

Press Release

Behavioural Shifts Will Drive Decarbonisation in the Transport Sector

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Almost 10 per cent of the total GHG emissions in India come from its transport sector. Attaining the 'net zero' goal calls for strong sectoral interventions, therefore.

Electric vehicle (EV) adoption, shift to public transport (PT), and promotion of non-motorised transport (NMT) are some of the key strategies for bringing down emissions, but they require substantial behavioural change. Thus, understanding consumer behaviour in terms of what makes consumers' decide on one mode of transport over another is crucial for devising effective interventions. Factors that influence consumer preferences include socioeconomic ones like gender, age, income, and mode-specific technical ones like travel time and cost, and range (for electric vehicles particularly), etc.

To gain a sound understanding of what role these factors play in determining the behavioural shifts in the transport sector, the Center for Study of Science, Technology and Policy (CSTEP) conducted a modelling study, employing a discrete choice model.

The study found that it is the purchase price, and not the total cost of ownership (TCO), that drives EV uptake in India. It also found that travel time determines the shift to public transport over travel cost; a range of 50-70 kilometres is sufficient for daily urban commuters in India; and convenience (in the form of seamless connectivity) and safety determine the shift to non-motorised transport.

On the basis of the above insights, the study makes recommendations towards effective implementation of emission-reducing strategies in the transport sector. These include a provision of different battery capacity options (inter-city and intra-city) for reducing the overall capital cost of EVs; retention of tax benefit for EVs and reduction in their battery size to bring them at par with their ICE (internal combustion engine) counterparts; stringent scrapping policy for old/polluting vehicles; improved PT infrastructure; area-wise detailed assessments for comfortable and safe NMT infrastructure; and first- and last-mile connectivity options for public transport system.

The benefits of transitioning to EVs, NMT, and PT are also estimated under the study. The overall gain from such a shift will manifest in definite reductions in GHG emissions and air pollution, and improve the quality of life in cities. **More specifically, by 2030, if 30% of all passenger-kilometres in urban areas are electric, GHG emissions from urban passenger transport can reduce by ~10%, as compared to a business-as-usual (BAU) scenario. Moreover, if the average share of NMT and PT in Indian cities increases by 20% by 2030, GHG emissions from urban passenger transport can reduce by another 10%, as compared to BAU.**

The study lists the major barriers in attaining a clean mobility transition as well. Some of these are: the investment dilemma for automobile manufacturers, considering the government’s push for moving from BS IV to BS VI standards in conventional automobiles; heavy EV infrastructure investment cost—in terms of money, time, and energy; lack of seamless connectivity plans at the city and zonal level; and significant policy gaps in the area of EV and NMT/PT.

The Policy Brief for the study is available [here](#).

For more details and interviews with researchers, please write to us at cpe@cstep.in

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