



India Hosts 1st Annual Green Hydrogen R&D Conference

Why in News?

Union Minister of New and Renewable Energy, Shri Pralhad Joshi, inaugurated the **1st Annual Green Hydrogen R&D Conference** organised by the Ministry of New and Renewable Energy (MNRE).

Key Points

- The **1st Annual Green Hydrogen R&D Conference 2025** was held on **11th-12th September 2025** in **New Delhi**, featuring expert sessions, interactive roundtables, and a **Start-up Expo** with **25 pioneering companies** driving India's green energy revolution.
 - At the event, **25 start-ups** showcased breakthroughs spanning electrolyser manufacturing, AI-driven optimisation, and biological hydrogen solutions.
- A **₹100 crore Call for Proposals** to support start-ups driving innovation in hydrogen technologies was also launched.
 - The scheme will provide up to ₹5 crore per project for pilot initiatives in hydrogen production, storage, transport, and utilisation.

India's Green Hydrogen Ecosystem

- **Ports:** India's first **port-based pilot project** at V.O. Chidambaranar Port, **Tamil Nadu**.
- **Steel:** Five pilot projects showcasing hydrogen-driven decarbonisation.
- **Shipping:** Retrofitted vessels and refuelling facilities at **Tuticorin Port**.
- **Transport:** Hydrogen buses and refuelling stations are operational.
- **Fertilisers:** First-ever green ammonia auction revealed a record low price with supplies starting at Paradeep Phosphates, **Odisha**.
- **Hydrogen Hubs:** Dedicated **hydrogen hubs** are under development at **Kandla, Paradip, and Tuticorin Ports**.
- **Mission:** **National Green Hydrogen Mission (NGHM)** was launched in 2023 with an outlay of **₹19,744 crore**.

NATIONAL GREEN HYDROGEN MISSION

NODAL MINISTRY

- Ministry of New and Renewable Energy

OBJECTIVE

- Decarbonise energy/industrial/mobility sector
- Develop indigenous manufacturing capacities
- Create export opportunities for GH_2 and its derivative

COMPONENTS OF NGHM

- Strategic Interventions for Green Hydrogen Transition Programme (SIGHT)
- Strategic Hydrogen Innovation Partnership (SHIP) (PPP for R&D)

Expected Outcomes by 2030

- ◆ Atleast 5MMT GH_2 annual production
- ◆ Rs 1 lakh crore fossil fuel import savings
- ◆ 6 lakh jobs
- ◆ 50MMT CO_2 annual emissions averted
- ◆ ₹ 8 lakh crore investment

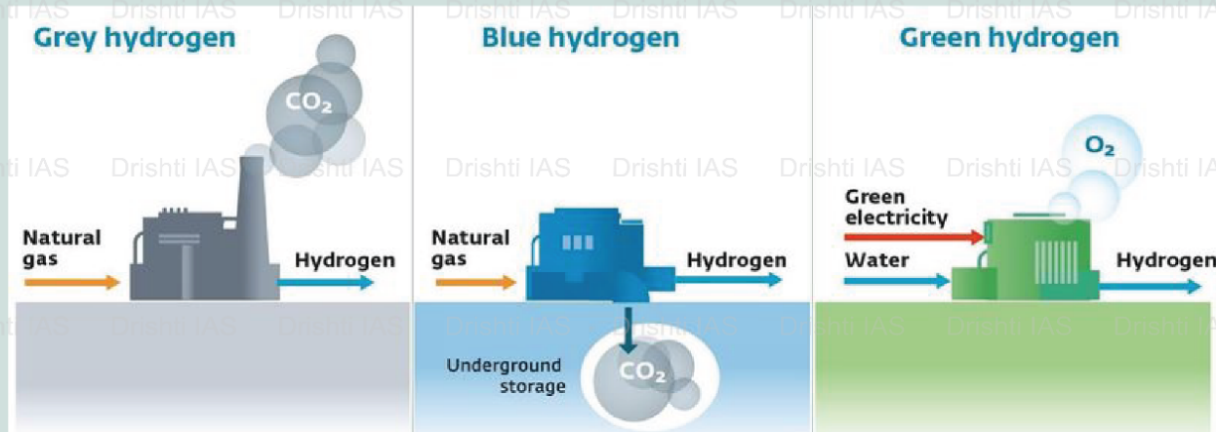
GH_2 is not commercially viable at present; current cost in India is around ₹350-400/kg.

The National Hydrogen Energy Mission aims to bring it down under ₹100/kg.

HYDROGEN AND GREEN HYDROGEN

Hydrogen is the most common element in nature but exists only in combination with other elements. It has to be extracted from naturally occurring compounds (like water).

Green Hydrogen (GH_2) is made by splitting water through an electrical process called electrolysis, using an electrolyser powered by renewable energy (RE).



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