

Green hydrogen policy

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In news- The Ministry of Power has notified the first part of the Green Hydrogen/ Green Ammonia Policy recently.

About Green Hydrogen Policy-

- **Green Hydrogen / Ammonia manufacturers may purchase renewable power from the power exchange** or set up renewable energy capacity themselves or through any other developer, anywhere.
- Open access will be granted within 15 days of receipt of application.
- The Green Hydrogen / Ammonia **manufacturer can bank his unconsumed renewable power, up to 30 days**, with a distribution company and take it back when required.
- **Distribution licensees can also procure and supply Renewable Energy to the manufacturers of Green Hydrogen / Green Ammonia** in their States at concessional prices which will only include the cost of procurement, wheeling charges and a small margin as determined by the State Commission.
- **Waiver of inter-state transmission charges for a period of 25 years** will be allowed **to the manufacturers** of Green Hydrogen and Green Ammonia for the projects commissioned before 30th June 2025.
- The **manufacturers** of Green Hydrogen / Ammonia and the renewable energy plant shall be **given connectivity to the grid on priority basis** to avoid any procedural delays.
- The **benefit of Renewable Purchase Obligation (RPO) will be granted** incentive to the hydrogen/Ammonia manufacturer and the Distribution licensee for consumption of renewable power.
- To ensure ease of doing business a **single portal for carrying out all the activities** including statutory

clearances in a time bound manner will be set up by MNRE.

- **Connectivity, at the generation end and the Green Hydrogen / Green Ammonia manufacturing end**, to the ISTS for Renewable Energy capacity set up for the purpose of manufacturing Green Hydrogen / Green Ammonia shall be granted on priority.
- **Manufacturers** of Green Hydrogen / Green Ammonia shall be **allowed to set up bunkers near Ports for storage of Green Ammonia for export / use by shipping. The land for the storage for this purpose shall be provided** by the respective Port Authorities at applicable charges.

The policy promotes Renewable Energy (RE) generation as RE will be the basic ingredient in making green hydrogen. In the second phase of the policy, the government would mandate the usage of green hydrogen and green ammonia by plants in a phased manner.

Note- Oil India Limited (OIL), a Government of India enterprise, has commissioned the **country's only pure green hydrogen pilot plant** with an installed capacity of 10 kilograms per day at its **Jorhat Pump Station in Assam**. The plant generates green hydrogen from the electricity produced by the existing 500 kW solar plant utilizing a 100 kW from Anion Exchange Membrane (AEM) Electrolyser array, a technology used in India for the first time. OIL is also conducting a study in collaboration with the Indian Institute of Technology, Guwahati, on the blending of clean hydrogen with natural gas and its effect on the existing infrastructure of OIL. In February, 2022 the GAIL has invited bids from consultants to conduct a feasibility study to set up a green hydrogen project in Odisha.

What is Green Hydrogen / Green Ammonia?

- Green hydrogen, also referred to as 'clean hydrogen' is produced by using electricity from renewable energy

sources, such as solar or wind power, to split water into two hydrogen atoms and one oxygen atom through a process called electrolysis.

- The hydrogen thus produced is used in the manufacturing process and oxygen is released into the atmosphere or bottled and sold to hospitals and industries that need it.
- A similar process also helps produce green ammonia.
- Ammonia is a pungent gas that is widely used to make agricultural fertilisers.
- Green ammonia production is where the process of making ammonia is 100% renewable and carbon-free.
- One way of making green ammonia is by using hydrogen from water electrolysis and nitrogen separated from the air.

Background-

- **The Prime Minister launched the National Hydrogen Mission** on India's 75th Independence Day (i.e. 15th August, 2021).
- The **Mission aims to aid the government in meeting its climate targets and making India a green hydrogen hub.**
- This will help in meeting the target of production of 5 million tonnes of Green hydrogen by 2030 and the related development of renewable energy capacity.
- Hydrogen and Ammonia are envisaged to be the future fuels to replace fossil fuels.
- The Government of India is taking various measures to facilitate the transition from fossil fuel / fossil fuel based feed stocks to green hydrogen / green ammonia.