

Railways to become Net Zero Carbon Emission Mass Transportation Network

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Indian Railways has endeavoured to be self-reliant for its energy needs and solarise railway stations by utilizing its vacant lands for Renewable Energy (RE) projects. Railway has claimed that it is committed to utilize solar energy for meeting its traction power requirements and become a complete '**Green mode of transportation**'.

Net Zero Carbon Emission Network

The present energy demand would be fulfilled by the solar projects being deployed, making it the first transport organisation to be energy self-sufficient. This would help in making Indian Railways green as well as 'Atma Nirbhar'.

Measures Taken

- It has started **energy procurement from various solar projects** like 3 MWp solar plant set up at MCF Raebareilly (UP).
- About 100 MWp **rooftop solar systems** have already been commissioned on various stations and buildings of Indian Railways.
- A project of 1.7 MWp at Bina (Madhya Pradesh) which shall be **connected directly to the Overhead Traction System** has already been installed and is presently under extensive testing. This is the first of its kind project in the world commissioned by Indian Railways in collaboration with Bharat Heavy Electricals Limited (BHEL). It involves adoption of innovative technology for converting **Direct Current (DC) to single phase Alternating Current (AC)** for feeding directly to

railway's overhead traction system.

- Two pilot projects for the **scheme of land based solar plants** for meeting electric traction energy requirements of Indian Railways are under implementation. One of them is a 50 MWp solar power plant on vacant unused land at Bhilai (Chhattisgarh) which shall be connected with Central Transmission Utility (CTU) and the other is a 2 MWp solar plant at Diwana (Haryana) which shall be connected to State Transmission utility (STU).
- Indian Railways is also adopting an innovative concept of **installation of solar projects along operational railway lines**. This will help in preventing encroachment, enhancing the speed and safety of trains and reduction of infrastructure costs due to direct injection of solar power into the traction network.

With these mega initiatives, Indian Railways is leading India's fight against climate challenge and is taking significant steps towards meeting its ambitious goal of being a net zero carbon emissions organisation and meeting India's **Intended Nationally Determined Contributions (INDC) targets**.