PRESS RELEASE

Using EVs for waste collection in Amritsar could reduce fuel costs and carbon emissions by at least 60%: CEEW

- *Switching 200 diesel waste collection vehicles to EVs can save the city INR 50–70 lakh each year*
- *This could also reduce 16,000 kg of PM2.5 emissions annually, easing air pollution and health burdens*
- *Amritsar's fixed routes and short distances make EVs ideal for municipal services*

New Delhi, 3 July 2025: Switching from diesel to electric vehicles (EVs) for door-to-door (D2D) waste collection could reduce the Amritsar Municipal Corporation's fuel costs by 60–70 per cent and cut carbon emissions by 64 per cent compared to diesel vehicles, according to a new independent study released today by the Council on Energy, Environment and Water (CEEW). While most of Amritsar's waste collection fleet runs on diesel, the study finds that electrifying the ~200 vehicles used for primary household waste collection could save the municipal body over INR 50-70 lakh and avoid 16,000 kg of PM2.5 emissions each year.

CEEW's findings come at a time when Punjab's cities are modernising essential municipal services to improve the quality of life. With Punjab being the only state to prioritise electrifying its waste collection fleets through targeted incentives in its EV policy, the moment is ripe to turn early gains into a statewide push. Amritsar—a million-plus non-attainment city under the National Clean Air Programme—has already built momentum in clean transport by transitioning diesel auto-rickshaws with electric ones. The city, with a population of 1.4 million generating over 425 tonnes of waste daily, operates fixed, low-speed, and short-distance door-to-door collection routes. These conditions make it especially well-suited for municipal vehicle electrification. EVs can be deployed for household waste collection without changing route plans and charged overnight at depots or designated facilities, making the transition both cost-effective and logistically seamless.

Shri Gulpreet Singh Aulakh, Commissioner, Municipal Corporation of Amritsar, said, "Amritsar has actively participated in the EV transition, notably through the Rejuvenation of Auto-Rickshaws in Amritsar (RAAHI) scheme, which facilitated the replacement of diesel passenger autos with electric ones. Door-to-door waste collection vehicles also have a significant potential for electrification, as emphasised in this timely CEEW study. Through this transition, municipal bodies can save emissions, reduce noise pollution and cut fuel expenses."

Dr Himani Jain, Senior Programme Lead, CEEW, said, "With the Swachh Bharat Mission driving improvements in urban sanitation, there is a clear opportunity to align waste collection with clean mobility. Door-to-door collection is particularly well suited for electrification, thanks to its fixed routes, regular schedules, and available parking with most urban local bodies. Our study finds that, despite higher upfront costs, EVs offer significant lifetime savings, especially when assessed on a per-tonne basis for typical waste operations. This study provides the necessary data and tools to expand this transition from a single city to a nationwide effort."

Currently, waste collection vehicles in Amritsar consume over 3.6 lakh litres of diesel per year. Their emissions deteriorate air quality and raise the urban carbon footprint. CEEW analysis shows that electrifying this segment alone can drastically reduce pollution and improve operational efficiency, making it a strong candidate for immediate action under the Punjab Electric Vehicle Policy, 2022.

The CEEW study also offers clear guidance for optimising vehicle configurations for waste collection fleets based on usage. At current daily distances of 15–20 km, smaller e-carts with a 300 kg payload are the most

cost-effective. For longer routes of 50 km or more, electric three-wheelers with a 550 kg payload—categorised by the Ministry of Road Transport and Highways (MoRTH) as L5N vehicles—offer better value.

To scale this transition across Punjab, the CEEW study recommends assessing the current waste collection fleet mix, developing a phased transition plan including expansion of charging infrastructure at municipal depots and aggregating demand across multiple cities/towns. With its combination of economic and climate gains, this analysis also informs other urban local bodies across Punjab–including Ludhiana, Jalandhar, Bathinda, and Patiala–and national-level planning for low-emission urban services. The study also estimates a need for over 80,000 D2D waste collection vehicles in Indian cities with a population exceeding 1 lakh, for which electrification scenarios have been developed accordingly.

Read the full study, ***'What is the Electrification Potential of Door-to-door Waste Collection Vehicles in India?'*** by Samradh Singh Chauhan, Arpan Patra, and Himani Jain.

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About CEEW
The Council on Energy, Environment and Water (CEEW) — a homegrown institution with headquarters in New Delhi — is among the **world's leading climate think tanks**. The Council is also often ranked among the **world's best-managed and independent think tanks**. It uses data, integrated analysis, and strategic outreach to explain — and change — the use, reuse, and misuse of resources. It prides itself on the independence of its high-quality research and strives to **impact sustainable development at scale** in India and the Global South. In over 14 years of operation, CEEW has impacted over 400 million lives and engaged with over 20 state governments. Follow us on X (formerly Twitter) @CEEWIndia or on LinkedIn for the latest updates.