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A push for greener, cleaner school buses

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While e-mobility and decarbonisation of transport are growing in importance, how feasible is it for schools to replace their diesel bus fleets with electric buses?

The Energy Management Centre - Kerala (EMC), a State Power Department agency, has launched a push for cleaner, greener school buses in collaboration with the Centre for Study of Science, Technology and Policy (CSTEP), a think tank. The initiative is aimed at encouraging and enabling schools to gradually transition their bus fleets to electric buses.

Consultations held

"We are piloting the initiative in Thiruvananthapuram and Kochi. We have held stakeholder consultations with 30 or 40 schools in Thiruvananthapuram. Soon, we will be holding a similar programme for Kochi schools. Electric school buses are safer for children from a healthcare perspective and are greener," EMC director R. Harikumar said on Saturday on the side lines of the second International Energy Festival of Kerala (IEFK 2025) under way at the Police Ground, Thycaud, here.

'Electrifying School Buses in Kerala,' a hand book prepared by EMC and CSTEP outlines the pluses and challenges for schools in making the change to e-buses.

Compared to diesel-powered buses, e-buses, which have zero tailpipe emissions, pose no health risks to children such as pollution or harmful fumes. As children inhale more air per kg of body weight, they also tend to absorb more pollutants than adults.

From the perspective of running costs, e-buses are economical than diesel buses as they incur ₹5-₹10 per km compared to ₹12-₹20 for diesel buses, according to CSTEP.

That said, schools would also face challenges in the form of high costs of the buses, the investment on charging infrastructure, limited range of the batteries and maintenance of e-bus fleets. While these are significant and real challenges, EMC and CSTEP are using their campaign to plant the seed of an idea that can profit schools and local communities in the long term.

Transition to e-buses require good planning, and schools with buses are being encouraged to go about it in a phased manner, Spurthi Ravuri, Research Scientist (Strategic Studies), CSTEP, said. "Our intention is to bust myths regarding electric school buses and raise awareness among the schools," Ms. Ravuri said.

Feasible routes

Planning involves phased adoption of e-buses, route identification and charging schedules. "Among existing routes, school can identify those feasible for e-bus operations based on the range of e-buses (80-120 km)," the hand book notes. Schools can also take advantage of solar energy and reduced daytime electricity tariffs for charging when the buses are not in operation.