India EV Market Analysis

AGENDA

INTRODUCTION

EV MARKET IN INDIA

MARKET CHALLENGES

SWOT

DASHBOARD

STRATEGIC RECOMMEndation

OVERVIEW

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

OBJECTIVE

AS a part of their expansion plans, Atliq Motor India wanted to launch their bestselling models in India where their market share is less than 2%

The chief of AtliQ Motors India wanted to do a detailed market study of existing EV/Hybrid market in India before
proceeding further.

EV MARKET IN INDIA

MAJOR PLAYERS:

- Four: Tata Motors, MG Motor India, Mahindra & Mahindra.
- Two-Wheelers: Ola Electric, TVS Motor Company, Bajaj Auto, Ather Energy
- Three-Wheelers: Mahindra & Mahindra, Bajaj Auto.
- Buses: Olectra Greentech, JBM Group.

EV MARKET IN INDIA

- **Ola Electric**: Dominates the electric two-wheeler market with the highest sales 322k unit volume in 2024. and market share with
- **TVS Motor Company**: A strong competitor in the electric two-wheeler segment.
- **Bajaj Auto**: A significant player in both the electric two-wheeler and three-wheeler segments, showing substantial growth, especially in e-three-wheelers.
- **Ather Energy**: A prominent player in the premium electric two-wheeler market.
- **Hero Electric**: One of the early and largest manufacturers of electric two-wheelers in India.
- **Hyundai Motor India**: Offers electric SUVs like the Hyundai Kona and has plans for new EV models.
- **Kia India**: Has entered the EV market with models like the Kia EV6 and has upcoming EV plans.
- **Tata Motors**: Dominates the electric two-wheeler market with the highest sales 48k unit volume in 2024.it dominate 4.73 market share total of 2w and 4w ev market
- **Mahindra & Mahindra**: Mahindra Market share 2.29% of Total EV market in 2w and 4 w segment .

MARKET CHALLENGES IN INDIA

1. 🔌 Inadequate Charging Infrastructure

Current Ratio: 1 public charger for every 135 EVs in India vs 1:20 in developed nations.
Impact: Leads to range anxiety, discouraging new buyers.
Urban-Rural Divide: Charging stations are mostly in metro cities, with limited presence in Tier II/III towns and highways.

2. Electric 2W & 4W models are 10–30% more expensive than their ICE (Internal Combustion Engine) counterparts, even after subsidies.

- Battery cost accounts for ~40–50% of the total EV cost.
- Limited financing options and higher interest rates on EV loans further reduce affordability.

3. Limited Model Availability

- The market has:
  - Few affordable 4W EVs under ₹10–15 lakhs
  - Limited options for commercial EVs
- Most 4W offerings (from Tata, MG, Hyundai) are compact SUVs or premium hatchbacks, not suited for mass rural or utility segments.

4. 🔋 Battery Supply Chain Dependency

- India relies heavily on imported lithium-ion cells, especially from China and South Korea.
- Lack of local gigafactories and cell-level manufacturing increases cost and affects production stability.

MARKET CHALLENGES IN INDIA

5. 🚚 Logistics and After-Sales Service Gaps

•Many EV manufacturers don't have wide dealership or service networks, especially in non-urban regions.

•Spare parts, repairs, and diagnostics often take longer due to lack of trained EV technicians.

6. 🔄 Policy Uncertainty & State-Level Variation

•Subsidy policies under FAME II are inconsistent and may not get extended or revised.

•Different states have different EV policies, which can create confusion for OEMs and buyers.

•GST anomalies – e.g., battery swaps are taxed differently from vehicle sales.

7. 🔀 Hybrid Vehicles Competing with EVs

•In 2024, hybrid vehicles grew to 11% of new car sales.

•Consumers are choosing hybrids as a safer middle ground due to better range and lower dependency on charging infra.

•Example: Toyota HyCross, Honda City Hybrid gaining traction.

8.Consumer Awareness & Trust

•Lack of knowledge about:

- Total Cost of Ownership (TCO) benefits
- Battery warranty and degradation
- Charging norms (AC vs DC, kWh rates)

•Misconceptions around battery fires and safety have also hurt perception.

✅ STRENGTHS

- Agile EV innovation and R&D
- Cost-effective, localized production
- Youth-focused, tech-savvy branding
- Aligned with government EV initiatives

⚠️ WEAKNESSES

- Low brand visibility vs. major players
- Limited charging/service infrastructure
- High dependency on imported components
- Weak rural market penetration

🚀 OPPORTUNITIES

- FAME-II subsidies & Make in India boost
- Growing urban EV demand
- Fleet & leasing partnerships (e.g., logistics, ride-hailing)
- First-mover advantage in new mobility tech

🛑 THREATS

- Intense EV competition (Tata, Ola, Ather)
- Slow EV infrastructure rollout
- Price-sensitive market dynamics
- Regulatory and supply chain risks

CENTRAL GOVERNMENT SCHEMES PAN INDIA

FAME India Scheme (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles)

•**FAME I**: **Launched in 2015 (ended in 2018)**

FAME II: **Launched in 2019, extended till March 2024**

• **₹10,000 crore has been made for three years**

incentives for electric buses, three-wheelers and four-wheelers to be used for commercial purposes

.

Electric Mobility Promotion Scheme (EMPS) 2024

•**Short-term scheme from March to July 2024**

•**Targeted two- and three-wheelers**

•**Budget: ₹500 crore**

PM E-DRIVE (Promotion of Electric Drive Vehicles)

•**Started: October 2024, ongoing till March 2026**

•**Covers: 2Ws, 3Ws, e-buses, e-ambulances, e-trucks**

•**Budget: ₹10,900 crore**

PLI Scheme for Advanced Chemistry Cell (ACC) Battery Storage

•**For domestic battery cell manufacturing**

•**Incentive amount: ₹18,100 crore**

PLI Scheme for Automobile and Auto Components

•**Covers EV manufacturers**

•**Budget: ₹25,938 crore**

Battery Swapping Policy (Draft by NITI Aayog)

yet to be finalize for 2024

Aims to standardize battery for 2w and 3w

Supporting Industry-Level Schemes

National Electric Mobility Mission Plan (NEMMP) 2020

•**Parent policy under which FAME was launched**

. It aims to achieve national fuel security by promoti

hybrid and electric vehicles in the country

Charging Infrastructure Guidelines

•Issued by Ministry of Power

•**Includes targets and subsidies for setting**

•**up public charging stations**

DASHBOARD

Home

Makers Performance analysis

2-Wheelers | 4-Wheelers

2022 | 2023 | 2024

Month: All

Quarter: All

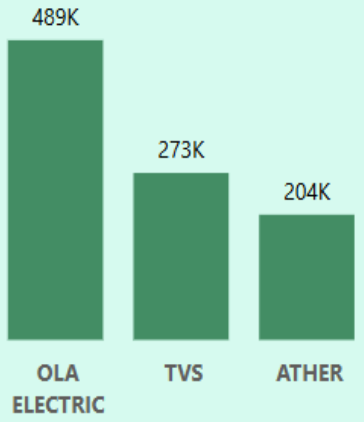
2M
Total EV

93.91%
EV CAGR

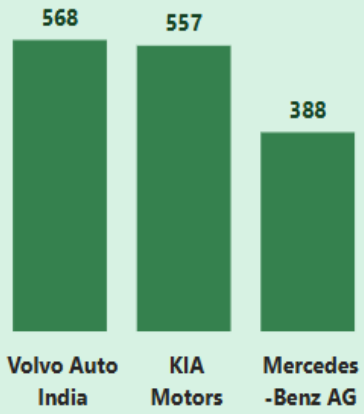
57M
Total vehicle

EV : Electric vehicle
CAGR : compound Annual growth rate

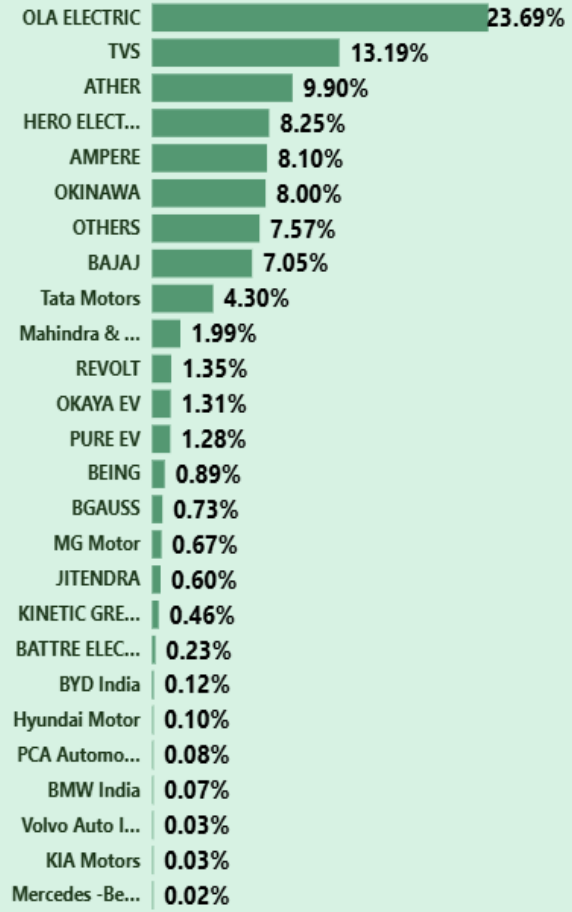
Top 3 EV sold by maker



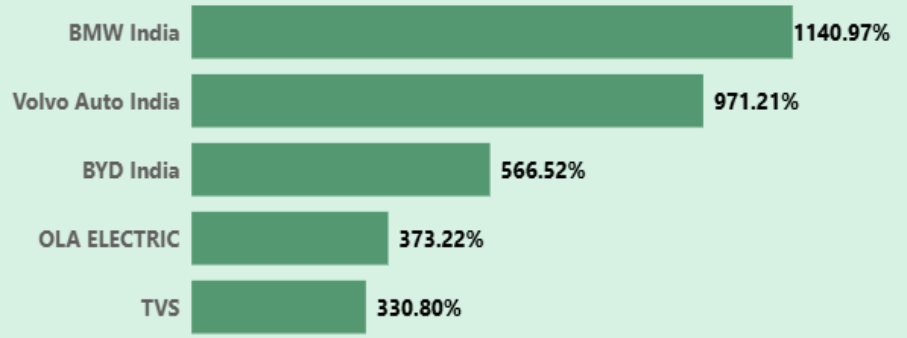
Bottom 3 EV sold by maker



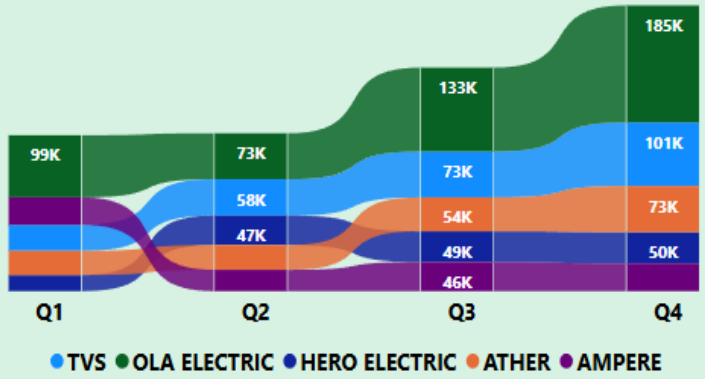
EV market share by Maker



CAGR by maker



Quarterly trends based on sales volume for the top 5 EV makers



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Home

Performance by State

2M	57M	3.61%
Total EV	Total vehicle	Total Penetration

2022 2023 2024

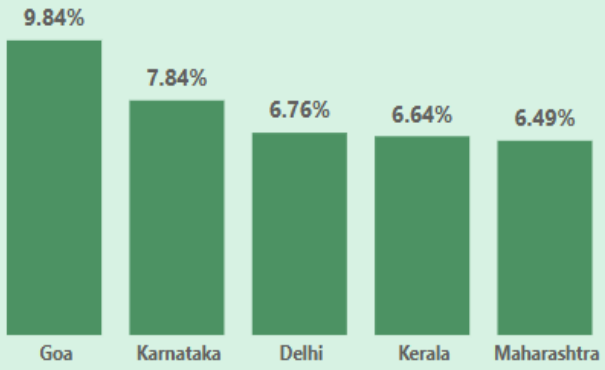
state: All

Month: Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar

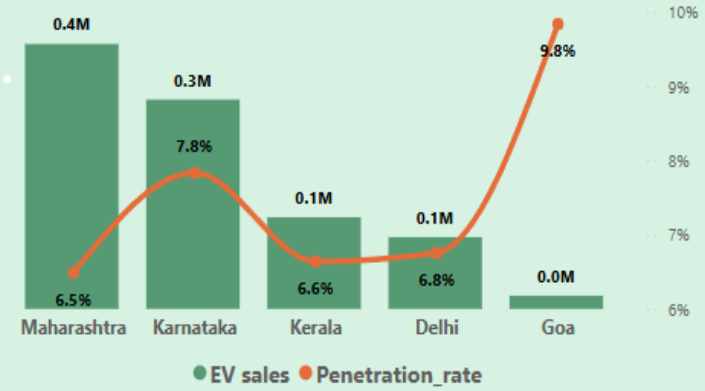
vehicle category: 2-Wheelers 4-Wheelers

Quarter: Q-1 Q-3 Q-2 Q-4

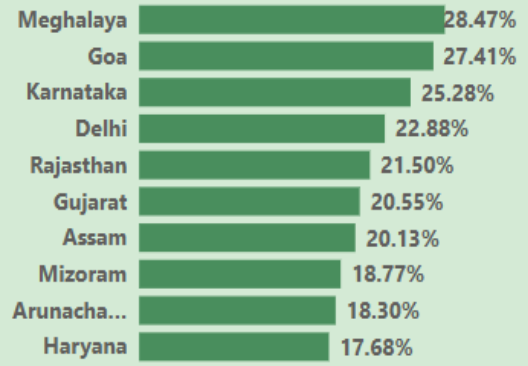
Top 5 state by Penetration rate



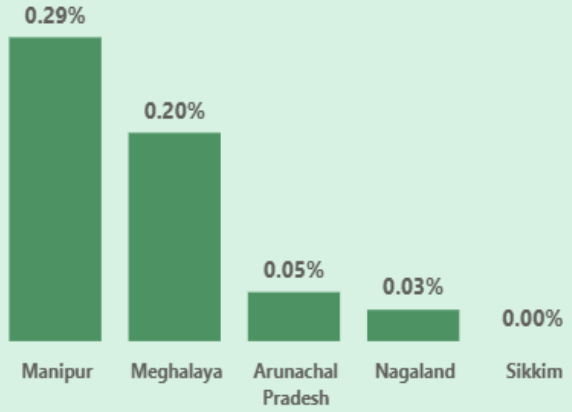
EV sales and Penetration rate by State



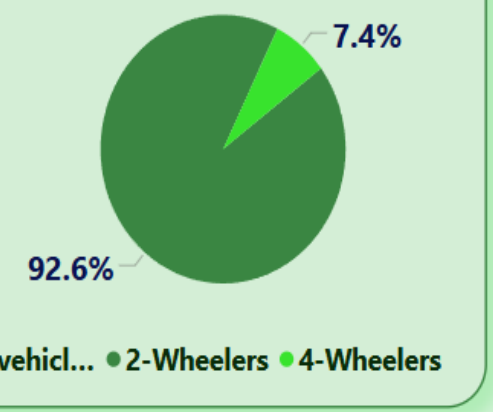
Top 10 state by CAGR_total vehicle sales



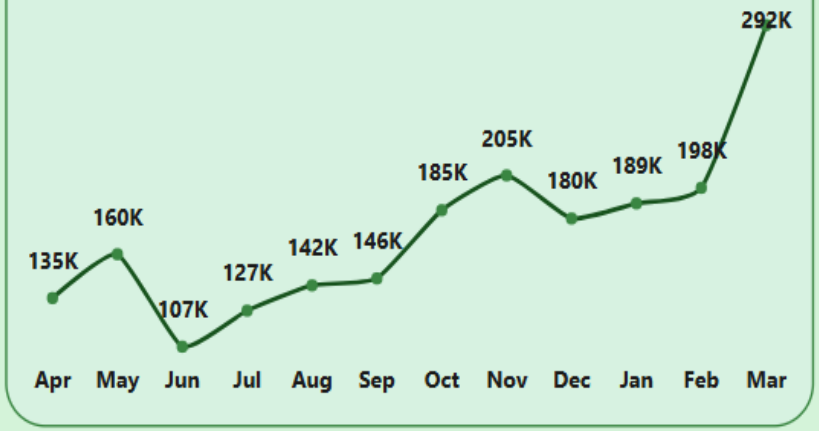
Bottom 5 state by Penetration rate



EV sales by vehicle category



EV sales by Month



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Home

Estimated EV sales 2030

state	Penetration_rate	Projected EV Sales 2030
Maharashtra	6.49%	13.35M
Kerala	6.64%	11.78M
Uttar Pradesh	1.17%	10.42M
Gujarat	4.40%	8.65M
Karnataka	7.84%	8.38M
Chhattisgarh	4.03%	7.12M
Madhya Pradesh	2.26%	7.04M
Meghalaya	0.20%	4.89M
West Bengal	1.12%	4.18M
Odisha	4.63%	2.73M

PR = Penetration Rate

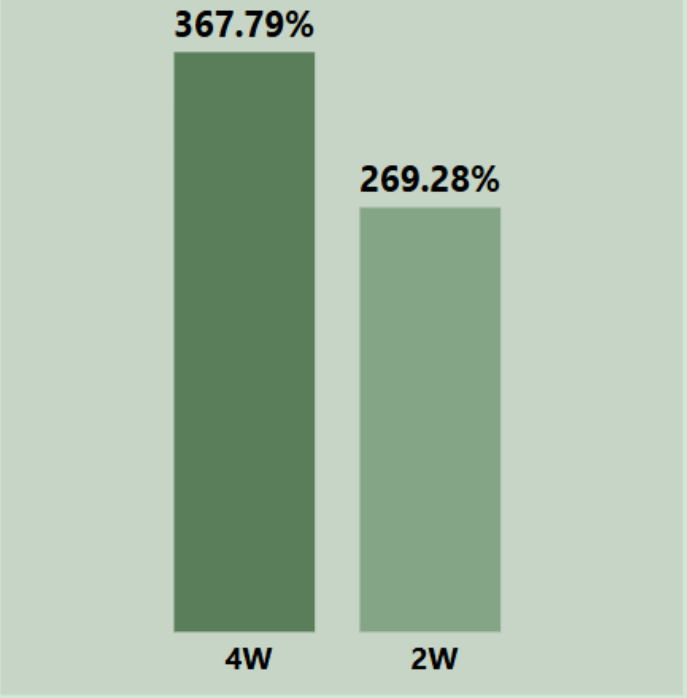
state	totalevsales	PR 2022%	PR 2024%	PR change%
Goa	19684	3.68%	13.75%	10.08%
Kerala	137060	1.98%	11.59%	9.61%
Karnataka	312995	4.28%	10.18%	5.90%
Maharashtra	396045	2.90%	8.60%	5.69%
Chandigarh	5279	1.11%	6.37%	5.26%
Chhattisgarh	53804	1.16%	5.67%	4.51%
Odisha	78267	1.98%	6.33%	4.35%
Puducherry	5536	1.71%	5.37%	3.66%
Gujarat	181389	1.65%	5.30%	3.66%
Delhi	107312	4.12%	7.71%	3.59%
Rajasthan	150366	2.28%	5.11%	2.83%
Tamil Nadu	200062	2.74%	5.49%	2.75%
Total	2066111	1.65%	4.81%	3.16%

DASHBOARD

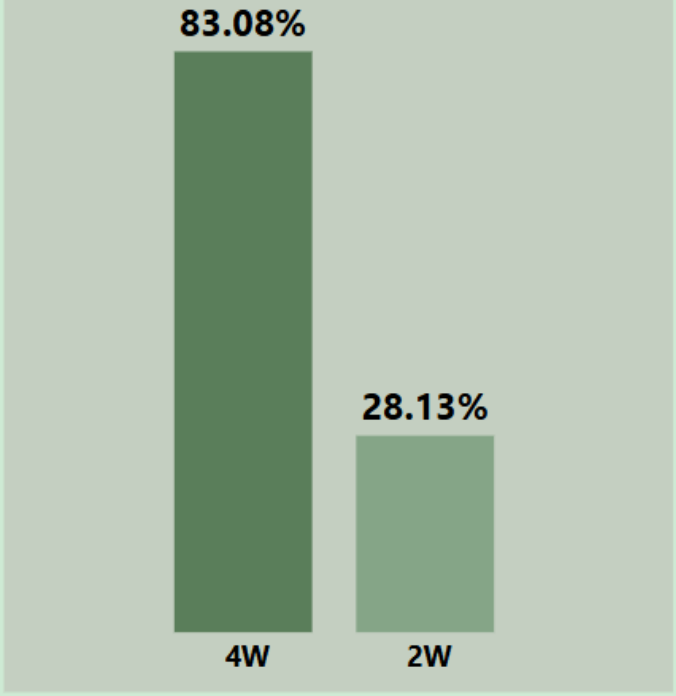
Home

Revenue Growth Rate

FY 2022vs2024



FY 2023vs2024



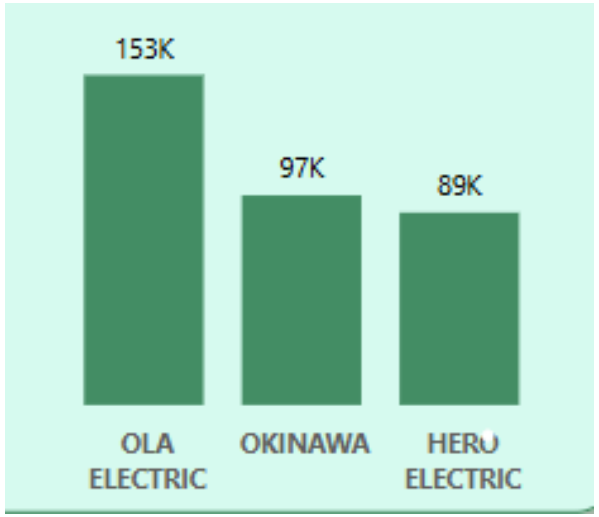
state	Total Revenue	GR 2022vs2024	GR 2023vs2024
Maharashtra	79340M	176.86%	25.22%
Karnataka	55847M	409.84%	80.44%
Kerala	34951M	345.76%	69.36%
Delhi	34781M	249.72%	15.84%
Tamil Nadu	32863M	269.80%	73.44%
Gujarat	32160M	425.38%	52.95%
Rajasthan	24018M	360.74%	55.08%
Uttar Pradesh	16636M	1087.20%	277.53%
Andhra Pradesh	11283M	194.18%	34.11%
Madhya Pradesh	10416M	476.14%	66.06%
Odisha	9743M	441.75%	66.22%
West Bengal	9244M	566.51%	84.52%
Haryana	8903M	624.54%	48.14%
Chhattisgarh	7283M	657.32%	66.63%
Goa	4574M	280.19%	51.20%
Bihar	4050M	335.73%	81.71%
Punjab	3725M	454.76%	225.31%
Uttarakhand	2899M	207.83%	17.53%
Chandigarh	2748M	696.87%	98.94%
Jharkhand	2666M	317.94%	23.46%
Assam	1189M	882.77%	118.59%
Jammu and Kashmir	858M	196.79%	50.52%
Total	392034M	324.92%	57.53%

PRELIMINARY RESEARCH QUESTIONS:

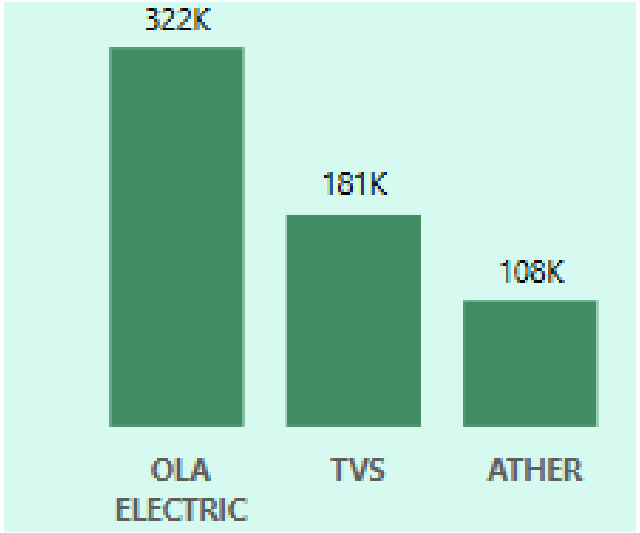
1. List the top 3 and bottom 3 makers for the fiscal years 2023 and 2024 in terms of the number of 2-wheelers sold.

Top 3 maker

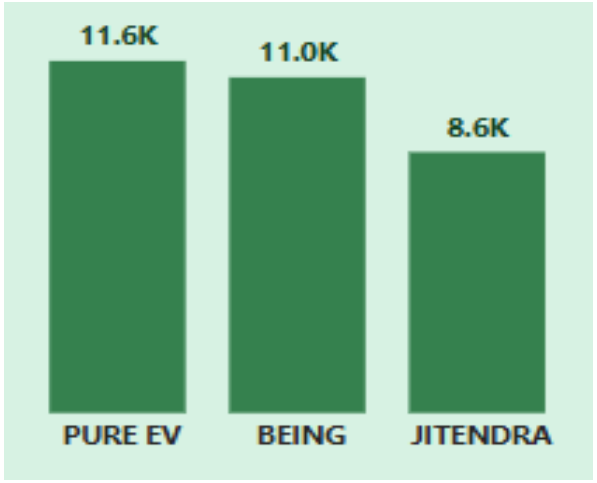
FY-2023

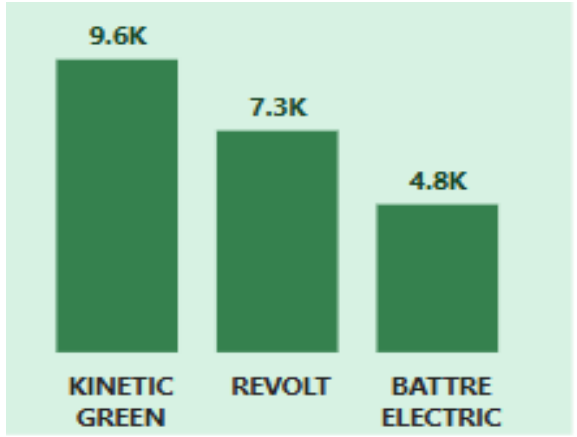


FY-2024



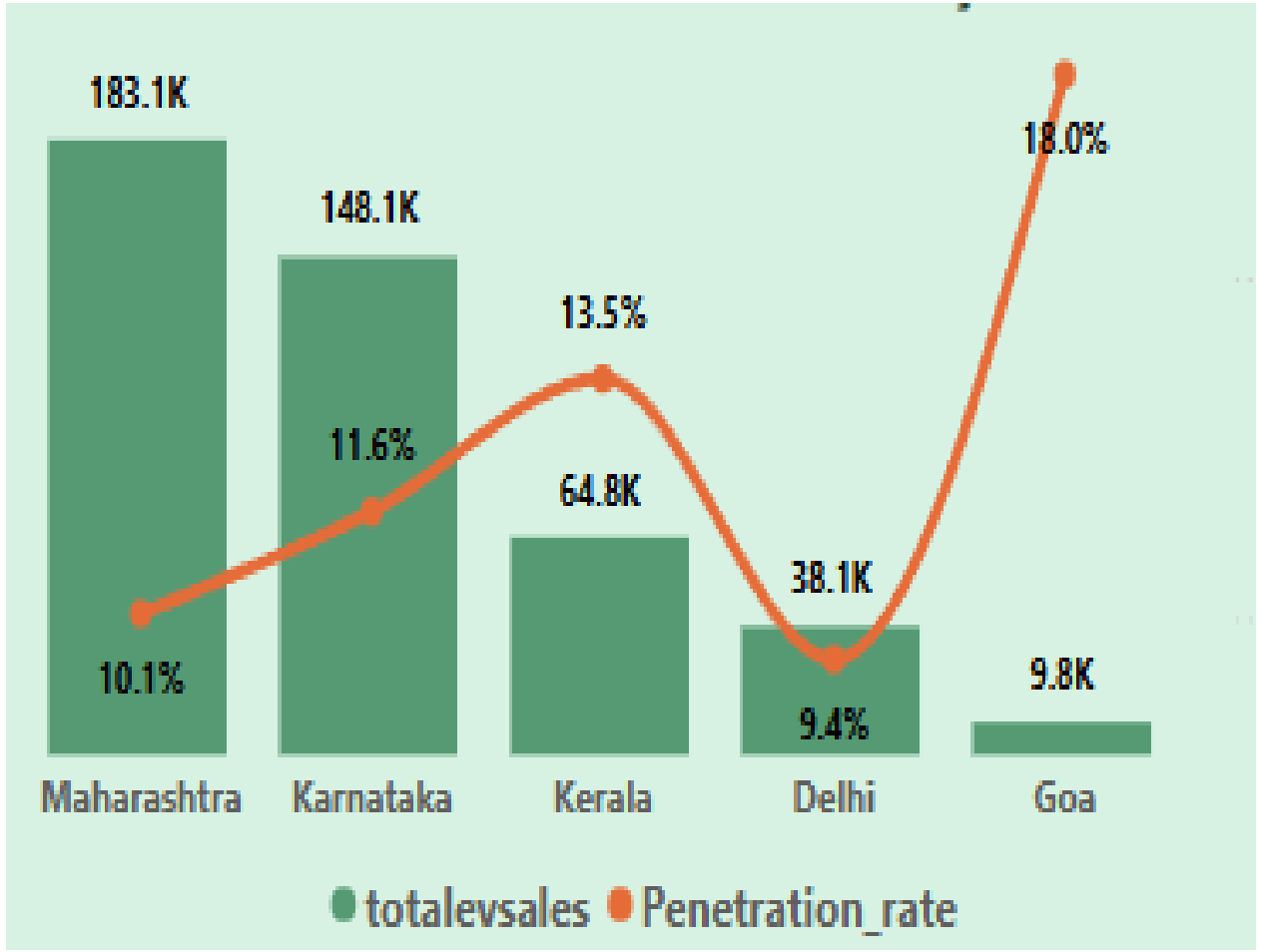
Bottom 3 maker



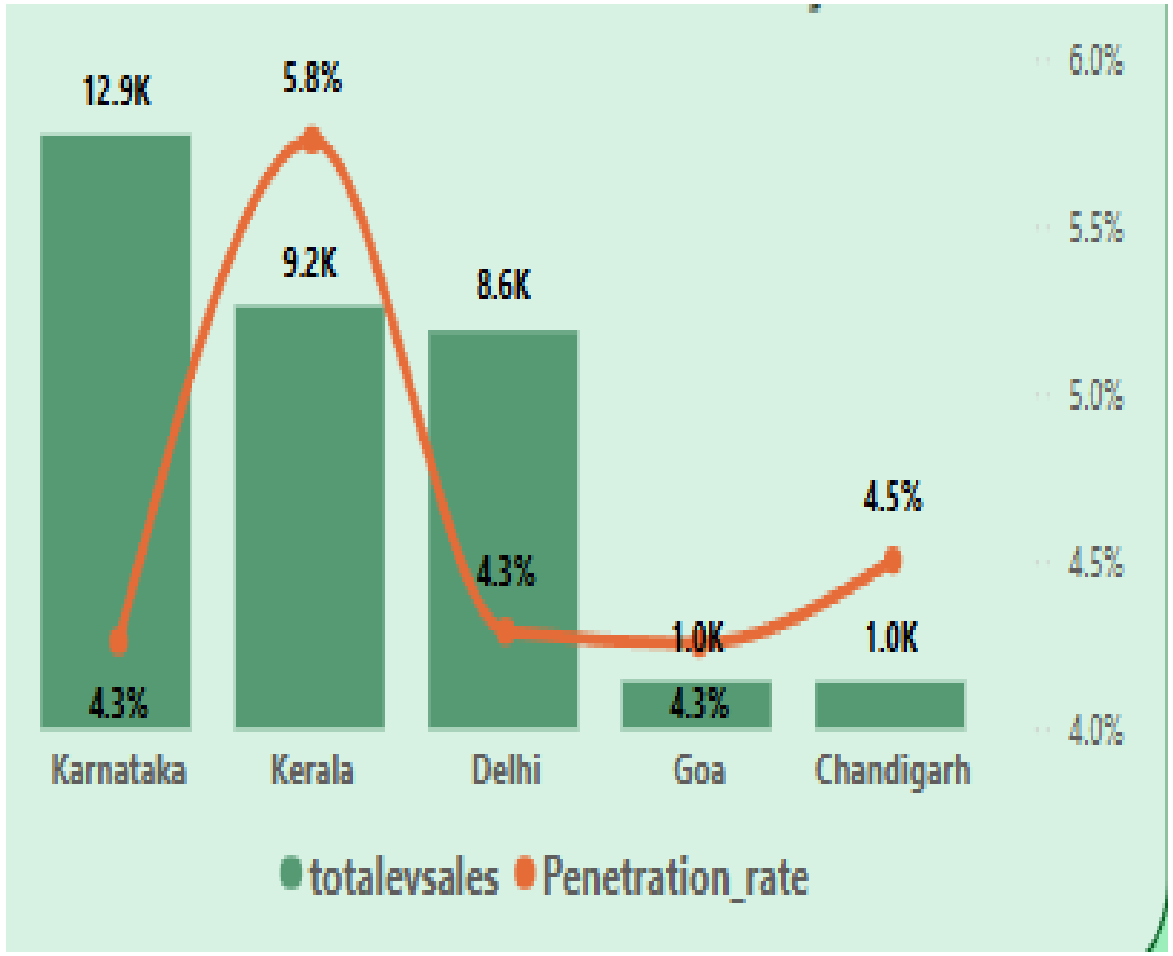


2. Identify the top 5 states with the highest penetration rate in 2-wheeler and 4-wheeler EV sales in FY 2024.

2-Wheelers

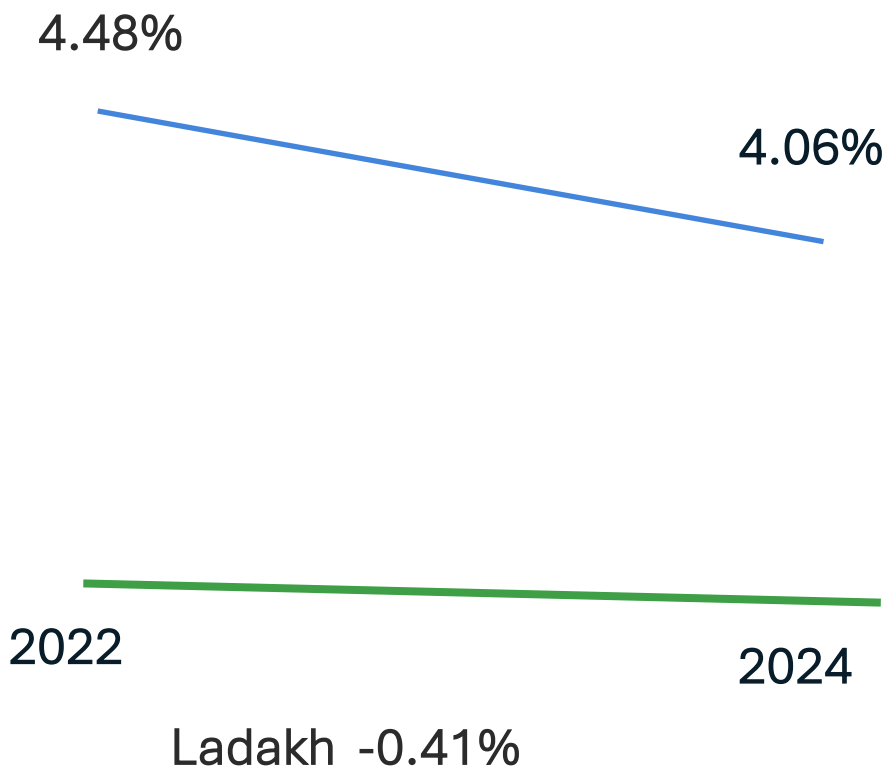


4-Wheelers

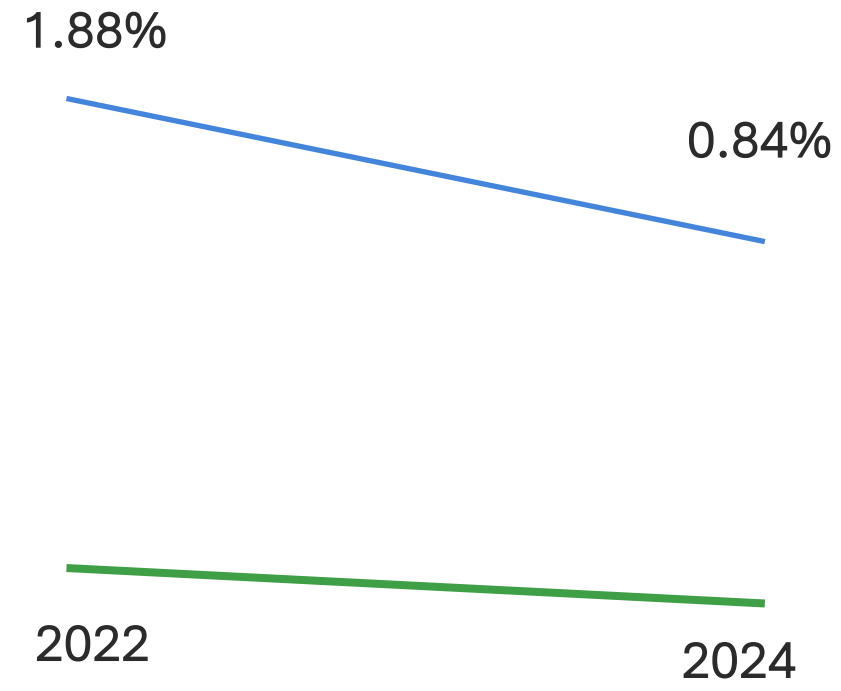


3.. List the states with negative penetration (decline) in EV sales from 2022 to 2024?

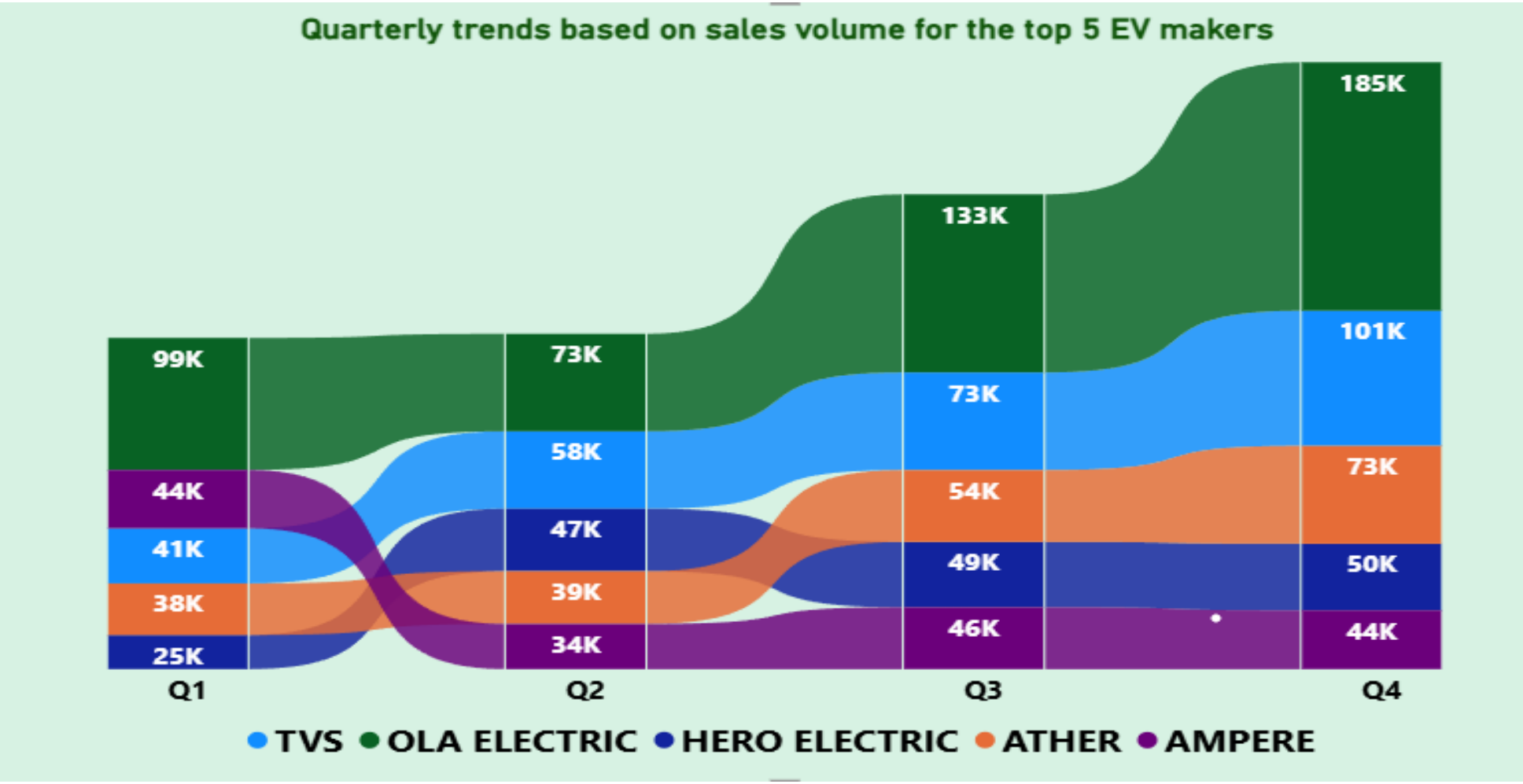
2-WHEELERS



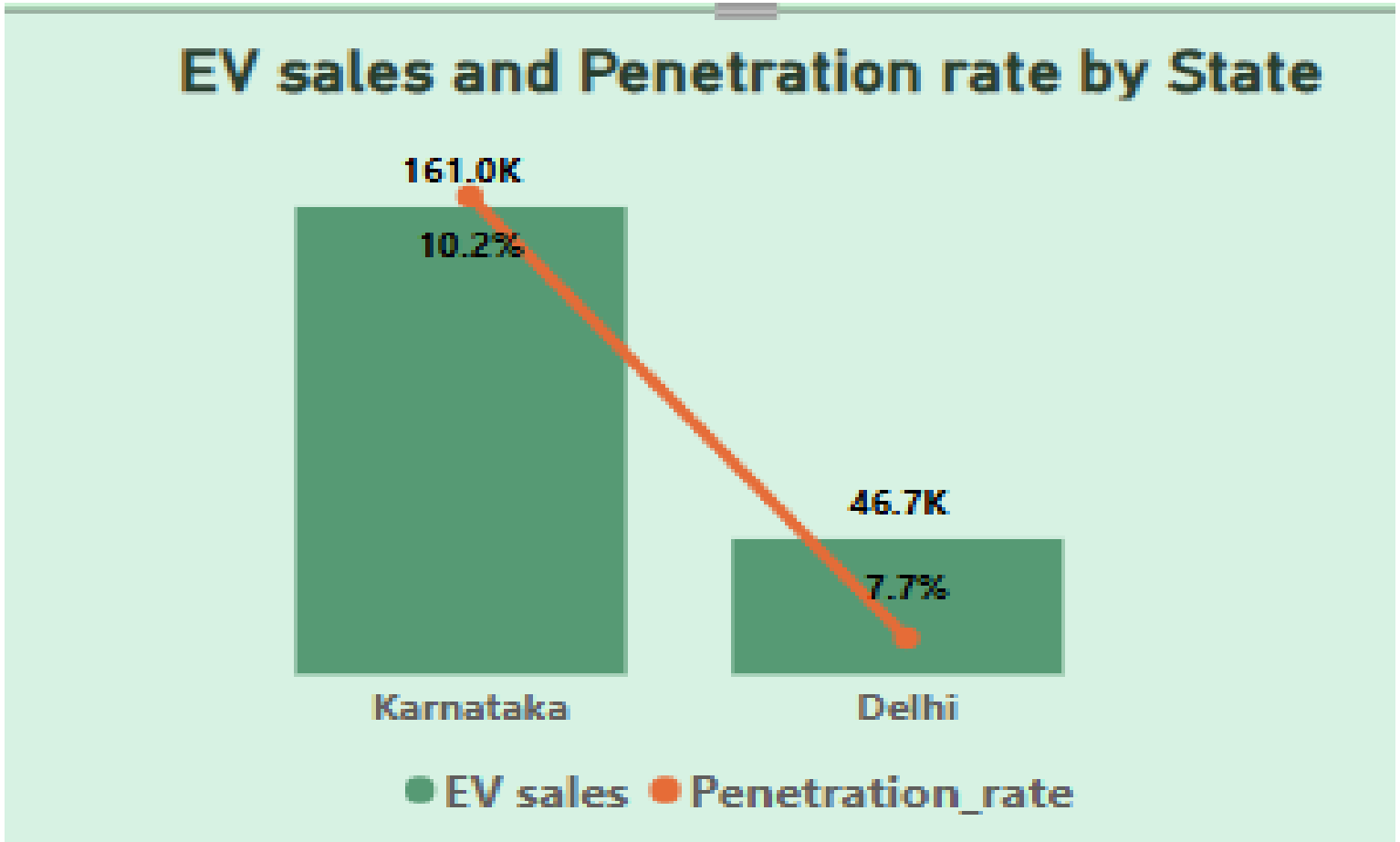
4-WHEELERS



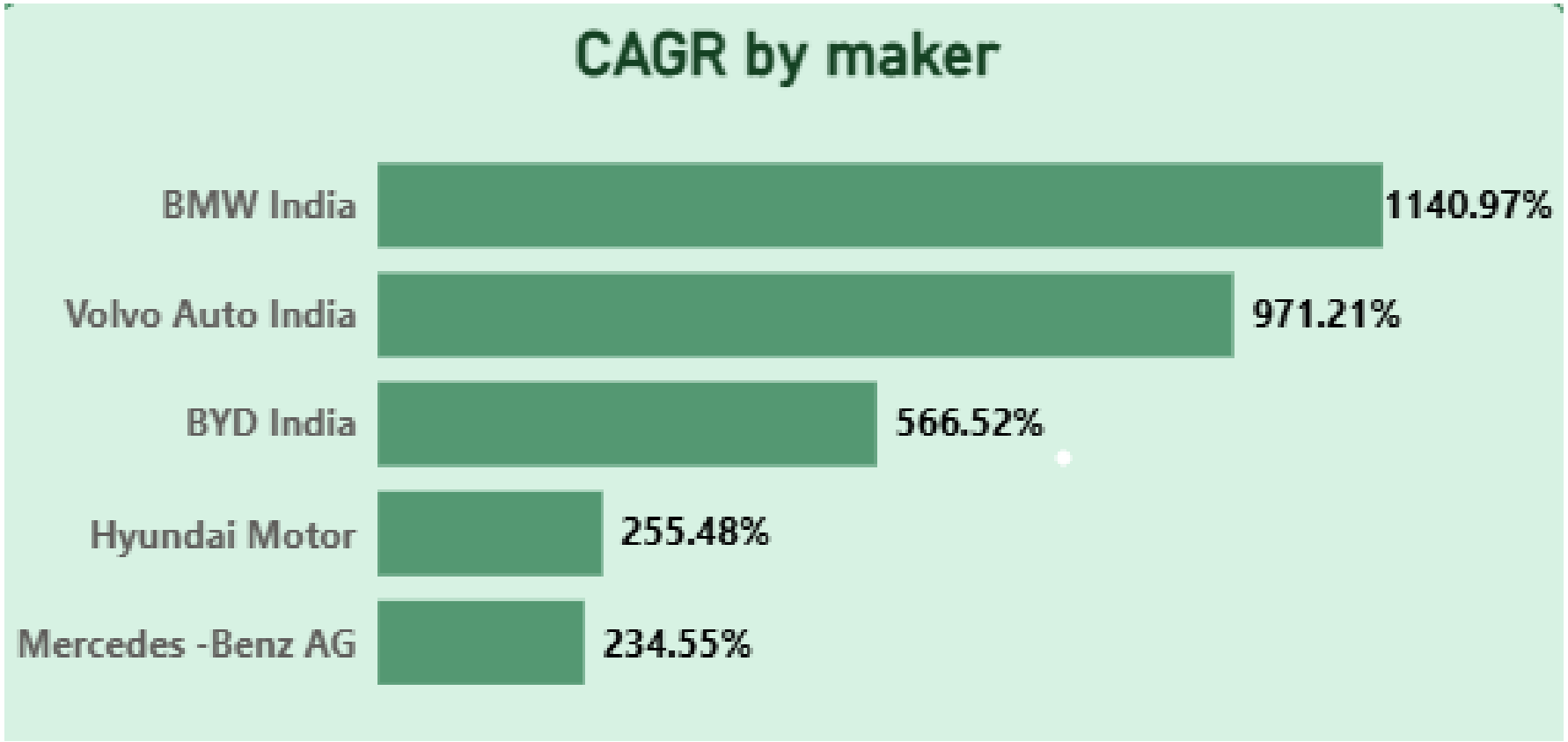
4. What are the quarterly trends based on sales volume for the top 5 EV makers (4-wheelers) from 2022 to 2024?



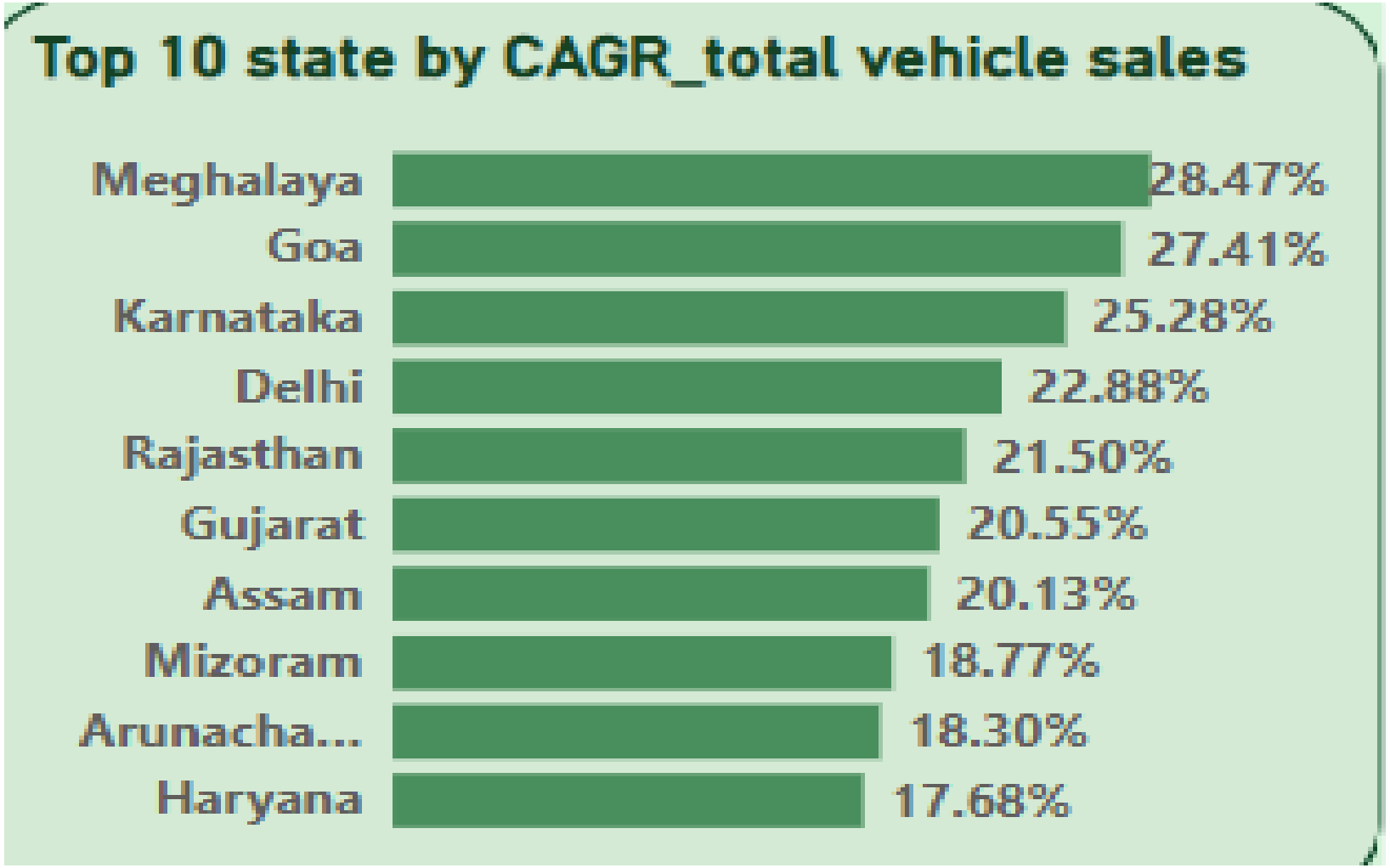
5. How do the EV sales and penetration rates in Delhi compare to Karnataka for 2024?



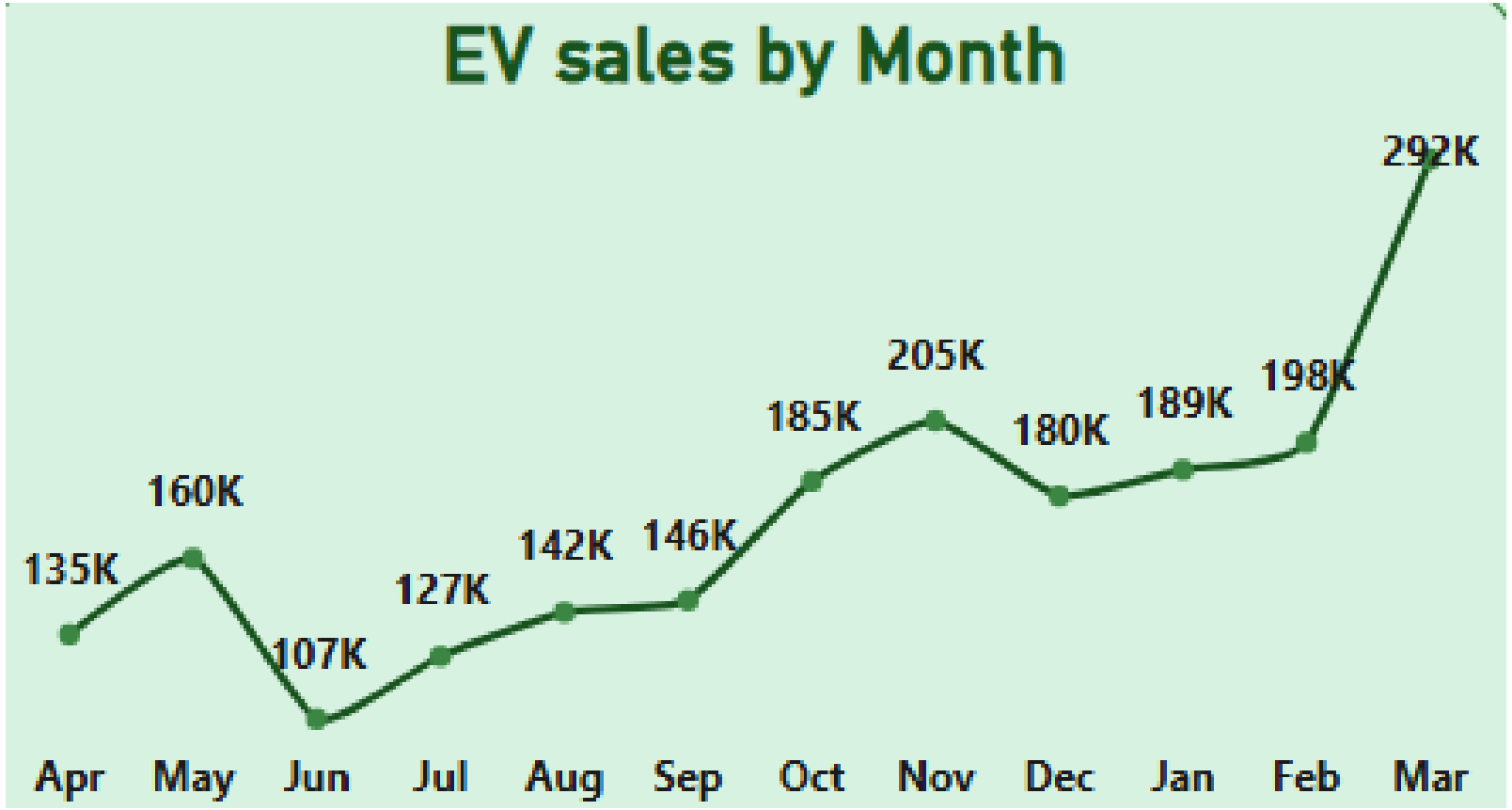
6. List down the compounded annual growth rate (CAGR) in 4-wheeler units for the top 5 makers from 2022 to 2024.



7. List down the top 10 states that had the highest compounded annual growth rate (CAGR) from 2022 to 2024 in total vehicles sold.



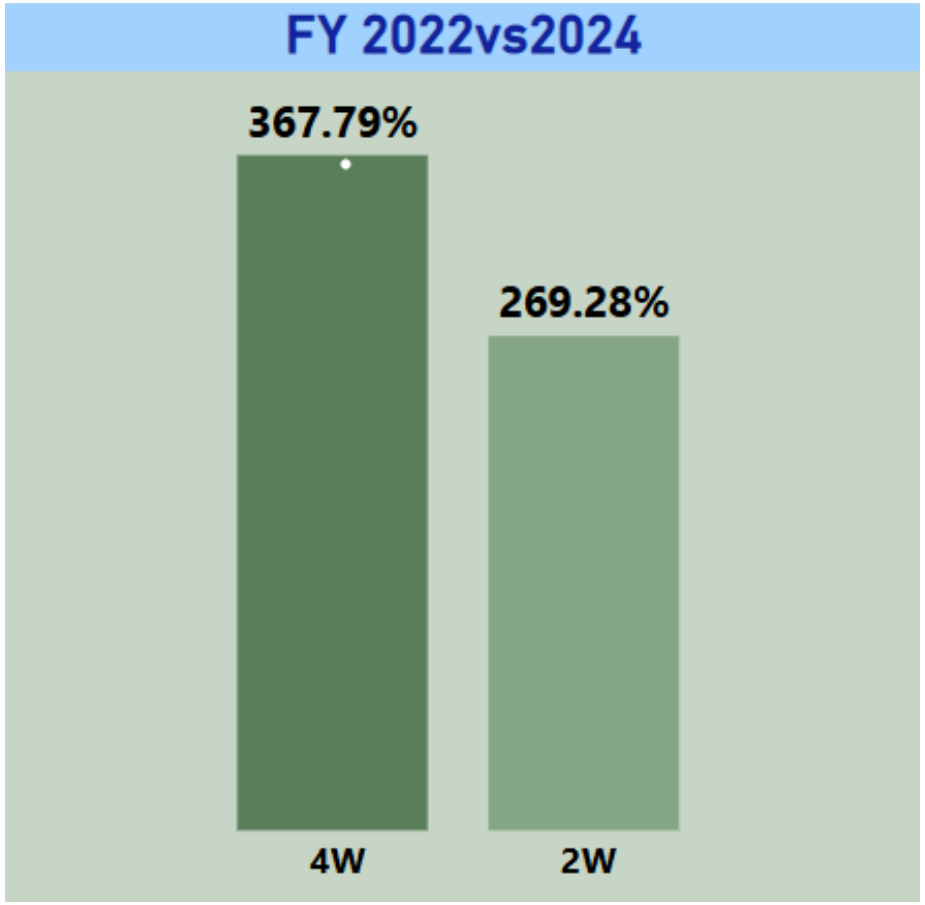
8. What are the peak and low season months for EV sales based on the data from 2022 to 2024?

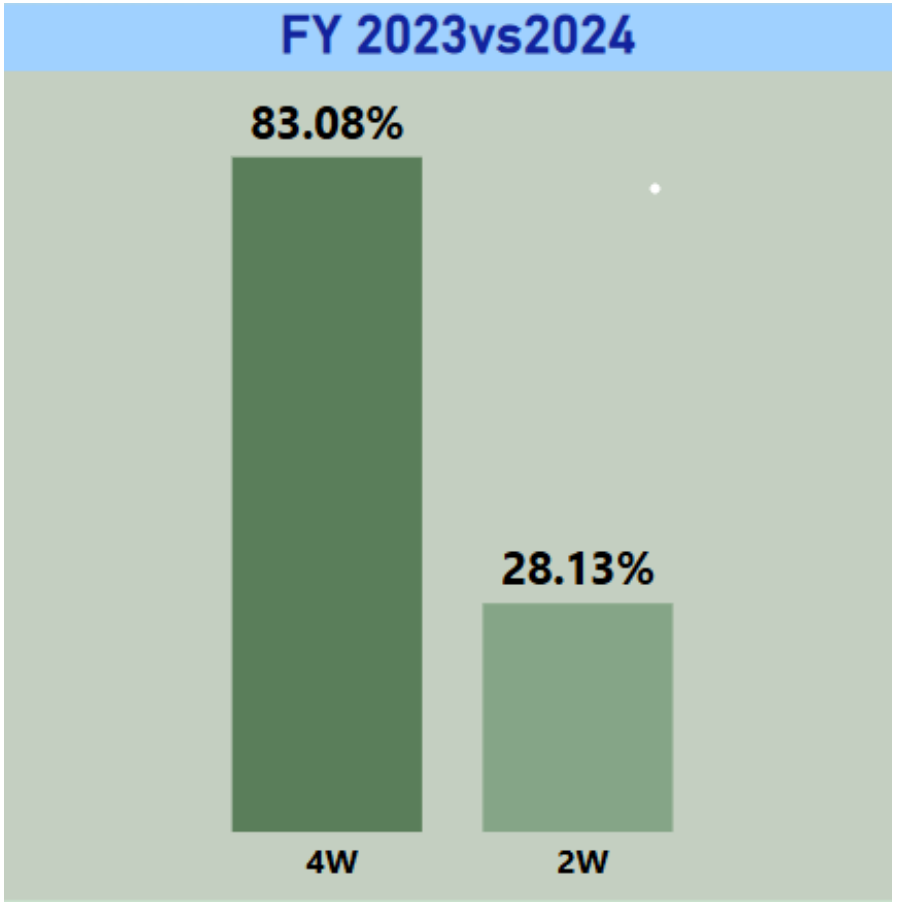


9. What is the projected number of EV sales (including 2-wheelers and 4 wheelers) for the top 10 states by penetration rate in 2030, based on the compounded annual growth rate (CAGR) from previous years?

state	Penetration_rate	Projected EV Sales 2030
Maharashtra	6.49%	13.35M
Kerala	6.64%	11.78M
Uttar Pradesh	1.17%	10.42M
Gujarat	4.40%	8.65M
Karnataka	7.84%	8.38M
Chhattisgarh	4.03%	7.12M
Madhya Pradesh	2.26%	7.04M
Meghalaya	0.20%	4.89M
West Bengal	1.12%	4.18M
Odisha	4.63%	2.73M

10. Estimate the revenue growth rate of 4-wheeler and 2-wheelers EVs in India for 2022 vs 2024 and 2023 vs 2024, assuming an average unit price. H





Secondary Research Question

1. What are the primary reasons for customers choosing 4-wheeler EVs in 2023 and 2024 (cost savings, environmental concerns, government incentives)?

Cost Savings 💰

LOWER OPERATING COSTS:

- EVs are more economical to operate than traditional petrol or diesel vehicles.
- Electricity is cheaper than fossil fuels.
- EVs have fewer moving parts, leading to reduced maintenance expenses.

TAX BENEFITS: 

- Under Section 80EEB of the Income Tax Act, individuals can claim a deduction of up to ₹1.5 lakh on the interest paid for EV loans, making financing more affordable

ENVIRONMENTAL CONCERNS

- Zero tailpipe emissions.
- Supports India's net-zero 2070 goal.

GOVERNMENT INCENTIVES

- FAME II subsidies (up to ₹1.5L)
- 5% GST (down from 12%)
- State-level subsidies & tax exemptions
- PM e-Drive scheme for EV ecosystem (PM E-DRIVE) scheme on 29th September, 2024. This is a two-year scheme With an outlay of ₹10,900 crore

IMPROVED INFRASTRUCTUR

- Rapid growth in charging stations
- Policy support for local EV production

(2).How do government incentives and subsidies impact the adoption rates of 2-wheelers and 4-wheelers? Which states in India provided most subsidies?

Reduced Upfront Cost;

- FAME II scheme and its extension have provided substantial upfront discount.

Lower Total Cost of Ownership:

- like exemptions from road tax and registration fees, as offered by many states

Increased Consumer Awareness and Confidence

Stimulating Domestic Manufacturing

- (PLI) schemes-production linked incentive scheme encourage local manufacturing

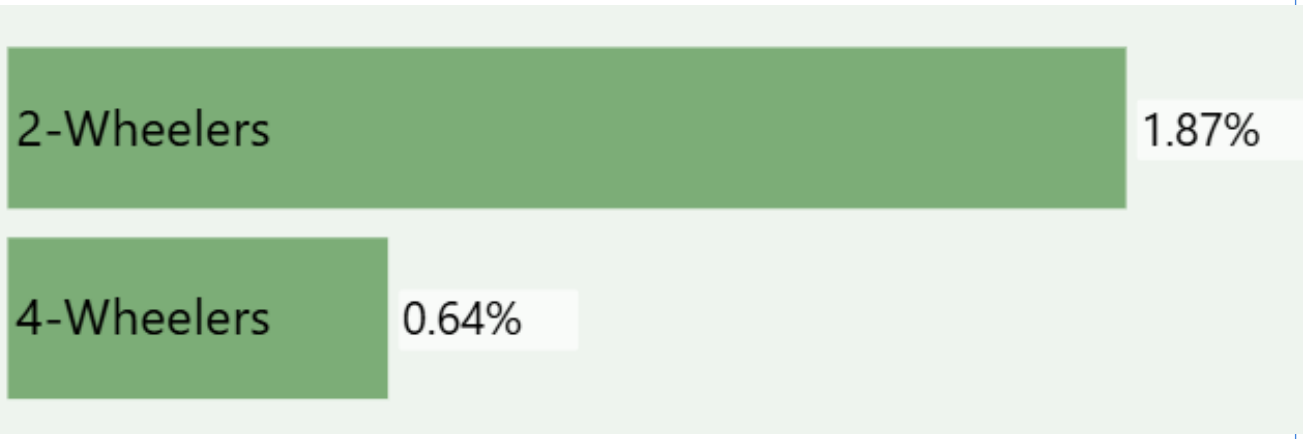
Charging Infrastructure Development:

- PM E-Drive scheme which works on expanding ev charging network

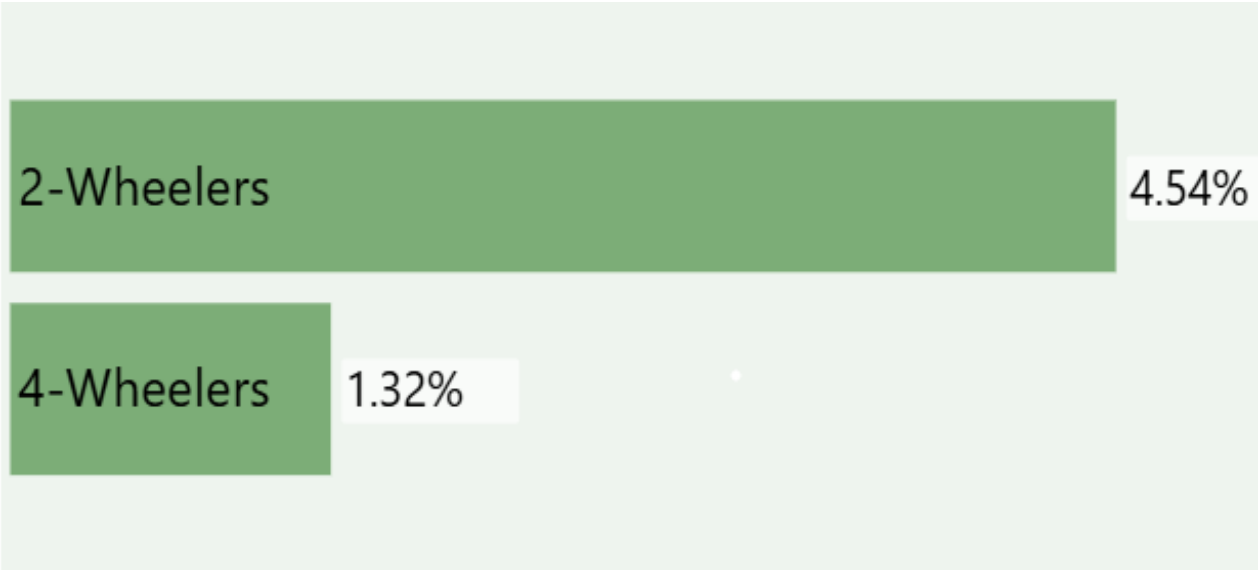
State	2W Subsidy	4W Subsidy	Other Benefits
Delhi	₹5,000/kWh (up to ₹30,000) + ₹5K scrapping	₹10,000/kWh (up to ₹1.5L)	100% road tax & registration waiver
Maharashtra	₹5,000/kWh (up to ₹25,000)	Up to ₹2.5L	Road tax waiver, early bird bonus
Gujarat	₹10,000/kWh (up to ₹20,000 for 2W)	₹10,000/kWh (up to ₹1.5L)	50% road tax exemption
Tamil Nadu	Tax & reg. charges fully waived	Policy support for manufacturing	EV industry-friendly policies
Uttar Pradesh	₹10,000–₹20,000	₹1.5L (limited quota)	Extra for locally manufactured EVs

PENETRATION RATE

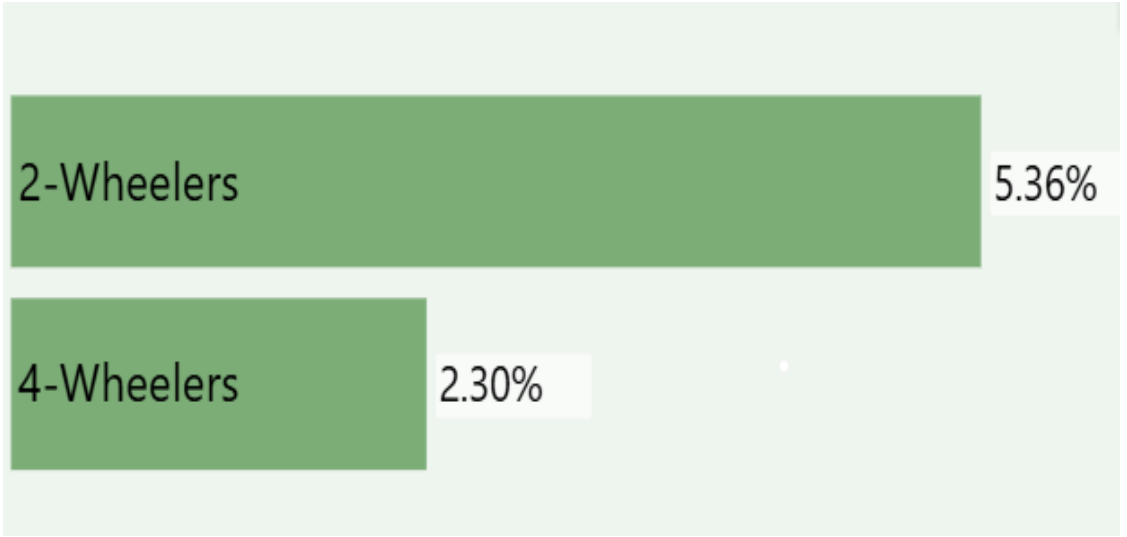
FY-2022

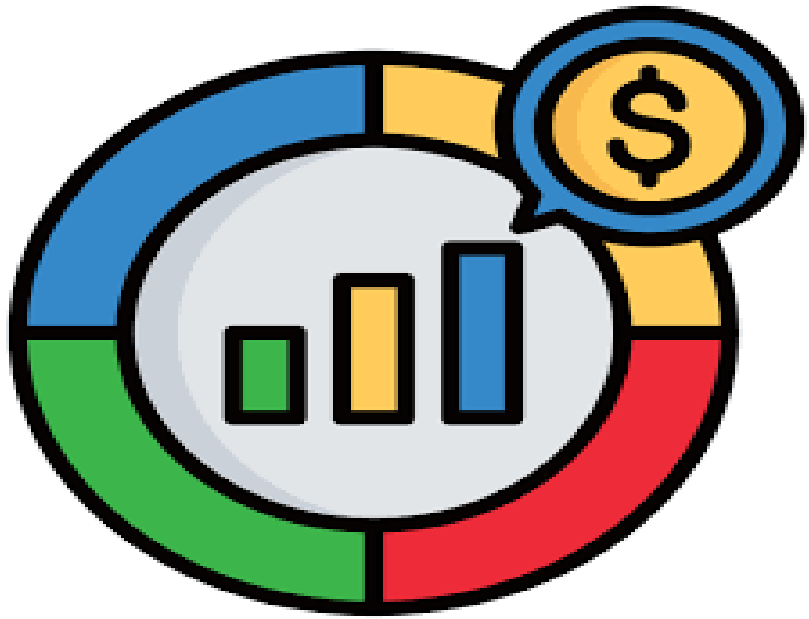


FY-2023



FY-2024





3.How does the availability of charging stations infrastructure correlate with the EV sales and penetration rates in the top 5 states?

A

Enabling Convenience and Reducing Range Anxiety

- More charging stations = less range anxiety, one of the biggest barriers to EV adoption.
- When potential buyers see chargers at work, in public spaces, and along highways, they feel more confident that they won't be stranded.
  Fast charging network boosts long EV adoption

Market Confidence and Manufacturer Investment

- OEMs (car manufacturers) are more likely to launch and market EVs in regions with robust charging networks.
- This creates a feedback loop: better infrastructure → more models → more sales → more infrastructure investment

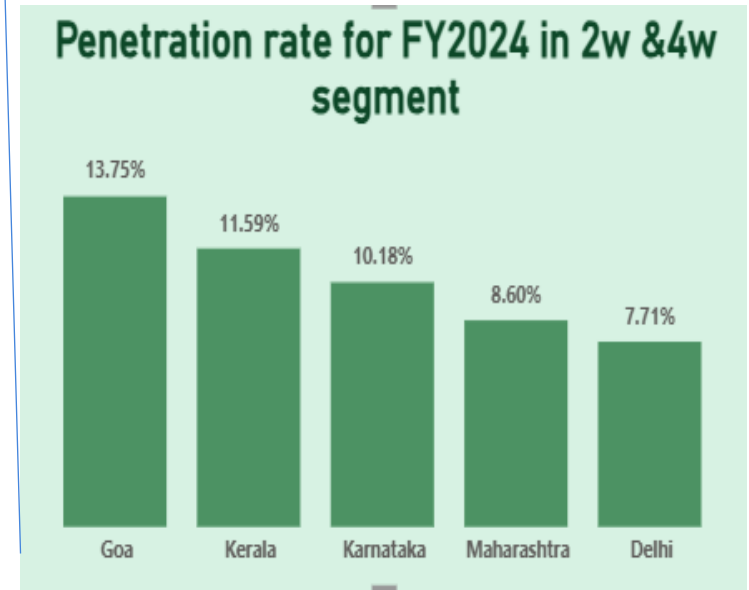
Bidirectional Feedback Loop

- More EVs → Greater demand for chargers
- More chargers → Boosts confidence → More EV adoption

States like Uttar Pradesh, Maharashtra, and Karnataka have been proactive in deploying charging stations, aligning with their high EV sales.

Poor infrastructure slow adoption especially in low awareness areas.

State Name	Operational PCS
Maharashtra	3079
Delhi	1886
Karnataka	1041
Kerala	852
Tamil Nadu	643
Uttar Pradesh	582
Rajasthan	500
Telangana	481
Gujarat	476
Haryana	377
Goa	113



4. Who should be the brand ambassador if AtliQ Motors launches their EV/Hybrid vehicles in India and why?

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Feature

🌍 Pan-India Appeal

⚡ Style + Performance Combo

🎯 Connects with Gen Z + Millennials

🧠 Versatility

📲 Digital Reach

Allu Arjun's Strength

After *Pushpa*, he's no longer just a South star—he's a national icon.

EVs are about sleek design and torque—he mirrors both with ease.

Your biggest EV target market trusts and follows him.

Works for sporty EVs, family hybrids, and tech-savvy vehicles.

Huge social media following = instant brand amplification.

4. Who should be the brand ambassador if AtliQ Motors launches their EV/Hybrid vehicles in India and why?

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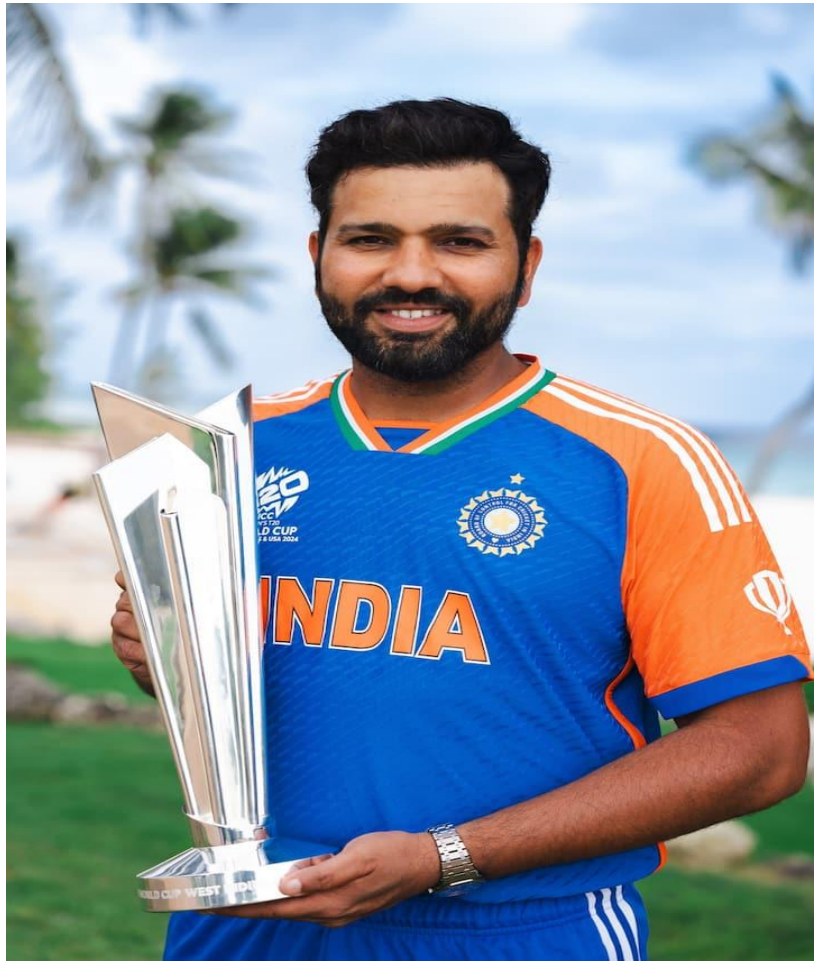
Strength	Relevance to AtliQ Motors
🧊 Calm + Composed Image	Reflects a cool, confident driving experience—good for premium EVs.
👥 Massive National Appeal	Captain of Team India = **unmatched reach across age groups & geographies**.
IN Pan-India Popularity	Strong fan base in both **North & South**, urban and rural markets.
🌱 Soft-spoken + Responsible	Pairs well with a **sustainable, future-ready brand** image.
🏆 Trusted Leader	Seen as **consistent, reliable**—ideal for a new brand entering a competitive market.



5. **Which state of India is ideal to start the manufacturing unit? (Based on subsidies provided, ease of doing business, stability in governance etc.)**

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Andhra Pradesh

Ease of Doing Business Score (2020-21): 97.89% (Ranked 1st)
Key Incentives:

Up to 25% capital subsidy on fixed capital investment (FCI) for micro industries

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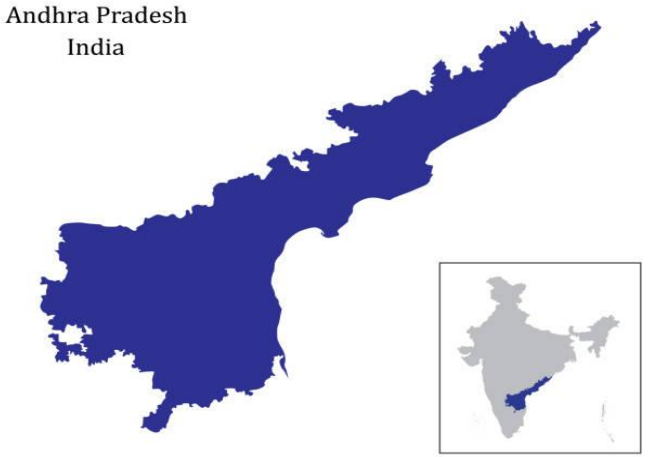
Up to 20% FCI subsidy for small and medium industries.

Up to 10% FCI subsidy for large industries, with higher limits for mega projects.

35% subsidy on plant & machinery costs for MSMEs adopting clean production measures.

25% subsidy for sustainable green measures, with a ceiling of ₹50 crore.



6. Your top 3 recommendations for AtliQ Motors.

A. FOCUS ON 2 WHEELERS ELECTRIC SEGMENT

The electric two wheelers market has experienced a significant growth ev sales reached over 1 Millions unit in 2024. ola electric lead in this segment with 31.63% market share followed by TVS Motor 17.3% and ATHER 10.55%.

Introduce the model price between 60,000 to 80,000 to appeal to the mass market.

Focus on large range batteries ,fast charging capabilities,and smart connectivity to tech savvy consumers.

Establish a strong presence In Tier II and Tier III cities,where demand for affordable ev is rising.

B.CAPITALIZE ON THE ELECTRIC FOUR-WHEELER (4W) MARKET

The electric four-wheeler segment is witnessing increased competition, with Tata Motors holding market share in 2024, followed by Mahindra & Mahindra,MG Motor,PCA,BYD .

Recommendation:

- **Develop Affordable EVs:** Focus on creating electric cars priced under ₹15 lakh to cater to the emerging middle-class segment.
- **Leverage Government Incentives:** Utilize schemes like FAME II to reduce production costs and enhance affordability.
- **Invest in Charging Infrastructure:** Collaborate with local governments to expand the EV charging network, addressing range anxiety among consumers

6. Your top 3 recommendations for AtliQ Motors.

C. STRENGTHEN BRAND POSITIONING AND AFTER-SALES SERVICE

Building a strong brand presence and offering reliable after-sales service are crucial for customer retention and satisfaction.

LAUNCH TARGETED MARKETING CAMPAIGNS: Highlight the benefits of EVs, such as lower operating costs and environmental impact, to educate consumers.

ESTABLISH SERVICE CENTERS: Set up service centers in key locations to provide maintenance and support, enhancing customer trust.

OFFER FINANCING OPTIONS: Collaborate with financial institutions to provide attractive financing schemes, making EVs more accessible to a broader audience.