

How India Can Keep On e-Truckin

*By Amitabh Kant **

The launch of the electric truck (e-truck) scheme under the PM e-Drive initiative is a timely and much-needed step forward. For too long, India's conversation around vehicle electrification has focused largely on passenger cars. Trucks — especially medium and heavy-duty trucks (MHDTs) — have remained on the policy sidelines, despite being disproportionately responsible for fuel consumption and harmful emissions.

Trucks make up less than 5% of India's total vehicle fleet, yet they account for nearly 40% of on-road fuel consumption, 44% of Transport's Green House Gas (GHG) emission and about 50% of particulate and NOx emissions. In cities, this translates into significant air quality challenges and public health risks, particularly for communities living near freight corridors. As such, the electrification of the trucking sector is central to both India's climate commitments and its urban health priorities.

India's logistics costs are around 13% of GDP—significantly higher than the global average. With nearly 70% of freight moved by road and fuel being a major cost driver, electric trucks offer a pathway to reduce operating costs, enhance efficiency, and strengthen energy security.

A recent study by the International Council on Clean Transportation (ICCT) shows that electric trucks emit 17–37% fewer greenhouse gases than their diesel counterparts, even with today's grid mix. When powered by renewable energy, these emissions can drop by as much as 85–88%. The study further highlights that to align with global climate goals — limiting warming to well below 2°C by 2050 and reaching net-zero emissions by 2070 — India must achieve 100% zero-emission truck sales by mid-century.

The ₹500 crore incentive for e-trucks announced under the PM e-Drive scheme is a strong signal of intent from the central government. It recognises the strategic importance of decarbonising freight. However, for this welcome initiative to yield long-term benefits, it must be embedded within a broader policy framework. Three areas require urgent focus: a long-term electrification roadmap, charging infrastructure planned around freight demand, and supply-side regulatory measures.

A Long-Term Roadmap for Truck Electrification

Policy signals work best when they are clear, consistent, and forward-looking. While the e-truck scheme provides a foundation, the sector needs a long-term roadmap that outlines India's vision for zero-emission trucking over the next 20 years.

This roadmap should set clear timelines for phasing out internal combustion engine trucks, establish electrification milestones by vehicle segment (light-duty vs. heavy-duty, urban vs. long-haul), and integrate complementary strategies like green hydrogen and battery swapping. It should also align with key national initiatives such as the National Electric Mobility Mission Plan, Automotive Mission Plan, and National Logistics Policy, ensuring coherence across ministries and stakeholders.

Such a roadmap would provide confidence to manufacturers, fleet operators, logistics providers, and financiers — encouraging sustained investments in zero-emission truck development and deployment.

Charging Infrastructure: Plan by Need, Not Just Land Availability

One of the primary barriers to electric truck adoption — both globally and in India — is inadequate charging infrastructure. Unlike passenger electric vehicles, trucks require high-capacity, commercial-grade chargers, strategically located along freight corridors, logistics parks, and depots.

Importantly, freight vehicles often follow different routes than passenger vehicles, even between the same origin and destination. As a result, using existing EV charging plans designed for cars to support e-trucks will not work. Infrastructure planning must be based on freight movement data — not merely on land availability.

India urgently needs a charging blueprint tailored to the needs of freight. This involves identifying high-volume truck routes and last-mile delivery hubs, analysing telematics data, and prioritizing locations where chargers will be most used. Additionally, policies must differentiate between the needs of light-duty electric trucks used in urban areas and long-haul heavy-duty trucks that require megawatt-scale charging.

The Ministry of Power, in collaboration with the Ministry of Road Transport and Highways and the Ministry of Heavy Industries must ensure reliable power supply, grid integration, and commercial viability. State governments, urban local bodies, and private logistics players will also have a critical role in deploying charging infrastructure at scale.

Supply-Side Regulations: From Incentives to Mandates

While incentives like those in the PM e-Drive scheme are essential to kick-start the market, India must move toward regulatory mechanisms that institutionalize the transition to zero-emission trucks.

One such mechanism is the introduction of **fuel efficiency (FE) norms** for medium and heavy-duty trucks. The Bureau of Energy Efficiency (BEE) should prioritise developing these norms and design them with a Corporate Average Fuel Efficiency (CAFE)-like structure. This would allow manufacturers of electric trucks to benefit from averaging — as is already permitted in the light-duty segment — thereby encouraging innovation and investment in cleaner technologies.

Another critical step is the introduction of a **Zero Emission Vehicle (ZEV) sales mandate** for trucks, starting with cities in the Delhi NCR region. A ZEV mandate would require truck manufacturers to sell a fixed — and increasing — percentage of zero-emission trucks annually. This model, adopted in California and other jurisdictions, ensures long-term market certainty, levels the playing field, and reduces reliance on subsidies.

Together, these supply-side measures can accelerate the availability and affordability of electric trucks while promoting healthy competition and local manufacturing.

The e-truck scheme under PM e-Drive is a commendable and timely initiative. It recognises the pivotal role clean freight must play in India's energy and environmental future. But to unlock its full potential, we need to build a comprehensive ecosystem: a long-term strategy, infrastructure based on real-world freight needs, and a robust regulatory framework.

India has already demonstrated global leadership in electric mobility for two-wheelers and buses. It's now time for the trucking sector to receive the same focus and ambition. If we act decisively today, we can ensure that the trucks of tomorrow are not only cleaner and quieter but also more efficient and economically viable.

The e-truck scheme is an important first step. We now need this implemented to perfection on ground, making a tangible difference to the lives of citizens and truck drivers.

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