

India needs e-Trucks, and it needs them now

By Amitabh Kant

Trucks constitute less than 5% of India's vehicle fleet, but account for nearly 40% of on-road fuel consumption, 44% of transport sector greenhouse gas emissions, and almost half of particulate matter and nitrogen oxide emissions from road transport. In our cities, this translates into deteriorating air quality, rising public health costs, and growing environmental stress, particularly for communities located near major freight corridors.

The recent crisis in West Asia serves as yet another reminder that India's dependence on imported fossil fuels remains a strategic vulnerability. Logistics costs in India account for nearly 8% of GDP, higher than global benchmarks. Since almost 70% of India's freight moves by road, fluctuations in global oil prices directly impact transport costs, inflation, and the competitiveness of Indian businesses.

The solution is clear: India must rapidly electrify its trucking sector.

Electric trucks offer a pathway to lower operating costs, improve logistics efficiency, strengthen energy security, and reduce emissions. More importantly, they represent an opportunity for India to lead the next phase of clean transportation innovation.

A recent study by the International Council on Clean Transportation (ICCT) highlights the scale of this opportunity. The research finds that electric trucks in India already emit 17-37% fewer greenhouse gases than comparable diesel trucks, even with today's electricity grid. As the share of renewable energy in the grid increases, these emissions reductions could rise to 85-88%.

The study also underscores an important reality: if India is to align with global climate goals, limit warming to well below 2°C, and achieve its net-zero commitment by 2070, it must transition to 100% zero-emission truck sales by mid-century.

The gap between India and global leaders remains substantial. In 2025, India registered only around 566 medium- and heavy-duty electric trucks, compared to more than 3.2 lakh conventional trucks. China, by contrast, registered approximately 11.9 lakh trucks, of which nearly 3.9 lac were electric, 33% market share. The scale of deployment in China demonstrates that rapid electrification of freight transport is both technologically feasible and commercially viable when supported by the right policy framework.

India needs electric trucks, and it needs them now.

Three policy interventions can accelerate this transition.

1. Strengthen Fuel Efficiency Standards

The Bureau of Energy Efficiency (BEE) took an important step by releasing draft fuel-efficiency standards for light-, medium-, and heavy-duty vehicles for public consultation in July last year. The proposal signalled a strong intent to decarbonise one of India's most emissions-intensive sectors. However, nearly a year later, there has been little visible

progress towards finalising and implementing these standards. India can no longer afford such delays. The norms must be notified at the earliest and designed to accelerate the transition towards cleaner and more efficient freight transport.

India should adopt a Corporate Average Fuel Efficiency (CAFE)-style approach for commercial vehicles, similar to what exists in the passenger vehicle segment. Such a framework would allow manufacturers to average fleet emissions and reward investments in zero-emission technologies.

Providing regulatory credit for electric truck sales would encourage manufacturers to accelerate innovation, bring more models to market, and invest in domestic manufacturing. Well-designed fuel-efficiency standards can become one of the strongest drivers of freight decarbonisation while improving energy productivity across the economy.

According to estimates, ambitious truck efficiency standards could reduce cumulative carbon dioxide emissions by more than one billion tonnes by 2050 while saving billions of litres of diesel.

2. Phase Out Diesel Trucks in Highly Polluted Urban Regions

India's most polluted cities require bold and targeted interventions.

The National Capital Region should lead the transition by gradually phasing out the registration and operation of new internal combustion engine trucks. Over time, only zero-tailpipe-emission trucks should be permitted for urban freight operations within the region.

Such a policy would deliver multiple benefits simultaneously. It would improve air quality, reduce noise pollution, accelerate market demand for electric trucks, and create a predictable investment signal for manufacturers, fleet operators, and charging infrastructure providers.

Delhi's experience with compressed natural gas buses and other clean mobility initiatives demonstrates that ambitious policy action can deliver transformative outcomes. The same approach can now be applied to freight transport.

3. Expand and Scale the PM E-DRIVE Programme

The ₹500 crore allocation for electric trucks under the PM E-DRIVE scheme is a welcome and important beginning. It sends a strong signal that the Government of India recognises freight electrification as a strategic priority.

However, the current allocation is expected to support only 5643 electric trucks over two years. While this is an encouraging start, it is insufficient to achieve meaningful market scale.

India needs a far more ambitious roadmap. A dedicated incentive programme of approximately ₹5,000 crore, combined with long-term policy certainty, could significantly accelerate adoption and create economies of scale.

Equally important is the development of charging infrastructure designed around freight movement patterns. Charging corridors along national highways, logistics hubs, industrial clusters, and ports will be critical. According to ICCT estimates, India will need a cumulative

installed charging capacity of 9 GW by 2030, increasing 19 times to 171 GW by 2050 for its electric trucks. Incentives alone cannot drive adoption unless supported by reliable charging infrastructure and a clear long-term regulatory framework.

A Strategic Opportunity

India's freight decarbonisation challenge is undoubtedly complex, but it also presents one of the country's greatest economic opportunities.

Globally, fuel-efficiency regulations and zero-emission vehicle mandates have successfully driven innovation without compromising economic growth. The United States and the European Union have demonstrated that ambitious commercial vehicle standards can reduce emissions, improve competitiveness, and stimulate technological advancement simultaneously.

India now has an opportunity to do the same.

The transition to electric trucks is not merely an environmental imperative. It is an economic necessity, an energy-security strategy, and a pathway to making Indian logistics more efficient and globally competitive.

The question is no longer whether electric trucks will become the future of freight transport. The question is whether India will lead that future or follow it.

The answer should be clear. India needs electric trucks. And it needs them now.