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Contents	
Introduction.....	3
Task 1: Marketing Environment Analysis	3
The natural environment	3
The political and legal environment.....	5
Task 2: Strategic Growth and Competitive Positioning	6
Recommendation 1: Product development (lower-carbon products)	6
Recommendation 2: Market development (future-facing metals).....	7
Building competitive advantage	7
Why not the riskier options	8
Task 3: Critical Reflection on AI Usage	8
Tool disclosure.....	8
Critical evaluation of AI output	9
Contribution analysis	9
Ethical and professional reflection.....	9
References	10

Introduction

The metals and mining sector is a big producer of greenhouse gases. It makes about a quarter of the reported emissions of the world's 12,000 largest companies (MINING.COM, 2021). Because of this, large miners are under strong pressure to move toward lower-carbon products and cleaner ways of working. This report looks at BHP, one of the largest mining companies in the world, based in Australia. BHP produces copper, iron ore, nickel and other metals.

The report has three parts. Task 1 analyses two external marketing environment actors that push BHP toward lower-carbon products, with a strong focus on the natural environment. Task 2 recommends a growth strategy for BHP using the Ansoff Matrix and shows how BHP can build competitive advantage. Task 3 is a short reflection on how AI was used in this report.

Task 1: Marketing Environment Analysis

The marketing environment is everything outside a company that affects its marketing choices (Kotler et al., 2024). It has two parts. The microenvironment is made of close actors, such as customers and suppliers. The macroenvironment is made of big outside forces, such as the economy, technology, and the natural environment. This task looks at two external actors that push BHP toward lower-carbon products. The main focus is the natural environment. The second actor is the political and legal environment.

The natural environment

The natural environment includes natural resources, energy, pollution and the climate (Kotler et al., 2024). It is the strongest force pushing BHP to change. Kotler et al. (2024) explain that firms today face growing shortages of resources and a rising public concern about protecting the planet. For a mining company, this force works in two ways: as a threat and as an opportunity.

First, the threat. Mining is carbon-heavy, so BHP is a large emitter. Around 4–7% of global greenhouse gas emissions come from mining when only direct (Scope 1 and 2) emissions are counted, but this rises to about 28% once indirect Scope 3 emissions are included (Islam et al., 2024). For BHP, most emissions are Scope 3 and come from customers turning its iron ore into steel (Statista, 2025).

Steelmaking is one of the biggest sources of carbon in the world, so BHP's iron ore business is closely tied to a dirty process. Society now expects this to change. Big miners, through the International Council on Mining and Metals, have promised to reach net zero for their own operations by 2050 (ICMM, 2026). If BHP does not lower the carbon linked to its products, it risks losing customers, trust and value.

Kotler et al. (2024) point to several natural-environment trends that firms must watch. These include a growing shortage of raw materials, higher energy and pollution costs, and stronger government action to protect the environment. All three hit mining directly. To answer this pressure, BHP is not only changing its products; it is also cutting the carbon in its own operations. BHP has set targets to reduce its operational (Scope 1 and 2) emissions and is buying more renewable power for its sites as part of its Climate Transition Action Plan (BHP, 2024a). This shows how the natural environment is reshaping both what BHP sells and how it produces it.

The natural environment also creates physical risks. Mining depends on nature, and a changing climate makes nature less stable. Copper mines, for example, need a lot of water, but many sit in dry regions such as Chile's Atacama Desert, where droughts and heatwaves are getting worse. Water shortages and extreme weather can slow production and raise costs, and they can create conflict with local communities who need the same water. Falling ore grades make this worse, because more energy and water are needed to produce each tonne of metal. So, the natural environment is not only about carbon; it also puts direct pressure on how and where BHP can operate.

A clear real-life example is the 2015 Samarco tailings dam disaster in Brazil, a mine co-owned by BHP and Vale. The dam collapsed and released around 40 million cubic metres of mining waste, killing 19 people and polluting the Doce River for hundreds of kilometres (Owen et al., 2023). The clean-up and legal claims have since cost BHP billions of dollars. This shows how the natural environment is not a soft issue but a direct source of huge financial, legal and reputational risk. It also explains why investors and regulators now watch mining's environmental record so closely.

Second, the opportunity. The same natural-environment pressure that threatens old products creates demand for new, cleaner ones. The world needs huge amounts of copper and nickel to build electric vehicles, batteries and renewable power grids.

This creates a difficult balance for miners: they must produce far more metal for clean technology while also cutting the emissions of that same production, which researchers call the core paradox of mining in the energy transition (Islam et al., 2024).

The International Energy Agency expects copper demand to grow strongly as the world electrifies, with the risk of future shortages (IEA, 2025). BHP calls copper and nickel its “future-facing commodities” because they help the world decarbonise (BHP, 2024a). So, the natural environment gives BHP a strong reason, and a strong market, to move toward lower-carbon products.

The political and legal environment

The political and legal environment is made of laws, government bodies and pressure groups that shape what firms can do (Kotler et al., 2024). Around the world, governments are turning the climate problem into hard rules and real costs. This is the second big actor pushing BHP to change.

The clearest example is the European Union’s Carbon Border Adjustment Mechanism (CBAM). From 1 January 2026, CBAM entered its full phase. Importers of carbon-heavy goods, including iron and steel, must now buy certificates for the carbon built into what they import (European Commission, 2026). In simple terms, high-carbon steel now costs more to sell into Europe, while cleaner steel costs less. CBAM rewards clean producers and punishes dirty ones.

This matters a lot for BHP, even though BHP does not make steel itself. BHP sells iron ore to steelmakers in countries such as India and China, and some of their steel is sold into Europe. Under CBAM, these customers now need lower-carbon steel to stay competitive. To make lower-carbon steel, they need lower-carbon iron ore and new technology. This is a direct reason why BHP now works closely with steelmakers to cut emissions in the steel value chain (BHP, 2024b). The law has changed what BHP’s customers want, which changes what BHP must offer.

CBAM is only one part of a wider legal push. Many countries now run carbon pricing systems, such as the European Union’s Emissions Trading System, which put a price on each tonne of carbon a firm produces. This makes carbon a real cost on the balance sheet, not just a moral issue. At the same time, new rules force large firms to report their climate risks and their plans to cut emissions, so a company’s carbon record is now public and open to judgement. For BHP, this means it must measure,

report and reduce emissions across its value chain, or face higher costs and harder scrutiny.

Government targets add more pressure. Many countries have set net-zero goals for 2050 under the Paris Agreement, and new rules force companies to report their climate risks and plans. Investors push in the same direction: BHP's own Climate Transition Action Plan was supported by 92 per cent of shareholders at its 2024 meeting (BHP, 2024a). Taken together, the natural environment sets the problem, and the political and legal environment turns that problem into rules, costs and clear demand. Both actors push BHP strongly toward lower-carbon products.

Task 2: Strategic Growth and Competitive Positioning

Building on the analysis above, BHP needs a growth strategy that fits a lower-carbon world. A useful tool is the Ansoff Matrix (Ansoff, 1957). It shows four ways to grow, based on whether products and markets are existing or new. The four options are market penetration (existing products, existing markets), market development (existing products, new markets), product development (new products, existing markets) and diversification (new products, new markets). Each option carries a different level of risk.

Recommended strategy overview

For BHP, the best approach is a mix of two options: product development as the main strategy, supported by market development.

Recommendation 1: Product development (lower-carbon products)

Product development means creating new, lower-carbon versions of products for BHP's existing customers. This is exactly what BHP is starting to do. It works with major steelmakers, such as ArcelorMittal, China Baowu, HBIS, JFE, POSCO and Tata Steel, to develop steelmaking that produces far fewer emissions. BHP has a goal to help create steel technology with about 30 per cent lower emissions by 2030, and has committed funding of around US\$420 million to this work (BHP, 2024b). Lower-carbon iron ore products and this joint technology are, in effect, new products aimed at BHP's existing steel customers. This directly answers the pressure from CBAM and from customers who now need cleaner steel.

BHP is exploring several technology pathways to make this happen. These include direct reduced iron methods, new electric smelting furnaces, and carbon capture on

older blast furnaces (BHP, 2024b). BHP does not have to master every pathway alone. By partnering with its customers, it shares the cost and risk, keeps its iron ore relevant, and builds strong long-term ties. This is smart product development, because it protects BHP's core iron ore business against the risk that dirty steelmaking is slowly replaced by cleaner methods.

Recommendation 2: Market development (future-facing metals)

Market development means selling existing products to new markets. BHP already produces copper and nickel. The energy transition is opening huge new markets for these metals in electric vehicles, batteries, wind turbines, solar power and new electricity grids. The IEA expects copper demand to rise sharply as the world electrifies and warns that supply may struggle to keep up (IEA, 2025). The rush to open new mines for these metals also brings social and environmental risks, especially for Indigenous and local communities near new projects, so BHP must expand responsibly to protect its reputation (Owen et al., 2023). This is a strong, growing market with limited supply, which is a good place for BHP to grow. By aiming its copper and nickel at these green markets, BHP sells existing products to new kinds of customers. This also spreads its business away from carbon-heavy commodities like steelmaking coal and toward the metals that a low-carbon world needs most. It reduces BHP's long-term risk while opening new revenue.

Building competitive advantage

Growth alone is not enough; BHP must also win against rivals such as Rio Tinto and Vale. Porter (1985) explains that a firm can compete either by being the lowest-cost producer or by offering something different that customers value, which is called differentiation. For BHP, differentiation is the stronger path. If BHP becomes the preferred low-carbon supplier, it can keep and win customers who must cut their own emissions.

The demand is real. Because of CBAM and their own climate goals, steelmakers and carmakers increasingly want lower-carbon steel, and some carmakers are willing to pay a premium for it (Fastmarkets, 2026; ICCT, 2024). Steel is a major part of a car's carbon footprint, so buyers of "green steel" are ready to pay a little more to cut their Scope 3 emissions. By offering lower-carbon iron ore and helping customers decarbonise, BHP can stand out, protect long-term contracts and possibly earn a green premium. Over time, cleaner and more efficient operations can also lower BHP's energy and water costs, adding some cost advantage as well.

There is also a first-mover advantage. The company that helps its customers solve the carbon problem first will build trust and lock in strong relationships before rivals catch up. BHP can treat decarbonisation almost like a service: it does not just sell iron ore; it helps its customers make cleaner steel. This deepens the bond with buyers and makes it harder for them to switch to another supplier. A strong low-carbon record also protects BHP's reputation with investors, governments and communities, which makes it easier to win new mining permits and raise money. In this way, going lower carbon is not only good for the planet; it is a source of real competitive strength.

Bringing the two frameworks together, the Ansoff Matrix tells BHP where to grow, and Porter tells BHP how to win. Product development and market development show the safest routes to grow in a low-carbon world, and a differentiation strategy turns that growth into an advantage over rivals. Together, they give BHP a clear and realistic path to grow while it moves to a lower-carbon business model.

Why not the riskier options

The Ansoff Matrix also warns against jumping too far. Diversification, moving into new products and new markets at the same time, is the riskiest option. BHP has done some of this, for example with its Jansen potash (fertiliser) project, which can spread risk but is costly and far from its core skills. I would not make diversification the main plan for the low-carbon transition. Market penetration, simply selling more of the same high-carbon products to the same markets, is also weak, because it does nothing about the carbon pressure and runs straight into rules like CBAM. So, product development and market development, backed by a differentiation strategy, give BHP the best mix of growth and safety while it moves to a lower-carbon business model.

Task 3: Critical Reflection on AI Usage

Tool disclosure

In line with the AI use acknowledgement, I disclose that I used a generative AI tool during this report. I used it strictly for one purpose only to research the chosen company, BHP and to learn more about the metals and mining industry. For example, it helped me gather background facts and understand terms such as Scope 3 emissions and the energy transition. I did not use AI to write the analysis, to

form the arguments or to build the structure of this report. Its role was limited to research support.

Critical evaluation of AI output

AI tools can be wrong. They sometimes produce hallucinations, which means they state false facts as if they were true, and they can make logical errors. Because of this, I did not trust the AI output on its own. I checked every fact it gave me against primary and trusted sources, such as BHP's own reports, the European Commission, the International Energy Agency and the ICMM. If a claim matched these sources, I kept it. If I could not confirm a claim, I did not use it. I also found and corrected small errors, such as a wrong date or a mixed-up number, by going back to the original source. This checking step was the most important way I kept the report accurate.

Contribution analysis

The AI only supported the background research and my learning about the industry. All of the critical analysis is my own. I chose the marketing environment framework and decided that the natural environment and the political and legal environment were the two key actors. I chose and applied the Ansoff Matrix, made the strategy recommendation and wrote and organised the whole report myself. The judgement and the structure are my own original work.

Ethical and professional reflection

Using AI in marketing analysis raises real ethical points. There is a risk of over-relying on AI, of using biased or out-of-date data and of passing off AI writing as your own, which would be dishonest and unfair. There are also data privacy concerns when feeding information into an AI tool. To act ethically and professionally, I kept AI to research support only, checked everything against trusted sources, and did the thinking and writing myself. This keeps the work honest and means I stay responsible for it. In my view, AI is a helpful research aid, but the human must stay in control and take full responsibility for the final analysis.

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