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INDIAN ELECTRIC THREE-WHEELER INDUSTRY

Three-wheelers to continue to outpace other auto segments in electrification, penetration expected at ~40% by FY2030

MARCH 2025

Agenda

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Highlights

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Given the need for last-mile connectivity in India and the 40-45% lower total cost of ownership (TCO) of e-3Ws compared to diesel three-wheelers, the pace of electrification in this segment will remain robust and reach ~40% by FY2030.

The three-wheeler (3W) segment has emerged as the fastest adopter of electrification in the domestic automotive industry. While 3Ws (including e-rickshaws) crossed the halfway mark in terms of electrification in 9M FY2025, the pace of electrification in other segments such as two-wheelers, passenger vehicles and commercial vehicles has remained limited so far. Even excluding e-rickshaws, the electrification in 3Ws was robust at ~20% for 9M FY2025. ICRA expects a steady rise in electrification in e3Ws (excluding e-rickshaws), reaching ~40% level by FY2030.

The electric penetration trends in the 3W segment are currently dominated by the e-rickshaws, accounting for ~78% of the e-3Ws sold in 9M FY2025. The e-auto segment, however, has been gaining momentum, with its share in the e-3W sales increasing from 7% in FY2023 to 16% in FY2024, and further to 21% in 9M FY2025.

The pace of electrification in the 3W (goods) segment has seen a healthy increase in the recent past. Favourable cost of ownership and the demand increase owing to rise of e-commerce have led to higher pace of electrification within this group, especially in the urban regions. The pace of electrification in the 3W (passengers) segment has also seen a healthy ramp-up given that they have emerged as one of the leading options for last-mile connectivity in metros and urban regions. Both the goods and passenger carrier 3Ws are expected to maintain a decent pace of electrification over the medium term - crossing 35% by FY2030 from~21% for both the segments in 9M FY2025.

In terms of state-wise trends, the penetration of e-3Ws, especially e-rickshaws is relatively higher in the northern states of Uttar Pradesh, Bihar, Assam and Delhi. Sales of e-rickshaws were earlier concentrated in states with lower per capita income; however, they are now picking up even in the states with higher per capita income, given the rising need for last-mile connectivity in urban areas, with the trend likely to continue.

While strict eligibility criteria by financial institutions, higher cost of funding coupled with lower loan-to-value, limiting financing options and uncertainty on the resale value remain a few of the key challenges for the adoption of e-3Ws in India, the policy push by the Government in the form of subsidies, road tax and registration fee exemptions, and waiver on the permit fees, etc. continue to propel the pace of electrification in the e-3W segment in the country, as a result of which ICRA expects electrification in the 3W segment (excluding e-rickshaws) to cross the 40%-mark by FY2030.

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Thank You!