



Varanasi: India's First City to Install Solar Panels Between Railway Tracks

Why in News?

Varanasi is the first city in India to install **portable solar panels** between railway tracks, promoting **sustainable energy**.

- This **pilot project** at Banaras Locomotive Works (BLW) supports Indian Railways' goal of reducing its **carbon footprint** and achieving **net-zero emissions**.



Key Points

- **About:** The installation features **solar panel system spanning 70 meters** of railway track, with **28 panels of 15 kWp capacity**, generating **880 units** per kilometre daily and a power density of 220 kWp per kilometre.
- **Panel Design:** The solar panels are **removable for easy maintenance** and seasonal adaptation, mounted on sleepers with an indigenously designed installation procedure to ensure secure and safe attachment without disrupting train traffic.
 - Rubber mounting pads reduce vibrations from passing trains, epoxy adhesive secures the panels, and the space between tracks eliminates the need for extra land acquisition.
- **Environmental and Operational Impact:**
 - **Energy Generation Potential:** The scheme is expected to produce an estimated **3.21 lakh units per kilometre** per year.
 - **Indian Railways Network:** With a track length of **1.2 lakh km**, this technology has the potential to be deployed extensively across the network, especially on yard lines.

- The solar panels complement existing **rooftop solar power plants** installed within BLW premises, further strengthening Indian Railways' renewable energy commitment.

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