



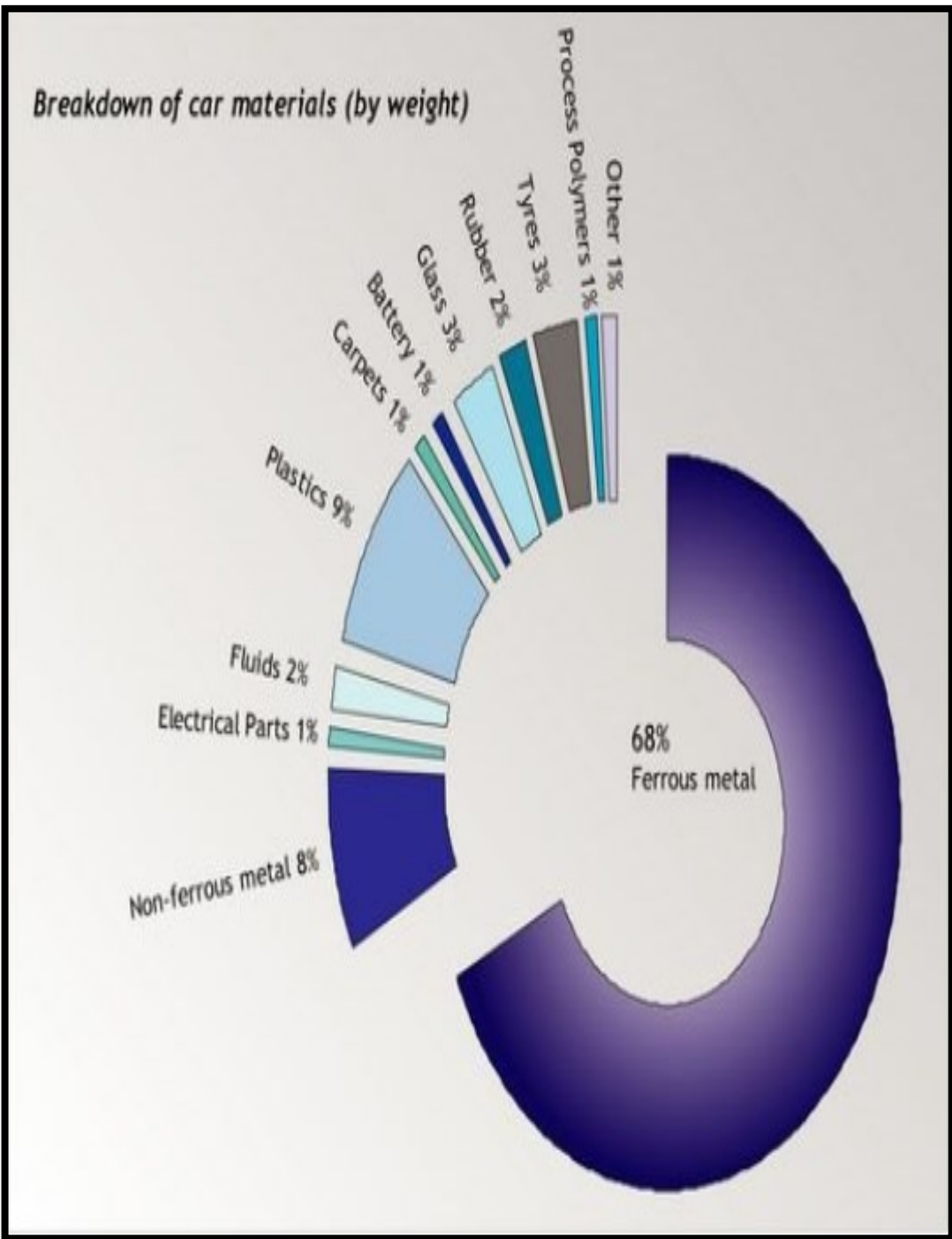
Sustainability and materials

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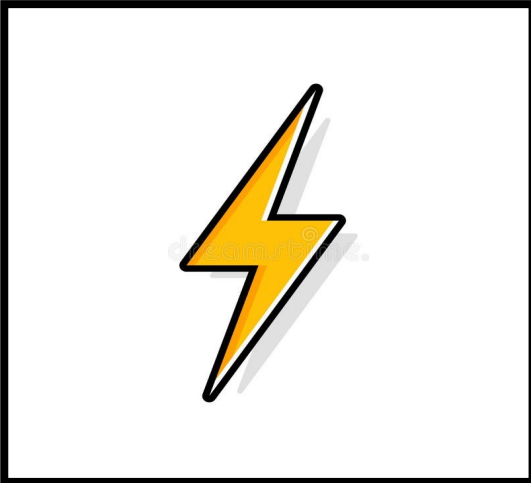


What are the most common materials are used in vehicles?

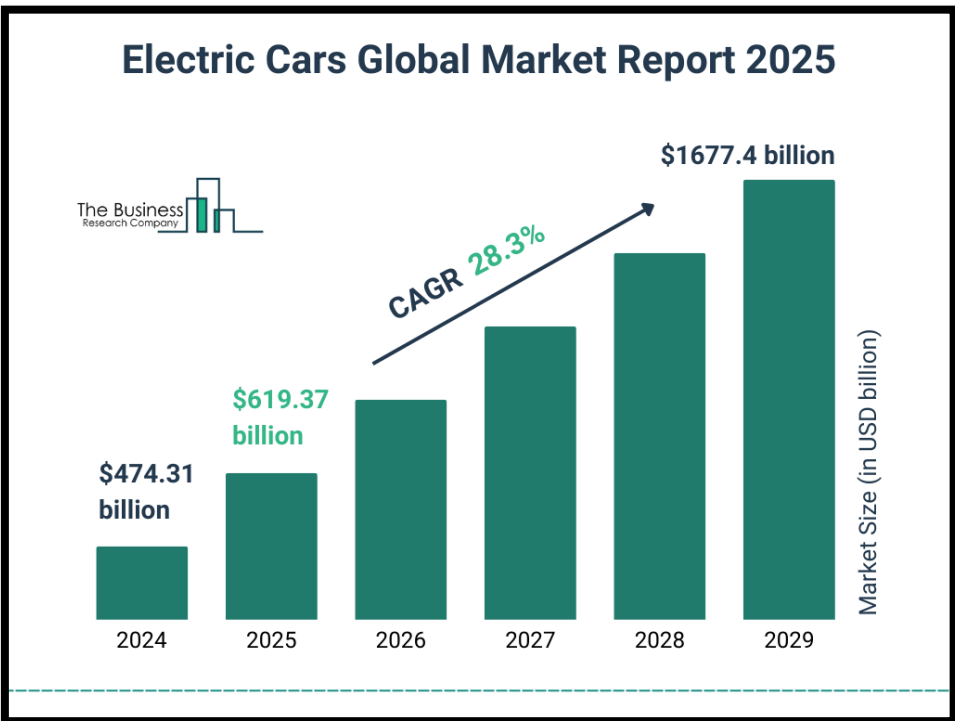
- Steel
- Aluminium
- Plastics
- Glass
- Rubber
- Copper
- Carbon fiber
- Textiles and leather

Introduction

With the automotive industry rapidly expanding, now is the time to prioritize sustainability without compromising safety. Choosing the right materials is key to driving real change and shaping a smarter greener future for transportation.



Electric car industry rapidly expanding



How can we make the automotive industry more sustainable?

- Eco friendly materials— such as recycled and renewable light weight metals like aluminium
- Cleaner manufacturing
- Electric vehicles
- Circular economy, designing vehicles for easier repair
- Sustainable supply chains
- Smarter transportation

What is sustainability in the automotive industry?

Sustainability means that meeting today's transportation needs without compromising the ability of future generations. In the automotive industry it involves reducing environmental impact conserving resources and improving the long term efficiency throughout the vehicles efficiency through out the vehicles lifecycle.



Plans to ban petrol and diesel vehicles in the UK by 2035?

Part of the UK's process to being carbon neutral by 2050 the "government has commenced a consultation on phasing out the sale of new petrol and diesel cars from 2030" (Department for Transport and Alexander H, 2025) this move aims to restore industry confidence and cut carbon emissions and boost the UK in leadership in green tech, which would help boost the UK's economy, The government plan to invest 2.3 billion into clean energy and ensuring a thriving sustainable automotive sector. SO the goal by 2035 is too have all new cars and vans must be zero emissions.

Country's that contribute the most carbon emissions in the world?

"carbon footprint emissions have sky rocketed to unrepresented levels since 2022, making a staggering milestone of 37,1536.8 billion tones"(Mckay, 2023), with the top 5 countries being China, USA, India, Russia and Japan which may not be surprising as these country's are large manufactures and also have high populations, but the very interesting thing is CO2 emissions per capita not one of the countries with the highest amount of CO2 emissions is there and it is a lot smaller nations such as Palau, Qatar, and Kuwait but this is because smaller nations with less developed energy systems depend on using fossil fuels or perhaps like Qatar and UAE they are big in the oil industry so they extract a significant amount of oil which costs emissions and also selling those emissions to other countries.

Rank	Country	CO ₂ Emissions per Capita (tonnes)
1	Palau	59.00
2	Qatar	35.52
3	Kuwait	24.90
4	United Arab Emirates	21.75
5	Bahrain	21.31
6	Trinidad and Tobago	21.17
7	Brunei	20.65
8	Gibraltar	18.96
9	New Caledonia	18.24
10	Oman	17.09

Rank	Country	MtCO ₂ (million tons of CO ₂)	Percentage of World CO ₂ Emission
1	China	12,667	32.88%
2	United States of America	5,057	12.6%
3	India	2,830	6.99%
4	Russia	2,032	4.96%
5	Japan	1,083	2.81%
6	Indonesia	729	1.8%
8	Iran	691	1.78%
7	Germany	673	1.75%
9	Saudi Arabia	663	1.66%
10	South Korea	636	1.53%

References

Mckay, B. (2023). *Countries With The Highest Carbon Footprint*. [online] GreenMatch.co.uk. Available at: <https://www.greenmatch.co.uk/blog/countries-with-the-highest-carbon-footprint>.

Department for Transport and Alexander, H. (2025). *Phasing out the sale of new petrol and diesel cars from 2030 and support for zero emission vehicle (ZEV) transition*. [online] GOV.UK. Available at: <https://www.gov.uk/government/speeches/phasing-out-the-sale-of-new-petrol-and-diesel-cars-from-2030-and-support-for-zero-emission-vehicle-zev-transition>.