

ELECTRIC VEHICLE INDUSTRY

Electric bus adoption gradually
picking up pace

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Highlights

Electric buses are expected to be at the forefront of electrification aided by the Government's support; ICRA expects ~40% of new bus sales in India to be electric by FY2030.

Penetration of e-buses is on a steady rise, with buses being deployed across the country under the GCC model; significant subsidy component is supporting viability of e-bus operators.



The Indian automobile industry is witnessing a major technological transition, with a shift from conventional powertrains to the electric powertrain. Within the various automotive segments, intra-city buses along with two-wheelers and three-wheelers are expected to be at the forefront of the electrification, aided by the Government's focus on shifting to clean modes of transport through various subsidies.



The Government is providing significant incentives and subsidies through various schemes like Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME), Smart Cities etc. to reduce cost of acquisition, and spur e-bus adoption. Both the Government of India as well as various select state governments have also set aggressive targets to decarbonise public transport.



The Gross-Cost Contract (GCC) model, or opex model of operations, has emerged as the preferred model for e-bus adoption in India. The model helps to significantly alleviate the upfront capital burden on cash-strapped State Road Transport Undertakings (SRTU), while spurring electrification by increasing private participation. Even as a material subsidy component in the overall project cost supports viability of e-bus operators, lowering of bid rates led by increased competitive intensity would constrain return metrics.



While execution-related risks remain relatively low for these projects, operational risks are relatively higher, given the lack of adequate track record of electric vehicles in the country and the weak credit profiles of counterparties involved in some projects. The model is currently evolving, and operators are looking at various measures to mitigate the risks prevalent in the model.



The intra-city segment would be the first one to transition, supported by subsidies, and electrification would subsequently percolate to other segments as cost of acquisition drops with evolving technology and declining battery prices. Additionally, the operational savings, especially on fuel costs (3-5x lower) vis-à-vis conventional diesel buses, supports Total Cost of Ownership (TCO) of e-buses, and would aid the transition.



Overall, the e-bus market in India is likely to witness healthy traction over the near-to-medium term; ICRA expects penetration levels to ramp up to ~11-13% and ~40% by FY2025 and FY2030 respectively. Accordingly, the various stakeholders such as OEMs, transport undertakings, lenders etc. are adapting themselves for the transition.

1 Global Landscape



2 Electrification Scenario in India



3 GCC Operating Model



4 Outlook

