

ELECTRIC VEHICLE INDIAN MARKET ANALYSIS



- BY SUNIDHI SHARMA

AGENDA

- PROBLEM STATEMENT
- OBJECTIVE
- DASHBOARD SHOWCASE
- INSIGHTS &
RECOMMENDATIONS
- CONCLUSION

PROBLEM STATEMENT

AtliQ Motors is an automotive giant from the USA specializing in electric vehicles (EV). In the last 5 years, their market share rose to 25% in electric and hybrid vehicles segment in North America. As a part of their expansion plans, they wanted to launch their bestselling models in India where their market share is less than 2%. Bruce Haryali, the chief of AtliQ Motors India wanted to do a detailed market study of existing EV/Hybrid market in India before proceeding further. Bruce gave this task to the data analytics team of AtliQ motors and Peter Pandey is the data analyst working in this team.

OBJECTIVE

To conduct an in-depth analysis of the existing electric and hybrid vehicle market in India, providing data-driven insights to support the development of a strategic market entry and launch plan for the company's EV models.

DASHBOARD SHOWCASE



**Atliq
Motors**

ELECTRIC VEHICLE INDIAN MARKET ANALYSIS



Temporal Analysis




Regional Analysis







Makers Analysis





AtliQ Motors



Year-Qtr-Month

All

Vehicle Category


All

State



All

Maker

All



Clear Filters



57220K

Total Vehicles Sold

2066K

Total EV Sold

55154K

Total NEV Sold

392bn

Total EV Revenue

EV SG Change('23-'24)

1019.59K✓

FY'23: 775.37K (+31.5%)

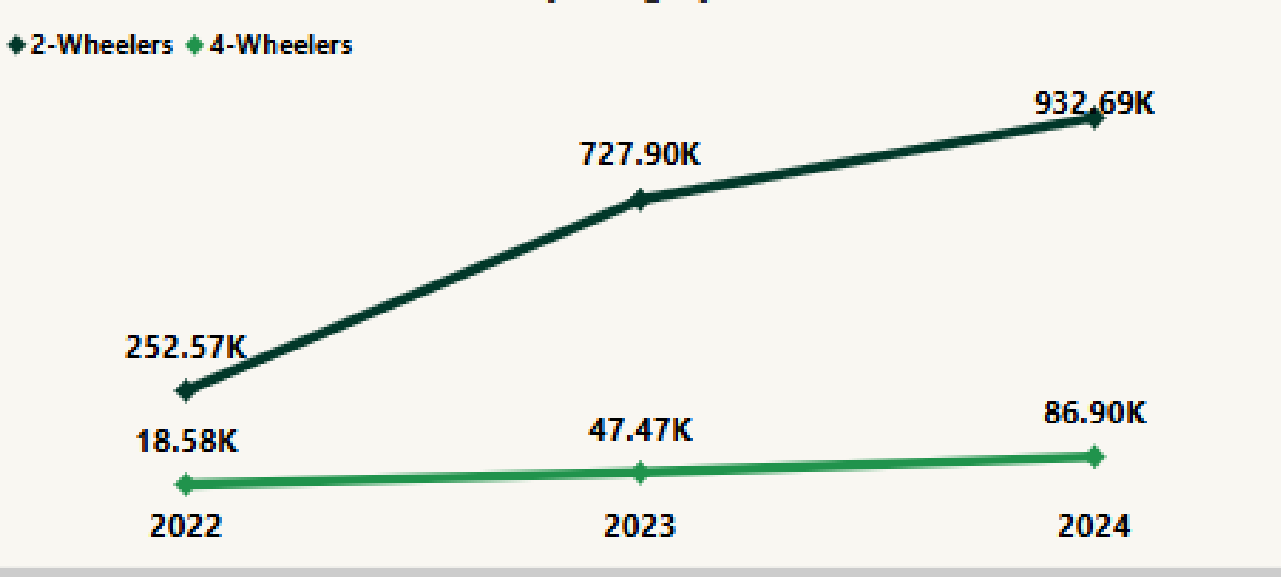
EV RG Change('23-'24)

209.63bn✓

FY'23: 133.07bn (+57.53%)

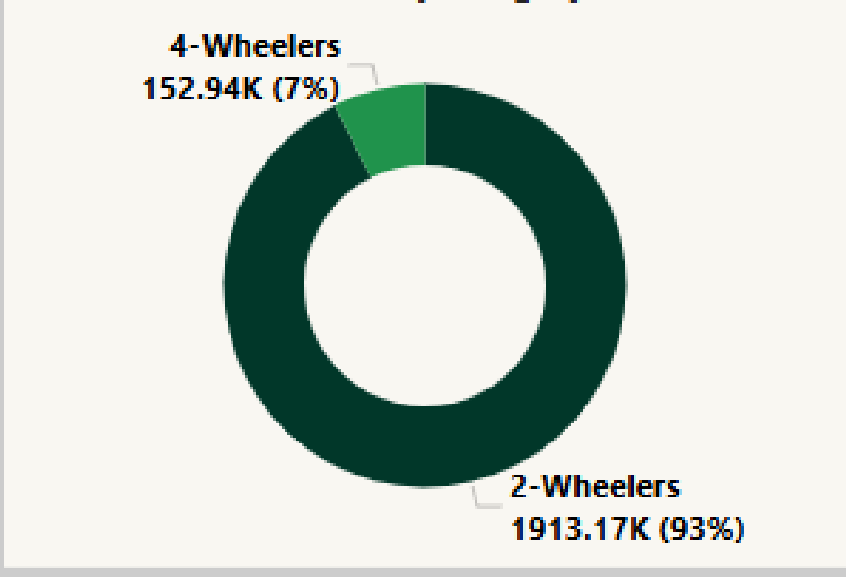
EV Sold by Category over Years

◆ 2-Wheelers ◆ 4-Wheelers



Year	2-Wheelers	4-Wheelers
2022	252.57K	18.58K
2023	727.90K	47.47K
2024	932.69K	86.90K

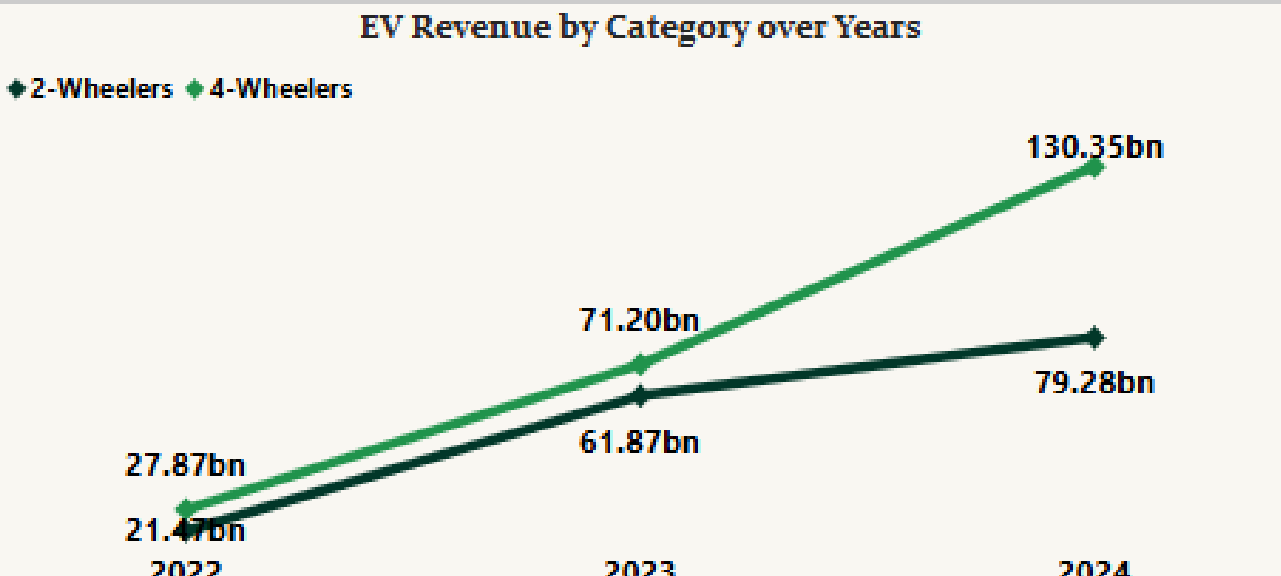
EV Sold by Category



Category	Sales	Percentage
2-Wheelers	1913.17K	93%
4-Wheelers	152.94K	7%

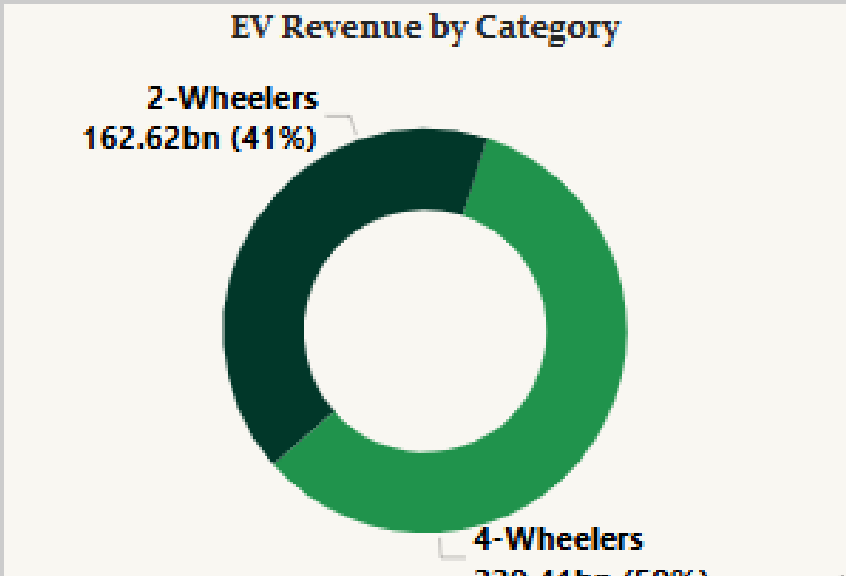
EV Revenue by Category over Years

◆ 2-Wheelers ◆ 4-Wheelers




Year	2-Wheelers	4-Wheelers
2022	27.87bn	21.47bn
2023	71.20bn	61.87bn
2024	130.35bn	79.28bn





EV Revenue by Category



Category	Revenue	Percentage
2-Wheelers	162.62bn	41%
4-Wheelers	229.41bn	59%



AtliQ
Motors



Year-Qtr-Month

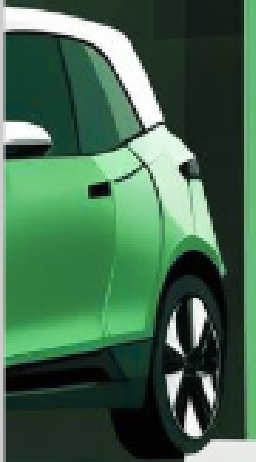
All

Vehicle Category



All

State

All



Clear Filters



11.72%
CAGR-NEV

93.91%
CAGR-EV

54.21M
Projected EV Sales 2030

3.61%
EV PR

EV PR Change('23-'24)
4.81%
FY'23: 3.95% (+21.84%)

EV Sold by States

202220232024

MAHARASHTRA

48.4K150.5K197.2K

KARNATAKA

43.1K108.9K161.0K

TAMIL NADU

36.9K68.9K94.3K

EV Revenue by States

202220232024

MAHARASHTRA

13.3bn29.3bn36.7bn

KARNATAKA

6.3bn17.7bn31.9bn

KERALA


4.3bn11.4bn19.3bn

CAGR by States





State	CAGR-NEV	CAGR-EV
MEGHALAYA	28.25%	476.63%
TRIPURA	10.62%	229.50%
NAGALAND	14.89%	200.00%
CHANDIGARH	7.55%	164.58%
CHHATTISGARH	10.91%	150.89%
WEST BENGAL	4.95%	150.62%
GOA	20.56%	146.45%
DNH AND DD	14.41%	137.85%
UTTAR	7.51%	137.70%

EV PR, PR Change & Projected Sales by States

State	EV PR	EV PR Change - '22-'24	Projected Sales 2030
GOA	9.84%	10.08%	2,419.57K
KERALA	6.64%	9.61%	11,779.40K
KARNATAKA	7.84%	5.90%	8,383.41K
MAHARASHTRA	6.49%	5.69%	13,351.15K
CHANDIGARH	4.04%	5.26%	986.81K
CHHATTISGARH	4.03%	4.51%	7,118.22K
ODISHA	4.63%	4.35%	2,732.81K
PUDUCHERRY	3.67%	3.66%	232.94K



AtliQ
Motors



Year-Qtr-Month


All

Vehicle Category



All

Maker

All



Clear Filters



26
Total EV Makers

OLA ELECTRIC
Highest EV MS-2W

BATTRE ELECTRIC
Least EV MS-2W

TATA MOTORS
Highest EV MS-4W

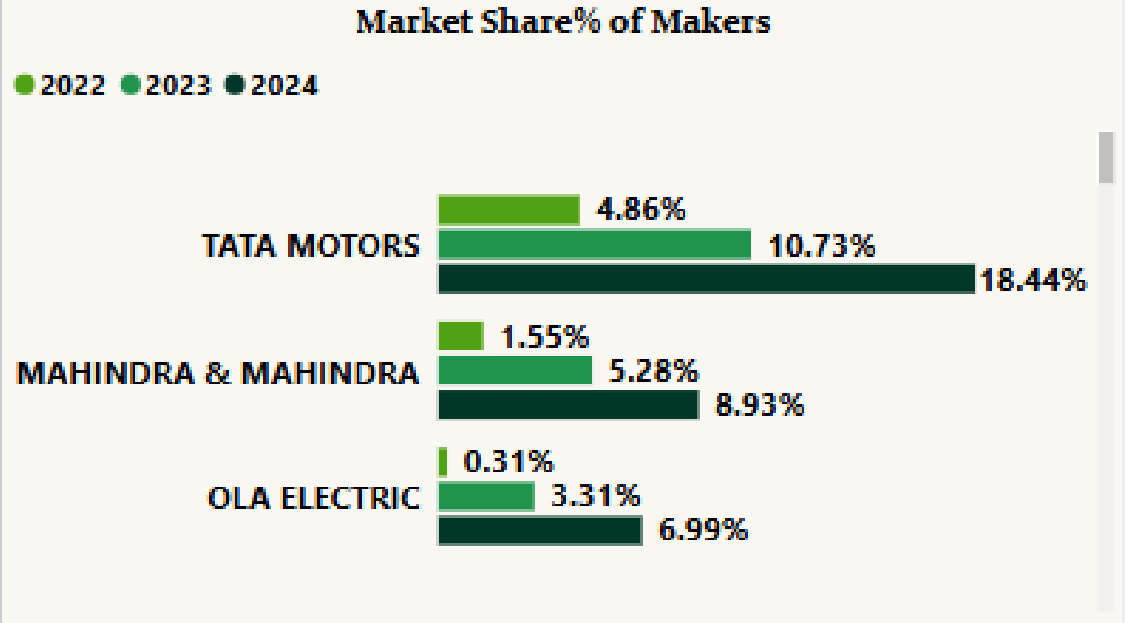
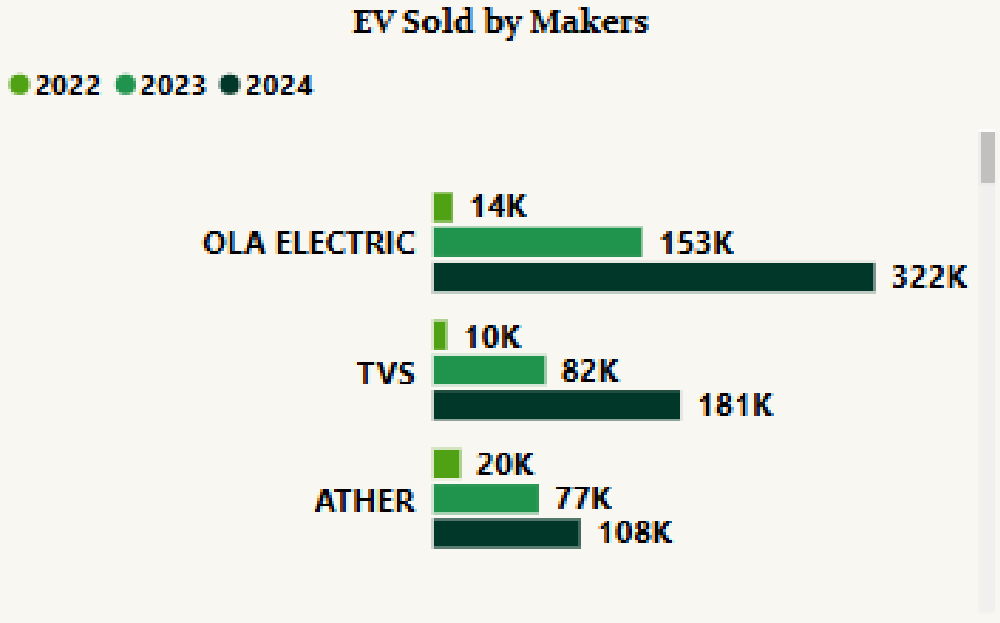
MERCEDES -BENZ AG
Least EV MS-4W

EV Sold by Makers

Market Share% of Makers

CAGR of Makers

Year-over-Year Revenue Change of Makers



CAGR of Makers

Makers	CAGR
BMW INDIA	1140.97%
VOLVO AUTO INDIA	971.21%
BYD INDIA	566.52%
OLA ELECTRIC	373.22%
TVS	330.80%
BAJAJ	285.45%
HYUNDAI MOTOR	255.48%
MERCEDES -BENZ AG	234.55%
Total	106.14%

Year-over-Year Revenue Change of Makers

Makers	RG-'22-'23	RG-'23-'24
AMPERE	242.52%	-37.75%
ATHER	285.07%	39.82%
BAJAJ	361.02%	222.27%
BATTRE ELECTRIC		0.00%
BEING	49.42%	-100.00%
BGAUSS		0.00%
BMW INDIA	3971.43%	278.25%
Total	169.73%	57.53%

INSIGHTS & RECOMMENDATIONS



TEMPORAL ANALYSIS

- **EV Penetration:**

Only **3.6%** of total vehicles sold (2022-2024) were electric — indicating a **huge growth opportunity** as India transitions to EVs.

- **Stronger Growth in 4-Wheelers:**

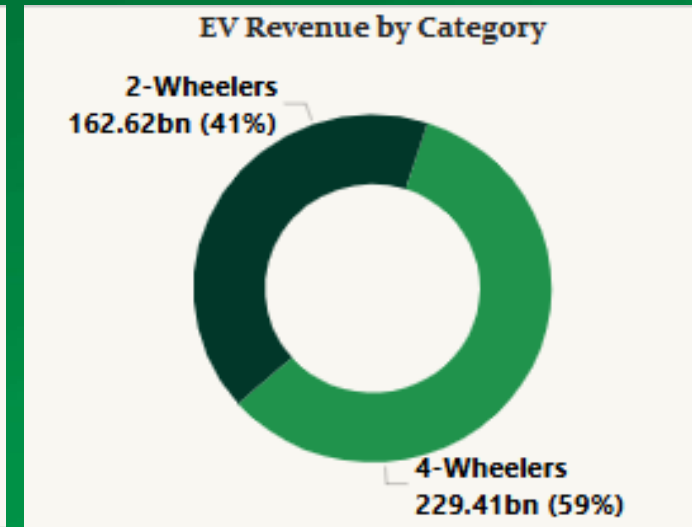
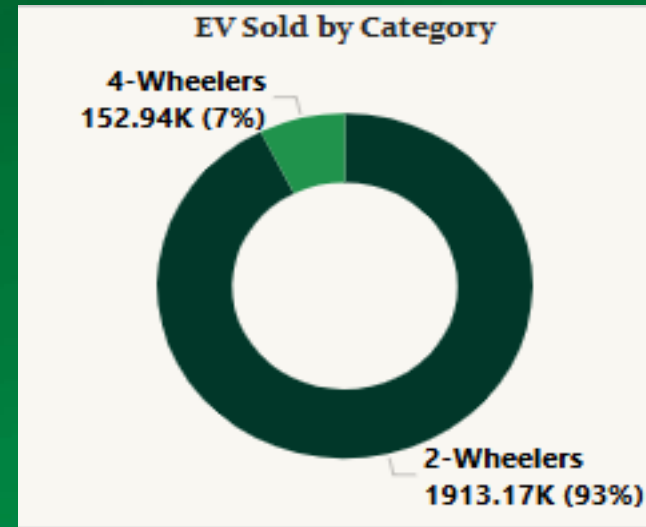
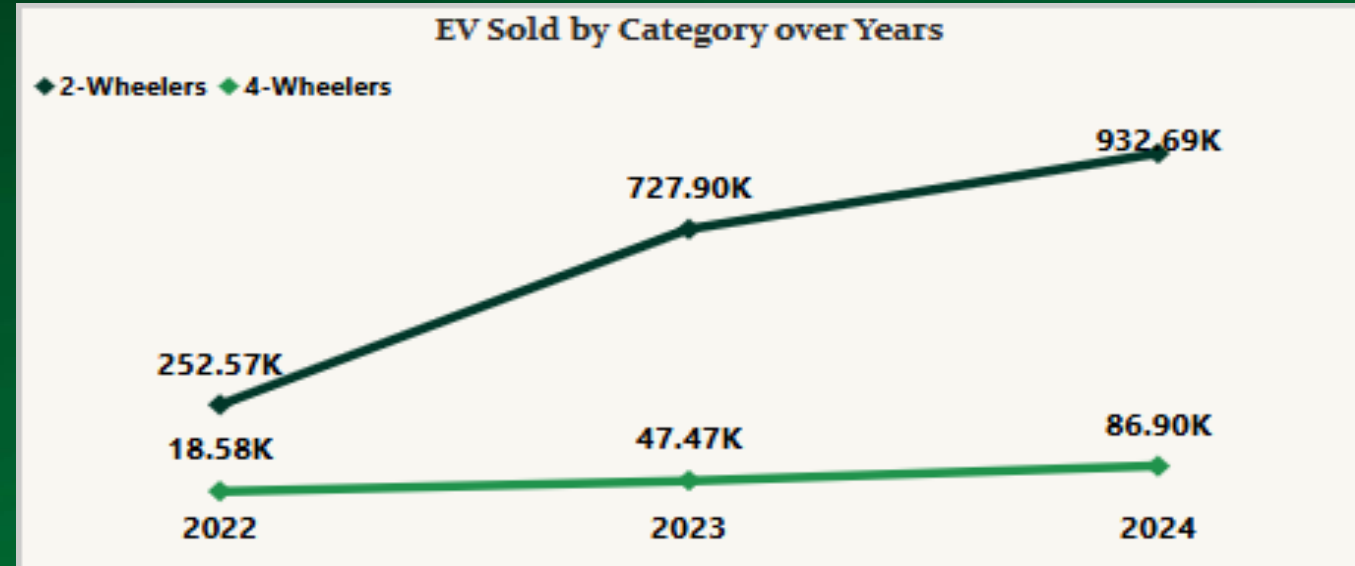
While 2-Wheelers grew by 269%, **4-wheelers surged by 368%**, indicating a **rapid acceleration** in premium EV adoption.

- **2-Wheeler Dominance in Volume:**

93% of EVs sold were **2-Wheelers**, driven by affordability and urban use cases.

- **Revenue-Weighted Demand:**

59% of total EV revenue came from **4-Wheelers**, despite being only 7% of EV volume — highlighting **lucrative potential for premium models**.





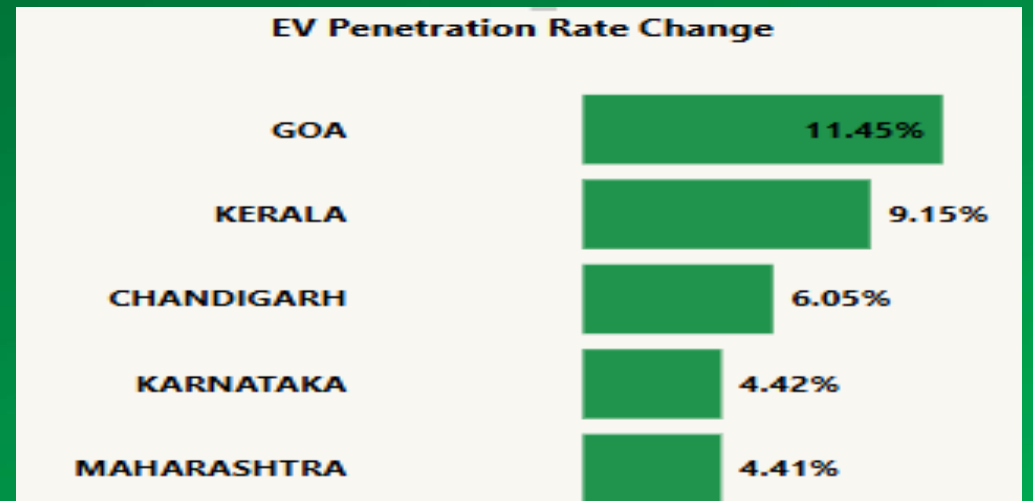
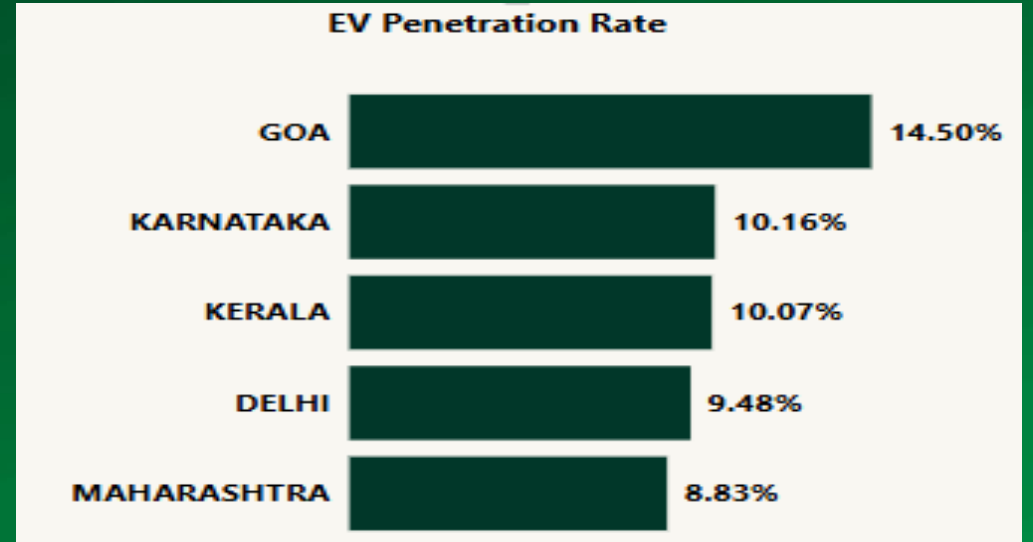
REGIONAL ANALYSIS

- Strong shift in consumer preference toward EVs, as **EV CAGR (93.91%)** significantly outpaces **Non-EV CAGR (11.72%)**, growing 8x faster than non-EVs from FY 2022 – 2024.
- **EV penetration grew by 22%** from FY 2023 to 2024, but the national EV penetration rate is still low at **3.61%**, presenting a high growth opportunity.

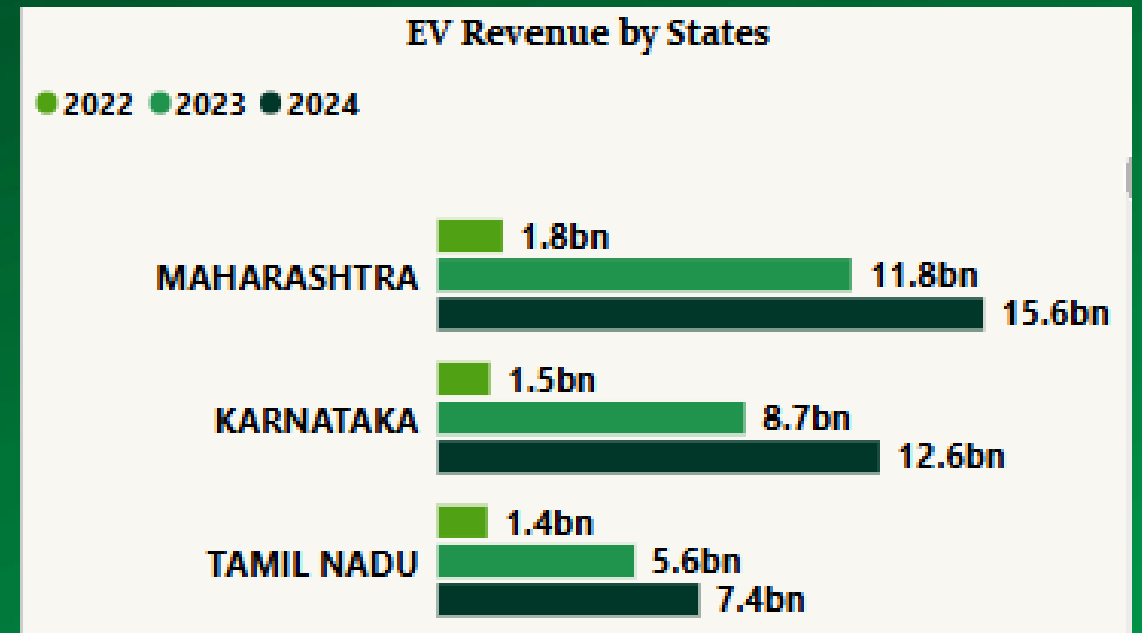
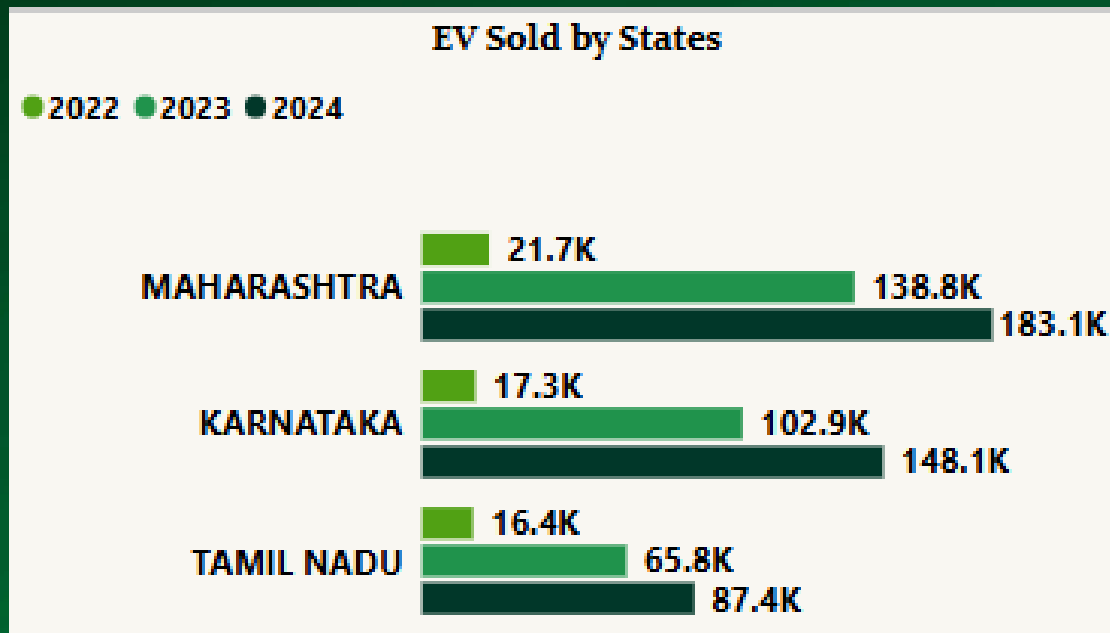


2-Wheeler EV Market :

- The 2-wheeler EV segment is expanding rapidly, with a CAGR of **178.51%**, compared to **119.12%** for its non-EV counterpart, underscoring a fundamental market shift.
- **Overall 2-wheeler EV penetration stands at 4.82%**, with a modest **penetration growth of 18.02%** from FY 2023 - 2024, suggesting a maturing segment with slower incremental gains.
- **Goa leads the nation with a 2-wheeler EV penetration rate of 14.8%**, followed by Karnataka and Kerala—all exceeding 10%, making them mature and competitive EV hubs.
- **Goa also tops in PR growth, with an 11.45% increase**, followed by Kerala (9.15%) and Chandigarh (6.05%), indicating aggressive market adoption.



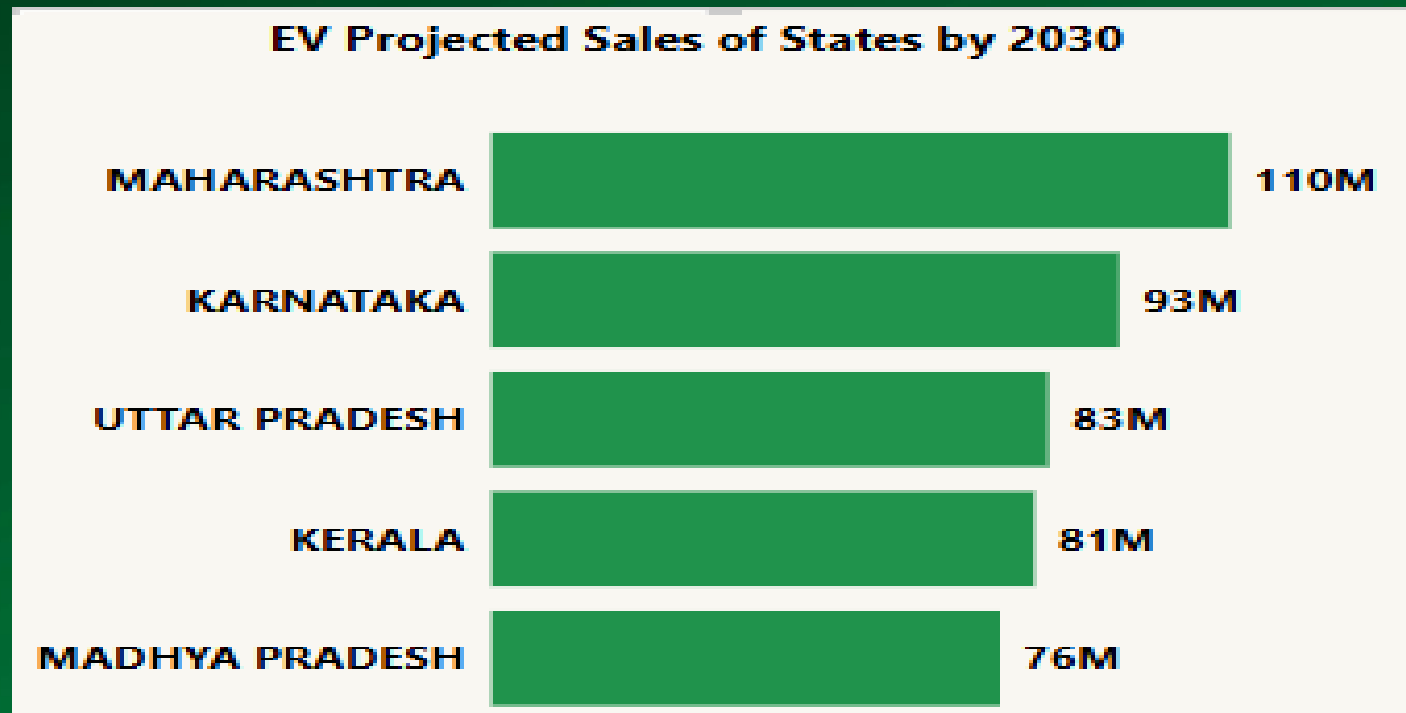
- **Maharashtra, Karnataka, and Tamil Nadu lead in both 2-wheeler EV sales and revenue, confirming their status as major EV consumption centers.**



- Chandigarh (339.82%), Goa (274.63%), and Chhattisgarh (273.04%) posted the highest CAGRs for 2W EVs, identifying them as **high-potential emerging markets**.
- Nagaland, Arunachal, Meghalaya, Mizoram, and Sikkim reported negative growth, suggesting low market readiness or structural barriers to adoption.
- Jammu & Kashmir, Ladakh, Delhi, and Haryana have more non-EV growth than EV.

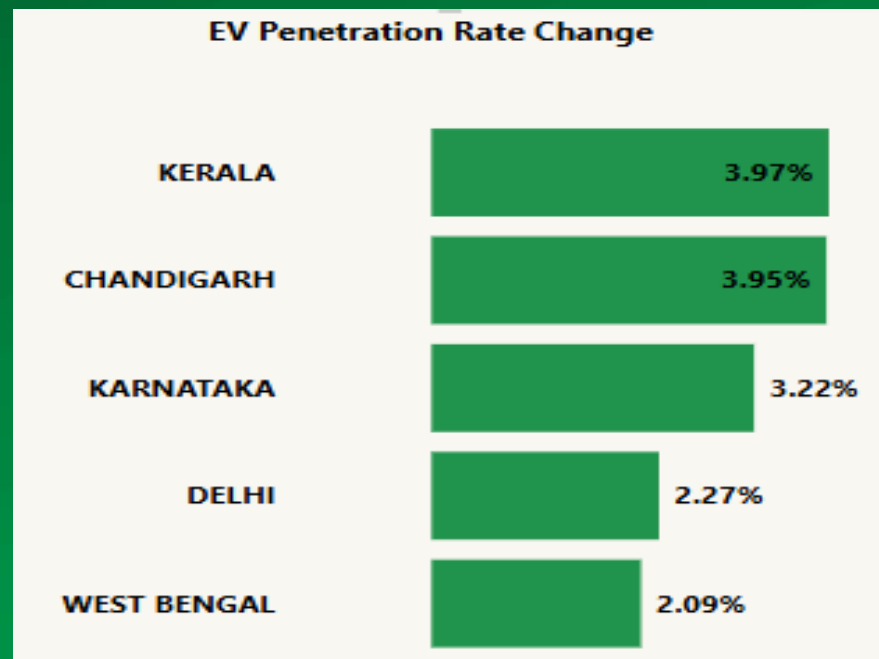
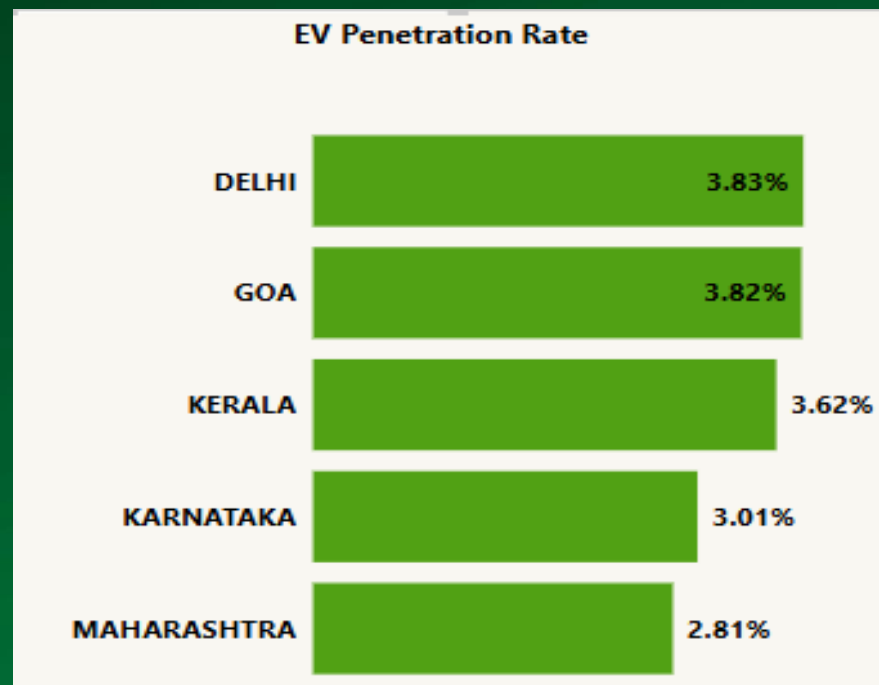
State	CAGR-NEV	CAGR-EV
CHANDIGARH	120.06%	339.82%
GOA	111.55%	274.63%
CHHATTISGARH	117.54%	253.04%
MADHYA PRADESH	123.35%	249.28%
UTTAR PRADESH	120.39%	241.23%
KERALA	77.41%	228.12%
TRIPURA	109.12%	224.04%
WEST BENGAL	110.23%	218.81%
DNH AND DD	115.34%	215.17%
MANIPUR	8.68%	196.65%
KARNATAKA	124.76%	192.88%
MAHARASHTRA	112.67%	190.47%
ASSAM	136.88%	189.12%
GUJARAT	142.70%	187.76%
RAJASTHAN	155.43%	176.82%
PUDUCHERRY	98.24%	176.04%
ODISHA	97.41%	175.32%
UTTARAKHAND	135.38%	161.89%
PUNJAB	124.51%	154.13%
BIHAR	131.86%	153.70%
HIMACHAL PRADESH	147.52%	151.85%
JHARKHAND	120.25%	149.57%
TAMIL NADU	99.71%	130.53%
JAMMU AND KASHMIR	145.17%	128.91%
LADAKH	206.34%	127.30%
DELHI	126.97%	123.34%
ANDHRA PRADESH	105.99%	109.79%
HARYANA	135.22%	98.20%
ANDAMAN & NICOBAR	117.34%	-100.00%
ARUNACHAL PRADESH	124.18%	-100.00%
MEGHALAYA	138.19%	-100.00%
MIZORAM	112.17%	-100.00%
NAGALAND	127.20%	-100.00%
SIKKIM	109.73%	-100.00%

- Maharashtra, Karnataka, Uttar Pradesh, Kerala, and Madhya Pradesh are projected to be the highest contributors to 2-wheeler EV sales by 2030, highlighting them as priority regions for scale-up.



4-Wheeler EV Market :

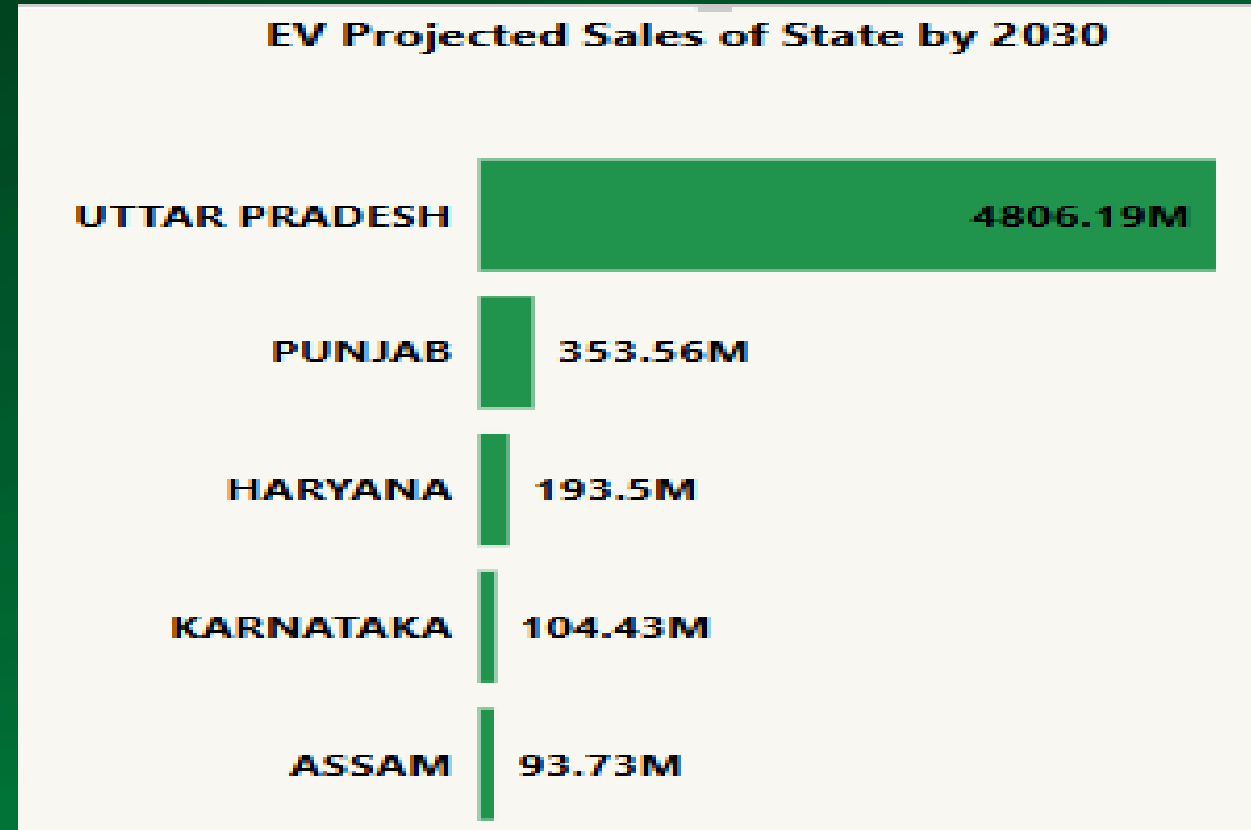
- The 4-wheeler EV segment is in a high-growth phase, with a CAGR of **285.83%**, significantly outpacing the **112.65%** growth of non-EVs—indicating strong market momentum despite low base adoption.
- EV penetration for 4-wheelers remains low at **1.97%**, though it has grown by **74.25% 2023 – 2024** —indicating a strong upward shift in consumer adoption, and significant headroom for future growth.
- **Delhi and Goa show the highest 4-wheelers EV penetration rates (3.83% and 3.82%)**, followed closely by Kerala and Karnataka, signaling early-mover urban markets with premium adoption potential.
- The sharpest increases in penetration rate from 2022–2024 were observed in **Kerala (+3.97%)**, **Chandigarh (+3.91%)**, and **Karnataka (+3.22%)**, confirming rising market traction in these regions.



- **Uttar Pradesh, Punjab, Assam, and Haryana lead in 4-Wheelers EV growth**, making them key strategic markets for expansion in North and East India.
- **States like Arunachal Pradesh, Ladakh, Nagaland, Manipur, Mizoram, Tripura, and Sikkim show zero or negative EV growth**, suggesting barriers such as infrastructure gaps or low demand awareness.
- **Maharashtra and Goa** still have more non-EV growth than EVs.

State	CAGR-NEV	CAGR-EV
UTTAR PRADESH	110.97%	885.54%
PUNJAB	120.54%	728.02%
ASSAM	118.46%	711.17%
HARYANA	125.24%	542.06%
PUDUCHERRY	128.57%	508.28%
JHARKHAND	100.67%	466.32%
CHANDIGARH	94.69%	464.58%
MEGHALAYA	114.00%	419.62%
CHHATTISGARH	99.55%	401.40%
DNH AND DD	126.38%	394.97%
BIHAR	104.04%	384.08%
WEST BENGAL	108.67%	351.03%
KARNATAKA	117.70%	348.22%
MADHYA PRADESH	116.13%	334.63%
ODISHA	104.47%	320.78%
RAJASTHAN	118.64%	315.40%
TAMIL NADU	113.79%	303.67%
GUJARAT	120.33%	291.28%
JAMMU AND KASHMIR	101.76%	288.47%
HIMACHAL PRADESH	120.43%	281.39%
ANDHRA PRADESH	99.05%	279.60%
DELHI	122.59%	228.44%
KERALA	77.23%	224.64%
UTTARAKHAND	118.86%	175.34%
ANDAMAN & NICOBAR	150.91%	173.86%
GOA	152.48%	140.00%
MAHARASHTRA	110.78%	109.12%
ARUNACHAL PRADESH	149.68%	-100.00%
LADAKH	217.07%	-100.00%
MANIPUR	37.06%	-100.00%
MIZORAM	123.52%	-100.00%
NAGALAND	110.80%	-100.00%
SIKKIM	121.23%	-100.00%
TRIPURA	118.14%	-100.00%

- **Uttar Pradesh is expected to lead 2030 EV sales in the 4-wheeler segment, followed by Punjab and Haryana, making them essential long-term focus areas.**



✓ Recommendation:

- In high sales, penetration and growth areas –
 - Initial rollout due to proven adoption and strong revenue base
 - Invest in **localised marketing, referral bonuses, and ride-share partnerships**.
 - Since awareness is already high, focus on **technology, design & after sales support** rather than just cost.
 - Offer **innovative financing schemes** to overcome price barriers and encourage transition from ICE vehicles.
 - For 4-wheelers, focus on urban areas, and for 2-wheelers, more on semi-urban areas.
 - Prioritize **dealership and service center expansion** in these regions.
 - Launch targeted marketing campaigns to reinforce state-specific adoption trends.
 - Double down on **local dealer promotions and fleet sales** in these high-growth PR states to sustain momentum.
 - Double down marketing & brand positioning in these **fast-scaling states** to ride the momentum.

- In low-growth areas –
 - Initiate **consumer education, state policy lobbying, and first-time buyer incentives**.
 - Adopt a **pilot-based entry strategy** with low-risk models (e.g., shared mobility, delivery fleets) in low-growth areas.
 - Explore **B2B channels** (postal, government fleets, and delivery bikes) as a low-risk entry model.
 - Engage with local governments and state agencies to secure **EV infrastructure investments** and jointly launch pilot programs that accelerate regional adoption
 - Roll out **mobile experience centers** or test-ride programs
- In high-potential areas –
 - Focus on **logistics, supply chain, and inventory planning** in these key markets.
 - Consider setting up **regional EV hubs or micro-warehouses**.
 - Prioritize **dealership and service center expansion** in these regions.
 - Launch **targeted marketing campaigns** to reinforce state-specific adoption trends



MAKERS ANALYSIS

2-Wheeler EV Makers :

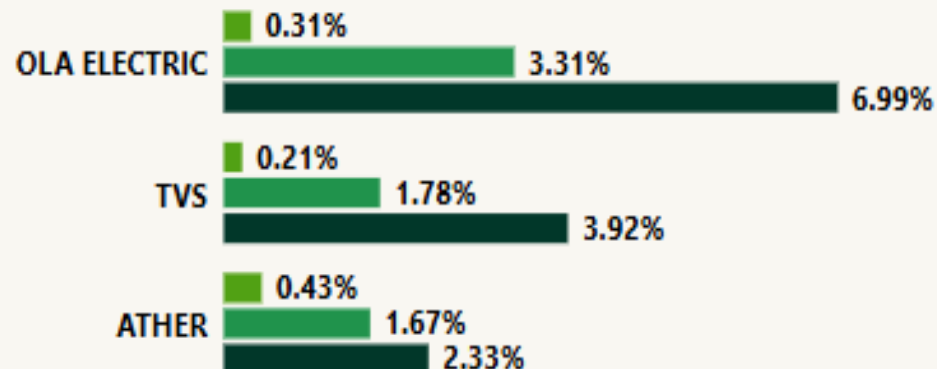
- **Ola Electric dominates the 2-Wheeler EV market**, holding the highest market share of **6.99% in 2024**, followed by **TVS** and **Ather Energy**.

- **Top - 3 2-Wheeler makers by units sold and revenue are:**

- **Ola Electric:** 493.23K units | ₹41.58Bn revenue
- **TVS:** 267.94K units | ₹22.78Bn revenue
- **Ather:** 190.82K units | ₹16.22Bn revenue

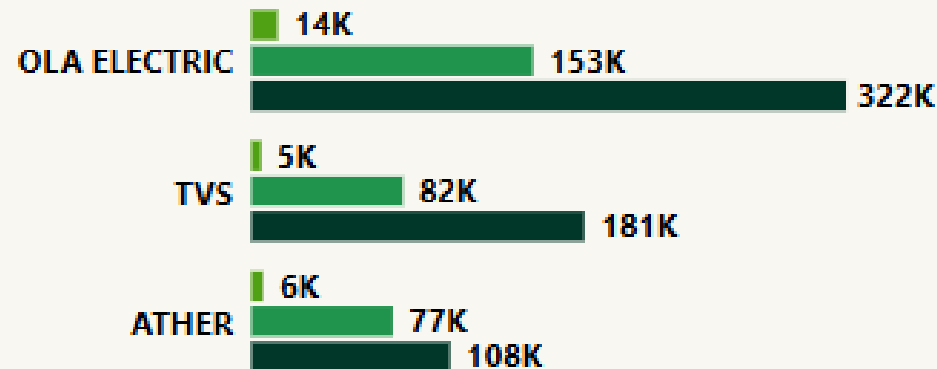
Market Share% of Makers

2022 2023 2024



EV Sold by Makers

2022 2023 2024



- **Ola Electric also recorded the highest CAGR (373.22%),** showcasing aggressive expansion and brand traction.
- **TVS and Ather** show strong and stable performance, reflecting consistent product-market fit.
- **Brands like Bajaj (258.61% CAGR)** are rapidly scaling, but still have lower unit volumes as market share is only 2.29%
- Makers like **Revolt, Pure EV, Okinawa, and Hero Electric** experienced **negative or flat growth**, indicating falling competitiveness or demand.

CAGR of Makers	
Makers	CAGR
OLA ELECTRIC	373.22%
TVS	330.80%
BAJAJ	285.45%
ATHER	132.04%
OTHERS	77.89%
JITENDRA	48.65%
AMPERE	46.01%
BEING	22.24%
OKAYA EV	2.59%
BATTRE ELECTRIC	0.00%
BGAUSS	0.00%
KINETIC GREEN	0.00%
REVOLT	-2.57%
PURE EV	-12.13%
OKINAWA	-34.23%
HERO ELECTRIC	-58.52%

✓ Recommendations:

- **Invest in strategic alliances with leaders like Ola, TVS, and Ather** for partnerships, dealership expansion, or component sourcing.
- **Watch emerging players like Bajaj** for potential growth trajectories in budget-to-mid segments.
- **Conduct competitive research on struggling brands (Hero Electric, Revolt)** to assess root causes—may present M&A or market share capture opportunities.



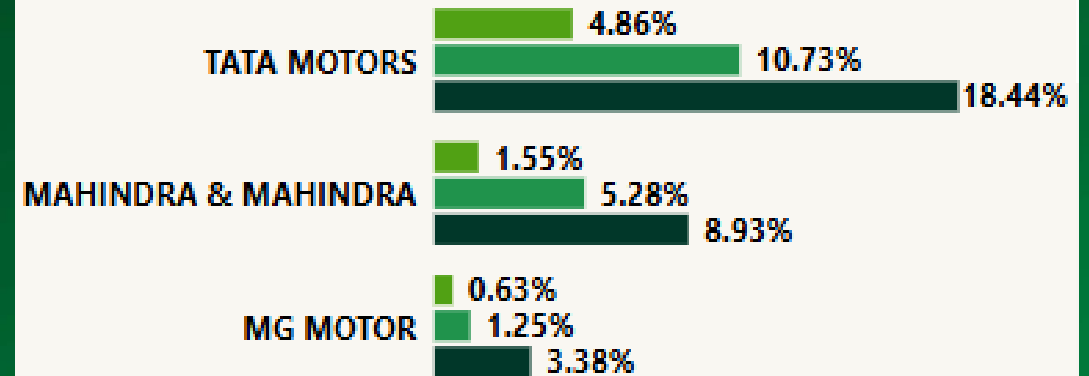
4-Wheeler EV Market :

Insights:

- **Tata Motors leads the 4-wheeler EV segment** with a dominant **16.41% market share in 2024**, followed by **Mahindra & Mahindra (8.91%)** and **MG Motor (3.85%)**.
- **Mercedes-Benz (0.11%)** has the lowest share, suggesting a disconnect between premium EV positioning and actual uptake.
- **Top 3 by units sold & revenue:**
 - **Tata Motors:** 82.06K units | ₹123.09Bn revenue
 - **Mahindra:** 38.18K units | ₹58.21Bn revenue
 - **MG Motor:** 12K units | ₹18.39Bn revenue

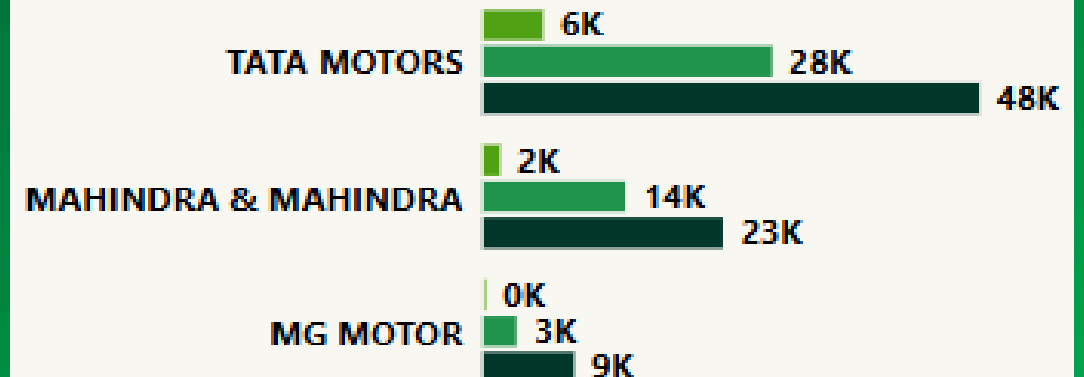
Market Share% of Makers

2022 2023 2024



EV Sold by Makers

2022 2023 2024



- **BMW India recorded the highest CAGR (1140.97%),** showing strong adoption of luxury EVs.
- **Volvo Auto India (971.21%)** and **BYD India (563.52%)** are also scaling rapidly in the premium segment.
- **KIA Motors and PCA Automobiles reported negative growth, with -100% CAGR.**

CAGR of Makers	
Makers	CAGR
BMW INDIA	1140.97%
VOLVO AUTO INDIA	971.21%
BYD INDIA	566.52%
HYUNDAI MOTOR	255.48%
MERCEDES -BENZ AG	234.55%
MAHINDRA & MAHINDRA	140.33%
MG MOTOR	131.53%
TATA MOTORS	94.71%
KIA MOTORS	-100.00%
PCA AUTOMOBILES	-100.00%

✓ Recommendations:

- **Double down on collaborations with Tata Motors**, the clear market leader across both volume and revenue.
- **Explore joint ventures with fast-growing premium EV makers** like BMW, Volvo, and BYD—demand for high-end EVs is rising, also keep them on the radar for industry benchmarking.
- **Reassess luxury OEM strategies (e.g., Mercedes-Benz)** in India for better localization, affordability, and dealership presence.
- **Avoid short-term investments in KIA and PCA unless turnaround signals appear.**
- **Struggling or declining brands** may be ideal for acquisition, dealership buyouts, or aggressive counter-positioning.

CONCLUSION

- **Prioritize Entry in 2-Wheeler Segment (Volume Strategy)**
 - It offers high visibility and easier market penetration.
 - Launch affordable and stylish electric scooters or bikes with urban mobility features.
 - Focus on urban, semi-urban, and college town markets where scooters dominate mobility needs.
- **Strategize Premium Offerings for 4-Wheelers (Value Strategy)**
 - **Target Urban Affluent Segment First**, in Tier-1 cities and premium buyers looking for performance + sustainability.
 - High ASP (average selling price) and revenue share in 4-wheelers despite low unit sales shows potential for premium or SUV electric models targeted at high-income urban segments.
- **Prepare for Fast-Growing Market Demand**
 - Ensure supply chain, service centers, and after-sales support are scalable and localized.
- **Leverage E-commerce & Delivery Sector**
 - Fleet sales to gig workers and delivery apps can generate volume orders.
 - Provide B2B financing and fleet dashboards
- **Leverage Leasing, Subscription, and EMI Models**
 - Adoption can be boosted via flexible financing and EV-as-a-service models for both B2C and B2B (corporates, hotels, rentals).

- **Focus Launch in High-Volume States**
 - **Prioritize Maharashtra, Karnataka, Tamil Nadu, and Kerala** for initial rollout due to proven adoption and strong revenue base.
- **Tap into Emerging North-East States**
 - Early entry into **Meghalaya, Tripura, and Nagaland** can give a first-mover advantage.
 - Deploy small fleets, test markets, and build brand equity.
- **Localized Marketing in High-PR States**
 - In states like **Goa, Delhi, and Karnataka**, awareness is already high — focus on **feature-driven and tech-based messaging** rather than just cost.
- **Invest in Charging Infrastructure Partnerships**
 - Especially in revenue-heavy and growth-heavy states (Kerala, Karnataka, Maharashtra), partner with local governments/private firms for **charging station rollouts**.
- **Diversify Product Mix by State**
 - Offer **low-cost models** in price-sensitive markets with high growth.
 - Target **premium models** in Kerala, Delhi, and parts of Maharashtra where ASP and PR are higher.
- **Monitor Policy and Incentive Landscapes Closely**
 - Regularly track **state-wise EV subsidies and central policy** updates to adapt pricing, marketing, and infrastructure plans accordingly.

THANK YOU!