

Metro goes green with clean power, water

The CMRL generates 14,000 units of power every day from the solar panels installed on the rooftops, officials said



Metro Rail generates power from renewable sources; solar panels installed on rooftops of the railway network

CHENNAI: Other than the convenient connectivity that it offered, the Chennai Metro Rail was also meant to help reduce the city's carbon footprint - each rake would carry passengers who would otherwise occupy, depending on their class and profile, 16 buses, 300 cars or 600 two-wheelers. But within just a few years of its inception, the service has gone much beyond than this indirect green step. It now generates a substantial portion of its power requirement from renewable sources, recycles water, and is promoting electric vehicles.

Pointing out how the rail network has installed solar panels on rooftops, officials told *DT Next* that the Metro Rail is now generating 14,000 units of power every day from these panels, which has an installed capacity of 3.620 MW. "Simply put, the Metro Rail is saving around 34 per cent of its total

METRO PAINTS THE CITY GREEN

1,900 units

average energy consumed by an elevated station per day

3,500 units

average energy consumed by an underground station per day

Rs 8

per unit paid by CMRL to TANGEDCO

6,300 KWH

electricity consumed 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 the CMRL network

1,900 KWH

electricity generated through traction system by a train per day



said, "The stations are designed to reflect functional aesthetics, user-friendliness and energy efficiency. Around 32.5 per cent of regenerative energy shall be fed back to the grid. We are expecting to achieve an Economic Internal Rate of Return (EIRR) of more than 16.22 per cent."

This is not all. The network management is also saving water by recycling. The Metro Rail administration and depot buildings are utilising recycled water from the 150 kilolitre per day (KLD) sewage treatment plant for various purposes.

To ensure efficient water management, water efficient toilet fittings have been utilised. For instance, the taps are fitted with economisers to reduce the flow of water, and thus save nearly 40 per cent of water. "We

are proud that various innovative measures are undertaken by CMRL when compared to the other Metro networks across the country. We wanted to put the tax payers' money into efficient use," said another official.

According to the official, there is a non-electrified sewage treatment plant (anaerobic type) that is already operational at the CMBT station premises. This plant recycles around 5,000 litres of water every day, which is used for gardening. "A similar facility will be installed at Guindy. In all other stations, the water usage is monitored with the help of flow meters for economic usage of water," he noted.

Over the years, the CMRL has introduced alternate modes of trans-

port, including cycles, to improve the last-mile connectivity and encourage eco-friendly transportation. According to the latest data, more than 1.78 lakh metro passengers have used the feeder services to reach their respective destinations, instead of using private vehicles to cover the same distance.

Now, going another step forward, the CMRL is planning to extend a discount for the users of e-vehicles at its parking lots. This is aimed at promoting electric vehicles.

"The project moved with an intent that commuters are provided with a well-integrated system comprising of interstate bus terminal, railway stations and Multi Modal Transport System (MMS) Station. In view of it, from the road to the concourse or ticket counters and back, facilities have been provided in such a way to ensure unhindered flow of pedestrians who use the Metro, and to make the commute a comfortable experience," added another official.

In a big boost to these efforts, the CMRL Administrative Depot bagged LEED-NC 2009 'Gold' Certified Building in May last. Based on this method of evaluation, the administrative building depot was awarded 70 out of 110 points, which fetched them the gold rating under LEED 2009 for the New Construction.

"Our Phase -2 Metro stations are also planned to be green rated. It will have elements like rainwater harvesting, harnessing solar energy, universal access to physically-challenged commuters, last-mile connectivity through non-motorised transport, energy efficient design, and various others. These measures will be integrated at the design stage itself," said Pankaj Kumar Bansal, the managing director of CMRL.

"Based on the experiences and lessons learnt from the Phase 1, new plans and innovative measures will be implemented in the second phase," he added.

