

ELECTRIC VEHICLES

An Industry Analysis Report

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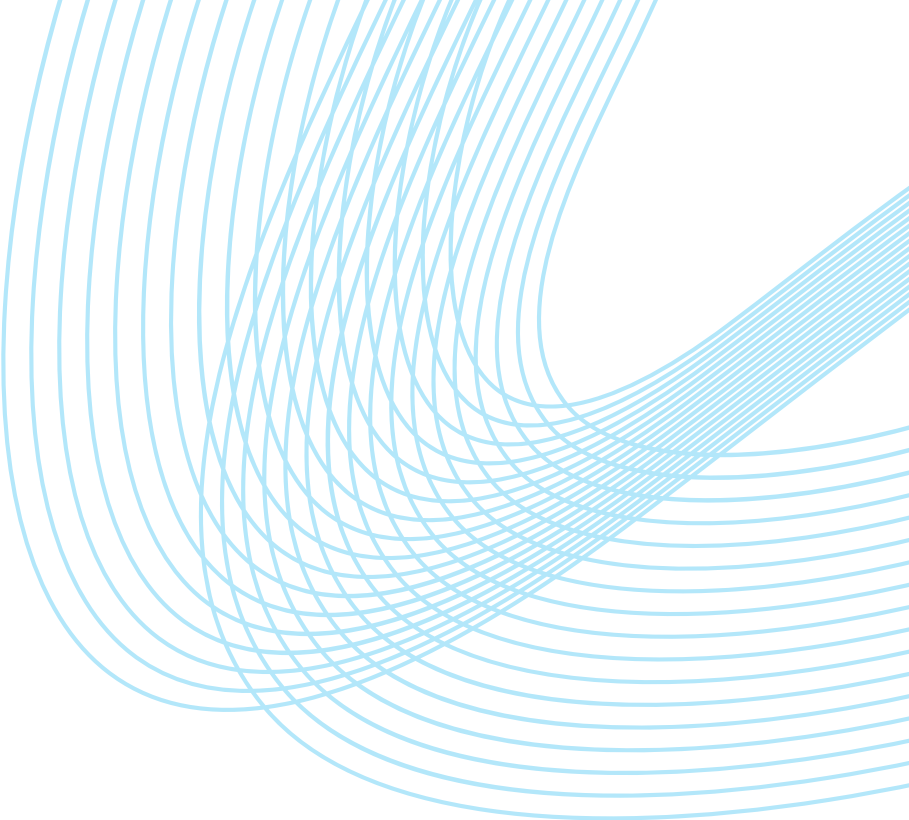


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EXECUTIVE SUMMARY



The electric vehicle industry has rapidly grown from a niche market into a global movement reshaping the future of transportation. Driven by climate urgency, tech advancements, and shifting consumer behavior, the EV market is forecasted to reach over \$950 billion by 2030, growing at a CAGR of around 24%^[1] from 2023 to 2030. Key trends include falling battery prices, government incentives, and increasing investments in EV infrastructure. However, challenges like limited charging networks and raw material dependency remain. Researchers worldwide still argue regarding the true sustainability of this industry due to the methods used to obtain raw materials. Overall, the industry presents strong growth opportunities for both legacy automakers and new entrants.

^[1] [Electric Vehicle Market Size, Share and Trends 2025 to 2034](#)



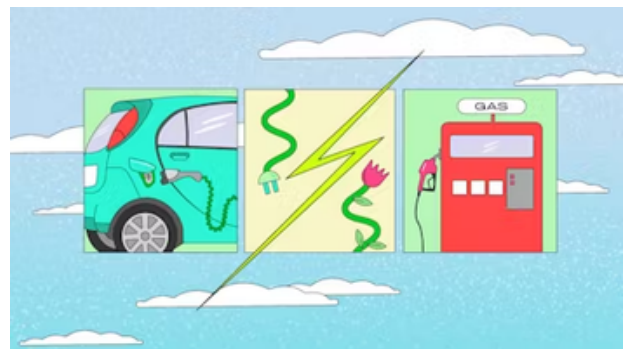
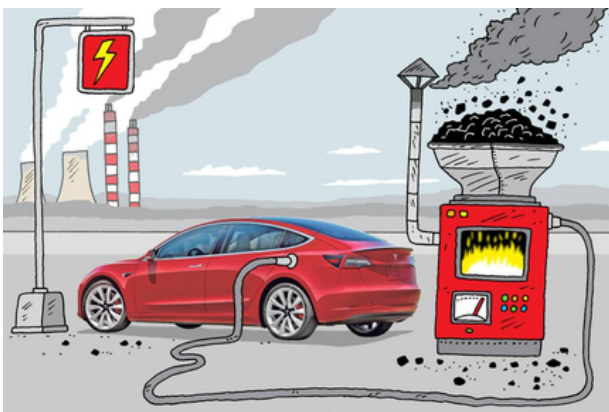
OVERVIEW AND GROWTH

Industry Overview

Electric vehicles use electric motors powered by batteries instead of internal combustion engines. The sector includes battery electric vehicles (BEVs), plug in hybrids (PHEVs), and fuel cell EVs. What started with experimental models in the 19th century has now become a major part of the global auto strategy.

Market Size and Growth

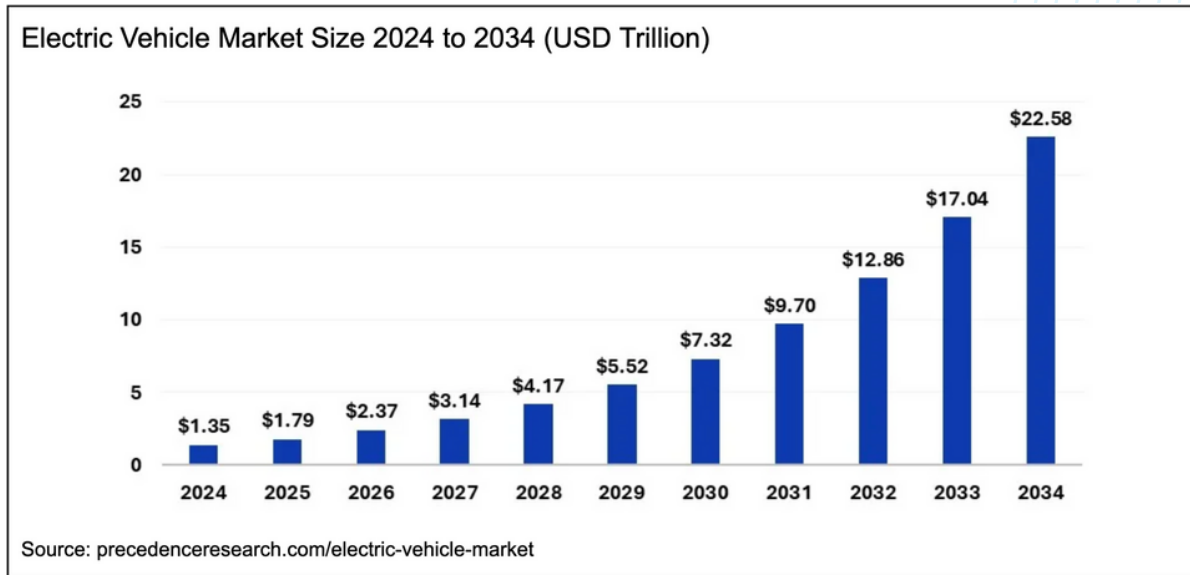
In 2023, the global EV market was valued at approximately \$388 billion and is expected to grow rapidly to \$950+ billion^[2] by 2030. China leads in adoption, accounting for around 60%^[3] of global EV sales in 2023. The rise is mainly fueled by better technology, lower production costs, and stricter emissions policies.



^[2] [Electric Vehicle Market Size and Forecast 2025 to 2034](#)

^[3] [Global EV Outlook 2023](#)





- This graph indicates that the growth in the market is exponential especially after 2025, suggesting a stronger consumer regard for environmental causes.
- According to the predictions and the trend - despite the current challenges - the industry growth would be substantial throughout the century. This would allow EVs to transition from a niche and emerging market to a dominant industry.



KEY SEGMENTS AND COMPETITION

Key Segments and Sub Sectors

The industry is typically segmented by vehicle type (passenger cars, commercial vehicles, two-wheelers), drivetrain (BEV, PHEV, FCEV), and by end use (private, fleet, public transport).

- Passenger EVs dominate the market, with over 10 million^[4] units sold globally in 2023.
- Commercial EVs and electric buses are seeing growing traction, especially in urban settings.

Competitive Landscape

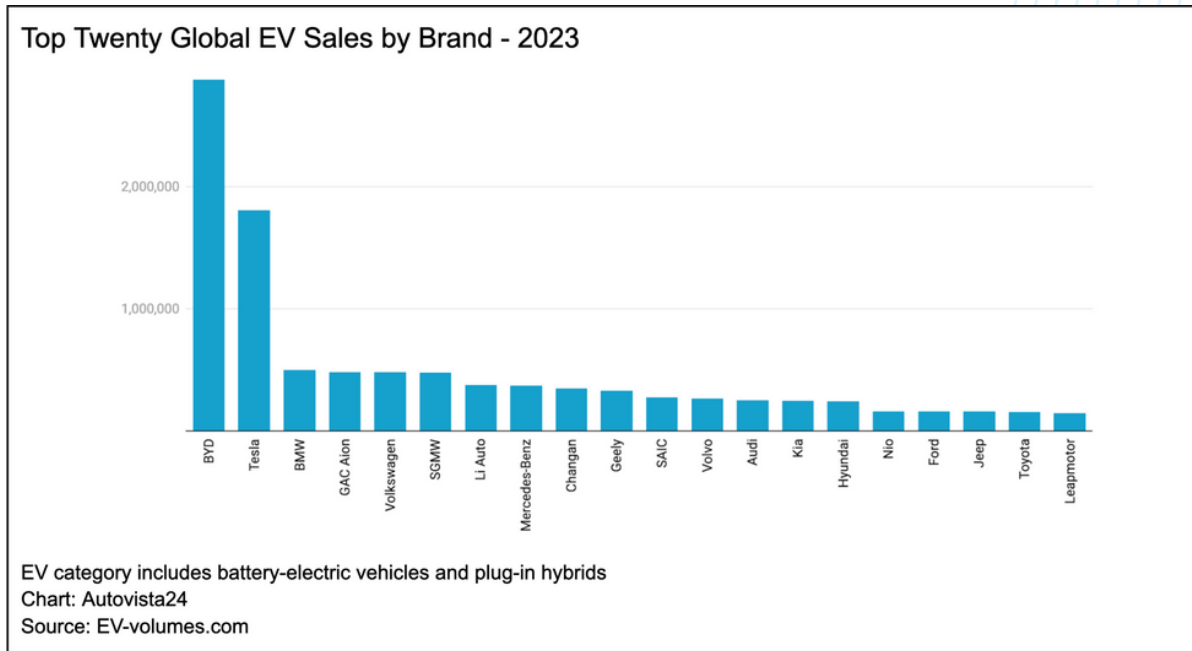
The industry is led by companies like Tesla, BYD, Volkswagen, and BMW. Tesla alone had nearly 13%^[5] of global market share in 2023. Chinese manufacturers, especially BYD, have quickly gained global relevance. New entrants like Rivian and Lucid Motors are also pushing innovation, while traditional automakers are aggressively investing in EVs.



^[4] [Global EV Outlook 2023](#)

^[5] [What was the most popular EV worldwide in 2023?](#)





- Major players such as BYD and Tesla dominate the market globally but the spread between such diversity of brands indicates fierce competition in this sector.
- Newer players, while currently having less market share, show great potential in terms of growth and innovation.



COST STRUCTURES

Raw Materials & Components constitute approximately 40% to 70% of total production costs. Key materials include lithium-ion batteries, aluminum, steel, and rare earth elements. For instance, lithium ion batteries alone can account for up to 30% to 40%^[6] of the vehicle's total cost.

Labor Costs represent about 10% to 20%^[7] of manufacturing expenses. Skilled labor is essential for assembly, engineering, and quality control.

Research & Development accounts for 5% to 15% of total costs. Investments focus on battery technology, vehicle design, and software development. For example, companies like Nissan aim to reduce development and manufacturing costs by 30%^[8] by 2026 through strategies like the 'X in 1' approach.

Utilities & Facility Expenses comprise 5% to 10%^[9] of operational costs. These include electricity, water, and heating necessary for manufacturing facilities.

Logistics & Distribution make up about 20% to 30%^{[10][11]} of total costs, covering transportation of raw materials and finished vehicles.

Many EV manufacturers face thin profit margins due to high production costs and competitive pricing. For instance, Tesla reported a 17.4%^[12] decline in gross margins in Q1 2024, the lowest since 2019.

^[6] [Making electric vehicles profitable](#)

^[7] [Trends in electric cars](#)

^[8] [Japan's Nissan slashing EV costs, cuts rare materials use](#)

^[9] [What Are the Key Operating Expenses for Electric Car Manufacturers?](#)

^[10] [What Are the 9 Operating Costs of Electric Vehicle Manufacturing?](#)

^[11] Based on industry operating expense estimates

^[12] [Q1 2024 Update - Tesla](#)



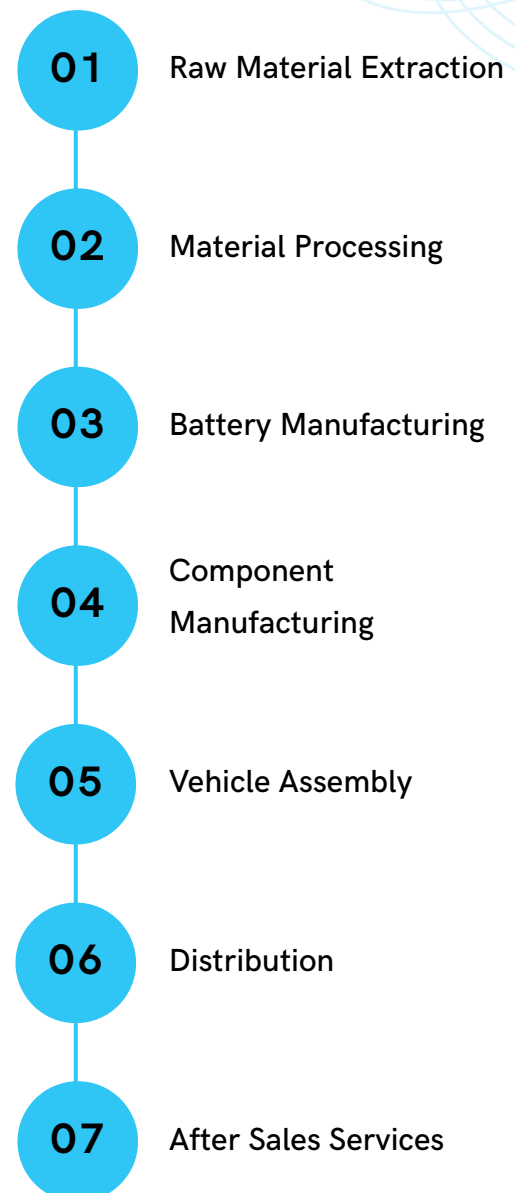
REVENUE STREAMS AND VALUE CHAIN

Revenue Streams

Most EV manufacturers earn through direct vehicle sales, battery leasing, software updates, and charging services. A growing part of revenue comes from recurring services like autonomous driving subscriptions and data monetization.

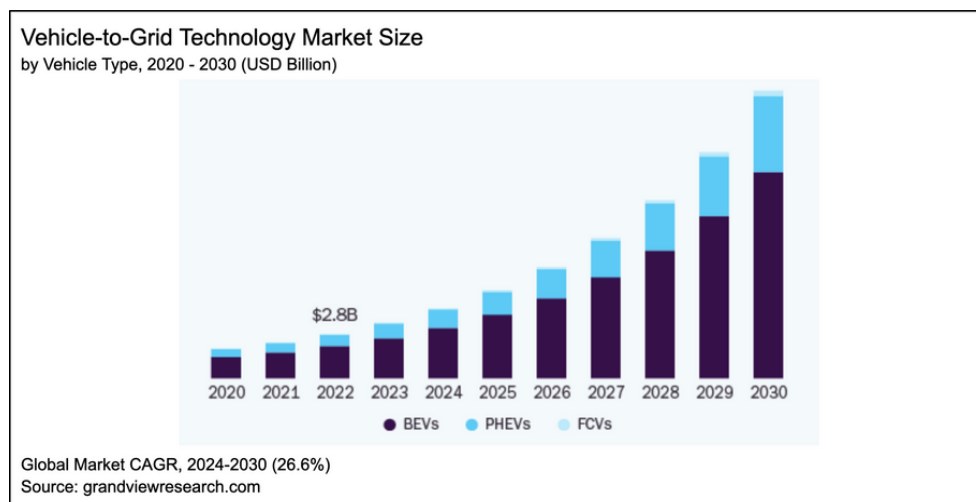


Value Chain



TRENDS AND INNOVATIONS

1. Battery technology is improving, with solid-state batteries expected to increase their energy density by 20-30%^[13] as early as 2027.
2. Charging networks are expanding globally, led by companies like ChargePoint and Tesla Supercharger.
3. Vehicle to grid (V2G) systems and EV as a Service models are gaining attention.



- The graph indicates an exponential growth in the V2G market which is a microcosm of the entire industry as a whole.
- Such steep growth in newer and greener technologies shows an eagerness to adopt new technologies and innovate in the sector.

^[13] [BYD to launch solid-state batteries in 2027](#)



CHALLENGES AND RISKS

Key risks include:

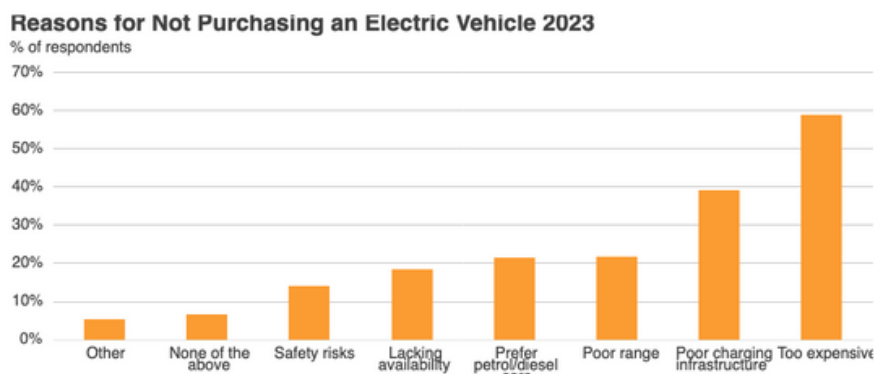
- Raw material volatility (especially lithium and cobalt)
- Charging infrastructure gaps, especially in developing regions
- Geopolitical risks affecting battery supply chains

Weakness

1. EVs are still more expensive to produce due to battery costs and supply chain dependencies
2. Many regions, especially in developing countries, lack widespread and fast charging networks

Threats

1. More automakers are entering the EV space, which increases pricing pressure and innovation demands
2. Policy shifts, such as subsidy rollbacks or trade restrictions, can destabilize growth plans



Source: Euromonitor International Voice of the Consumer: Mobility Survey 2023 (n:22,206)

 EUROMONITOR INTERNATIONAL



INVESTMENT AND FUTURE OUTLOOK

Future Outlook

With continued policy support and tech growth, EVs could make up over 50%^[14] of new car sales globally by 2035. However, meeting this target depends heavily on scaling infrastructure, reducing costs, and managing supply chains efficiently.



Investment Landscape

In the first nine months of 2024, EV startups raised about \$3.32 billion globally through private equity and venture capital, with 97%^[15] of the funding directed to Asia Pacific firms, mainly in China. FDI inflows into EV-focused sectors also grew, with Thailand reporting a 141% rise in FDI in H1 2024^[16], mainly driven by battery and EV production investments. M&A activity in the EV space remains active despite a global slowdown, with total deal value rising to \$420.5 billion in Q1 2025^[17], suggesting continued strategic consolidations. On public markets, Tesla reported a 40% drop^[18] in Q1 2025 earnings, while BYD doubled its profits^[19], highlighting how competitive dynamics are rapidly shifting within the sector.

^[14] [Global EV Outlook 2023](#)

^[15] [EVs lag on private equity investment](#)

^[16] [Thailand's foreign direct investment](#)

^[17] [Tesla earnings](#)

^[18] [Analysts Expected Profit Growth](#)

^[19] [BYD First-Quarter Profit Doubled on Strong EV Sales](#)



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