

THE FUTURE OF ELECTRIC VEHICLES: A SHIFTING LANDSCAPE

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The electric vehicle (EV) market has seen rapid growth over the past decade, driven by government subsidies, consumer interest, and environmental concerns. However, this growth is showing signs of slowing, and doubts are emerging about the long-term dominance of EVs. Despite early enthusiasm and significant sales increases – Tesla, for example, went from selling 400,000 cars in 2020 to 1.8 million in 2023 – there are challenges on the horizon [1]. Traditional automakers like BMW and Mercedes have raised concerns about EU emissions policies and their potential to spark a price war with Chinese EV manufacturers. These companies have pushed back against rigid electrification deadlines, citing the ongoing demand for internal combustion engine (ICE) vehicles and the risks of rapid transition. European manufacturers, including Renault and BMW, are skeptical of the EU's electrification timeline, noting that it could harm their businesses and economies. BMW and Mercedes have announced the development of new gasoline and diesel engines, emphasizing that flexibility is key for consumers. Additionally, the German government has ended subsidies for electric vehicles, leading to expected declines in sales (14%). Other markets, like Norway and the UK, are also experiencing slowing growth, while China continues to heavily subsidize its EV market. But this process also cannot be endless. Sports car manufacturers like Ferrari and electric hypercar maker Rimac have expressed doubts about fully transitioning to electric power in their market segment, citing customer preferences for the sound and feel of ICEs. Meanwhile, Toyota (the biggest car manufacturer) is exploring hydrogen and water-based engines, suggesting that EVs might not be the ultimate answer for reducing emissions. With all these factors in mind, the future of EVs is uncertain. The question remains whether they are a robust, sustainable solution or reliant on government subsidies to remain viable [2]. The evolving landscape of the automotive industry will be shaped by consumer preferences, technological advancements, and government policies. The final outcome could see a mix of technologies, with ICE (gasoline, diesel, water and hydrogen), hybrids, and EVs coexisting, rather than a full shift to electric power.

References:

1. Our World in Data. Tracking global data on electric vehicles. URL: <https://ourworldindata.org/electric-car-sales> (дата звернення: 01.05.2024)
2. Babko N., Lysak H., Kot O., Koptieva H. Current business trends as the basis of the company's philosophy. integration vectors of sustainable development: economic, social and technological aspects: monografia. The university of technology in Katowice press, Wydawnictwo wyższej szkoły technicznej w katowicach. Poland, 2023 – P. 20–34.