Greenhouse Gas Emission Intensity Target Rules – Explained

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Greenhouse Gas Latest News

- The Government of India has notified the Greenhouse Gas Emission Intensity (GEI) Target Rules, 2025, setting legally binding emission reduction targets for four key industrial sectors.

About the Greenhouse Gas Emission Intensity Target Rules, 2025

- In a landmark move toward enforcing India's climate commitments, the **Ministry of Environment, Forest and Climate Change (MoEFCC)** has notified the **Greenhouse Gas Emission Intensity (GEI) Target Rules, 2025**.
- This sets the country's **first legally binding emission reduction targets** for four major industries: **cement, aluminium, pulp & paper, and chlor-alkali**.
- These Rules are a critical step toward operationalising the **Carbon Credit Trading Scheme (CCTS), 2023**, which established India's domestic carbon market.

- The initiative supports India's larger pledge to **reduce the emissions intensity of its GDP by 45% by 2030**, compared to 2005 levels, under the **Paris Climate Agreement (2015)**.

Coverage and Scope of the GEI Rules

- The notified Rules apply to **282 high-emission industrial units** across the country, broken down as follows:
    - **186 cement units**
    - **13 aluminium units**
    - **30 chlor-alkali units**
    - **53 pulp and paper units**
- Each unit is assigned specific emission reduction targets for **two compliance periods**, **2025-26 and 2026-27**.
- The emission intensity, or **GEI**, measures the **amount of greenhouse gases emitted per unit of production output**, expressed in **tonnes of CO_2 equivalent (tCO_2e)** per tonne of product (for example, per tonne of cement or aluminium).
- Implementing Agency: **Bureau of Energy Efficiency (BEE)**

Linking GEI Targets with the Carbon Credit Market

- The GEI Rules create a direct link between **industrial emission performance** and **carbon market participation**.
    - **Compliant Units:** Industries that meet or exceed their emission intensity targets will earn **carbon credits**, which they can trade in the **domestic carbon market** for monetary value.
    - **Non-Compliant Units:** Those that fail to meet their targets must either **purchase credits** from the market to offset their shortfall or **pay environmental compensation**, enforced by the **Central Pollution Control Board**.
- This mechanism encourages companies to **invest in cleaner technologies** and **energy-efficient production systems**, transforming emission reduction into an economic opportunity rather than a regulatory burden.

Targets and Sectoral Impact

- The GEI targets require industries to progressively reduce emissions intensity as follows:
    - **2025-26:** 2-3% average reduction
    - **2026-27:** Up to 7.5% reduction compared to baseline levels
- Sector-specific goals include:
    - **Cement:** Reduction between **4.7% and 7.6%** depending on the type of cement (e.g., Ordinary Portland Cement).
    - **Pulp and Paper:** Reduction targets as high as **15%** over two years.
    - **Aluminium and Chlor-Alkali:** Moderate but steady reduction requirements to ensure process efficiency.

Transition from PAT to CCTS Framework

- Before the Carbon Credit Trading Scheme (CCTS), India introduced the **Perform, Achieve, Trade (PAT) scheme** under the **National Mission on Enhanced Energy Efficiency (NMEEE)** in 2012.
- The PAT mechanism allowed energy-intensive industries to improve efficiency and trade "energy saving certificates."
- However, the **PAT scheme** lacked a **carbon market component**, focusing solely on energy savings.
- The **CCTS**, by contrast, incorporates a **market-based carbon trading system**, aligning India's domestic framework with global carbon markets.

Importance of the GEI Rules for India's Climate Commitments

- **Operationalising the Domestic Carbon Market**
  - The GEI Rules are the **first practical step** in establishing India's carbon trading system.
- **Supporting Net-Zero Transition**
  - India's target of achieving **net-zero emissions by 2070** relies heavily on emission reductions from industrial sectors.
- **Encouraging Technological Innovation**
  - By monetising efficiency improvements, the framework incentivises the **adoption of green manufacturing technologies**, **renewable energy integration**, and **carbon capture solutions**.
- **Aligning with Global Best Practices**
  - The model mirrors frameworks in the **EU Emissions Trading System (ETS)** and **China's national carbon market**, positioning India as a future leader in **Asia's carbon economy**.
- **Driving Accountability and Enforcement**
  - For the first time, emission intensity reduction targets are **legally binding**. Non-compliance will trigger **penalties and compensation**, introducing stronger environmental governance in India's industrial ecosystem.

Challenges in Implementation

- **Accurate Measurement and Reporting:** Industrial units will need robust systems to monitor and verify emissions data.
- **Capacity Gaps:** Smaller industries may lack the technical or financial capacity to comply immediately.
- **Market Liquidity:** The success of the carbon credit trading mechanism depends on sufficient market participation.
- **Regulatory Coordination:** Effective collaboration between **BEE, CPCB, and MoEFCC** is essential for smooth enforcement.
- To address these concerns, the government plans to expand the CCTS to include **more sectors**, strengthen **monitoring, reporting, and verification (MRV)** protocols, and promote **digital carbon registries** for transparent trading.

Source : IE | TH