# Capacity Building Programme

*Accelerating Net Zero Transition of Public Transportation in Kolkata*

*Date: 10th May 2023*

*Time: 10:00 AM-5:00 PM*

*Venue: The LaLiT Great Eastern Kolkata*

**BACKGROUND**

Kolkata is one of the most populous cities in India, with a high demand for public transportation. However, the city has been facing air pollution and GHG emission issues due to increased vehicular emissions. To mitigate this, the Government of West Bengal has implemented initiatives to electrify public transportation. TERI in support of new energy Fund is implementing a project "**Accelerating Net Zero Transition of Public Transportation in Kolkata**" with West Bengal Transportation Corporation.

For an easier technology shift and integration in public transportation networks, it is envisaged the WBTC officials to participate in a capacity-building program on specific course modules that are relevant to the project. As part of the project, TERI is supporting WBTC in conducting this capacity-building workshop for senior and mid-level officials.

**OBJECTIVES**

The capacity building program is designed to address the below objectives:

- **A.** Develop a comprehensive understanding of the charging infrastructure, charging technologies, financial models, and administrative measures needed to implement the transition to electric vehicles in public transportation.
- **B.** Identify and finance ground-level infrastructure implementation challenges.
- **C.** Discuss cross-cutting issues such as charging optimisation, asset utilisation, and innovative business models.
- **D.** Encourage stakeholder collaboration to promote sustainable public transport in Kolkata.

**EXPECTED OUTCOME**

At the end of this capacity building program, officials would be aware of the key challenges and impart knowledge about best practices which should be adopted by the all the relevant stakeholders to implement the state EV policy (with a focus on public transportation systems).

1. Improved understanding of technological development in decarbonizing public transport in Kolkata, including charging infrastructure and battery management systems
2. Understanding of infrastructural growth required to transform to E-mobility, including charging infrastructure and battery management systems.

3. Increased awareness of the environmental, social, and economic benefits of clean transport in Kolkata, including job creation and economic growth in the EV sector
4. Improved public transportation infrastructure and services in Kolkata, resulting in reduced air pollution and a better quality of life for citizens.

**TARGET GROUP**

The capacity building workshop will constitute senior and mid-level officials from technical and managerial departments handling the public transport in the city. The expected focused discussion and knowledge-sharing outcomes of the workshop are briefly discussed below

| TECHNICAL DEPARTMENTS | MANAGERIAL DEPARTMENTS |
|---|---|
| **Charging Technologies**<br>Discussion on the latest charging technologies in the market (smart/controlled charging) that can be implemented in the bus depots for conventional as well as opportunity charging, which are efficient and also economically viable. | Charge Scheduling<br>Discussion on the optimum charging schedule of the E-buses and planning out a strategy where all the chargers are optimally utilized, and all the E-buses get charged in a hassle-free manner. |
| **Charging Infrastructure**<br>Deliver a broad understanding on the identification of potential locations for installing a charging station and requirements for installation. | Operations<br>Discussion on day-to-day operational challenges, measures to be taken, monitoring of the performance, and maintenance options for buses & chargers. |
| **Load estimation**<br>Calculations of sizing of the batteries required for E-buses as well as determining the load due to charging of the E-buses. | Financing Models<br>Discussion on different financial models required to generate the necessary funds for decarbonizing the public transport system in Kolkata. |
| **Green energy utilization**<br>Knowledge exchange on how renewable energy can be utilized for charging E-buses and help in decarbonizing the passenger fleet of the city. | Revenue streams<br>Possible strategies for generating revenues through alternative business models using an electrified fleet and suggesting cost-effective options. |
| **Asset Utilization**<br>Knowledge sharing on utilizing the EV charging infrastructures for public charging, sharing the distribution infrastructure with public EV charging, reuse and recycling of batteries after EOL 1 & EOL 2, etc. | Integrated Fleet operation<br>Understanding of successful fleet operation through an integrated mode of transport such as buses, metros with 3-wheelers, electric 2-wheelers, etc. ensuring last-mile connectivity. |