



DAILY EDITORIAL ANALYSIS

TOPIC

**INDIA'S CLEAN ENERGY RISE
NEEDS CLIMATE FINANCE
EXPANSION**

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INDIA'S CLEAN ENERGY RISE NEEDS CLIMATE FINANCE EXPANSION

Context

- India is positioning itself as a global leader in climate action with ambitious targets for renewable energy, green hydrogen, and decentralized power systems.
 - However, it is threatened by a persistent and widening climate finance gap.

India's Clean Energy Transition

- India is rapidly shifting from coal-dominated power generation to a diversified mix of solar, wind, hydro, bioenergy, and nuclear with a target of **achieving 500 GW of non-fossil fuel capacity by 2030**.

Growth in Renewable Energy

- India's non-fossil fuel installed capacity reached 213.70 GW by late 2024.
- India added **24.5 GW of solar energy capacity**, ranking **third globally**—behind only **China and the United States** in 2024.
 - India stands alongside **Brazil and China** as a leading developing economy advancing **large-scale solar and wind deployment**, recognised by the **UN Secretary-General's 2025 Climate Report**.
- Wind Energy:** Installed capacity grew to 47.96 GW, with total wind capacity (including pipeline projects) at 74.44 GW.
- Hydro and Bioenergy:** Combined capacity from small and large hydro projects exceeded 72 GW, while bioenergy reached 11.34 GW.
- Nuclear Energy:** Installed capacity rose to 8.18 GW, with total capacity including pipeline projects at 22.48 GW.
- India contributed nearly **5% to India's GDP growth**, supporting **over one million jobs**, including **80,000 in off-grid solar in 2023**.
- IRENA projects **India could achieve 2.8% average annual GDP growth through 2050 under a 1.5°C-aligned pathway**.

Growth of Green and Sustainable Finance

- Green, Social, Sustainability and Sustainability-linked (GSS+)** debt issuance totalled **\$55.9 billion**, marking a **186% rise since 2021**.
- Green bonds** accounted for **83%** of this, with cumulative investments surpassing **\$45 billion in 2025**, with sustainable finance **targets set at \$100 billion by 2030**.
 - Key enablers include:
 - Sovereign green bonds** and **SEBI-regulated social bonds**;
 - Solar Park Scheme auctions** that attract private capital;
 - Growing investor confidence in India's sustainable finance frameworks;

Financial Gap Behind the Growth

- India requires between **\$1.5 trillion and \$2.5 trillion** in climate investments by **2030**, according to **IRENA** and India's **Ministry of Finance**, to stay on a **1.5°C pathway**. These funds are needed for:
 - Expanding renewable capacity;
 - Strengthening power grids;
 - Scaling **battery storage** and **green hydrogen**;
 - Supporting **sustainable transport and agriculture**;
- Most Green Bonds have been driven by **large private firms**, which accounted for **84% of total green bond issuance**.
 - Expanding access to **MSMEs, agri-tech innovators**, and **local developers** remains critical.

- **Carbon-intensive Sectors in India:** *'India's Climate Finance Requirements: An Assessment'* highlighted that India needs to mobilise **USD 467 billion in climate finance by 2030** to put its **four most carbon-intensive sectors** — **power, steel, cement, and transport** — on a low-carbon trajectory.

Way Forward

- **Diversifying Climate Finance Strategy:** India needs to **broaden and deepen** its climate finance approach. **Public finance** needs to play a catalytic role in leveraging private investment through **fiscal incentives** and **de-risking tools**. **Blended finance** offers a pragmatic pathway:
 - ♦ **Partial guarantees** and **subordinated debt** can enhance investor confidence.
 - ♦ **Performance or loan guarantees** can mobilize funds for mid-sized clean projects in **Tier II and III cities**.
 - ♦ **Institutional capital**—from pension funds, insurers, and sovereign wealth funds—must be mobilized for green investments.
- Regulatory reforms are essential to **enable institutional investors** to commit a portion of their portfolios to **ESG-aligned** projects.
- **Unlocking Carbon Markets and Innovation:** The **Carbon Credit Trading Scheme (CCTS)** presents another opportunity to generate climate finance if implemented with transparency and equity.
 - ♦ Simultaneously, India must prioritize **financing for climate adaptation and loss & damage**, areas often overshadowed by mitigation.
- **Blended Finance Models:** Combining concessional and commercial capital to de-risk investments and support MSMEs, agri-tech innovators, and decentralized energy developers.
- **Climate Finance Taxonomy:** The **Finance Ministry's draft taxonomy** aims to guide investments toward sustainable projects and prevent greenwashing, aligning with **India's Net Zero by 2070 goal**.
- India needs to focus on **technology-driven solutions** such as:
 - ♦ **Blockchain** for transparent climate finance tracking;
 - ♦ **AI-powered risk assessments** for green portfolios;
 - ♦ **Customised blended finance models** adapted to India's socio-economic context;

Source: TH

Daily Mains Practice Question

[Q] Discuss the role of climate finance in accelerating India's clean energy transition. How can innovative financial mechanisms and global cooperation help bridge the investment gap and ensure inclusive, sustainable growth?

