



Achintya Securities Limited

India's Electric Vehicle Revolution:

From Policy Promise to Market Reality



Introduction

India's transport sector is undergoing a seismic shift, moving beyond the realm of pilot projects and niche adoption into a phase of mass-market electrification. The year 2025 stands as a definitive inflection point, where electric vehicles (EVs) transitioned from a future-facing ambition to a present-day commercial reality. With sales surpassing 2.3 million units and capturing 8% of all vehicle registrations, the EV narrative is no longer about "if" but "how fast." This growth, however, is not a monolithic surge but a complex story driven by regional disparities, evolving policy, strategic investments, and a fundamental change in consumer acceptance. This article delves beyond the headline numbers to explore the intricate dynamics powering India's EV revolution and the challenges that will define its next chapter.



The 2025 Boom: A Market Coming of Age

The data for 2025 reveals a market maturing at multiple levels. Of the 28.2 million total vehicles registered, EVs' 8% share represents a near-doubling from just 4.7% in 2023. This growth is fundamentally anchored in two- and three-wheelers, the workhorses of Indian mobility.

- **Two-Wheelers (57% of EV sales):** With 1.28 million units sold, this segment is the undeniable powerhouse. Penetration in the two-wheeler category itself reached approximately 6.5%, fueled by compelling total cost of ownership (TCO) economics, a wide range of affordable models (from ₹75,000 to ₹1.5 lakh), and their primary use in predictable, short-distance urban commutes where range anxiety is minimal.
- **Three-Wheelers (35% of EV sales):** The 800,000 units sold in the L3 (passenger) and L5 (goods) categories underscore a silent revolution in last-mile connectivity and intra-city logistics. For commercial operators, the economic equation is stark: electricity costs can be 70-80% lower than petrol or diesel for the same distance, making the higher upfront cost a justifiable investment with a payback period often under two years.
- **Four-Wheelers (The Aspirational Frontier):** The passenger car segment, while smaller at ~175,000 units, exhibited explosive 77% year-on-year growth. This signals a critical shift: EVs are moving beyond fleet operators and early adopters into the mainstream private buyer's consideration set. The average sales price for an electric car in India remains high at around ₹14.5 lakh, but growing model variety and improving charging infrastructure are steadily diluting consumer hesitation.

The Geographic Mosaic: Beyond the Mega states

State-level adoption patterns reveal a nuanced picture that defies simple correlation with economic heft.

Volume Leaders: The Big Three

Uttar Pradesh, Maharashtra, and Karnataka collectively form the EV powerhouse triad, contributing over 40% of national sales.

- **Uttar Pradesh (18% share, >400,000 units):** Its dominance stems from a combination of a massive two/three-wheeler market, aggressive state subsidies (like the UP EV Manufacturing and Mobility Policy 2022 offering direct rebates), and dense urban clusters like Noida and Lucknow driving demand.
- **Maharashtra (12% share) & Karnataka (9% share):** These states benefit from high urban per-capita income, strong policy advocacy (e.g., Mumbai's and Bangalore's EV-focused city policies), and being headquarters to major OEMs and startups, which boosts visibility and service networks.



Penetration Pioneers: Smaller States Leading the Ratio

The more telling metric is the EV-to-ICE (Internal Combustion Engine) registration ratio, where smaller states and union territories lead.

- **Delhi (14%)**: Driven by stringent pollution controls, a complete waiver of road tax and registration fees, and a dense public charging network (over 4,000 points as of 2025).
- **Tripura (18%) and Assam (14%)**: High ratios here are often policy-driven. For instance, Tripura's state subsidy, layered on top of central schemes, can cover up to 30% of an EV's cost. Additionally, higher fuel prices in remote regions improve the EV TCO dramatically, making electrification a financially savvy choice rather than just an environmental one.

This geographic mosaic indicates that while large states drive absolute numbers, tailored state-level incentives and local economic factors can trigger disproportionately high adoption rates in smaller markets.



Policy Pivot: From Subsidy Crutches to Ecosystem Sprint

India's policy framework is undergoing a strategic transformation, meticulously detailed in the shift from FAME II to PM E-DRIVE.

3.1. The FAME II Legacy (2019-2024)

The Faster Adoption and Manufacturing of Electric Vehicles (FAME II) scheme, with an outlay of ₹11,500 crore over five years, was instrumental in seeding the market. It primarily focused on consumer purchase incentives, subsidizing over 750,000 EVs. However, its cost per vehicle was high, and it faced challenges like subsidy disbursement delays and allegations of localization norm violations.

3.2. PM E-DRIVE: A New Architecture

Launched in October 2024 with a ₹10,900 crore outlay, the PM E-DRIVE (Electric Vehicles for Development and Road Infrastructure Vitalization and Expansion) scheme represents a calculated pivot.

Aspect	FAME II (Emphasis)	PM E-DRIVE (Emphasis)
Primary Focus	Direct buyer incentives	Ecosystem development & public transport
Key Allocation	Consumer purchase subsidies	Charging infra (₹2,000 cr), Testing (₹780 cr)
Vehicle Focus	2W, 3W, 4W, Buses	2W, 3W, Buses, Ambulances, Trucks
Subsidy/Veh.	Higher (~₹30-50k for 2W)	~50% lower than FAME II
Outcome Metric	Units sold	Infrastructure created & commercial fleet shift

The data validates this shift: PM E-DRIVE supported 1.13 million EV deliveries in its first year—surpassing FAME II's annual averages—while spending less per vehicle and allocating over 25% of its budget to infrastructure. The extension to March 2028 provides the long-term visibility crucial for large-scale manufacturing and infrastructure investments.

Investment Thesis: From Speculation to Scale

The investor narrative has solidified. The \$1.4 billion in EV ecosystem investments in 2025 (a 27% YoY increase) is not venture capital chasing moonshots but strategic capital betting on execution and market capture. \$1.2 billion of this flowed directly into OEMs, financing capacity expansion and model diversification.

The competitive landscape is crystallizing:

- **Tata Motors (70,004 units):** Maintains a ~40% share in the 4W segment through first-mover advantage and a deep understanding of Indian consumer preferences.
- **JSW MG (51,387 units, 135% growth):** Leverages the JSW Group's industrial prowess and MG's global EV tech, showcasing the power of strategic partnerships.
- **Mahindra (33,513 units, 370% growth):** The dark horse, its explosive growth is powered by the successful launch of its dedicated EV platform (INGLO) and models like the XUV400, proving its serious commitment to the transition.
- **The Niche Players:** Hyundai and BYD, while lower in volume, maintain profitability by targeting the premium segment (₹25 lakh+), demonstrating that a diversified market has space for multiple strategies.

The Road Ahead: Navigating the Growth Plateau

The momentum of 2025 will face headwinds. Global forecasts from BMI suggest a slowdown in EV sales growth to 15.7% globally in 2026, with a projected 23% decline in North America due to policy uncertainty. India will not be immune to this macroeconomic dampening.

5.1. The 2026-27 Crucible

The Union Budget 2025-26 provided clear signals: No new allocation for FAME, but ₹4,000 crore reaffirmed for PM E-DRIVE. The future policy focus is likely to be:

- 1. Public Transport Electrification:** Heavy subsidies for electric buses, ambulances, and freight trucks.
- 2. Charging Infrastructure:** Expect a push for high-speed corridors and mandates for residential/commercial building integration.
- 3. Manufacturing & Supply Chain:** Incentives under the PLI (Production Linked Incentive) scheme for Advanced Chemistry Cell (ACC) battery storage will be critical to reduce dependence on imports and lower battery costs, which constitute 35-40% of an EV's price.



5.2. Unsolved Challenges

- **Grid Capacity & Renewable Integration:** Widespread EV adoption could increase electricity demand by 8-10% by 2030. Managing this load and ensuring it is met by renewable energy is paramount to realize the true environmental benefit.
- **The Rural Gap:** Adoption beyond cities and major highways remains low due to range anxiety, lack of charging points, and lower daily mileage which extends the financial payback period.
- **Battery Recycling & Second-Life:** A robust framework for handling end-of-life batteries is still nascent. With an estimated 100,000 tonnes of battery waste expected by 2030, this is an environmental and economic necessity.



Conclusion: An Irreversible Journey with a Complex Map

India's EV revolution in 2025 proved the model works. The market has moved from subsidy-dependent infancy to a growth phase fueled by compelling economics, strategic policy, and competitive innovation. The journey ahead is not about maintaining 77% growth rates, but about consolidating gains, deepening the ecosystem, and ensuring an equitable transition. The focus will shift from counting vehicles to measuring outcomes: carbon displacement, import reduction, and the creation of a resilient, indigenous EV industry. The electric future is no longer on India's horizon; it is being assembled, charged, and driven on its roads today. The next phase will test the nation's ability to build not just vehicles, but a sustainable, intelligent, and inclusive mobility ecosystem for the decades to come.





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