



UP's 1st Green Hydrogen Plant

Why in News?

Uttar Pradesh Chief Minister Yogi Adityanath **inaugurated the state's first [green hydrogen plant](#)** and the **second of its kind in the country** at **Khanimpur village, Gorakhpur district**.

India's Green Hydrogen Milestones

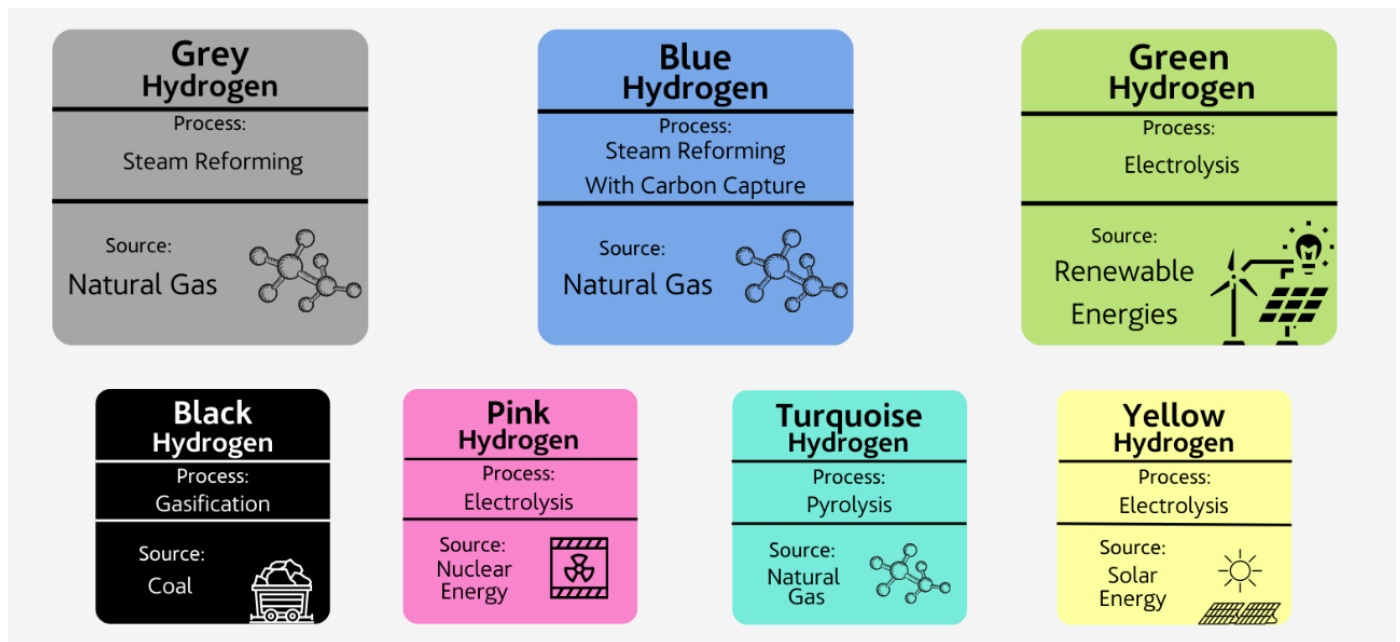
- **[Kandla Port](#) in Gujarat** is the site of **India's first Make-in-India Green Hydrogen Plant**, advancing the country's Net-Zero goals.
- Jindal Stainless Limited in Hisar is **India's first off-grid green hydrogen plant** dedicated to the **stainless steel industry**, making it a global first for the sector.
- **Adani Group** commissioned **India's first off-grid 5 MW** green hydrogen pilot plant in **Kutch, Gujarat**, pioneering renewable-powered hydrogen production.

Key Points

- **About:** The plant, set up by **Torrent Gas and Torrent Power**, marks a significant milestone in **[India's transition to clean energy](#)**.
 - As part of a pilot project, the plant will blend up to **2% green hydrogen with [natural gas](#)** (CNG and PNG), which will be supplied to domestic households, CNG stations, and industries via the local gas grid.
- **Significance:** The project is the **largest** green hydrogen and natural gas blending initiative in the country's city gas distribution sector, expected to **cut [carbon emissions](#)** by 500 tonnes annually and establish Uttar Pradesh as a key hub for green hydrogen due to its abundant water resources.
- **Green Hydrogen Policy:** The **[Uttar Pradesh Green Hydrogen Policy 2024](#)** enables Ease of Doing Business by promoting investments and setting up of Green Hydrogen / **[Green Ammonia](#)** production facilities and Green Hydrogen-based product manufacturing units.
 - Uttar Pradesh envisions taking the production capacity of Green Hydrogen / Green Ammonia up to **1 million metric tonnes per year by 2028**.
 - The policy includes a **30% capital subsidy**, which can go up to 40% for the first four projects in the state.

Green Hydrogen

- Green hydrogen is produced by splitting water into **hydrogen (H₂) and oxygen (O₂)** through **electrolysis powered** by renewable energy sources like solar power, or via biomass gasification.
- Its uses include **fuel cell electric vehicles (FCEVs)**, industrial uses such as fertilizers and the refineries sector, and transportation sectors like road and rail.
- **Other Types of Hydrogen:**



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