GREEN ENERGY TO POWER 80% OF METRO RAIL OPERATIONS, TENDERS FLOATED | 6

Green energy to power 80% of metro rail ops, tenders floated

TIMES NEWS NETWORK

Chennai: Metro rail services will soon go green as Chennai Metro Rail Limited (CMRL) plans to purchase renewable energy to power 80% of its daily operations including running of trains. CMRL floated a tender recently to look for a consultant who can assist in procuring both solar and wind power as part of its efforts to operate an environment-friendly transit system.

"We will be purchasing solar and wind power from the open market. We have floated a tender for a consultant who can recommend how much to procure, where to purchase it and the cost. All these aspects will be finalised in two months," a CMRL official said.

By looking to procure power from the open market, CMRL officials said they also hope to cut down on expenses by half. "We pay around Rs 8 per unit to Tangedco. We will look for a tariff that costs us around Rs 3.50. However, we will be able to decide on this only after we fix a consultant," the official said.

The power purchased will be used to drive the traction system required to run the trains and to operate both elevated and underground metro stations.

An elevated station, which requires power mostly for lighting, escalators and elevators, takes up 1,900 units on average every day. An underground station on average consumes nearly double that energy at 3,500 units as it needs to run its air-conditioning and ventilation systems apart from lighting and other facilities.

Apart from the power supply from TNEB, metro rail has facilities to generate its own power through its traction system. A metro train on average saves about 30% energy it requires through the regenerative braking system. Whenever the operator applies brakes, three-phase traction motors installed in the trains act as generators to produce electricity which goes into the overhead electricity lines.

In addition, CMRL has also installed 6MW capacity solar panels in elevated stations and 1MW capacity photovoltaic panels at its maintenance depot in Koyambedu. This is expected to save Rs 1.12 crore every year.

Delhi Metro Rail, which consumes around 140 MW electricity, uses more than 17 MW generated from solar energy. It has installed solar panels at many metro stations with a capacity of approximately 2,800 kWp. In addition, metro trains in Delhi are expected to receive supply from a solar power plant – touted to be the world's largest with a capacity of 750mw – under construction in Madhya Pradesh.

ENERGY EXPENDITURE

How much power metro rail consumes and generates every day

6,300kWh electricity consumed by one train per day	**1,900kWh** electricity generated through traction system by one train per day	➤ **Electricity generated through traction system during braking is mostly consumed by rolling stocks in the same electrical section.** Remaining is fed back to CMRL network

1,900 units average energy consumed by an elevated station per day	**3,500 units** average energy consumed by an underground station per day	**₹8 per unit** paid by CMRL to Tangedco