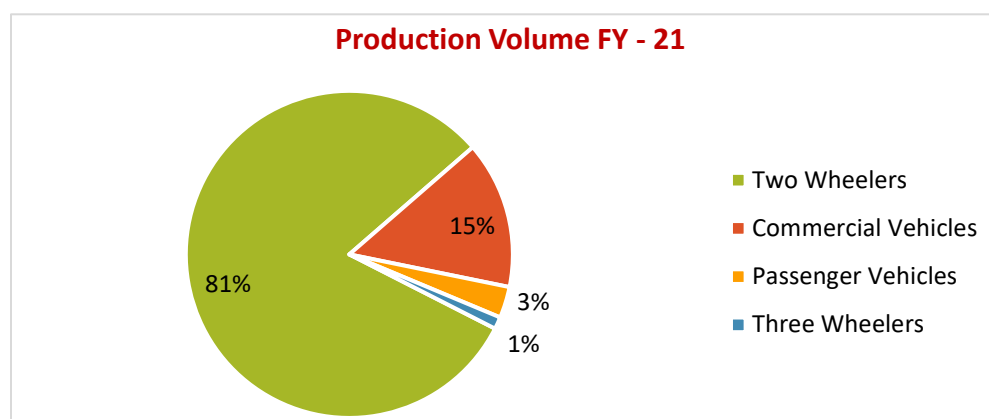




Paradigm Shift in the EV Two – Wheeler Industry in India

THE INDIAN AUTOMOBILE INDUSTRY

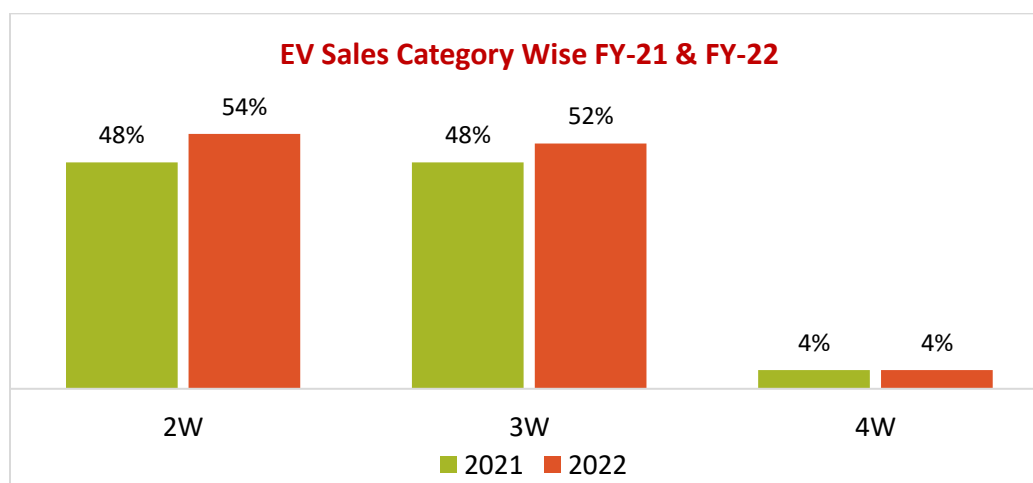
- The Indian Automotive Industry has been ranked 4th largest in the world.
- India’s annual production in FY – 2021 was 22.65 million vehicles and annual sales was 18.6 million vehicles.
- The two – wheeler segment dominates the market in terms of production volume so far.



Source: <https://www.ibef.org/uploads/industry/Infographics/large/automobile-infographic-february-2022.pdf>

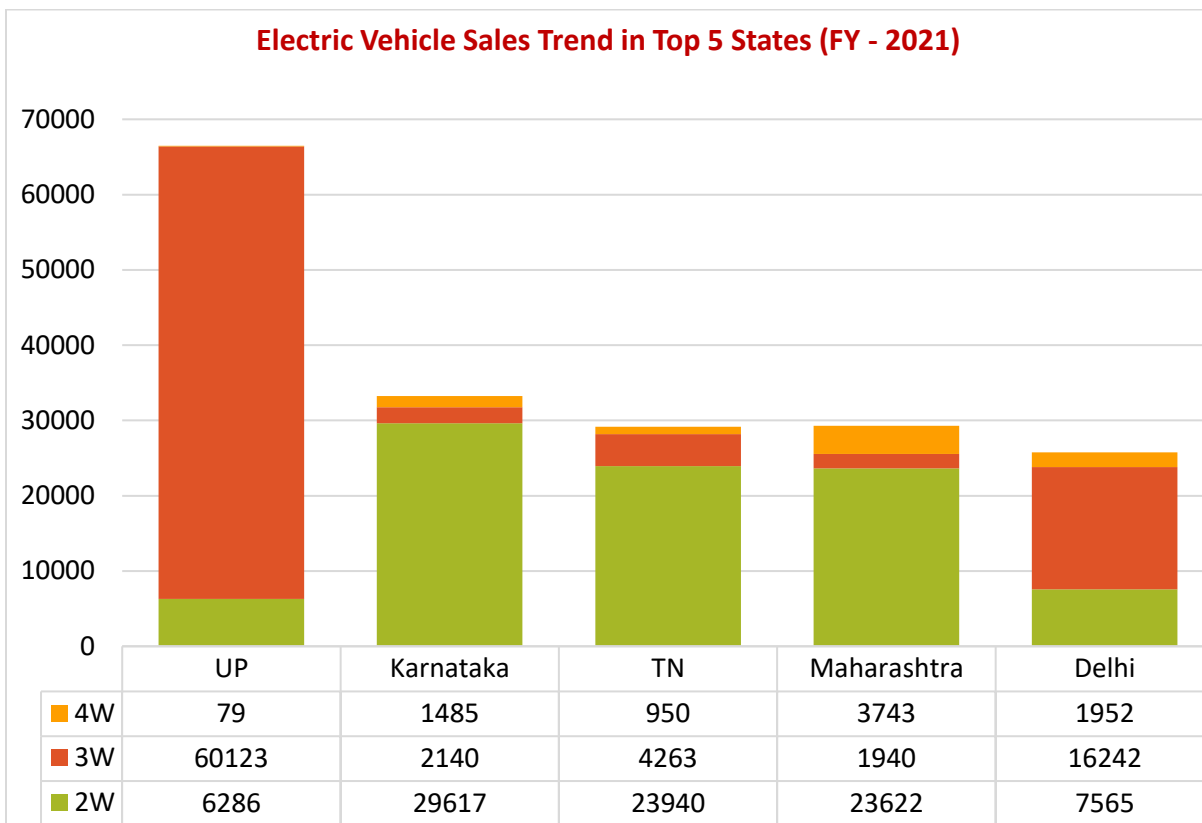
ELECTRIC VEHICLE [EV] MARKET IN INDIA

- Electric Vehicle (EV) operates on an electric motor in place of combustion engine
- The Indian EV industry is expected to expand at CAGR of 36% by 2030.
- The total number of EV’s sold in FY – 2021 was 0.32 million vehicles whereas in FY – 2022 were 0.42 million
- ‘Niti Aayog’ aims to achieve EV sales penetration of 70% for all commercial cars, 30% for private cars, 40% for buses and 80% for two and three – wheelers by 2030.
- By 2030, India is expected to be a leader in shared mobility by providing scope for electric and autonomous vehicles.



Source: Vahaan Website , CEEW Website

- Uttar Pradesh (UP), Karnataka, Tamil Nadu (TN), Maharashtra and Delhi are the top five states for EV sales in India in FY – 2021
- The electric two – wheeler and three – wheeler category drives EV volume in the country majorly.



Source: EV Reporter

TWO-WHEELER ELECTRIC VEHICLE [EV]

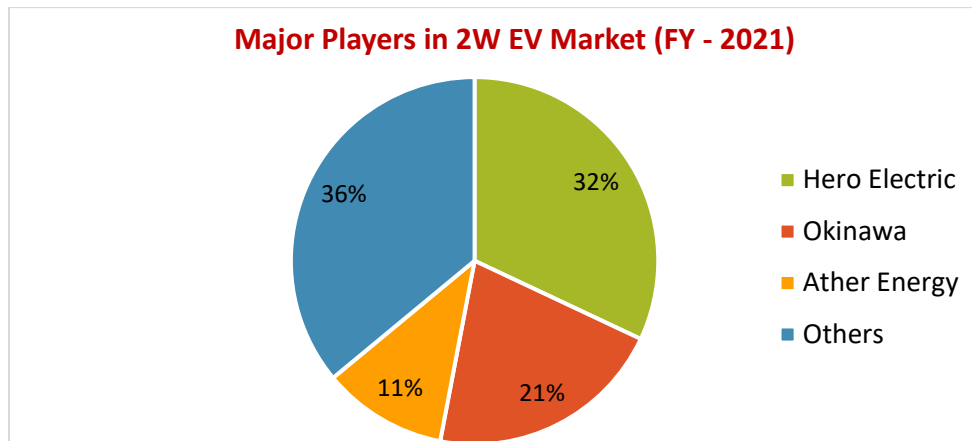
Types of Two – Wheeler EVs

BASIS	HIGH SPEED EVs	LOW SPEED EVs
Top Speed	100 – 115 Kmph	25 – 35 kmph
RTO Registration	Required	Not Required
License	Required	Not Required
Models (examples)	Ather 450X, Ola S1 Pro	Okinawa Lite, Hero Electric

Market Share and Major Players

- 1,57,712 high speed 2W electric vehicles were sold in FY-21
- Hero Electric, Okinawa and Ather Energy dominate this market in India with a combined market share of 64%
- Karnataka had the highest sales in the country





Source: Cardekho, gaadiwale, e-vehicle info

- The major players in the EV charging segment are Tata Power (12.8%), EESL and REIL (11.4%), Voltic (5.2%) and others.
- The share of independent operator in the market is 6.2%.

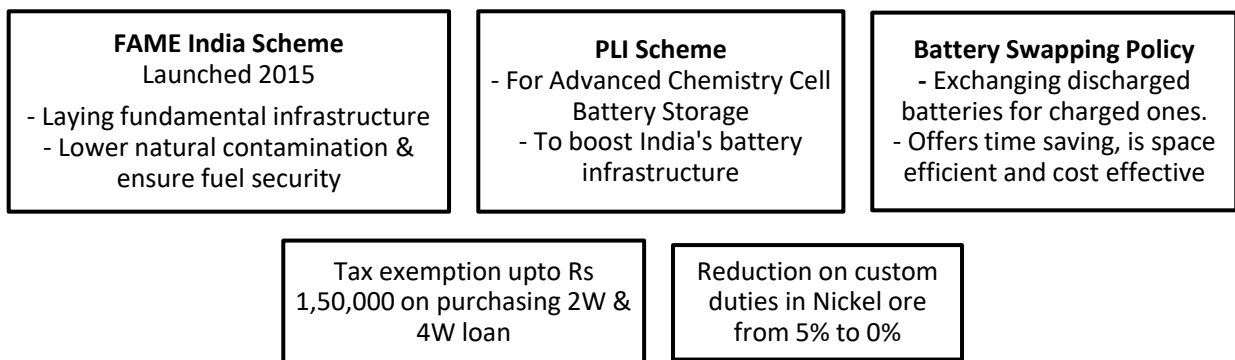
REASONS TO SWITCH TO AN ELECTRIC VEHICLE [EV]

Pros and Cons of Switching to an EV



ADVANTAGES	DIS-ADVANTAGES
Saves fuel cost	Battery degradation costs
High performance and low maintenance	Not suitable for longer routes
Environment friendly	Expensive Investment
Convenient to drive	Lack of Infrastructure

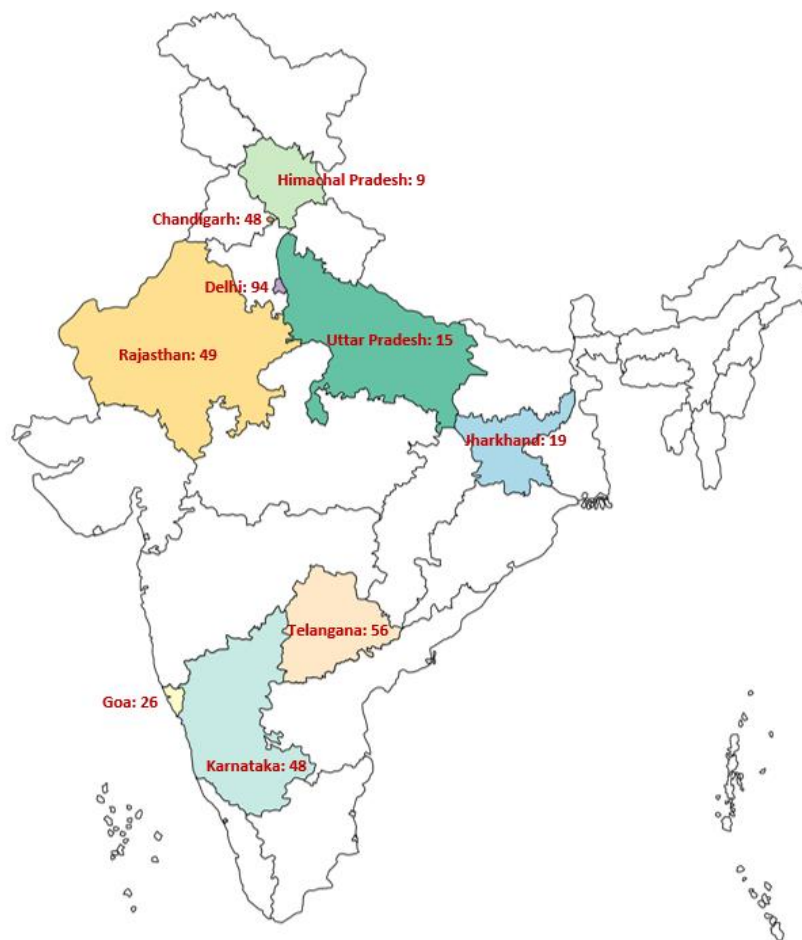
Government Schemes to Promote EV



IS INDIA READY TO ADOPT EV?



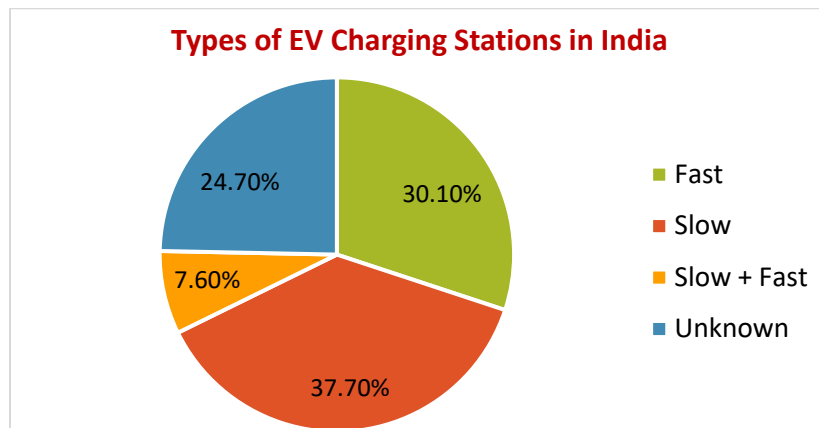
- The adoption EV has seen a significant rise in the country. At the same time the number of operational public charging stations have also seen a rise of 77% - though still lower than required.
- Widespread network of EV charging stations will help to gain customer confidence.
- Between October 2021 – February 2022, a total of 678 public EV charging stations were setup in nine megacities: Surat, Pune, Ahmedabad, Bengaluru, Hyderabad, Delhi, Kolkata, Mumbai, and Chennai.
- Owing to this ramp up, these cities account for about 940 of India’s 1640 public electric vehicle chargers.
- The number of charging stations installed state wise under **Phase I FAME Scheme** of India as per November 2021 were as follows –



Source: Ministry of Heavy Industries

- As per the **Phase I of Fame India Scheme**, the total count for charge stations stood at 452 of which 78 charging stations were installed at various highways.
 1. Delhi – Jaipur – Agra Highway (29)
 2. Mumbai – Pune Expressway (16)
 3. Jaipur – Delhi Highway (9)
 4. Delhi – Chandigarh Highway (24)

- Currently the share of types of charging stations in India are as follows: -



Source: CEEW Website

- In 2021, the Ministry of Heavy Industries sanctioned 2,877 EV charging stations in 68 cities across 25 states/union territories under **Phase II of FAME India Scheme**.

State	No. of Charging Stations Proposed
Maharashtra	317
Tamil Nadu	281
Gujarat	278
Andhra Pradesh	266
Madhya Pradesh	235
Kerala	211
Uttar Pradesh	207
Rajasthan	205
Karnataka	172
West Bengal	141
Telangana	138
Delhi	72
Chandigarh	70
Haryana	50
Meghalaya	40
Bihar	37
Sikkim	29
Chhattisgarh	25
J & K	25
Assam	20
Odisha	18
Himanchal Pradesh	10
Puducherry	10
Uttarakhand	10
Andaman & Nicobar	10
Total	2877

Source: Ministry of Heavy Industries

- Ministry of Heavy Industries has also sanctioned 1,576 EV charging stations along Expressways (184) and Highways (1392) under **Phase II of FAME India Scheme**.





Expressways	EV Charging Stations Sanctioned
Mumbai – Pune	10
Ahmadabad – Vadodara	10
Delhi Agra Yamuna	20
Bengaluru – Mysore	14
Bangaluru – Chennai	30
Surat – Mumbai	30
Agra – Lucknow	40
Eastern Peripheral (A)	14
Hyderabad ORR	16
Total along Expressways	184



Highways	EV Charging Stations Sanctioned
Delhi – Srinagar	80
Delhi – Kolkata	160
Agra – Nagpur	80
Meerut – Gangotri Dham	44
Mumbai – Delhi	124
Mumbai – Panaji	60
Mumbai – Nagpur	70
Mumbai – Bengaluru	100
Kolkata – Bhubaneswar	44
Kolkata – Nagpur	120
Kolkata – Gangtok	76
Chennai – Bhubaneswar	120
Chennai – Trivandrum	74
Chennai – Bellary	62
Chennai – Nagpur	114
Mangaldai – Wakro	64
Total along Highways	1392

- However, according to industry estimates, India will require more than 4 lakh charging stations by 2026.
- Recently Shell has announced to install 10,000 EV charging stations till 2030.

About Seminal Research Services Private Limited

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