International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Electric Car for Sustainable Transportation - Way towards Transformation

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Abstract:
Electric Mobility in India was found very less. However, **West Asia War 2026 (Iran -US), Delhi Electric Vehicle Policy 2026 and Fuel uncertainties resulted in Ethanol20 (E20)** has ignited; transformation to EV at hyper level since March 2026. **Purpose:** The study is undertaken to assess the consequences of War Climate on India's Transport Industry and to List out Reasons for Transformation to Electric Vehicle particularly Electric Car Adoption. Methodology: Data for the study is collected using Secondary Source - Journals, Government Reports & Websites, Magazines and Newspaper since January 2026 - August 2026. **Findings:** Fear of Fuel Availability, Scarcity, Supply Disruptions and Price Hike expected; has directly increased demand for Electric Vehicles globally particularly India due to its high population and increased use of Fuel Vehicles. Resultant; India is now shifting to Electric Mobility.

Keywords: Electric Cars, West Asia War, Delhi EV Policy 2026, EV Adoption.

Introduction

Electric Mobility is recommended by Indian Government as an alternative to Fuel Vehicles to fight against Air Pollution and Environmental problems. In reality, Electric Vehicle adoption is found very slow in India. But transformation from Fuel Vehicles (ICE -Internal Combustion Engine) to EV (Electric Vehicles) has taken an upward shift since March 2026. This Study focusses on 3 (Three) Main reasons associated with this drastic shift of faster Electric Vehicle Adoption.

Reason 1 – Fear of Fuel availability, Fuel Scarcity, High Price of Fuel due to West Asia War between USA and Iran in March 2026.

Reason 2 – Government support for EV adoption through its Policies (Delhi Electric Vehicle Policy 2026).

Reason 3: To manage this Fuel Crisis due to War Climate; Government recommends Ethanol E20 And E21 in Fuel.

Objectives of the Study

- To assess the consequences of West Asia War on India's Transport Industry.
- To study Delhi EV Policy 2026 and its implications on Electric Vehicle adoption in urban cities of India.
- To List out the Reasons for Transformation to Electric Vehicle Adoption.

- To assess attributes responsible for developing Attitude (Perception and Challenges) towards Electric Car and its impact on their Purchase Intention.

Literature Review

(Government of National Capital Territory of Delhi (GNCTD) & Cell, 2026) Main Motto of Delhi Electric Vehicle Policy 2026-2030 Draft was "To control Air Pollution, acceleration Electric Vehicle Adoption, support installation of Public and Private Charging Network, to regulate supply of EV Battery components, to replace ICE (Fuel Operated) Vehicles with Electric Vehicles; by enabling EV Incentives and Road Tax and Registration Fees Exemption in Delhi.

(T E Raja Simhan, PV Registrations dip 10%, but EVs show resilience; Tata Leads: Vahan, 2026) News article reports that, Petrol Vehicle Sales in terms of Registrations as per Vahan Data had fallen by 10% and Electric Vehicles Registrations increased to 5.7%. Thus, India's Market for Electric Vehicles is favourably shifting towards transformation. Reasons cited in the article for growing EV Market in India is due to Fuel Uncertainties in terms of scarcity and supply disruptions around the globe. Indian Electric 4-Wheeler market is predicted by experts to grow by 7-8% by the year 2027.

(Bureau, 2026) News article reports, Electric Vehicle Adoption is most Vital Mission of India due to West Asia War tensions prevailing in the globe - addressed by Tarun Kapoor, Advisor to Prime Minister of India. Additionally, he insisted to reduce Petrol consumption by citizens to manage the Fuel crisis; Indian Government supports EV adoption through its Schemes and Policies and Delhi EV Policy 2026 is a milestone move towards Electric Mobility in India.

(Mathur, 2024) Main aim of the study is to find the future of electric Cars in India, whether it is favourable or not. The study concludes the Electric Car have a favourable future in India but, Indian Consumers are not aware of its functionality & efficiency. Thus, Manufacturer have got a key role in creating awareness among Indian Consumers.

(Writers, 2024) The 6th Annual World Air Quality Report revealed on March 19, 2024 at Switzerland pointed, India as the third most polluted Country in the world (producing 10 times Air pollution higher than the WHO annual PM2.5 guideline) in 2023. It also was the home for four Most Polluted cities in the world with Begusarai – Bihar State Capital ranked on top.

EV market scenario in Chennai

Chennai being one among Metropolitan City and State Capital of Tamilnadu and identified as Smart City is not equivalent to PAN India City like Bangalore, Mumbai and Delhi and is much backward in its thought process, Education, awareness, urge and curiosity to try new product and perception towards innovative products & services in terms of its population and its Demographic Profile.

Scope of the Study

1. Electric Cars are not differentiated based on its Purpose of Use (Commercial Taxis or office or Personal Use)
2. Price of Electric Car is used as Major factor for study purpose. Price is not demarcated as either Road Price or Showroom price.
3. For Study Purpose, Price Sensitivity of Electric Cars are measured by Categorizing E-Cars into 5 groups based on its Price.

4. Electric Cars are studied in general and not differentiated based on its Brand, Model, Type of Battery (Fully Electric or Hybrid etc) and Technology used.
5. The word Government includes both Central & Tamilnadu State Governments; its Schemes, Incentives & Subsides to Promote Electric Cars.
6. Data required for the study is collected from January 2026 to July 2026.
7. Attitude includes both Positive & Negative attitudes of Potential E-Car Buyers derived from their Awareness, Perception and Challenges in Electric Car Consumption.

Methodology Used

Data required for the study is gathered using Secondary Source such as Research Articles from Journals, Government Websites, Magazines (EV Reporter) and Newspaper (Business Line and The Hindu). Data Collection period – January 2026 to August 2026.

Price Categories of Electric Cars in India.

Table below shows classification of Electric Car along with its Price Ranges; followed by Electric Car Brands which falls under each category along with its popular Models.

Table 1: Categorization of Electric Car Based on Price Ranges

S. No	Category	Price Range
1.	**Budget**	Below Rs.5 Lakhs
2.	**Economical**	Rs.5 Lakhs to Rs.10 Lakhs
3.	**Luxury**	Rs. 10 Lakhs to Rs. 25 Lakhs
4.	**Premium**	Rs.25 Lakhs to Rs.50 Lakhs
5.	**Super Premium**	Above Rs.50 Lakhs

Table 2: Categorization of Electric Car Brand and its Model Based on Price

Category of E-Car	Electric Car Brand	Popular E-Car Models
Budget (Below Rs.5Lakhs)	Vayve Mobility Morris Garages (MG Motors)	Nova, Stella, Vega MG Comet,
Economical (Rs.5L – 10Lakhs)	Morris Garages (MG Motors) Tata	MG Comet EV Tata Tiago EV
Luxury (Rs.10L–25Lakhs)	Morris Garages (MG Motors) Tata Hyundai Maruti Suzuki Mahindra VinFast	MG Windsor, Hector Nexon, Punch, Curvv Creta Electric e Vitara (16-20L) Mahindra XUV400 EV VF6, VF7
Premium (Rs.25L- 50Lakhs)	BYD	ATTO 3, eMAX 7, Sealion 7, BYD Seal

Delhi Electric Vehicle Policy 2026

Delhi Government has formulated Draft of "**Delhi Electric Vehicle Policy" (2026 -2030)** uploaded in Official Website of Delhi Transport Department on 11.4.2026 had directly supported Electric Vehicles to

control Air Pollution and Clean Mobility which has necessitated transformation to Electric Vehicles.

Highlights of Delhi EV Policy 2026

1. **Main Objective**: Delhi Electric Vehicle Policy 2026–2030 (four years) to accelerate (EV) adoption, improve air quality, and create a supportive ecosystem for electric mobility.
2. **Scrapping Incentive:** Electric Car (Non-Transport): A scrapping incentive of ₹1,00,000 shall be provided upon purchase of a new electric car under this policy, subject to an ex-factory price not exceeding ₹30 lakh, provided the purchase is made within six (6) months of issuance of the Certificate of Deposit (CoD) from authorized scrapping facility. This incentive shall be applicable for the scrapping of Delhi-registered cars and limited to the first 1,00,000 eligible applicants under this policy.
3. **Road Tax and Registration Fees Exemption:** All electric cars with ex-showroom price below or equal to 30 lakhs registered in the NCT of Delhi shall be granted 100% exemption from road tax and registration fees till 31 March 2030.

Sales of Electric Cars in India

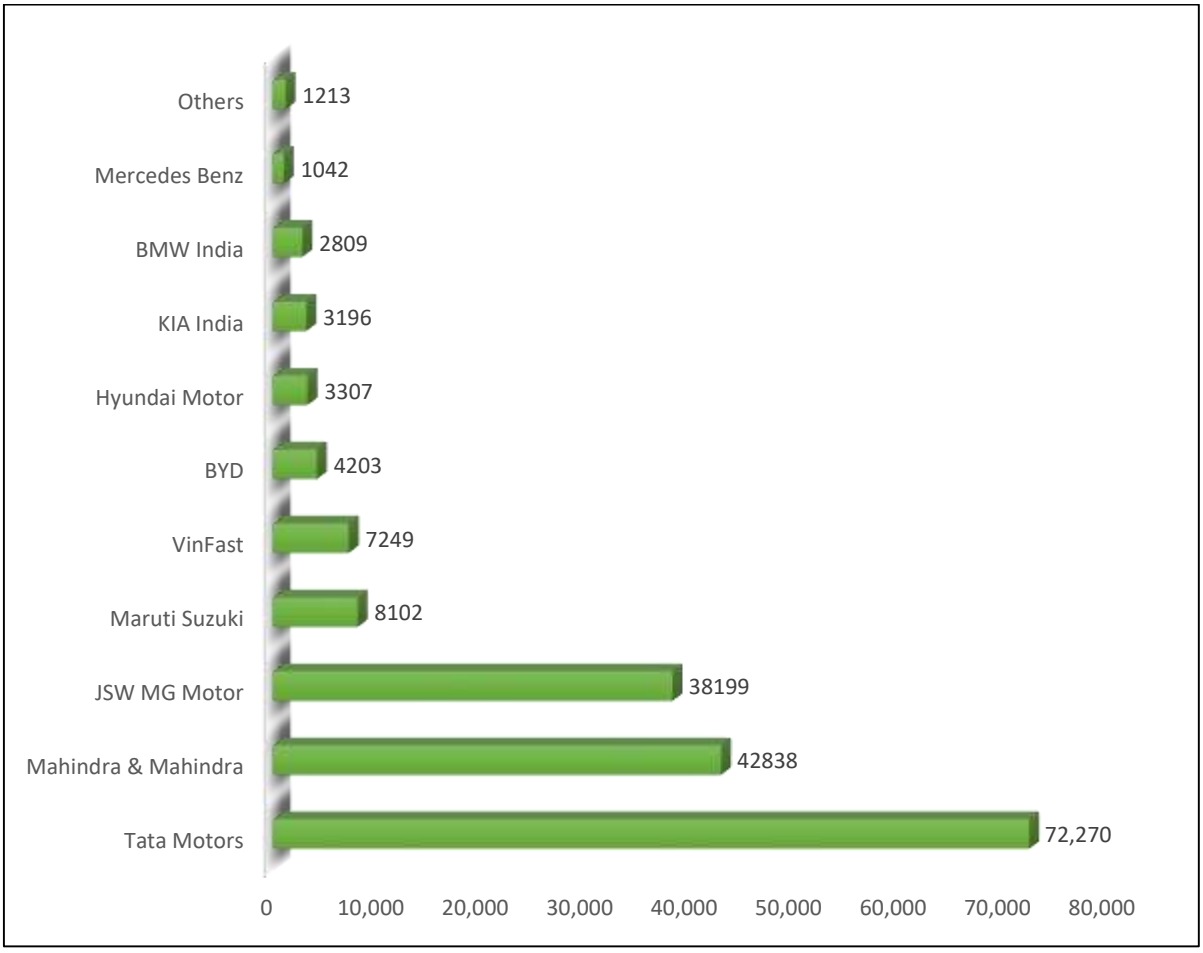
Impact of West Asia War on India's Electric Car market is depicted in the form of table.

Table 3: Electric Car Sales in India from January 2026 – July 2026

E-Car Manufacturer	E-Car Sales in July 2026	Total E-Car Sales (Jan 2026-July 2026)
Tata Motors	13,583	72,270
Mahindra & Mahindra	7,678	42838
JSW MG Motor	5,642	38199
Maruti Suzuki	1590	8102
VinFast	1478	7249
BYD	742	4203
Hyundai Motor	565	3307
KIA India	464	3196
BMW India	367	2809
Mercedes Benz	163	1042
Others	337	1213
Total Sales	**32,609**	**1,84,428**

(Source: EVreporter (Dashboard, 2026)

Figure 1: Total Electric Car Sales (January 2026 to July 2026)



(Source: Table 3)

Reasons for Transformation to Electric Vehicles

1. Impact of West Asia War – March 2026 (Iran & USA):

West Asia War between USA (World's Richest Country and Technology Leader) and Iran (King of Fuel reservoirs) & in Mid of March 2026 had created fear and curiosity about its consequences among World Countries Irrespective of its Size, Economic Category and Population.

2. Fear of Fuel Availability:

Fear of Fuel Availability and Scarcity has directly increased demand for Electric Vehicles globally particularly India due to its high population and increased use of Fuel Vehicles. Consumers who intend to purchase Fuel Car (Petrol/Diesel/Gas) is now prioritizing Electric Car due to adverse situation created by West Asia War which has been predicted to worsen in months to come. Electric Vehicles is viewed globally as alternative solution.

3. Changing Mindset in Preference of Product:

Generation Y (Born after Year-1980) and Generation Z (Born after Year-2000) have got different mindset, Opinion and Perception towards Electric Vehicles. They want to try something new (Electric Vehicles) different from the routine (Fuel Vehicles) and are change lovers and wish to make change in the society.

4. Increased Awareness among Educated Consumers:

Educated Consumers in Chennai are well aware of Environmental Benefit of using Electric Vehicles. In addition, awareness about Adverse effect of Air Pollution in Delhi in December 2025 has impacted Consu-

mers in India to think ahead and to make a wise decision by prioritizing Electric Vehicles.

5. Environmental Benefits to the Society:

If not fully aware of Sustainable Goals (17), Gen Y and Gen Z are conscious about Environment and understands their social responsibility and depleting natural resources. Hence, they consider Electric Vehicles are safe to environment and has positive attitude towards it other than price.

6. Health Benefits to People:

Electric Car usage brings more benefits to its users and society at large. Electric Car leads to Zero Emission, No Smoke, No Air Pollution, No Carbon Footprints, which creates big impact on People suffering due to respiratory diseases and Lung Infections ranging from kids to old people. Use of Electric Vehicles saves Environment from Smoke and Fogg creation and decreased Air Quality above permissible limit as like Delhi in December 2025.

7. Increasing Product Awareness & Knowledge Factor:

Educated Consumers are much aware of Health Benefits of using Electric Vehicles as they control Air Pollution, Noise Pollution and other related Eco benefits. Nation's Capital Delhi in December 2025 made all Indians to be aware of its cause and solution. Thus, Electric Vehicle awareness and Knowledge are high particularly in Metro Cities and Smart City as like Chennai.

8. Car Manufacturers shifted to Electric Car Manufacture:

Almost all Car Manufacturers in India has stopped manufacture of Fuel Cars (Petrol/Diesel/Gas) and has already shifted to manufacture of either Hybrid Cars or Fully Electric Cars. Thus, market has changed and change is inevitable.

9. Future Mode of Transport:

Electric Vehicles are identified as the futuristic mode of transport globally; India is no exception to it.

10. Next Generation Transport (Gen Z, Gen Y):

Generation Y and Generation Z are Change makers and Change lovers. They aspire to do and try new and innovative things. Electric Vehicles for this generation consumers are Trendy, Stylish and Fashionable product which they want to explore.

11. Economy Electric Car Models:

Electric Cars which they are launched in India are very expensive and carried a perception it is targeted to Rich Consumers of India. But India's Population consist of Majority (More than 60%) are Middle-Class Consumers who stayed away from Electric Cars. But reputed brands like Tata, Maruti Suzuki have introduced new Economical Models of Electric Cars at all price ranges which makes it affordable to all class of people.

12. Increased National Responsibility among Indian Citizens (Gen Y and Gen Z):

Generation Y and Generation Z consumers are mostly educated and aware of things happening around the globe and in the Country. They have much Social Awareness and are responsible Citizens of the Nation. Thus, they understand the problems in the environment and need for Electric Vehicles in the Country for Survival. Thus, they exercise their National Responsibility by accepting Electric Vehicles and in the move towards its adoption.

Findings of the Study

Awareness on E-Car:

- Awareness on Existence of E-Cars is very less among Indian Consumers.
- Awareness on E-Car Features, its Enviro and Societal Benefits is found very less.

Reasons for Preference of E-Car:

- Fear of Fuel in future due to West Asia War 2026.
- Government Promotion (Policies & Schemes).
- Price is the Major deciding Factor to prefer a Brand & Model of E- Car.

Popular Brand of Electric Car:

- Tata Motors Brand of Electric Car as most Preferred brand.
- Tata Tiago (Rs.7.99 L), Punch (Rs.9.99 L) & Tata Nexon (Rs.12.5 L)
- Mahindra & Mahindra – Mahindra XUV (Rs.13.90 Lakhs)
- JSW MG Motors – MG Windsor (Rs.10 Lakhs), MG Comet (Rs.4.99 Lakhs).
- Hyundai Creta Electric – (17.99 Lakhs) is Most Popular.
- Maruti Suzuki – eVitara (Rs.16 Lakhs)

Perception towards E-Car:

- Luxury Product & Status Symbol
- Rich and Upper Middle-class consumers
- Meant for Business People and Managers & Senior Executives in MNC.
- Monthly Income in 6-digit No. can only afford to buy.

Challenges of E-Car:

- Electric Cars are Expensive and Priced High
- Fear of Hi-Technology stops consumers to prefer E-Car
- Non-availability of adequate Charging Infrastructure stops purchase of E-Car.

Suggestions

1. Electric Car Manufacturers can create Advertisements using Sports / Film Celebrity endorsing them as their Brand Ambassador to gain public attention to Electric Car.
2. Awareness videos about existence of Electric Car can be circulated in social media (Instagram, WhatsApp, Facebook etc) to reach Generation Y and Z.
3. Government can create Awareness advertisements and get it circulated through Television, Radio and Newspaper for nation-wide reach.
4. YouTube Shorts on Electric Car to be created insisting on its features and Hi-Technology and can be circulated in Social Platforms to reach Gen Y and Z.
5. Special Offers and Purchase Discounts can be offered for Electric Car Pre-Bookings during Festivals (Pongal, Diwali, Christmas, Ramzan) and Eve (New Year Bookings) and Special Days.
6. Gen Z Consumers can be educated by having Chapter on **"Electric Mobility through E-Vehicles** – in School and College Syllabus under Environmental Science.

Conclusion

Generation Y and Z are much aware of Electric Cars and has positive attitude towards it, when it comes to real purchase; has second thought. High Price & Fear of Technology and suitability prevent people to

buy E-Car. Indians are price Conscious; they hesitate Spending on Highly depreciable Product like Electric Car which has short life with no resale value.

To Conclude, Electric Car Awareness is found less even in Metropolitan City like Chennai. E-Cars are not the First Choice among Potential Car Buyers in Chennai City. **But, West Asia War 2026 (Iran -US), Government Policies and Fuel uncertainties** have directly necessitated Indians to develop Positive Transformation to Electric Vehicles in recent past. As Sales of Electric Vehicle hiked from the Month of March and April 2026 which is a clear indication of growth of Electric Vehicles. Thus, India is moving towards Electric Mobility.

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