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# Nagpur Metro designed by Enia Architects tagged as one of the greenest in the country

Nagpur metro, designed by Enia Architects, has been tagged as one of the greenest in the country thanks to its many innovative, eco-friendly features

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Movement of people and goods within city limits and from one city to another now has become a serious problem in the wake of rapid urbanization. Growth in size of the city and its population has led to increase in pollution, traffic congestion with the resultant increase in travel time. The rapid urbanization in cities requires a transport network not only for commuting, but also for sustainable growth of the city.

A mass transport system like the metro rail network can transform a city into a sustainable development by improving the quality of life of its inhabitants. It is pollution-free, and a reliable mode of transport, which brings to the city a new pulse, rhythm and metronome.

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According to Brijesh Dixit, MD, Maha-metro Rail Corporation, the Nagpur Metro Rail Project is being planned, designed and implemented to be the Greenest Metro with many innovative and unique features. All stations, administrative buildings and depots have been planned and designed to achieve Maximum Rating under IGBC. All the Green Norms of MRTS Green Building are being implemented and monitored. These include Energy & Water efficiency, Waste Water Management, Enhanced Indoor Environment & Comfort, and 100% segregation of waste at source, etc.

The Nagpur Metro project in phase-1 has two lines running north to south and east to west, intersecting in the heart of the city at Sitaburdi. It has been tagged as one of the Greenest Metros of the country since it has many green features, which include:

- Solar Farming
- Bio-digesters for sewage treatment
- Reforestation
- Electric/solar-powered Feeder Vehicles
- Double glazed building envelope with sun-shading

elements • Station integrated with Metro development at TTMC

through a direct elevated link • Shaded Patios • Creating more green/open areas in totality at each

level • Redevelopment of Nag River front • Rain-water Harvesting • LED Lights

- Efficient Central Air-conditioning
- Green Education
- Pre-cast construction methodologies to save time and cost



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All the stations of Nagpur Metro are being planned to be Green Stations under IGBC'S green rating program. Up to 65% of the power requirement during the operational phase will be utilized from solar energy. The roofs will be completely covered by solar panels; water will be recycled to have zero pollution loads on public infrastructure by using DRDO based bio-digesters. The recycled water will be used for flushing and gardening through dual plumbing system.

Maha-metro has planted 5,000 saplings that have a survival rate of more than 90% at the Ambazari area. Plant saplings and trees will also be planted in several parts of the city to enhance the surroundings. These are estimated to reduce CO2 by 100 tons per year.

For us, sustainable architecture not only uses technology or engineering, but also starts with sustainable planning of a project. Ar. Shival Manchanda, Enia We are currently working on the architectural and engineering design of 11 metro stations and related development around them. Each station has a different context and hence specific solutions are required for specific complex problems. Ar. Atri Joshi, Enia