

Why India must drive the future with EVs

By Amitabh Kant

India is the world's third-largest automobile market, contributing nearly 7% to GDP and supporting millions of livelihoods. But the sector stands at a pivotal inflection point. A global technological transformation is rapidly shifting the auto industry away from internal combustion engines (ICE) towards the final frontier of innovation: electrification. And this transition is accelerating faster than many expected.

Globally, the shift to electric vehicles (EVs) is undeniable. According to the IEA's *Global EV Outlook 2025*, over 50% of new cars sold in China last year were electric. Europe has surpassed 20%, and the U.S. has reached 10%. This is no longer a niche trend—it is the new industrial reality. The reasons are clear: the need to meet climate targets, improve air quality, and foster green industrial growth. With zero tailpipe emissions and nearly three times the efficiency of ICE vehicles, EVs are central to this transformation.

India cannot afford to be left behind.

To its credit, India has taken important steps. Over the past decade, the Government of India has invested more than ₹75,000 crore in EV-supportive policies through initiatives such as FAME, PLI, PM E-Bus Sewa, and the recently launched ₹10,900 crore PM E-DRIVE scheme. State governments have also introduced incentives and EV-friendly policies, reinforcing the national vision.

These efforts are beginning to show results. In 2024–25, EVs accounted for 6.1% of two-wheeler sales, 23.4% of three-wheelers, 2% of passenger cars, and 5.3% of buses—an overall market penetration of 7.5%. While encouraging, this is still far from sufficient. To meet climate goals, reduce oil imports, improve air quality, and remain globally competitive, India must dramatically accelerate this transition.

Indian manufacturers such as Tata, Mahindra, Ather, and Bajaj are rising to the challenge, investing in EV platforms, battery production, and critical components. However, some automakers continue to resist the shift and instead focus on interim technologies like hybrids—an unnecessary distraction India cannot afford.

Conventional hybrid vehicles—misleadingly marketed in India as “strong hybrids”—use small batteries (often under 2 kWh) that are either charged by the petrol engine or through regenerative braking to assist it. This is less than the battery capacity of many electric scooters. In contrast, modern EVs typically use batteries over 50 kWh. Moreover, hybrids are not clean vehicles—they still burn fossil fuels, emit pollutants, and offer only modest efficiency gains of 15–20%, which diminish over time due to engine wear and rising emissions. EVs, on the other hand, are significantly more energy-efficient, have lower running costs, and become cleaner as India's electricity grid increasingly relies on renewable energy.

EVs offer far greater strategic advantages.

They reduce oil dependence, enhance energy security, and support a robust, job-rich value chain encompassing battery manufacturing, charging infrastructure, digital services, and

recycling. Therefore, it's time for India to leapfrog directly to transport electrification—just as it jumped from landlines to mobile phones, bypassing pagers.

The recent restriction on rare earth element (REE) exports by China has highlighted global vulnerabilities. These elements are essential for batteries. While China may not dominate raw production, it controls the global processing of lithium (65%), cobalt (70%), and graphite (90%). This presents an opportunity for India. The only way India can claim a significant share of the global clean mobility value chain is by making a decisive push toward full vehicle electrification.

The Road Ahead: Bold, Decisive Policy

India must act now to ensure that the EV transition proceeds at the speed and scale required. Four key policy actions can drive this momentum:

Strengthen CAFE Standards

Corporate Average Fuel Efficiency (CAFE) norms are powerful tools to push automakers toward cleaner technologies. The Bureau of Energy Efficiency (BEE) must finalize updated standards that eliminate super-credits for hybrids and other non-zero-emission vehicles. Only true zero-emission vehicles—EVs—should qualify for incentives. A biannual review mechanism should ensure these standards evolve in line with technology and international best practices.

Mandate ZEV Sales in Delhi NCR

Delhi NCR, grappling with severe air pollution, must lead by example. A Zero-Emission Vehicle (ZEV) mandate requiring manufacturers to sell a minimum share of EVs—eventually phasing out ICE vehicles within a decade—can accelerate adoption. This approach has succeeded in California and China. It's time India replicates it in its most polluted urban centres.

Enable Credit Trading Among OEMs

A dynamic credit trading system among manufacturers can reward early movers and hold laggards accountable. Companies exceeding EV targets should be able to sell credits to those falling short, creating a performance-driven, market-based system that encourages innovation and long-term EV investments.

Strengthen the Charging Infrastructure Network

India must address both private and public charging needs. Data from the US and Indian EV manufacturers show that over 85–90% of charging happens at home. Enabling access to charging in residential parking is thus crucial. India should adopt a 'Right to Charge' policy, similar to Norway, ensuring that EV owners have guaranteed access to charging facilities. In parallel, all national highways and expressways must be electrified to support long-distance travel.

EVs: A 5-Crore Job Opportunity

This transition is not just about reducing emissions—it represents a once-in-a-generation economic opportunity. The EV ecosystem could generate over **5 crore jobs by 2030** across sectors like battery technology, research and development, software, maintenance, and services. If India leads now, it can become a global hub for clean mobility.

Consumers will benefit too. As production scales and costs fall, EVs will become more affordable. Combined with India's growing renewable energy capacity, EVs will become cheaper to operate—especially when paired with smart charging and domestic battery manufacturing.

Sticking with hybrids or ICE vehicles today is akin to investing in typewriters in the age of smartphones. These are legacy technologies from a bygone era. India's ambitions—economic, environmental, and geopolitical—demand a forward leap, not a compromise.

It is time for India to fully commit to an electric future—and leave the fossil-fuelled past behind.

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