC [b] | 72 |
| Mattox Pipeline Company LLC [b] | 79 |
| Mayflower Wind Energy LLC [b] | 50 |
| Peru LNG Company LLC [b] | 20 |
| Poseidon Oil Pipeline Company, LLC | 36 |
| Proteus Oil Pipeline Company, LLC [b] | 10 |
| Ship Shoal Pipeline Company LLC [c] | 43 |
| Silicon Ranch Corporation | 44 |
| Three Wind Holdings, LLC [b] | 50 |
| URSA Oil Pipeline Company LLC [b] | 45 |
| 15445 INNOVATION DRIVE, SAN DIEGO,CA, 92128 | |
| Mid-Atlantic Offshore Development, LLC [b] | 50 |
| 1191 2ND AVENUE, SUITE 1900, SEATTLE, WA 98101-2993 | |
| Airbiquity Inc. | 20 |

# **Significant subsidiaries and other related undertakings (audited)** continued

| Company by country and address of incorporation | % |
|---|---|
| **VENEZUELA** | |
| AVENIDA LEONARDO DA VINCI, EDIFICIO PDV SERVICIOS, CARACAS, DISTRITO CAPITAL | |
| **Sucre Gas, S.A.** | 30 |
| **ZAMBIA** | |
| 7TH FLOOR,NATIONAL SAVINGS & CREDIT BANK BUILDING,NORTH END,CAIRO ROAD,LUSAKA | |
| **Shell Zambia Limited** | 72 |
| **ZIMBABWE** | |
| BLOCK 1, TENDESEKA OFFICE PARK, CNR SAMORA MACHEL AVENUE, RENFREW ROAD, HARARE | |
| **Central African Petroleum Refineries (Private) Limited** | 21 |

# Appendix 2

## Five-year financial data set

### Consolidated Statement of Income

$ million

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|
| Revenue | 381,314 | 261,504 | 180,543 | 344,877 | 388,379 |
| Share of profit of joint ventures and associates | 3,972 | 4,097 | 1,783 | 3,604 | 4,106 |
| Interest and other income | 915 | 7,056 | 869 | 3,625 | 4,071 |
| **Total revenue and other income** | **386,201** | **272,657** | **183,195** | **352,106** | **396,556** |
| Purchases | 258,488 | 174,912 | 117,093 | 252,983 | 294,399 |
| Production and manufacturing expenses | 25,518 | 23,822 | 24,001 | 26,438 | 26,970 |
| Selling, distribution and administrative expenses | 12,883 | 11,328 | 9,881 | 10,493 | 11,360 |
| Research and development | 1,075 | 815 | 907 | 962 | 986 |
| Exploration | 1,712 | 1,423 | 1,747 | 2,354 | 1,340 |
| Depreciation, depletion and amortisation | 18,529 | 26,921 | 52,444 | 28,701 | 22,135 |
| Interest expense | 3,181 | 3,607 | 4,089 | 4,690 | 3,745 |
| **Total expenditure** | **321,386** | **242,828** | **210,162** | **326,621** | **360,935** |
| **Income/(loss) before taxation** | **64,815** | **29,829** | **(26,967)** | **25,485** | **35,621** |
| Taxation (credit)/charge | 21,941 | 9,199 | (5,433) | 9,053 | 11,715 |
| **Income/(loss) for the period** | **42,874** | **20,630** | **(21,534)** | **16,432** | **23,906** |
| Income attributable to non-controlling interest | 565 | 529 | 146 | 590 | 554 |
| **Income/(loss) attributable to Shell plc shareholders** | **42,309** | **20,101** | **(21,680)** | **15,842** | **23,352** |
| Basic earnings per share ($) | 5.76 | 2.59 | (2.78) | 1.97 | 2.82 |
| Diluted earnings per share ($) | 5.71 | 2.57 | (2.78) | 1.95 | 2.80 |

### Reconciliation of Income for the Period to CCS Earnings

$ million

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|
| Income/(loss) attributable to Shell plc shareholders | 42,309 | 20,101 | (21,680) | 15,842 | 23,352 |
| Income attributable to non-controlling interest | 565 | 529 | 146 | 590 | 554 |
| Income/(loss) for the period | 42,874 | 20,630 | (21,534) | 16,432 | 23,906 |
| Current cost of supplies adjustment | (1,312) | (3,148) | 1,833 | (605) | 458 |
| Of which: | | | | | |
| Attributable to Shell plc shareholders | (1,196) | (3,029) | 1,759 | (572) | 481 |
| Attributable to non-controlling interest | (116) | (119) | 74 | (33) | (23) |
| CCS earnings | 41,562 | 17,482 | (19,701) | 15,827 | 24,364 |
| Of which: | | | | | |
| Attributable to Shell plc shareholders | 41,113 | 17,072 | (19,921) | 15,270 | 23,833 |
| Attributable to non-controlling interest | 449 | 410 | 220 | 557 | 531 |

### Taxation Charge/(Credit)

$ million unless indicated

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|
| Current tax | 15,436 | 6,535 | 3,216 | 7,596 | 10,475 |
| Deferred tax | 6,505 | 2,664 | (8,649) | 1,457 | 1,240 |
| Total taxation charge/(credit) | 21,941 | 9,199 | (5,433) | 9,053 | 11,715 |
| As a % of income before taxation | 34% | 31% | 20% | 36% | 33% |

# **Five-year financial data set** continued

## Consolidated Balance Sheet

$ million

| | Dec 31, 2022 | Dec 31, 2021 | Dec 31, 2020 | Dec 31, 2019 | Dec 31, 2018 |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| **Non-current assets** | | | | | |
| Goodwill [A] | 16,039 | 14,920 | 14,039 | 14,205 | 13,716 |
| Other intangible assets [A] | 9,662 | 9,773 | 8,671 | 9,281 | 9,870 |
| Property, plant and equipment | 198,642 | 194,932 | 209,700 | 238,349 | 223,175 |
| Joint ventures and associates | 23,864 | 23,415 | 22,451 | 22,808 | 25,329 |
| Investments in securities | 3,362 | 3,797 | 3,222 | 2,989 | 3,074 |
| Deferred tax | 7,815 | 12,426 | 16,311 | 10,524 | 12,097 |
| Retirement benefits | 10,200 | 8,471 | 2,474 | 4,717 | 6,051 |
| Trade and other receivables | 6,920 | 7,065 | 7,641 | 8,085 | 7,826 |
| Derivative financial instruments | 582 | 815 | 2,805 | 689 | 574 |
| | **277,086** | **275,614** | **287,314** | **311,647** | **301,712** |
| **Current assets** | | | | | |
| Inventories | 31,894 | 25,258 | 19,457 | 24,071 | 21,117 |
| Trade and other receivables | 66,510 | 53,208 | 33,625 | 43,414 | 42,431 |
| Derivative financial instruments | 24,437 | 11,369 | 5,783 | 7,149 | 7,193 |
| Cash and cash equivalents | 40,246 | 36,970 | 31,830 | 18,055 | 26,741 |
| | 163,087 | 126,805 | 90,695 | 92,689 | 97,482 |
| Assets classified as held for sale [B] | 2,851 | 1,960 | 1,259 | – | – |
| | **165,938** | **128,765** | **91,954** | **–** | **–** |
| **Total assets** | **443,024** | **404,379** | **379,268** | **404,336** | **399,194** |
| **Liabilities** | | | | | |
| **Non-current liabilities** | | | | | |
| Debt | 74,794 | 80,868 | 91,115 | 81,360 | 66,690 |
| Trade and other payables | 3,432 | 2,075 | 2,304 | 2,342 | 2,735 |
| Derivative financial instruments | 3,563 | 887 | 420 | 1,209 | 1,399 |
| Deferred tax | 16,186 | 12,547 | 10,463 | 14,522 | 14,837 |
| Retirement benefits | 7,296 | 11,325 | 15,605 | 13,436 | 12,104 |
| Decommissioning and other provisions | 23,845 | 25,804 | 27,116 | 21,799 | 21,533 |
| | **129,116** | **133,506** | **147,023** | **134,668** | **119,298** |
| **Current liabilities** | | | | | |
| Debt | 9,001 | 8,218 | 16,899 | 15,064 | 10,134 |
| Trade and other payables | 79,357 | 63,173 | 44,572 | 52,423 | 52,395 |
| Derivative financial instruments | 23,779 | 16,311 | 5,308 | 5,429 | 7,184 |
| Income taxes payable | 4,869 | 3,254 | 3,111 | 3,478 | 3,990 |
| Decommissioning and other provisions | 2,910 | 3,338 | 3,622 | 2,811 | 3,659 |
| | 119,916 | 94,294 | 73,512 | 79,205 | 77,362 |
| Liabilities directly associated with assets classified as held for sale [B] | 1,395 | 1,253 | 196 | – | – |
| | 121,311 | 95,547 | 73,708 | – | – |
| **Total liabilities** | **250,427** | **229,053** | **220,731** | **213,873** | **196,660** |
| **Equity** | | | | | |
| Share capital | 584 | 641 | 651 | 657 | 685 |
| Shares held in trust | (726) | (610) | (709) | (1,063) | (1,260) |
| Other reserves | 21,132 | 18,909 | 12,752 | 14,451 | 16,615 |
| Retained earnings | 169,482 | 153,026 | 142,616 | 172,431 | 182,606 |
| **Equity attributable to Shell plc shareholders** | **190,472** | **171,966** | **155,310** | **186,476** | **198,646** |
| Non-controlling interest | 2,125 | 3,360 | 3,227 | 3,987 | 3,888 |
| **Total equity** | **192,597** | **175,326** | **158,537** | **190,463** | **202,534** |
| **Total liabilities and equity** | **443,024** | **404,379** | **379,268** | **404,336** | **399,194** |

[A] Goodwill, previously presented under Intangible assets is separately presented as from 2022. Prior period comparatives have been revised to conform with current year presentation.
[B] As from year 2021, 'Assets held for sale' and 'Liabilities directly associated with assets held for sale' are presented separately. Comparatives, prior to year 2020, have not been revised.

# Five-year financial data set continued

## Consolidated Statement of Cash Flows

$ million

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|
| Income/(loss) before taxation for the period | 64,815 | 29,829 | (26,967) | 25,485 | 35,621 |
| Adjustment for: | | | | | |
| Interest expense (net) | 2,135 | 3,096 | 3,316 | 3,705 | 2,878 |
| Depreciation, depletion and amortisation | 18,529 | 26,921 | 52,444 | 28,701 | 22,135 |
| Exploration well write-offs | 881 | 639 | 815 | 1,218 | 449 |
| Net gains on sale and revaluation of non-current assets and businesses | (642) | (5,995) | (286) | (2,519) | (3,265) |
| Share of profit of joint ventures and associates | (3,972) | (4,097) | (1,783) | (3,604) | (4,106) |
| Dividends received from joint ventures and associates | 4,398 | 3,929 | 2,591 | 4,139 | 4,903 |
| (Increase)/decrease in inventories | (8,360) | (7,319) | 4,477 | (2,635) | 2,823 |
| (Increase)/decrease in current receivables | (8,989) | (20,567) | 9,625 | (921) | 1,955 |
| Increase/(decrease) in current payables | 11,915 | 17,519 | (9,494) | (1,223) | (1,336) |
| Derivative financial instruments | (2,619) | 5,882 | 977 | (1,484) | 799 |
| Retirement benefits | 417 | 16 | 568 | (365) | 390 |
| Decommissioning and other provisions | 35 | (76) | 1,104 | (686) | (1,754) |
| Other | 2,991 | 803 | 8 | (28) | 1,264 |
| Tax paid | (13,120) | (5,476) | (3,290) | (7,605) | (9,671) |
| **Cash flow from operating activities** | **68,414** | **45,104** | **34,105** | **42,178** | **53,085** |
| Capital expenditure | (22,600) | (19,000) | (16,585) | (22,971) | (23,011) |
| Investments in joint ventures and associates | (1,973) | (479) | (1,024) | (743) | (880) |
| Investment in equity securities | (260) | (218) | (218) | (205) | (187) |
| Proceeds from sale of property, plant and equipment and businesses | 1,431 | 14,233 | 2,489 | 4,803 | 4,366 |
| Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans | 511 | 584 | 1,240 | 2,599 | 1,594 |
| Proceeds from sale of equity securities | 117 | 296 | 281 | 469 | 4,505 |
| Interest received | 906 | 423 | 532 | 911 | 823 |
| Other investing cash inflows | 2,060 | 2,928 | 3,239 | 2,921 | 1,373 |
| Other investing cash outflows | (2,640) | (3,528) | (3,232) | (3,563) | (2,242) |
| **Cash flow from investing activities** | **(22,448)** | **(4,761)** | **(13,278)** | **(15,779)** | **(13,659)** |
| Net increase/(decrease) in debt with maturity period within three months | 318 | 14 | (63) | (308) | (396) |
| Other debt: | | | | | |
| New borrowings | 269 | 1,791 | 23,033 | 11,185 | 3,977 |
| Repayments | (8,459) | (21,534) | (17,385) | (14,292) | (11,912) |
| Interest paid | (3,677) | (4,014) | (4,105) | (4,649) | (3,574) |
| Derivative financial instruments | (1,799) | (1,165) | 1,157 | (48) | – |
| Change in non-controlling interest | (1,965) | 19 | (42) | – | 678 |
| Cash dividends paid to: | | | | | |
| Shell plc shareholders [A] | (7,405) | (6,253) | (7,424) | (15,198) | (15,675) |
| Non-controlling interest | (206) | (348) | (311) | (537) | (584) |
| Repurchases of shares | (18,437) | (2,889) | (1,702) | (10,188) | (3,947) |
| Shares held in trust: net purchases and dividends received | (593) | (285) | (382) | (1,174) | (1,115) |
| **Cash flow from financing activities** | **(41,954)** | **(34,664)** | **(7,224)** | **(35,209)** | **(32,548)** |
| Effects of exchange rate changes on cash and cash equivalents | (736) | (539) | 172 | 124 | (449) |
| Increase/(decrease) in cash and cash equivalents | 3,276 | 5,140 | 13,775 | (8,686) | 6,429 |
| Cash and cash equivalents at beginning of year | 36,970 | 31,830 | 18,055 | 26,741 | 20,312 |
| **Cash and cash equivalents at end of year** | **40,246** | **36,970** | **31,830** | **18,055** | **26,741** |

[A] Cash dividends paid represents the payment of net dividends (after deduction of withholding taxes where applicable) and payment of withholding taxes on dividends paid in the previous quarter.

# Five-year financial data set continued

## Free Cash Flow and Organic Free Cash Flow

$ million

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|
| Cash flow from operating activities | 68,414 | 45,104 | 34,105 | 42,178 | 53,085 |
| Cash flow from investing activities | (22,448) | (4,761) | (13,278) | (15,779) | (13,659) |
| Free cash flow | 45,965 | 40,343 | 20,828 | 26,399 | 39,426 |
| Less: Cash inflows related to divestments [A] | 2,059 | 15,113 | 4,010 | 7,871 | 10,465 |
| Add: Tax paid on divestments | 17 | 188 | – | 187 | 482 |
| Add: Cash outflows related to inorganic capital expenditure [B] | 4,205 | 1,658 | 817 | 1,400 | 1,740 |
| Organic free cash flow | 48,128 | 27,076 | 17,634 | 20,116 | 31,183 |

[A] Cash inflows related to divestments includes Proceeds from sale of property, plant and equipment and businesses, Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans, and Proceeds from sale of equity securities as reported in the "Consolidated Statement of Cash Flows".
[B] Cash outflows related to inorganic capital expenditure includes portfolio actions which expand Shell's activities through acquisitions and restructuring activities as reported in capital expenditure lines in the "Consolidated Statement of Cash Flows".

## Return on Average Capital Employed

$ million unless indicated

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|
| Income for the period | 42,874 | 20,630 | (21,534) | 16,432 | 23,906 |
| Interest expense after tax | 2,290 | 2,741 | 2,822 | 3,024 | 2,513 |
| Income before interest expense | 45,164 | 23,371 | (18,712) | 19,456 | 26,419 |
| Capital employed - opening | 264,413 | 266,551 | 286,887 | 295,398 | 283,477 |
| Capital employed - closing | 276,392 | 264,413 | 266,551 | 286,887 | 279,358 |
| Capital employed - average | 270,402 | 265,482 | 276,719 | 291,142 | 281,417 |
| ROACE | 16.7% | 8.8% | (6.8)% | 6.7% | 9.4% |

## Gearing

$ million unless indicated

| | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|---|---|---|---|---|
| Current debt | 9,001 | 8,218 | 16,899 | 15,064 | 10,134 |
| Non-current debt | 74,794 | 80,868 | 91,115 | 81,360 | 66,690 |
| Total debt [A] | 83,795 | 89,086 | 108,014 | 96,424 | 76,824 |
| Add: Debt-related derivative financial instruments: net liability/(asset) | 3,071 | 424 | (1,979) | 701 | 1,273 |
| Add: Collateral on debt-related derivatives: net liability/(asset) | (1,783) | 16 | 1,181 | 23 | 72 |
| Less: Cash and cash equivalents | (40,246) | (36,970) | (31,830) | (18,055) | (26,741) |
| Net debt [A] | 44,837 | 52,556 | 75,386 | 79,093 | 51,428 |
| Add: Total equity [A] | 192,597 | 175,326 | 158,537 | 190,463 | 202,534 |
| Total capital [A] | 237,434 | 227,882 | 233,923 | 269,556 | 253,962 |
| Gearing [A] | 18.9% | 23.1% | 32.2% | 29.3% | 20.3% |

[A] Shell used the modified retrospective transition method for implementing IFRS 16 Leases, effective as of January 1, 2019. Comparative information was not restated, and continues to be presented as previously reported under IAS 17 Leases.

# Notes

# Financial calendar in 2023

The Annual General Meeting will be held on May 23, 2023.

| | 2022 Fourth quarter [A] | 2023 First quarter [B] | 2023 Second quarter [B] | 2023 Third quarter [B] |
|---|---|---|---|---|
| Results announcements | February 2 | May 4 | July 27 | November 2 |
| **Interim dividend timetable** | | | | |
| Announcement date | February 2 [C] | May 4 | July 27 | November 2 |
| Ex-dividend date for SHEL ADS [D] | February 16 | May 18 | August 10 | November 16 |
| Ex-dividend date for SHEL ordinary shares | February 16 | May 18 | August 10 | November 16 |
| Record date | February 17 | May 19 | August 11 | November 17 |
| Closing of currency election date [E] | March 3 | June 5 | August 25 | December 1 |
| Pounds sterling and euro equivalents announcement date | March 13 | June 12 | September 4 | December 11 |
| Payment date | March 27 | June 26 | September 18 | December 20 |

[A] In respect of the financial year ended December 31, 2022.
[B] In respect of the financial year ended December 31, 2023.
[C] The Directors do not propose to recommend any further distribution in respect of 2022.
[D] The New York Stock Exchange (NYSE), with effect from September 5, 2017, reduced the standard settlement cycle in accordance with the SEC amendments to Exchange Act Rule 15c6-1(a). Under these rules, regular settlement will occur on a T+2 basis for trades occurring on or after the SEC's implementation date of September 5, 2017. As a result SHEL ADSs traded on the NYSE markets will now settle in line with SHEL shares traded on European markets, who moved to a T+2 settlement basis for trades in 2014, resulting in the same ex-dividend date for SHEL shares and SHEL ADSs. Record dates will not change. The timings of these are detailed above.
[E] A different currency election date may apply to shareholders holding shares in a securities account with a bank or financial institution ultimately through Euroclear Nederland. This may also apply to other shareholders who do not hold their shares either directly on the Register of Members or in the corporate sponsored nominee arrangement. Shareholders can contact their broker, financial intermediary, bank or financial institution for the election deadline that applies.

## Contact Us

The best way to get in touch is via the "Contact us" section of the Shell website www.shell.com/investors. From here questions are properly directed to the Shell team that can assist. In addition, we have introduced an automated question response tool to assist with the most popular questions that we receive and reviewed and updated the "Frequently asked Questions" section of our website to provide the most time efficient information for our investors.

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