

PM E-Drive: Incentivising EV Innovation and Domestic Manufacturing

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Driving the growth of electric mobility in India with a new initiative, the Union Cabinet has recently launched the 'PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) Scheme', effective from October 1, 2024.

The scheme is poised to promote electric vehicles across various segments, including two-wheelers, three-wheelers, e-ambulances, and e-buses. With an investment of INR 10,900 crore over the next two years, this initiative aims to provide substantial subsidies and demand incentives to accelerate the adoption of electric vehicles.

Major Takeaways from PM E-Drive Scheme

One of the standout features of the scheme is the introduction of e-vouchers, designed to make the process of claiming incentives smoother for EV buyers and manufacturers. These measures will support the deployment of nearly 25 lakh electric two-wheelers, over three lakh three-wheelers, and more than 14,000 electric buses. The program also focuses on building crucial charging infrastructure, with thousands of fast chargers planned for urban areas and key highways, tack-

ling range anxiety among potential EV users.

Beyond financial support, the PM E-DRIVE Scheme emphasises the development of a robust, competitive, and sustainable EV manufacturing ecosystem within the country. The scheme aligns with India's vision of 'Aatmanirbhar Bharat', encouraging domestic production and supply chain resilience.

With the government's clear commitment to sustainable transport, the PM E-DRIVE scheme has the potential to shape the future of the electric vehicle industry in India. But what do industry leaders in the EV sector think about this ambitious initiative?

Sharing their insights with **Energetica India** on the scheme, EV industry experts have discussed the PM E-DRIVE scheme, its eligibility criteria, and the requirement of technical standards for manufacturers that ensure safety and performance. They have also stressed the importance of stringent standards for e-ambulances and appreciated the scheme's alignment with 'Aatmanirbhar Bharat', boosting local manufacturing and self-reliance.





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Key Insights from EV Industry Pioneers



Expressing his opinion on the initiative, **Dev Arora, Founder & CEO, Alt Mobility**, stated, “As we navigate through the rapidly evolving EV landscape, we view the ‘PM E-DRIVE’ scheme as a pivotal force in transforming India’s electric mobility landscape. This initiative builds on existing vital technical standards, such as AIS 156 for battery safety and

AIS 038 for vehicle performance, which are crucial for enhancing the safety and dependability of electric vehicles. The innovative e-voucher system simplifies the incentive-claiming process, making EVs more appealing to individual users.”

He further added, “Additionally, the PM E-DRIVE scheme aligns perfectly with India’s ‘Aatmanirbhar Bharat’ initiative, promoting local innovation through increased support for testing, certification, and domestic manufacturing. We were hopeful of the inclusion of four-wheeler LCVs, HCVs and private bus segments as well. As India is establishing itself as a major player in the two and three-wheeler segments, we do believe that support for larger vehicle categories is needed to accelerate the adoption for making the economic viability of electric stronger for these segments. At Alt Mobility, we play a role in enabling access to finance and supporting the adoption of affordable and clean energy for commercial fleets. We look forward to continued support from the government and continued transparent and open dialogues between private and public sectors to pave the way for a robust and innovative EV ecosystem in India.”



Dr. Seema Talmale, Assistant Professor and Associate Head of the Department of Electronics and Computer Engineering, K.J. Somaiya College of Engineering elaborated, “The PM E-Drive scheme outlines key eligibility criteria for electric vehicle (EV) incentives, which include adherence to localisation norms, battery qual-

ity, and energy efficiency standards. Manufacturers must meet specific technical requirements, such as Automotive Industry Standards for battery safety, alongside compliance with higher performance sustainability and consumer safety regulations. The e-voucher system simplifies the incentive-claiming process for EV customers. After purchasing an eligible EV, customers will receive a digital voucher linked to their vehicle. This voucher can be redeemed at the point of purchase or through authorised dealerships, directly reducing the upfront cost or providing rebates on future payments, ensuring a seamless incentive experience.

She further added, “For e-ambulance, owners need to comply with Automotive Industry Standards for performance, encompassing energy efficiency, battery durability, and optimal speed for emergency responses. Additionally, they must meet AIS 038 Rev 2 for vehicle safety, ensuring fire resistance, passenger protection, and robust braking systems, while maintaining high standards of medical equipment reliability during transit. The PM E-Drive Scheme supports EV testing and certification through accredited laboratories, ensuring compliance with safety, performance, and environmental standards. It aligns with the ‘Aatmanirbhar Bharat’ initiative by promoting domestic manufacturing.”



Anmol Bohre, Co-Founder and Managing Director, Enigma Auto, said, “The PM E-DRIVE scheme aims to promote the adoption of electric vehicles by offering incentives for retail consumers. Key eligibility criteria for EV manufacturers include compliance with FAME II standards, localisation requirements, and scheme-specific certification

programs from accredited labs like ARAI, ICAT, etc. Under the scheme, customers receive e-vouchers through the PM E-Drive Portal. The portal is linked with Aadhar e-KYC. After purchasing eligible EVs, the vouchers shall be uploaded to the portal by the dealers. After verification and uploading the selfie, these vouchers can be redeemed to claim incentives. This directly reduces the upfront cost of the vehicle.”

He further added, “E-ambulances must meet stringent safety protocols such as crashworthiness, fire resistance, and performance standards outlined by the Automotive Research Association of India (ARAI), ensuring reliability and safety during critical operations. The scheme offers financial support for testing and certification through accredited labs. A specific fund of INR 780 Crores is kept to enhance vehicle testing infrastructure. It aligns with the ‘Aatmanirbhar Bharat’ initiative by fostering local production, reducing import dependency, and encouraging innovation in India’s EV ecosystem.”



Supriti Mishra, Dean - Academics, IMI Bhubaneswar explained, “The PM E-DRIVE scheme focuses on incentivising commercial vehicles that are eligible and registered under the Central Motor Vehicle Rules, 1989. When a vehicle is sold, an Aadhaar FACE authenticated e-voucher will be generated, and a link to download the same, with the signed copy the

dealer can avail the incentives. The counter-signed e-voucher will be uploaded on the PM E-DRIVE portal. This signed e-voucher will then be sent through SMS with the help of which the OEM can claim reimbursement of demand incentives under the

scheme. The performance and safety standards of e-ambulances are yet to be formulated which will be done in consultation with the MoHFW, MoRTH, and other relevant stakeholders. Under the 'Aatmanirbhar Bharat' initiative, INR 780 crore has been earmarked for the upgradation and modernisation of testing facilities under the PM E-DRIVE scheme."



On the other hand, **Subhabrata Sen-gupta - Partner, Avalon Consulting** added, "According to the new criteria for different vehicle types, the scheme allows the import of cells but not modules or assembled battery packs, reducing uncertainty in FAME schemes. Electric two- and three-wheelers must be manufac-

tured and registered under EMPS-2024 or PM E-DRIVE for subsidy eligibility. Aadhaar verification is mandatory, and dealers must use Aadhaar FaceRD for face matching and perform e-KYC using the PM E-DRIVE app. Upon vehicle registration with the RTO, dealers generate an e-voucher and assist with a selfie. Claims are processed only after selfie and e-voucher verification. The plan includes indigenising modules, upgrading testing agencies with a INR 780 crore investment, and introducing pre-approval for models, annual strip-down tests, and periodic surveillance assessments."



Dr. Manoj Janardan Pawar, Associate Professor in the Department of Mechanical Engineering, at K.J. Somaiya College of Engineering elaborated, "The PM E-Drive scheme benefits can be availed by e-vehicles registered from October 1, 2024 to March 31, 2026 with commercial vehicles on a priority basis. Additionally, benefits will be given for

charging infrastructure and for the upgradation of testing agencies. To avail of these benefits, the customers need to complete e-KYC and generate an Aadhaar FACE authenticated e-voucher at the time of purchase. Authentication will be carried out using the PM E-drive app. A link to download this e-voucher will be sent to the customer's registered mobile number."

He further added, "For E-ambulances, the scheme will decide the beneficiaries by consulting the Ministry of Health and Family Welfare (MoHFW). The ambulances that will meet the performance and safety standards approved by MoHFW will be eligible for incentives. The incentives under the PM E-DRIVE scheme are based on battery capacity (per kWh). Hence, there is a need for the up-gradation of testing and certification agencies for EVs. A provision of INR 780 crore is available under this scheme to upgrade EV testing and certification agencies. However, the guidelines for sanction of assistance to the testing agencies under MHI will be issued separately."



Anagh Ojha, Co-Founder & CTO, UrjaMobility said, "We envisage the PM E-DRIVE Scheme as a transformative catalyst in India's EV ecosystem, effectuating a critical inflection point in the evolution of electric mobility. By mandating compliance with rigorous technical standards such as AIS 156 for

battery integrity and AIS 038 for vehicular performance, the scheme addresses exigent safety imperatives. The pioneering e-voucher mechanism, enabling direct incentive claims at the point of acquisition, enhances market penetration by reducing transactional friction. In sectors like e-ambulances, the focus on operational reliability and battery fortification underscores the scheme's impact. Aligned with the 'Aatmanirbhar Bharat' initiative, it accelerates indigenous innovation through bolstered testing, certification, and domestic production, fostering a circular energy economy. We, at Urja Mobility, are poised to capitalise on these unprecedented opportunities, leading from the forefront in advanced EV solutions that epitomise India's aspiration for a sustainable and autonomous electric mobility future."



"The e-voucher system for EV customers simplifies the process of claiming incentives. Customers now sign a declaration with government branding through the e-voucher at the time of purchase, confirming their eligibility for the incentive. The incentive amount is then deducted from the invoice, reducing

the upfront cost for the customer. Post-sale, the Original Equipment Manufacturer (OEM) claims the incentive reimbursement from the Ministry of Heavy Industries (MHI). While the system enhances transparency, the overall incentive remains the same," added **Xitij Kothi, Co-founder, Vidyut.**

Next Chapter in India's Electric Mobility Story

The PM E-DRIVE Scheme marks a pivotal moment for India's electric vehicle industry, offering a comprehensive approach to boost EV adoption, infrastructure, and manufacturing. With substantial financial backing and a focus on creating a competitive and sustainable ecosystem, this initiative is expected to accelerate the transition to cleaner and greener mobility solutions. As the government lays the groundwork for a future powered by electric vehicles, the industry's response will be crucial in shaping how effectively this scheme can drive the EV revolution in India. What remains to be seen is how industry leaders will leverage this opportunity to transform the country's transportation landscape.