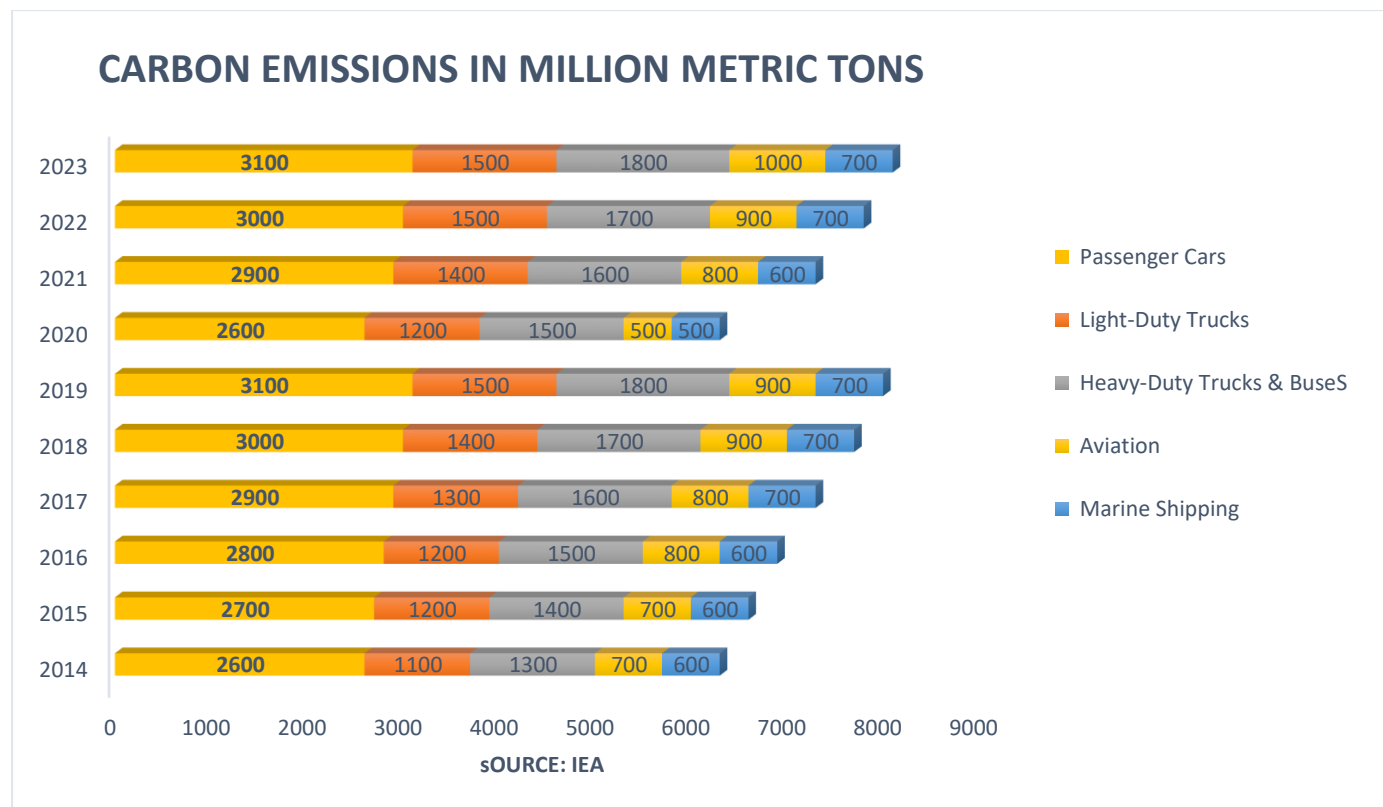


Paving the Way for a Sustainable Future: The Rising Importance of Electric Vehicles

Rising global emission levels are posing a serious threat to an already fragile environmental balance. Due to continuously increasing temperatures, the occurrence of natural disasters is on the rise, resulting in widespread destruction and untimely loss of life in both developed and developing countries. For example, approximately 170,000 people lost their lives globally due to natural disasters between 2014 and 2023. To protect valuable human lives, governments are focusing on developing strategies to reduce carbon emissions. However, it is crucial to consider the various factors contributing to the ongoing rise in pollution levels. The transportation sector is responsible for the majority of global carbon emissions. Passenger cars, light-duty trucks, and heavy-duty vehicles release significant quantities of CO₂ and other harmful gases that negatively impact the Earth's atmosphere.

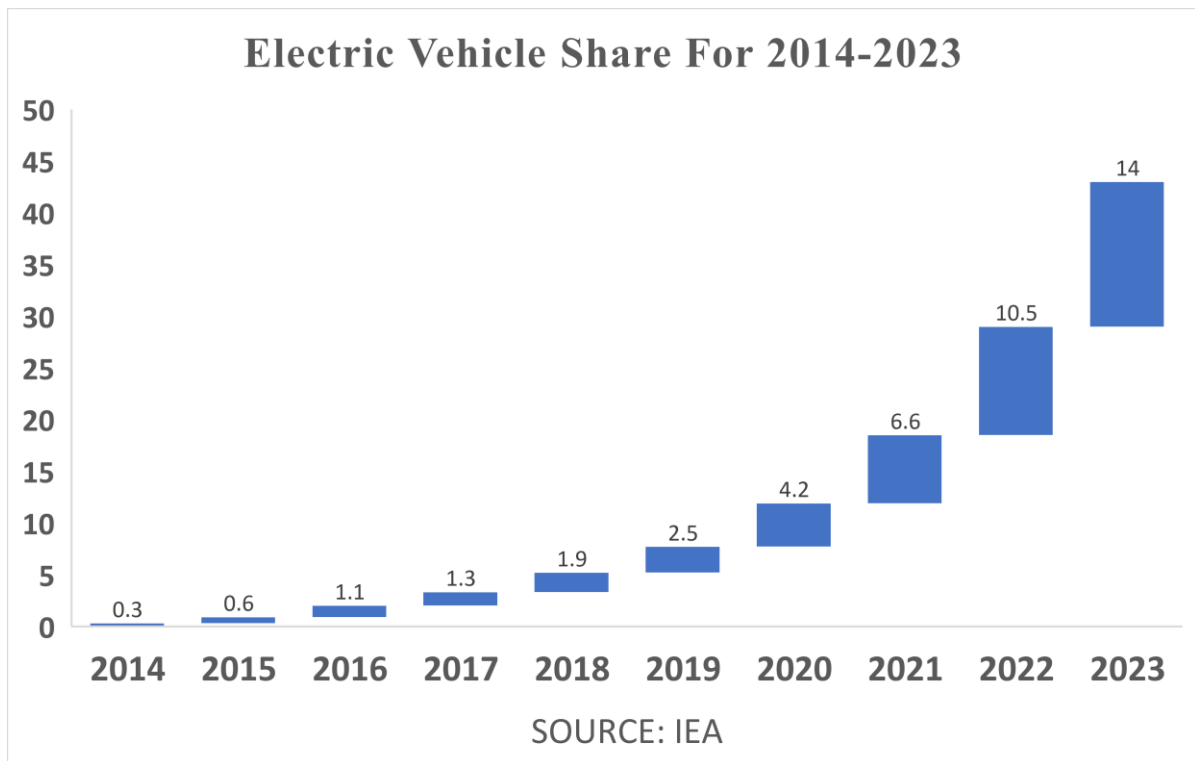


The above graph exhibits amount of carbon emissions released by different vehicles for the period ranging from 2014-2023. Passenger vehicles accounts for majority of share in the global carbon emission levels during 2014-2023.

Similarly, light-duty and heavy-duty trucks also attributes for release of various hazardous gases to the atmosphere. Constantly rising concerns for preventing environmental degradation countries are giving a lot of impetus on developing sustainable technologies.

Advent of Electric Vehicles Emerges as a Beacon of Hope for Preserving Environmental Balance

Electric vehicles (EVs) provide a more environmentally friendly alternative compared to traditional petrol and diesel cars. With growing concerns about environmental degradation, many countries are transitioning to sustainable technologies. In 2023, the global market share for EVs saw a substantial increase, reaching US\$ 1,077.77 billion. The introduction of strict environmental protection guidelines and government subsidies is fostering the growth of EV manufacturers.

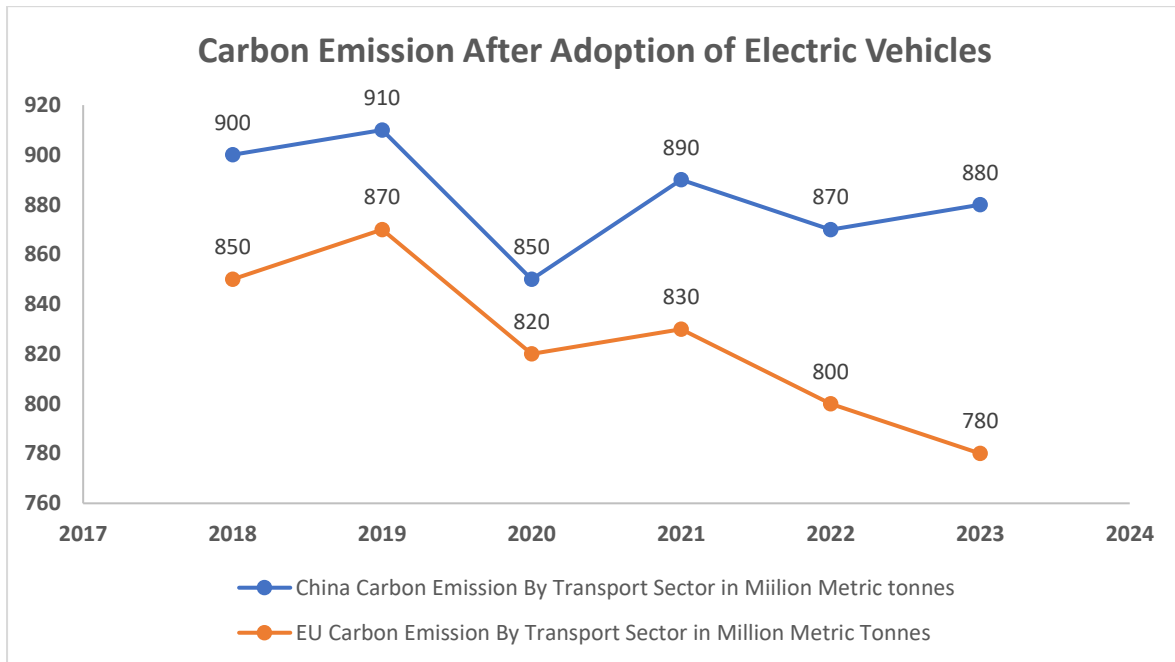


The above graph exhibits constantly increasing share of electric vehicles within the global automobiles market for the period ranging from 2014-2023. Fuelled by high growth prospects, several leading global automobile manufacturers are making a foray into the prospective market.

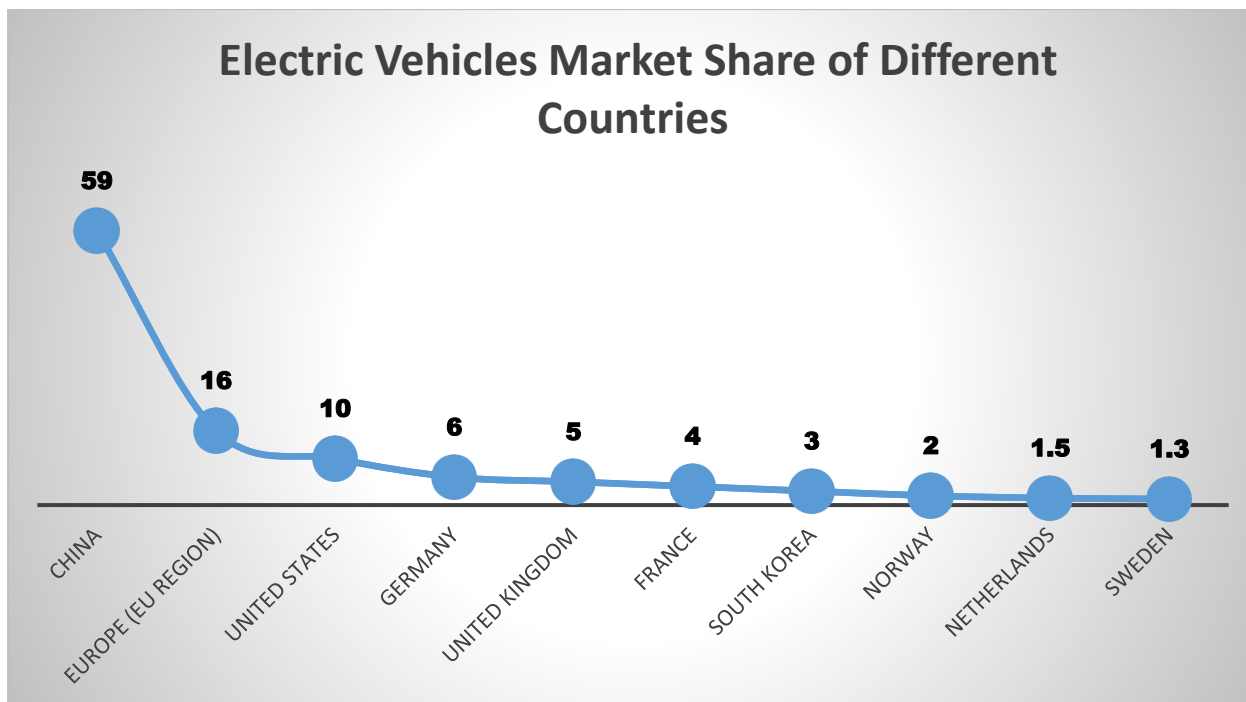
Introduction of Stringent Environment Protection Regulations Foster Demand for Electric Vehicles

In response to alarming carbon emission levels, numerous countries are taking decisive action by implementing stringent environmental protection regulations.

Inspired by the positive results from these efforts, governments are now prioritizing the adoption of innovative, sustainable technologies. This shift is essential for a healthier planet. By moving towards clean and eco-friendly solutions, countries are stepping away from harmful practices. Electric vehicles (EVs), for instance, generate far fewer harmful emissions compared to traditional cars, making a significant impact on air quality. Embracing this transition empowers governments to drastically lower their carbon footprints and contribute to a more sustainable future for all.



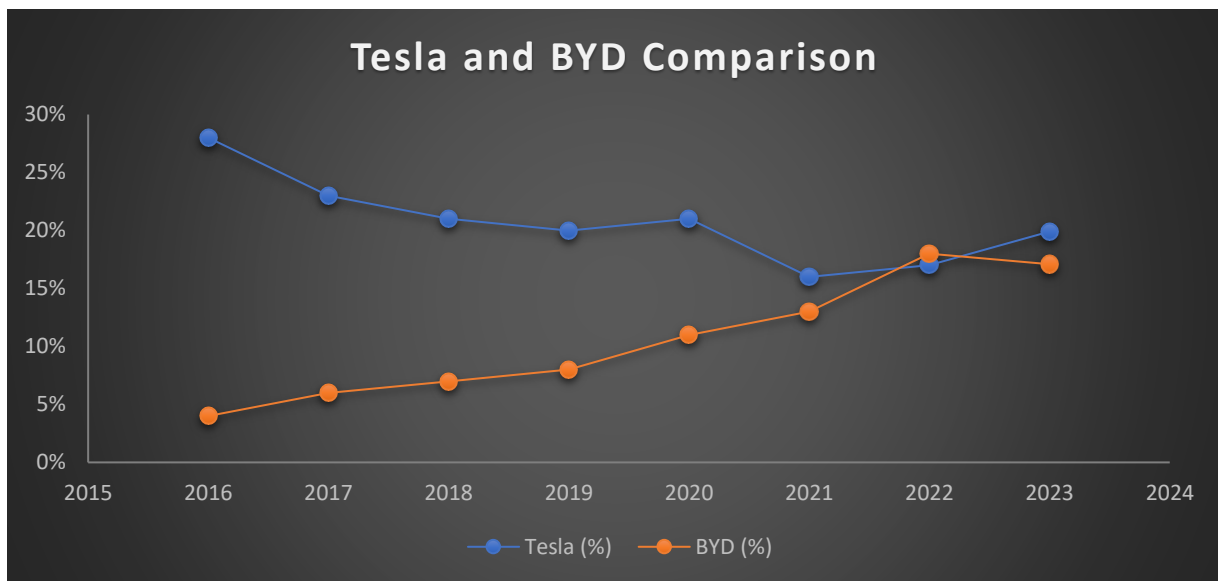
The graph above illustrates a significant decline in carbon emissions for both China and the European Union member countries. Compared to China, the EU has been more successful in reducing its carbon footprint. One of the main factors contributing to this success is the introduction of innovative policies such as the European Green Deal. This initiative aims to reduce greenhouse gas emissions by 55% by 2030 across EU member countries. Additionally, the increasing importance of sustainable technologies has led to a surge in demand for electric vehicles (EVs) within the EU.



The graph above illustrates that China, the EU, and the US hold the majority share of the global electric vehicle (EV) market. The Chinese government supports this growth by offering significant subsidies and tax incentives for companies involved in EV manufacturing. These measures encourage domestic automobile manufacturers to enter the promising EV segment. To capitalize on this opportunity, companies are introducing a diverse range of innovative technologies in their EV product lines. Notable Chinese EV manufacturers include BYD, Nio, and Wuling.

BYD Gains Foothold in the Highly Competitive Global Electric Vehicles Market

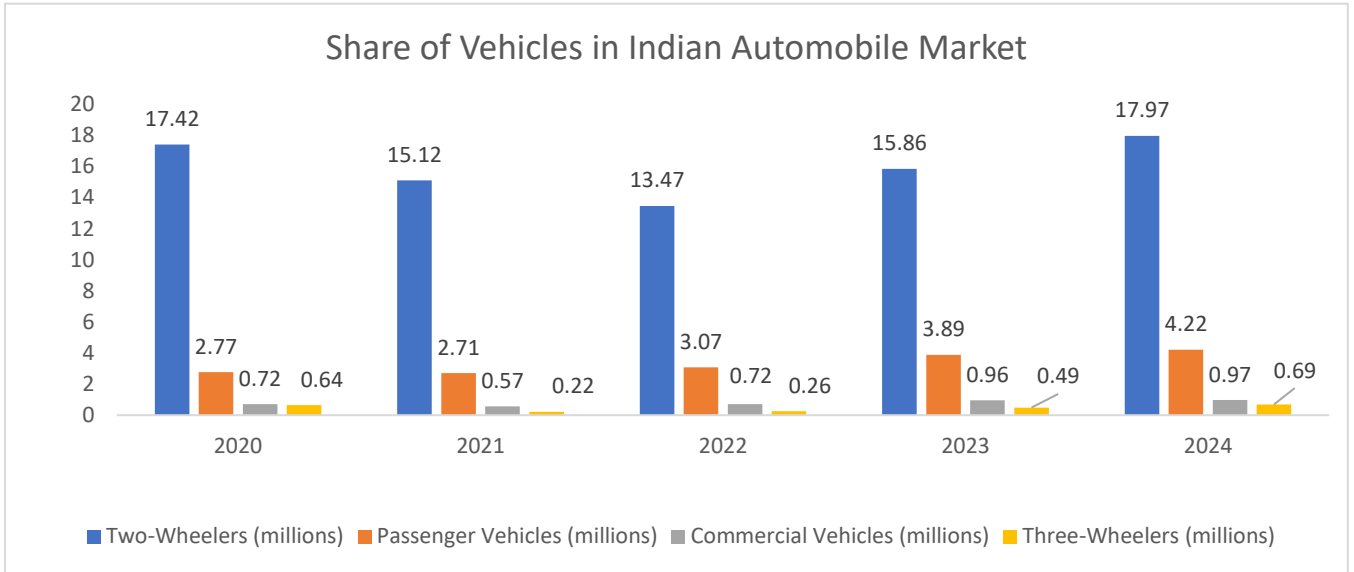
Innovation plays a crucial role in today's highly competitive business landscape, and the global electric vehicle (EV) market is no exception. Companies are implementing a variety of innovative strategies to expand their presence in this market. As part of this initiative, they are heavily investing in research and development projects. This approach enables them to introduce a range of new technologies within their EV product portfolios. Currently, Tesla, BYD, and the Volkswagen Group hold the largest shares in the global EV market.



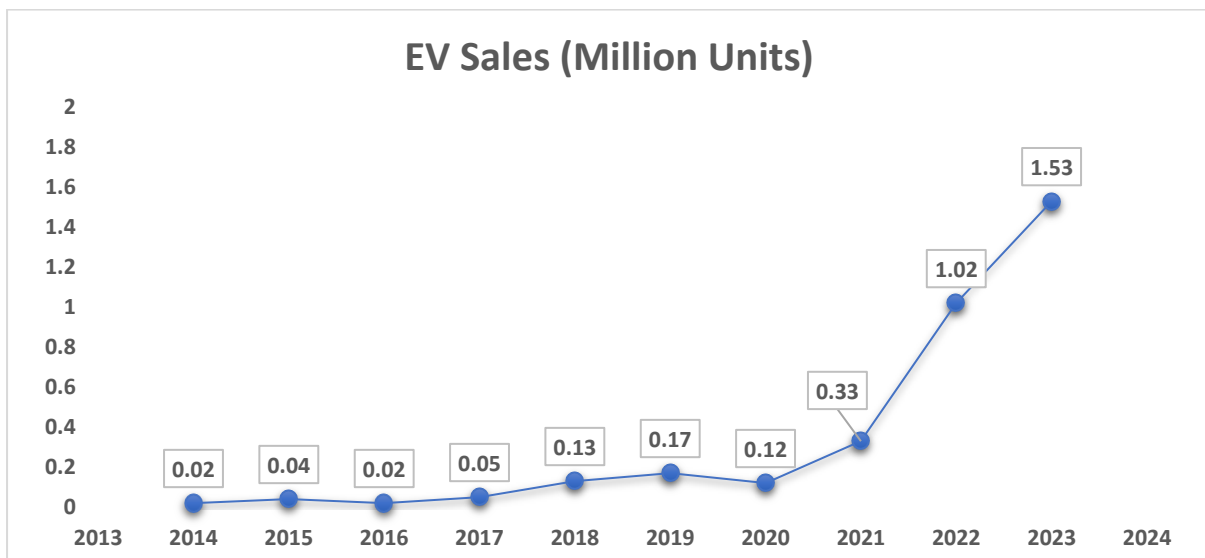
Tesla remains a dominant force in the global electric vehicle (EV) market, but BYD, a Chinese automaker, is making remarkable strides in expanding its influence. The accompanying graph illustrates a substantial increase in BYD's market share, soaring from 4% in 2016 to approximately 17% in 2023. Meanwhile, Tesla's share has decreased from 28% in 2016 to around 20% in 2023. These statistics underscore the growing acceptance and popularity of the BYD brand in the global EV landscape. BYD is dedicated to continuous research and development, which is pivotal to its innovative strategy. This commitment empowers the company to unveil a diverse range of cutting-edge technologies within its product lineup, ensuring it remains competitive and relevant in the evolving market.

An Overview on Emerging Trends, Challenges and Future Prospects for Electric Vehicles Market in India

The Indian automobile market is set to soar to an impressive US\$126.67 billion by 2024, fuelled by a thriving economy and increasing per capita income. The Indian government is making substantial investments to create a cutting-edge network of roads and highways, which will significantly enhance connectivity and accessibility across the nation. This commitment to developing advanced infrastructure is pivotal in unlocking the full potential of the domestic automobile market. With a diverse array of offerings, including two-wheelers, passenger vehicles, and commercial vehicles, the future of the Indian automobile sector looks promising and abundant with opportunities.

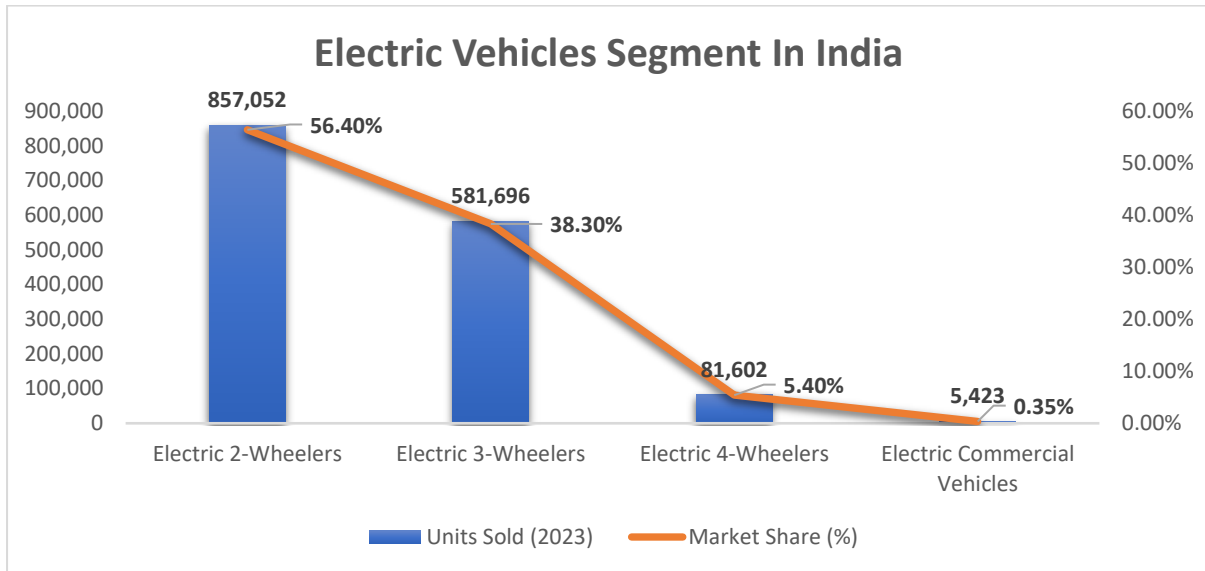


Just as every coin has two sides, the increasing number of automobiles on Indian roads is contributing to high pollution levels. Cities like Delhi, Lucknow, and Ahmedabad rank among the most polluted in the world. Numerous scientific studies conducted by leading global research institutes have identified air pollution as a significant public health concern. The smoke emitted from vehicles contains large quantities of harmful gases that negatively affect the environment. To tackle this issue, the Indian government is focusing on adopting sustainable technologies. As part of this initiative, India is encouraging automobile companies to add electric vehicles (EVs) to their product lines. To support this goal, the government is offering various subsidies and tax incentives for the manufacturing of EVs.



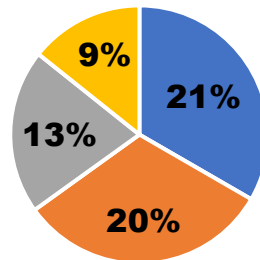
The above exhibits show a steady increase in electric vehicle (EV) sales, rising from 0.02 million units in 2014 to 1.53 million units in 2023. In 2015, the

Ministry of Heavy Industries and Public Enterprises launched the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME) scheme. This innovative initiative aims to provide a range of financial and non-financial incentives for EV manufacturers.



The graph demonstrates that two-wheelers and three-wheelers make up the majority of sales and market share in the domestic electric vehicle (EV) market. In 2023, electric two-wheelers and three-wheelers accounted for 857,052 and 581,696 units sold in India, respectively. These figures are significantly higher than the combined sales of electric four-wheelers and commercial vehicles during the same period. Driven by strong growth potential, several leading automobile manufacturers are now adding electric two-wheelers and three-wheelers to their product lines. Notable manufacturers in India include Ola Electric, TVS Motors, Ather Energy, and Hero Electric.

Market Share (%) of Electric Two Wheelers Segment



■ OLA Electric ■ TVS Motors ■ Ather Energy ■ Hero Electric

Both Ola Electric and TVS Motors each hold a 21% share in the Indian electric two-wheeler market. Driven by the increasing acceptance of sustainable technologies, the Indian electric vehicle (EV) market is projected to reach approximately US\$117.78 billion by 2032. While the future appears promising, several challenges continue to hinder the growth of the EV market in India. For instance, domestic EV manufacturers are struggling to maintain a healthy balance between demand and supply due to shortages of raw materials. Additionally, there have been multiple fire-related incidents involving electric scooters, raising significant safety concerns. Furthermore, the Indian government has faced difficulties in establishing a necessary network of charging stations across the country. To address these challenges, the Indian government is developing a variety of innovative strategies. These initiatives include strengthening existing supply chain mechanisms and creating an effective network of EV charging stations nationwide. In addition, the government plans to implement advanced educational programs to raise consumer awareness about the benefits of using electric vehicles.