

**F No. 353/7/2024-NT**  
**Government of India**  
**Ministry of New and Renewable Energy**  
**(Hydrogen Division)**

Atal Akshay Urja Bhawan, Lodhi Road,  
New Delhi 110003  
Date: 15<sup>th</sup> March 2024

To

**The Pay & Accounts Officer,**  
Ministry of New and Renewable Energy,  
New Delhi- 110003

**Subject: Scheme Guidelines for setting up Hydrogen Hubs in India under the National Green Hydrogen Mission (NGHM)**

Sir/Madam,

I am directed to convey the sanction of the President of India for the implementation of the Scheme for setting up Hydrogen Hubs in India under the National Green Hydrogen Mission (NGHM).

**2. Objectives:**

Objectives of the Scheme are as follows:

- (i) To identify and develop regions capable of supporting large-scale production and/or utilization of Hydrogen as Green Hydrogen Hubs.
- (ii) Development of Green Hydrogen Projects inside the Hubs in an integrated manner to allow pooling of resources and achievement of scale
- (iii) Enhance the cost-competitiveness of Green Hydrogen and its derivatives vis-à-vis fossil-based alternatives
- (iv) Maximize production of Green Hydrogen and its derivatives in India within the stated financial support
- (v) Encourage large-scale utilization and exports of Green Hydrogen and its derivatives
- (vi) Enhance viability of Green Hydrogen assets across the value chain

**3. Implementation Methodology:** The Scheme will be implemented as per the detailed Guidelines given at **Annexure**.

4. The expenditure on this scheme will be met from the budget provisions made under the National Green Hydrogen Mission Head.

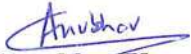
5. The Ministry of New & Renewable Energy (MNRE) and its nominated Scheme Implementing Agencies (SIAs) will be the Implementing Agency for these hydrogen hubs.

6. This issues in exercise of the powers conferred on this Ministry and with the concurrence of IFD vide their Diary. No. 457 dated 15<sup>th</sup> March 2024.



7. This has the approval of Hon'ble Minister of Power and New and Renewable Energy.

Yours Sincerely,

  
(Anubhav Uppal)  
Scientist D

*Enclosed: Annexure*

Copy to:

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2. All Members of the Empowered Group under the Mission
3. All Members of the Advisory Group under the Mission
4. CEO, NITI Aayog, Sansad Marg, New Delhi
5. State Nodal Agencies (SNAs) of all States/UTs
6. Major Public Sector Enterprises operating in Renewable Energy/Power Sector
7. Principal Director of Audit, Scientific Audit-II, DGCAR, I.P. Estate, Delhi-11002
8. Director General (Local Bodies), Office of the Comptroller & Auditor General, Deen Dayal Upadhyay Marg, New Delhi
9. Solar Energy Corporation of India (SECI), 6th floor, Plate-B, NBCC office, Block tower-2, East Kidwai Nagar, New Delhi. 110023
10. Indian Renewable Energy Development Agency Limited (IREDA), 3rd floor, August Kranti Bhavan, Bhikaji Cama place, New Delhi-110066

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**Ministry of New & Renewable Energy (MNRE)**  
**Government of India**

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**Scheme Guidelines for setting up Hydrogen Hubs in India**

## **1. Introduction**

- 1.1 The National Green Hydrogen Mission, hereafter mentioned as 'Mission', was launched on 4<sup>th</sup> January 2023 with an outlay of Rs. 19,744 Crore with an aim to make India a Global Hub for production, usage, and export of Green Hydrogen (GH<sub>2</sub>) and its derivatives. It will contribute to India's goal to become Aatmanirbhar (self-reliant) through clean energy and serve as an inspiration for the global Clean Energy Transition. The Mission will lead to significant decarbonisation of the economy, reduced dependence on fossil fuel imports, and enable India to assume technology and market leadership in Green Hydrogen. Along with other initiatives, the Mission envisages large-scale Hydrogen Hubs, which will act as a foundation for the development of the Hydrogen eco-system and will act as backbone of the decarbonisation efforts in the country.
- 1.2 Given the technical and logistical challenges inherent in transporting hydrogen over long distances, a cluster-based production and utilization model would enhance the viability of Green Hydrogen projects in the initial years. This would, in turn, enable economies of scale and convergence of key infrastructure requirements in geographically proximate areas.

## **2. Hydrogen hub**

- 2.1 Para 7.8 of the Mission Document states that the Mission will identify and develop regions capable of supporting large-scale production and/or utilization of Hydrogen as Green Hydrogen Hubs. This scheme for the promotion of Green Hydrogen Hubs will focus on development of supporting infrastructure. The Green Hydrogen Hubs and associated infrastructure will be planned in a manner so as to promote an integrated development of the region. Under the Mission, it is planned to set up at least two such Green Hydrogen hubs by FY 2025-26.
- 2.2 The Scheme will provide support for development of the following core infrastructure at Hydrogen hubs for common services/facilities only (not for any component of individual projects):
- i. Storage and transportation facilities for Green Hydrogen/its derivatives
  - ii. Development or upgradation of pipeline infrastructure
  - iii. Green Hydrogen powered vehicle re-fuelling facility
  - iv. Hydrogen compression and/or liquefaction technologies, as required



- v. Hydrogen storage systems, including bulk liquid, gaseous, materials-based technologies, or subsurface options (e.g., salt caverns, depleted oil and gas fields, unused coal mines etc.)
- vi. Water treatment facility and associated storage facility
- vii. Development of bunkering facilities in case of ports including provision of bunker barges for handling large vessels such as Very Large Crude Carriers (VLCC)
- viii. Infrastructure upgradation for shipping, including expansion of port/jetty infrastructure for exports.
- ix. Power transmission infrastructure to nearest existing grid substation and establishment of new dedicated substations
- x. Land re-development
- xi. Energy Storage to manage RE intermittency
- xii. Effluent Treatment Plants
- xiii. Any other infrastructure required

### **3. Objectives of the scheme:**

- i. To identify and develop regions capable of supporting large-scale production and/or utilization of Hydrogen as Green Hydrogen Hubs.
- ii. Development of Green Hydrogen Projects inside the Hubs in an integrated manner to allow pooling of resources and achievement of scale
- iii. Enhance the cost-competitiveness of Green Hydrogen and its derivatives vis-à-vis fossil-based alternatives
- iv. Maximize production of Green Hydrogen and its derivatives in India within the stated financial support
- v. Encourage large-scale utilization and exports of Green Hydrogen and its derivatives
- vi. Enhance viability of Green Hydrogen assets across the value chain

### **4. Budgetary outlay: Rs. 200 Crore till FY 2025-26**

### **5. Rationale and the Salient Features**

5.1. Hydrogen Hubs will help in boosting hydrogen production, to match domestic as well as export demands, and to achieve large-scale, commercially viable hydrogen ecosystems. This will accelerate the deployment of Green Hydrogen technologies, attract greater investments from the private sector, and promote production and usage of hydrogen to decarbonize the economy. A network of Green Hydrogen producers, users, and supporting infrastructure is a key feature of the Hydrogen Hub.

5.2. It is envisaged that the Hydrogen hubs will have pooling of resources from Government of India, State Governments, Local Government, and the industry - to help the development of the Hydrogen ecosystem in a coordinated manner. Hydrogen hubs will lead to the creation of sufficient job opportunities.



5.3 Salient features of the scheme are as follows:

- i. Hydrogen hub is an identified geographical region where there exists a network of Hydrogen producers, end use (domestic or export) with sufficient supporting infrastructure of Hydrogen storage, processing, and transportation.
- ii. Hydrogen hub might be located inland or near ports to enable exports of Green Hydrogen and its derivatives. Potential locations for such hubs would be regions having clusters of refineries/ fertilizer production plants and other end use industries in close vicinity.
- iii. The Hydrogen hub should have a planned/announced capacity of at least 1,00,000MTPA. Higher production capacity will get priority.
- iv. Leveraging existing infrastructure for Hydrogen production, transportation, storage, and utilisation will be encouraged.
- v. The infrastructure, projects, and key resources will be mapped under the PM Gati Shakti to ensure optimal and coordinated development.
- vi. MNRE may also recognize other locations as Green Hydrogen hubs without any financial support so that they become eligible for other benefits/advantages, if any.

## 6. Implementation Methodology

**6.1. Call for proposals:** A Scheme Implementing Agency (SIA) nominated by MNRE will issue Call for Proposals for the projects. The proposals should be submitted directly to SIA. Each submitted project should contain the name of Executing Agency (EA). In case of consortium, a lead agency should be identified, which shall function as Executing Agency.

- (i) The eligible agencies for sending project proposals include CPSUs, State-PSUs, Private sector, State Corporations, Autonomous Bodies, JVs/Partnerships/Consortiums of such entities.
- (ii) The necessary capabilities need to exist with the EAs for taking forward the project towards completion and commercialization.

**6.2 Evaluation and award:** The proposals will be evaluated in accordance with the detailed criteria specified in the Call for Proposals. Following guidelines would be included in the evaluation criteria of the Call for Proposals:

### 6.2.1 Planned production of Hydrogen and its derivatives

- i. Green Hydrogen Production approved/ agreement signed or under process
- ii. Natural Resource availability
  - a. Potential for sourcing of RE
  - b. Water sourcing arrangements/availability of water
  - c. In-principal allocation of land from state agency or self-procurement of land

