

U.P. NEW AND RENEWABLE ENERGY DEVELOPMENT AGENCY DEPARTMENT OF ADDITIONAL SOURCES OF ENERGY, GOVERNMENT OF UTTAR PRADESH

FAQ: Green Hydrogen policy 2024



What is Green Hydrogen?

As per Ministry of New and Renewable Energy (MNRE) definition, Green Hydrogen should have a well-to-gate emission of not exceeding 2 kg Carbon Dioxide (CO2) equivalent per kg Hydrogen(H2), taken as an average over the last 12-month period.

How is Green Hydrogen produced?

Green Hydrogen is produced by the process of electrolysis, where water is split into hydrogen and oxygen using electricity generated from renewable sources like solar, wind, or hydropower. This process results in a clean and emission-free fuel that has immense potential to replace fossil fuels and reduce carbon emissions. Another method of producing Green Hydrogen is from biomass, which involves the gasification of biomass to produce hydrogen.

Why is Green Hydrogen important?

Green hydrogen is important because it offers a zero-emission fuel source that can help reduce greenhouse gas emissions, combat climate change, and provide a sustainable energy solution for various industries including transportation, manufacturing, and power generation.

What are the uses of Green Hydrogen?

Green hydrogen can be used in multiple applications such as:

- Fuel for hydrogen fuel cell vehicles.
- Energy storage, balancing supply and demand in renewable energy systems.
- Industrial processes, replacing fossil-fuel-based hydrogen in chemical production.
- Heating, either directly or as part of a hydrogen-natural gas blend.
- Application in sectors like nitrogenous fertilizers, chemicals, refineries, heavy transportation, energy storage, iron and steel, cement, city gas distribution (CGD), glass manufacturing etc.

What are the industries where Green Hydrogen used?

Green Hydrogen finds its application in the following industries: Fertilizer industries, refineries, Transport industry, city gas distribution (CGD), Glass manufacturing, Cement Manufacturing etc.

Who is the nodal agency for the Green Hydrogen project development within Uttar Pradesh?

Uttar Pradesh New & Renewable Energy Agency (UPNEDA)

Whatis the goal of the Uttar Pradesh Green Hydrogen Policy 2024?

The production capacity of 01 (one) Million Metric Tonne per year of Green Hydrogen/Green Ammonia is targeted in Uttar Pradesh by the year 2029

What is the current demand of hydrogen in the Uttar Pradesh?

The current demand of hydrogen in the state is about 0.9 million metric tons per year (MMTPA), which is mainly used in the fertilizer and refinery sectors

How to apply under Uttar Pradesh Green Hydrogen Policy 2024?

Investors can on online apply on UPNEDA Green Hydrogen Portal "<u>https://upnedagh.in/</u>"for setting up Green Hydrogen/Green Ammonia plants

What is the registration fees, security deposits etc.?

- INR-35,000/- for Green Hydrogen/Green Ammonia projects
- INR-35,000/- for Centers of Excellence (COE)
- INR-10,000/- for Startup
- INR-25,000/- for Incubator

All the payments to be done via online mode (<u>https://upnedagh.in/</u>) or in case of DD, it should be payable in the name of Director, UPNEDA at Lucknow.

What are the various enablers by State Government?

Please refer to the Uttar Pradesh Green Hydrogen Policy 2024 for detailed information. Key subsidies, incentives, and state support for investment in Green Hydrogen/Green Ammonia plants include the following:

Capital Subsidy

Investment commitment-based project categories

Category	Eligible Investment Tenure
Large	₹ 50 Cr or more but less than ₹200 Cr
Mega	₹ 200 Cr or more but less than ₹500 Cr
Super Mega	₹500 Cr or more but less than ₹3,000 Cr
Ultra Mega	₹3,000 Cr or more

- Green Hydrogen projects will be provided capital subsidy of 10% to 30% depending on the geographical area of investment. The categorization of the subsidy would depend on the scale of the investment of the project.
- During the policy period, financial incentives of 35% and 40% of ECI in the respective category of Super Mega and Ultra Mega projects will be admissible for the first 05 Green Hydrogen/Ammonia projects (except for Meerut Division).

Land Incentive

- Government land /Gram Samaj land will be provided on lease at Re 1 per acre per year for Government PSUs and for private sector, the lease rate is Rs 15,000 per acre per year.
- Government land /Gram Samaj land will be provided on lease for a period of 30 years.
- Land will be non-transferable and if work is not started within 3 years from the date of allotment of land for the Green Hydrogen projects, then the lease will be cancelled.
- 100% exemption on stamp duty charges for land purchased or taken on lease for Green Hydrogen projects.
- If Solar Energy units are established to provide Renewable Energy for Green Hydrogen projects, then maximum land which can be allotted of is 5 Acre per MW with a maximum capacity of 20 MW per kilotonne per year for Green Hydrogen production.

Incentives related to Power Supply

- 100% exemption on Electricity Duty for first 10 years of the project or life of the project (whichever is earlier).
- 100% exemption on intra-state wheeling/transmission/cross subsidy surcharges for first 10 years of the project or life of the project (*whichever is earlier*).
- Banking facility for Green Hydrogen projects will be provided for 25 years or life of the project (whichever is earlier).

Ease of Doing Business

- UPNEDA has developed a single window portal which will be linked to Nivesh Mitra for implementation of Green Hydrogen projects.
- Green Hydrogen projects would be provided as White Category status for the purpose of environmental clearance.
- The State Government will facilitate for availability of land bank, water resources and evacuation system requirement.

What is the selection criteria for first five project under the Uttar Pradesh Green Hydrogen Policy 2024?

- First come first serve basis
- Project received within each 30-30 days through Green Hydrogen Portal
- Investment size

What are the key provisions under the Research & Development (R&D) under the Uttar Pradesh Green

hydrogen Policy 2024?

Center of Excellence

- Two (2) Centres of Excellence will be established to reduce the production cost of Green Hydrogen & its products and for the development of new technologies.
- The establishment shall be done by educational institutions of national importance.
- 100% financial incentive (Maximum up to Rs 50 Crores) will be provided to Government educational institutions for establishing Centers of Excellence
- Incentive will be provided subject to no double funding to the institute from any other source to the extent of financial incentives.

Startup & incubators

- · Startups producing/using Green Hydrogen/Ammonia in Uttar Pradesh will be encouraged
- Incentives will be allowed to startups registered by the State Government and the Government of India.
- · Each startup will be given a maximum financial incentive of Rs 25 Lakhs per year for 05 years
- Startups registered under incubators of any educational institutions will be eligible for financial incentives.
- During the policy period, a maximum of three incubators will be encouraged with each incubator allowing a maximum of 10 startups.
- 20% incentive allocated to startups will be made available to the incubators as financial incentive for activities like Capacity Building, Hackathon, Events, and administrative expenses etc.



Uttar Pradesh

Hydrogen

Green



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