Green Hydrogen Certification Scheme

Prelims - *Current events of national and international importance, Sustainable Development.*

Mains (GS-I) - *Conservation*

Why in news?

Recently Union Minister of New and Renewable Energy launched a scheme to measure, monitor, report, verify on-site, and certify green hydrogen based on a standard introduced by the Ministry in 2023.

- **Green hydrogen certification** – It is a process that verifies the sustainability of hydrogen production, ensuring it's made using renewable energy and has low greenhouse gas emissions.
- **Nodal agency** – The Bureau of Energy Efficiency (BEE).
- **Certification standards** – The standard emissions capped at *2 kg of CO_2 emitted per kg of hydrogen* produced in 12-month average.
- It is applied only to green hydrogen ***production from electrolysis*** or conversion of biomass.
- **Carbon Credit Trading Scheme (CCTS)** – BEE also announced an offset mechanism for *hard-to-abate sectors* using green hydrogen under CCTS on.

Hard-to-abate sectors are those where reducing emissions is particularly challenging due to the nature of their industrial processes and their dependence on fossil fuels.

These sectors include iron and steel production, cement manufacturing, non-ferrous metals, and chemicals.

- This offset mechanism allows these sectors to use green hydrogen to earn and trade carbon credits.
- Current CCTS mechanism does not include sectors like steel, refineries, and shipping.

Significance

- It will *boost India's green hydrogen exports* and encourage energy-intensive sectors to adopt the emerging fuel.
- It will help to ensure that the hydrogen produced in India truly qualifies as green.
- It *prevents greenwashing* and ensure quality and credibility, making it globally

desirable and export-ready.

Government has identified Kandla, Paradip, and Tuticorin international ports as key hubs for green hydrogen production.

Quick facts
National Green Hydrogen Mission • **Nodal ministry** - Ministry of New and Renewable Energy (MNRE) • Backed by an outlay of nearly Rs 20,000 crore. • Supports domestic electrolyser manufacturing, green hydrogen production, and sector-specific pilot projects. • Encourages sustainable water use and R&D for technologies using seawater or wastewater. To know more about this, click here

Reference

The Indian Express| Green Hydrogen Certification Scheme

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