Electric Vehicle Project Overview

Electric Vehicle Market Analysis :India

Presented by Revathi Vangala

Date:01/02/2025

Outline

- EV Technology
- Problem Statement
- Dataset Summary
- Data Insights
- Reason for choosing 4wheelers
- Impact of Government Subsidies
- Charging stations and EV Sales Correlation
- Recommendations

- How many of you think EV will replace completely the diesel and petrol vehicels?

EV Technology

EV technology focuses on electric vehicles powered by rechargeable batteries, offering cleaner, more sustainable transportation with reduced emissions and lower operating costs.

Problem Statement

- AtliQ Motors is a leading U.S. electric vehicle company, holds a 25% market share in North America.It plans to expand into India, where its market share is under 2%.

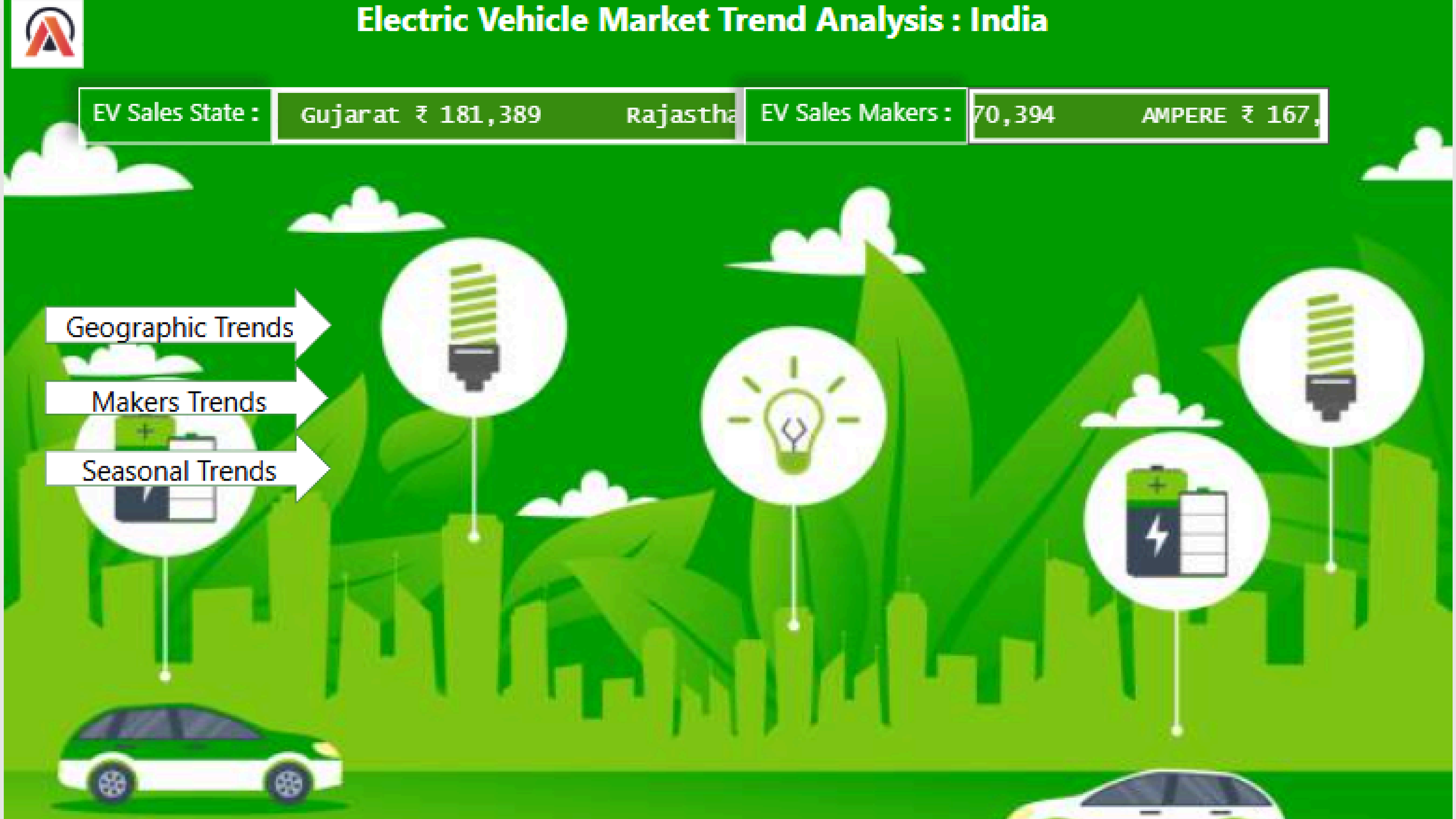
- Focus of the study: EV and hybrid sector in India to ensure a successful launch.

Dataset Summary

- Dataset includes information on EV manufacturers, State-wise EV adoption and sales data.
- Covers the period from 2022 to 2024.
- Data is categorized into two-wheelers and four-wheelers.

Electric Vehicle Market Trend Analysis : India

EV Sales State :	Gujarat ₹ 181,389	Rajastha	EV Sales Makers :	70,394	AMPERE ₹ 167,



Geographic Trends

CAGRbyStateEV	Total States&UT	EVSalesbyState	TotalVehiclesSold	PenetrationRate
0.94	35	2M	57M	3.61%

Select State

All

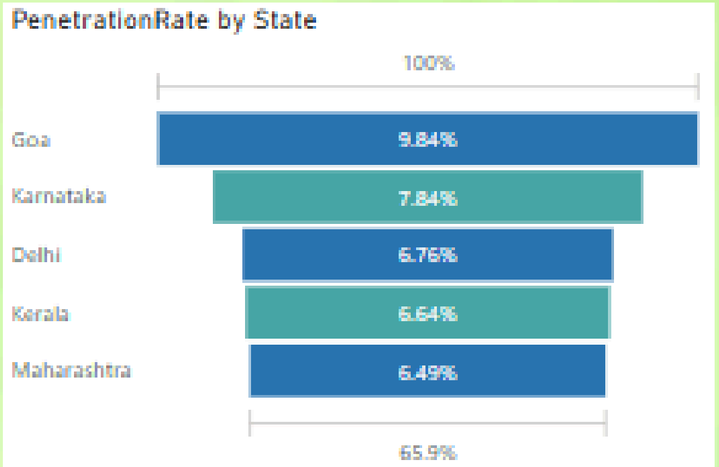
Vehicle Category

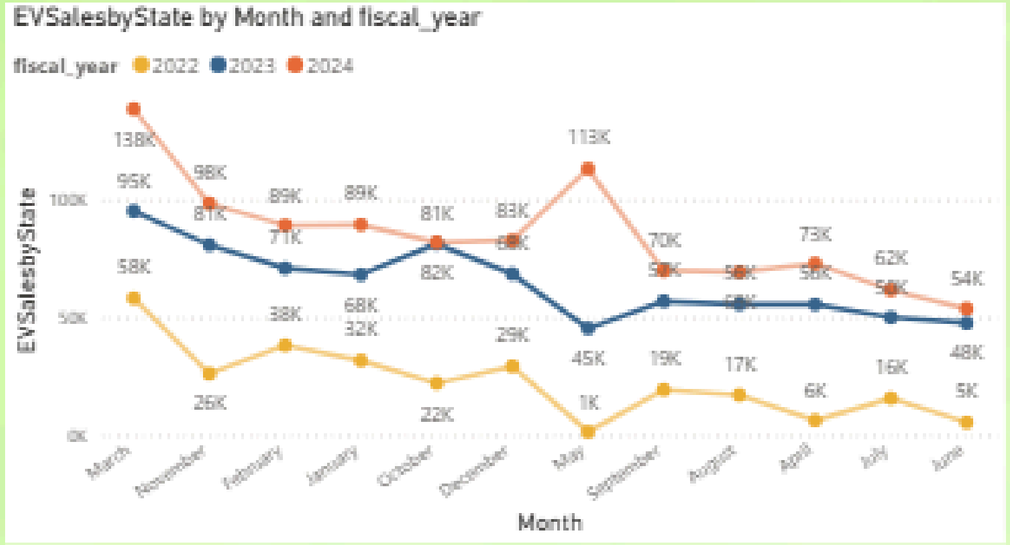
2 Wheelers | 4 Wheelers

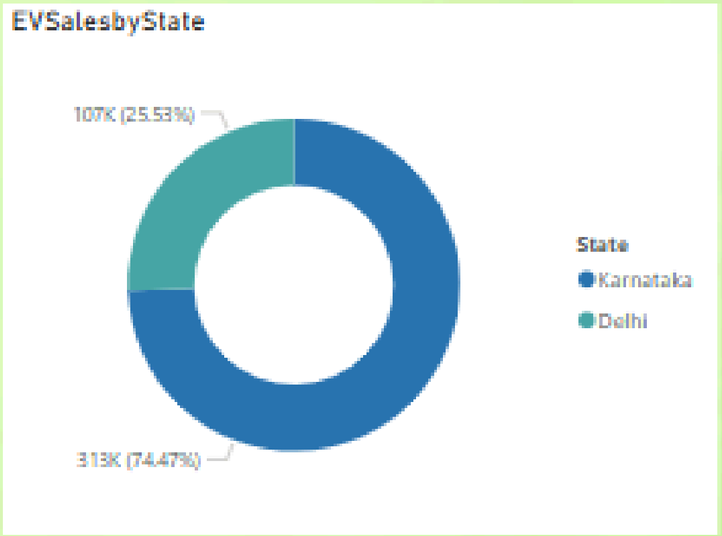
Select Fiscal Year

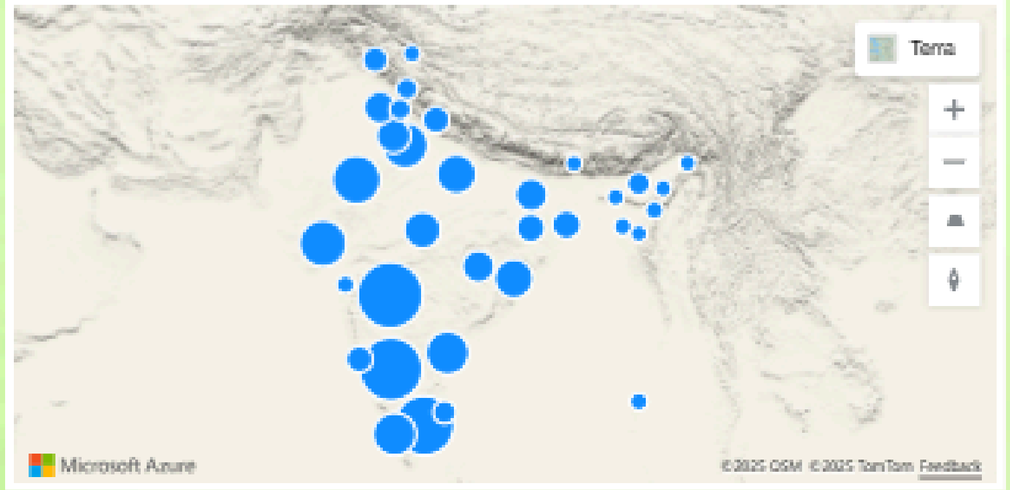
All









Makers Trends

CAGRbyMakers	EVSalesbyMakers	PenetrationRate	Total Makers	Projected EV Sales 2030
93.91%	2M	3.61%	26	54.21M

Select Fiscal Year

All

Select Vehicle Category

2 Wheelers | 4 Wheelers

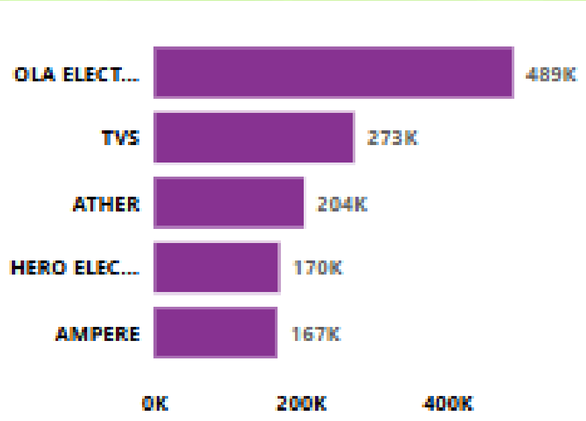
Select Makers

All

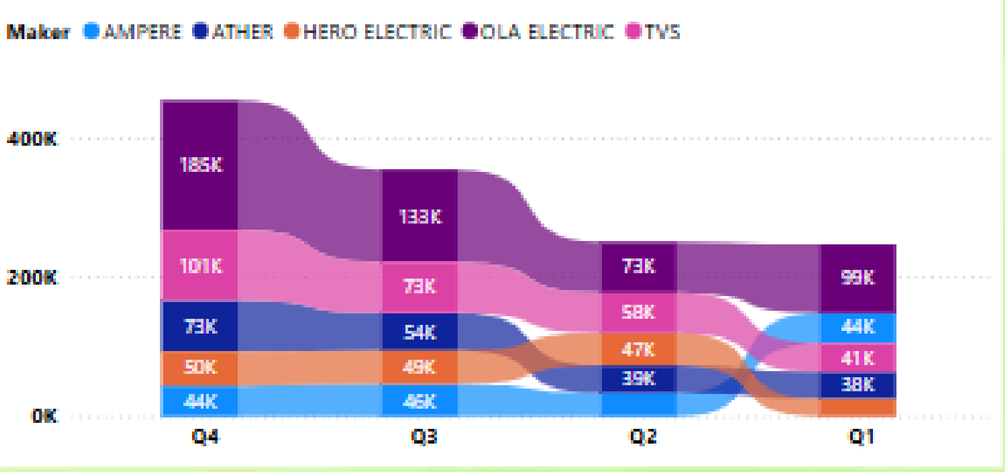
EV Makers by Sales

Maker	CAGRbyMakers	EVSalesbyMakers
Tata Motors	94.71%	88935
MG Motor	131.53%	13753
Mahindra & Mahindra	140.33%	41193
Hyundai Motor	255.48%	2076
BYD India	566.52%	2419

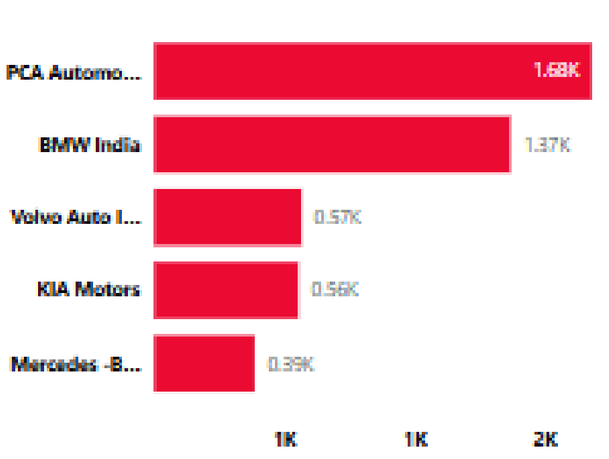
Top EV Makers by Sales



EV Sales by Makers per Quarter



Bottom EV Makers by Sales



Seasonal Trends

CAGRbyStateEV	Total States&UT	EVSalesbyState	TotalVehiclesSold	PenetrationRate
0.94	35	2M	57M	3.61%

Vehicle Category

- 2 Wheelers
- 4 Wheelers

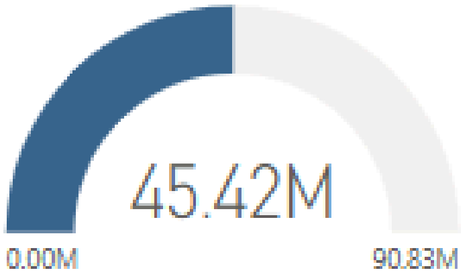
Fiscal Year

All

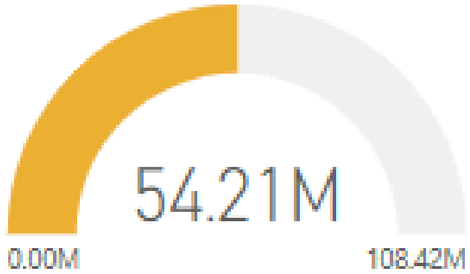
State

All

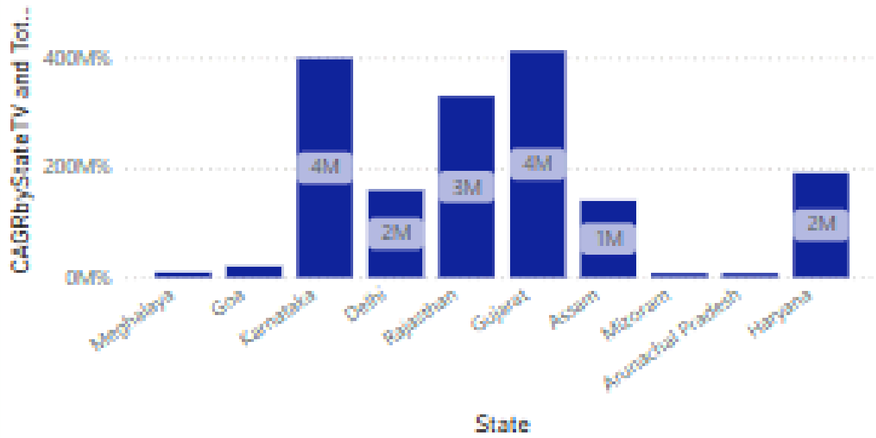
Projected TV Sales 2030



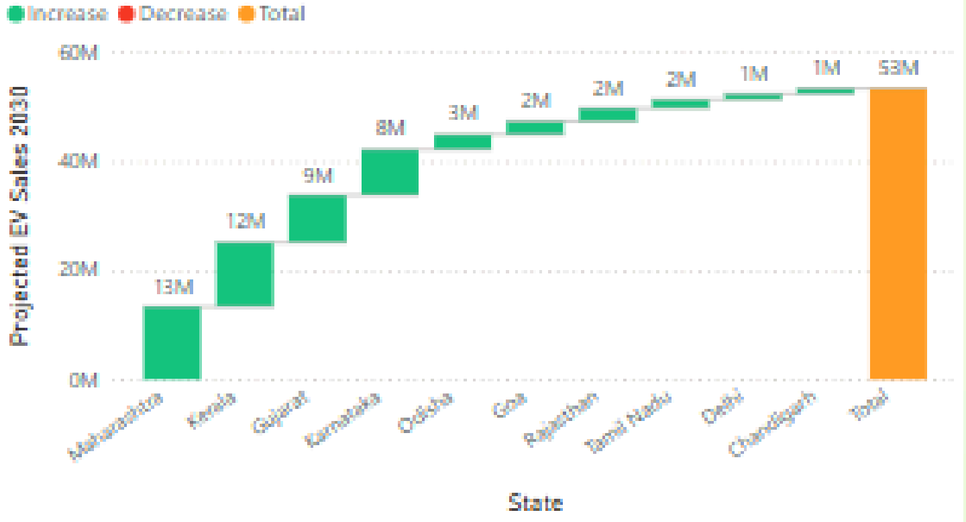
Projected EV Sales 2030



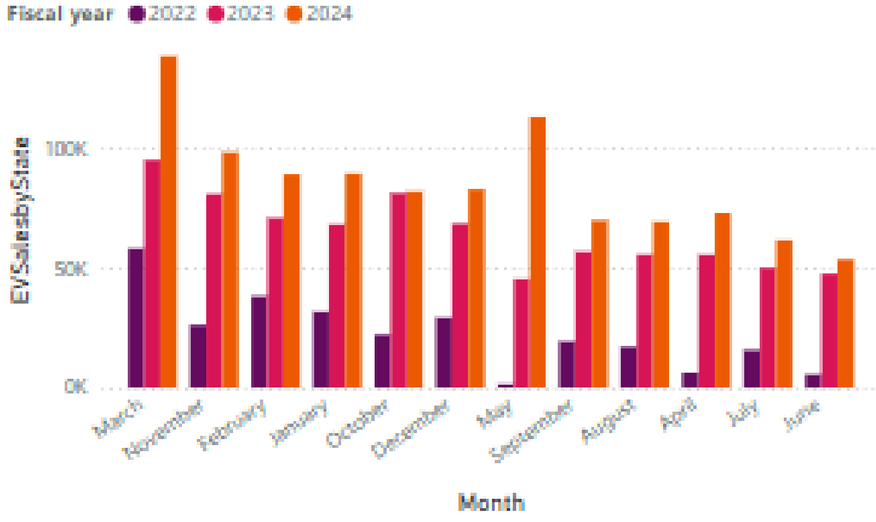
CAGRbyStateTV and TotalVehiclesSold by State



Projected EV Sales 2030 by State



EVSalesbyState by Month and fiscal_year



Makers-States Correlations

Select Makers

All

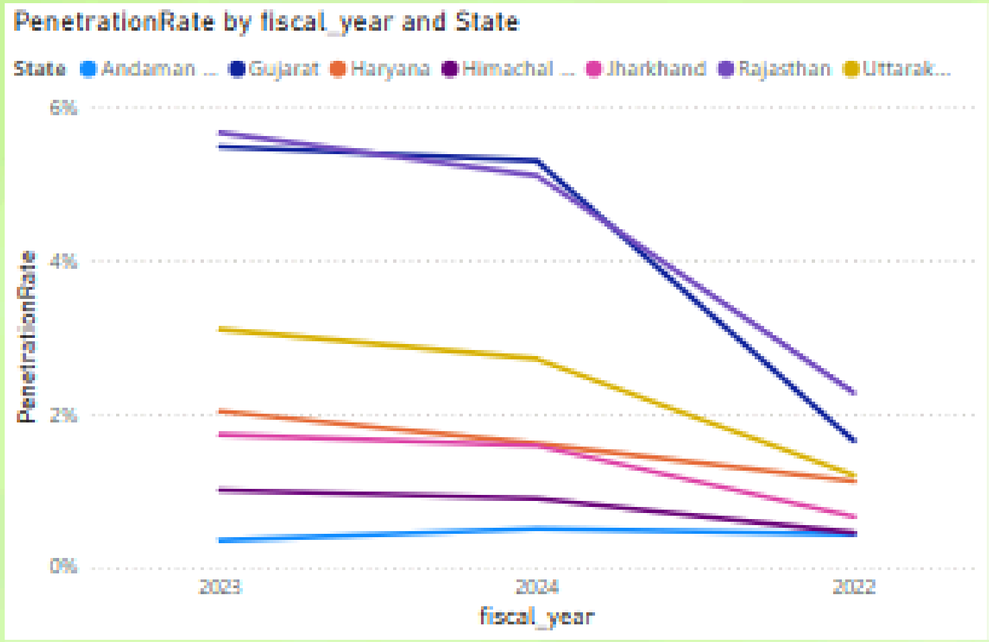
Select Fiscal Year

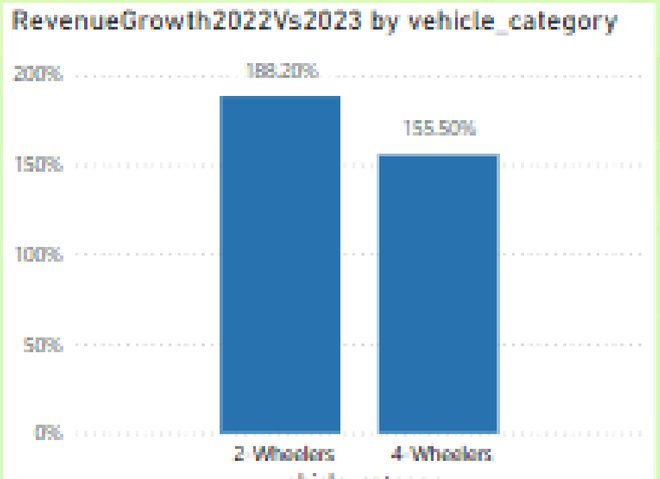
All

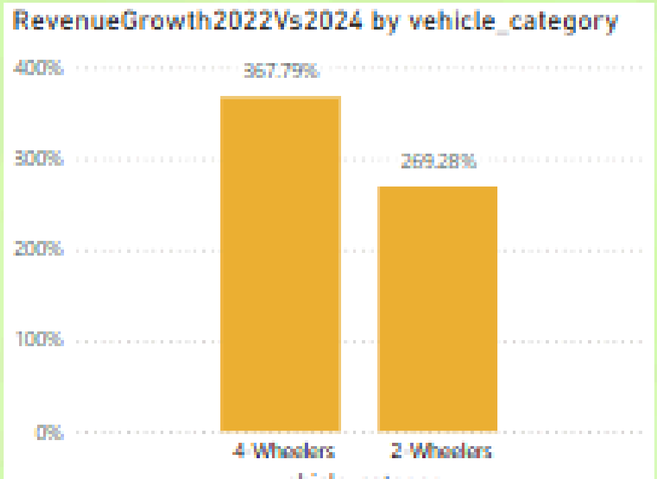
Select Vehicle Category

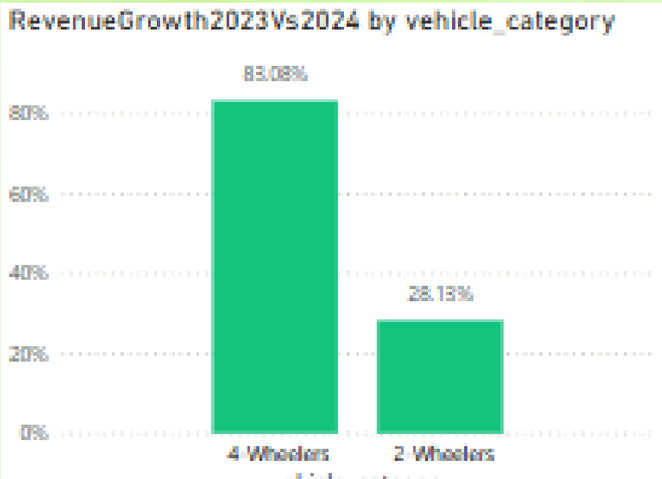
2-Wheelers | 4-Wheelers

State	CAGRbyStateTV	TotalVehiclesSold
Arunachal Pradesh	18.30%	71547
Assam	20.13%	1403271
Delhi	22.88%	1588436
Goa	27.41%	199970
Gujarat	20.55%	4125551
Haryana	17.68%	1902768
Karnataka	25.28%	3994329
Meghalaya	28.47%	90183
Mizoram	18.77%	71307
Rajasthan	21.50%	3307591
Total	**21.78%**	**16754953**









EV Sales and Penetration Rate of States for Fiscal year 2022-2024

Select Fiscal Year

All

Select Vehicle Category

2-Wheelers | 4-Wheelers

Select Makers

All



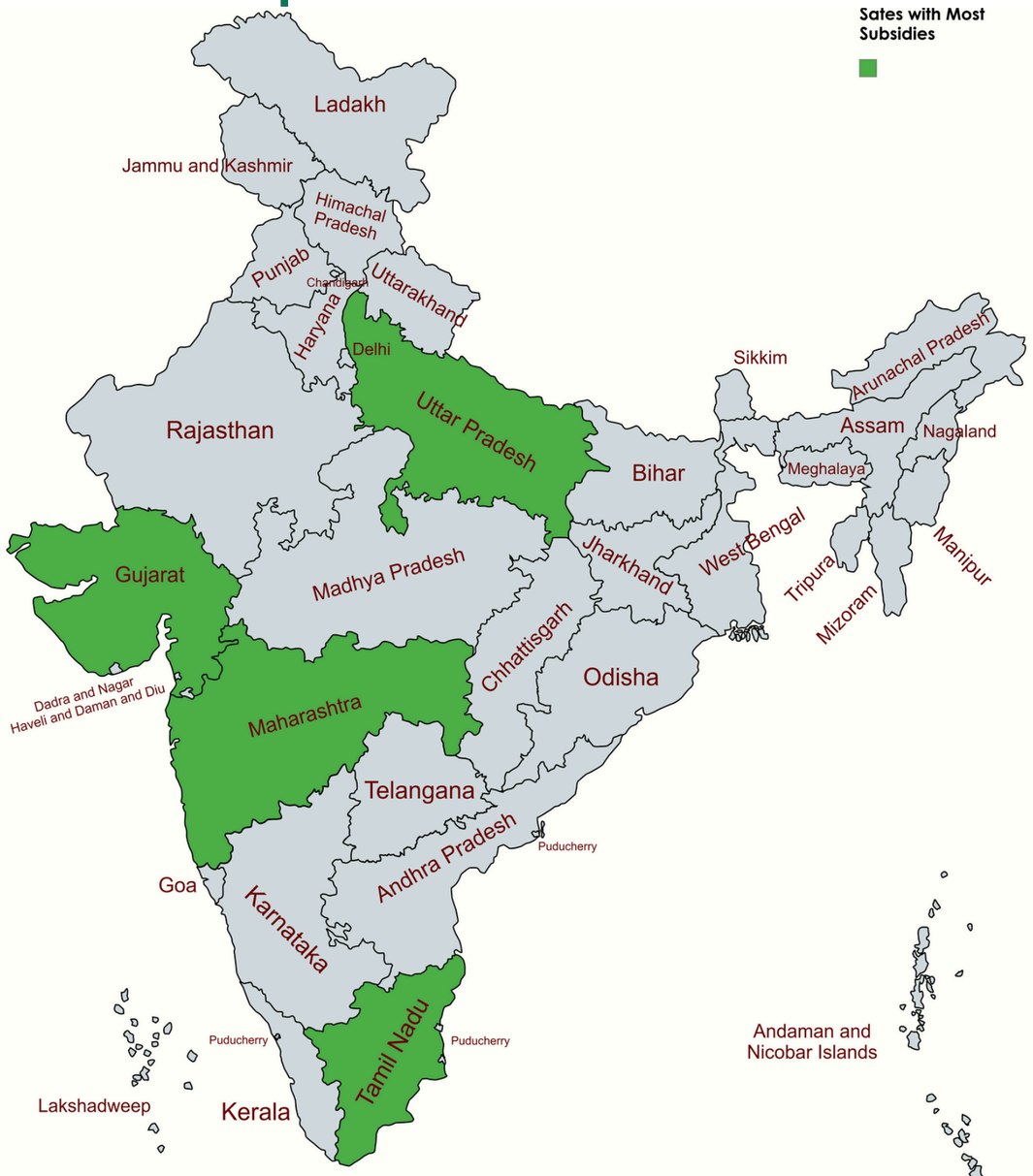

State	EVSalesState 2022	PRFY2022	EVSalesState 2023	PRFY2023	EVSalesState 2024	PRFY2024	PRDecline	TotalVehiclesSold
Maharashtra	48374	2.90%	150502	0.07	197169	0.09	5.69%	6101429
Karnataka	43111	4.28%	108895	0.08	160989	0.10	5.90%	3994329
Tamil Nadu	36863	2.74%	68885	0.04	94314	0.05	2.75%	4652363
Gujarat	18026	1.65%	79004	0.05	84359	0.05	3.66%	4125551
Kerala	13639	1.98%	49483	0.07	73938	0.12	9.61%	2064677
Rajasthan	20087	2.28%	63835	0.06	66444	0.05	2.83%	3307591
Uttar Pradesh	10222	0.41%	27223	0.01	57758	0.02	1.56%	8127084
Delhi	16535	4.12%	44053	0.08	46724	0.08	3.59%	1588436
Madhya Pradesh	7916	0.82%	27840	0.02	43223	0.03	2.54%	3498698
Odisha	9498	1.98%	29651	0.05	39118	0.06	4.35%	1688794
Andhra Pradesh	13928	1.80%	30311	0.04	33183	0.04	2.44%	2283871
Chhattisgarh	4534	1.16%	20730	0.05	28540	0.06	4.51%	1334989
West Bengal	2685	0.31%	11011	0.01	16864	0.02	1.44%	2736176
Bihar	4829	0.54%	11121	0.01	15069	0.01	0.79%	3048373
Haryana	5926	1.12%	13078	0.02	11793	0.02	0.49%	1902768
Punjab	4528	1.02%	8107	0.02	11198	0.02	0.93%	1543962
Goa	1778	3.68%	7107	0.10	10799	0.14	10.08%	199970
Jharkhand	2713	0.66%	7918	0.02	7830	0.02	0.92%	1364886
Total	**271150**	**1.65%**	**775368**	**0.04**	**1019593**	**0.05**	**3.16%**	**57220252**

Reasons for Choosing 4-Wheeler EVs (2023-2024)

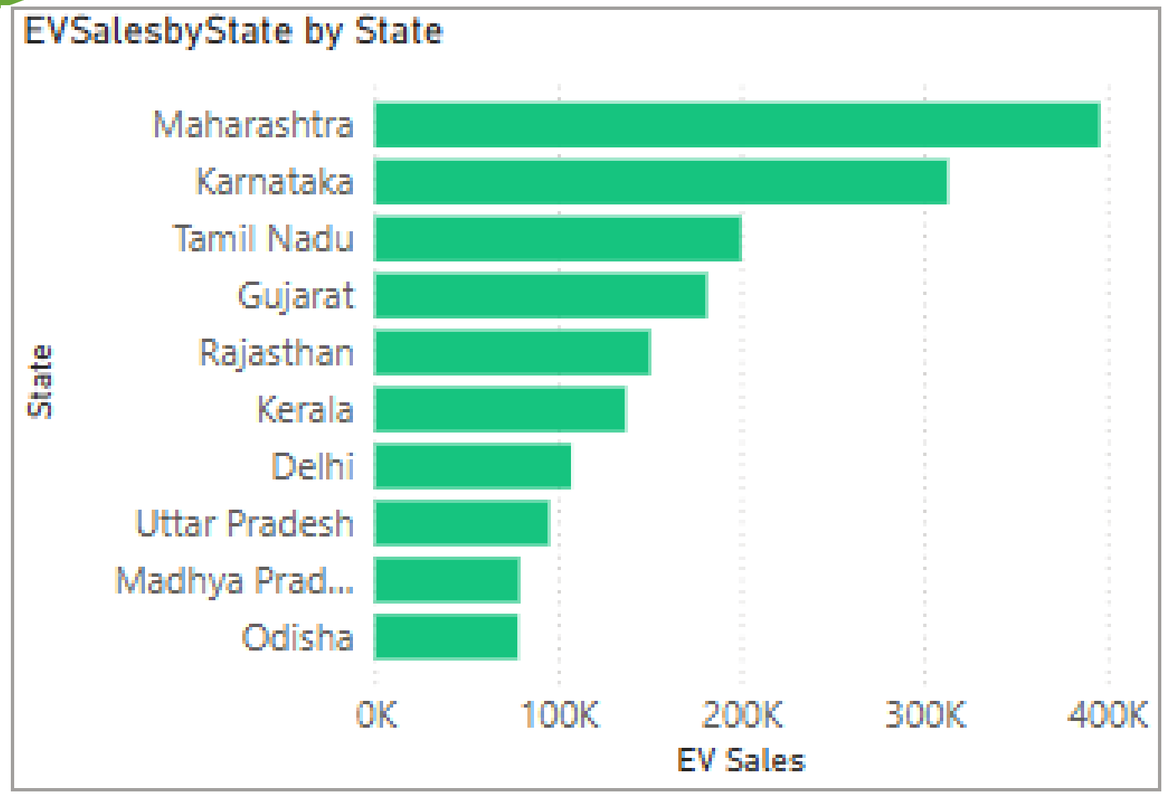
- Environmental Impact: Reduced carbon footprint and cleaner air.
- Government Incentives: Financial subsidies, tax benefits, and state-level support.
- Lower Operating Costs: Cheaper to charge and maintain compared to ICE vehicles.
- Improved Infrastructure: Growing charging network and faster charging tech.
- Rising Fuel Costs: EVs are more cost-effective with rising fuel prices.

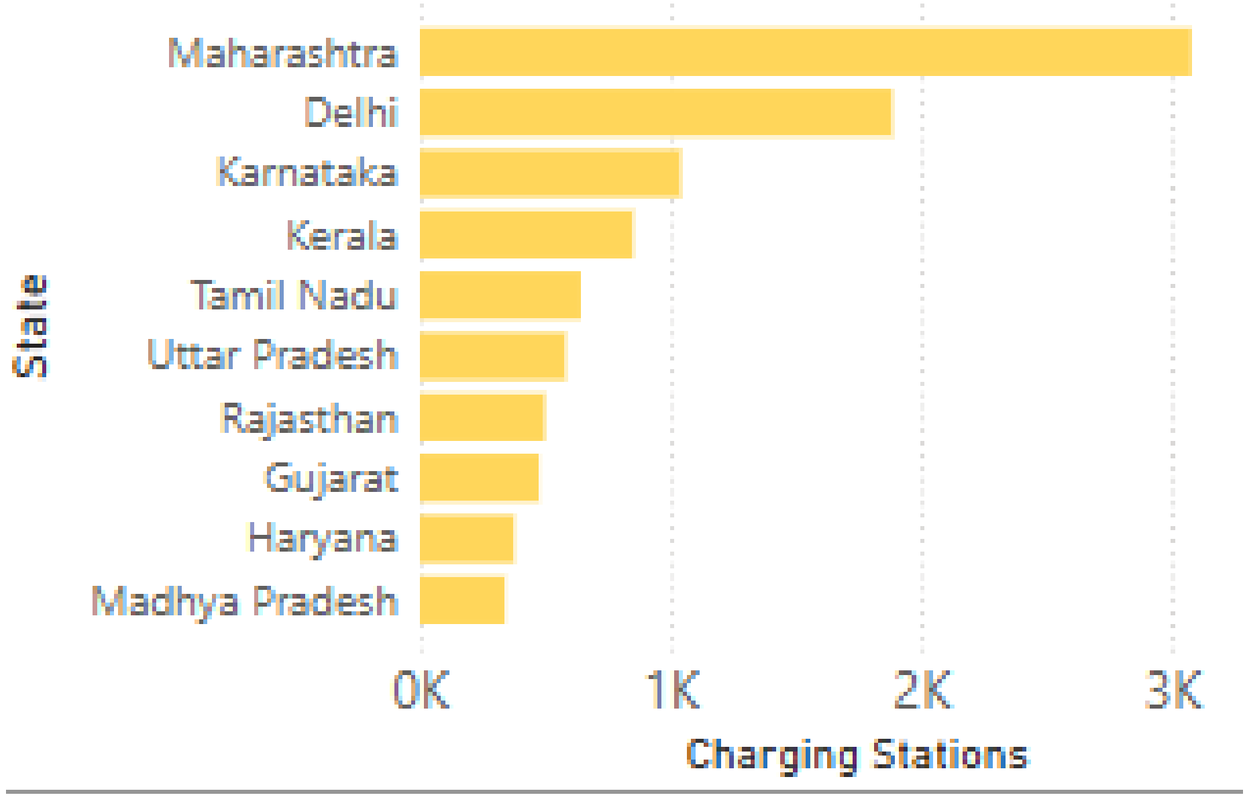
Impact of Government Incentives & Subsidies on EV Adoption

- **Increased Affordability**
- **Encourages Adoption**
- **Boost to Charging Infrastructure**
- **Long-term Savings**



Charging Stations Infrastructure & EV Sales Correlation





Recommendations

- A combination of Gujarat for its industrial support and Maharashtra for its infrastructure and strong automotive ecosystem would be ideal for establishing an EV manufacturing unit.

- The positive correlation between the no.of charging stations, EVsales and penetration rate indicates that with the increase in charging stations the EV sales will also increase.

THANK YOU