GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
RAJYA SABHA
STARRED QUESTION NO. 175
ANSWERED ON 16.12.2025

DEVELOPMENT OF GREEN HYDROGEN

*175. SHRI PRAMOD TIWARI

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether the country has made strides in Green Hydrogen development;
(b) if so, the details thereof including the objectives of National Green Hydrogen Mission;
(c) whether challenges such as high production costs, lack of standardised frameworks and infrastructure limitations pose hindrance to the scaling up of Hydrogen economy; and
(d) if so, the steps proposed to be taken to tackle the challenges?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND CONSUMER AFFAIRS, & FOOD AND PUBLIC DISTRIBUTION

(SHRI PRALHAD JOSHI)

(a) to (d) A statement is laid on the Table of the House.

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STATEMENT

STATEMENT REFERRED TO IN REPLY TO RAJYA SABHA STARRED QUESTION No. 175 for ANSWER ON 16/12/2025

(a) to (d) The Government of India is implementing the National Green Hydrogen Mission (NGHM), with an objective to make India a global hub of production, usage and export of green hydrogen and its derivatives. India's Green Hydrogen production capacity is likely to reach 5 Million Metric Tonnes per annum by 2030.

The progress achieved under the different components of NGHM is given below:

1. Strategic Interventions for Green Hydrogen Transition (SIGHT)
    i. Inventive scheme for electrolyser manufacturing
        - 3000 MW per annum electrolyser manufacturing capacity has been awarded to 15 companies.
    ii. Incentive schemes for green hydrogen production
        - 8,62,000 tonnes per annum of green hydrogen production capacity has been awarded to 18 companies.
        - Prices have been discovered by Solar Energy Corporation of India (SECI) for the production and supply of 7,24,000 Metric Tonnes per Annum (MTPA) of Green Ammonia (a derivative of Green Hydrogen) to 13 fertilizer units across India.
        - 20,000 tonnes per annum of green hydrogen production and supply capacity has been awarded for supply to refineries of Indian Oil Corporation Ltd., Bharat Petroleum Corporation Limited and Hindustan Petroleum Corporation Limited.

2. Pilot Projects
    i. Use of green hydrogen in steel sector
        - Five pilot projects have been sanctioned for the use of hydrogen in steel sector.
    ii. Use of green hydrogen in shipping sector
        - V. O. Chidambaranar Port Authority has awarded a project for development of bunkering and refuelling facility for green methanol at the port.
    iii. Use of green hydrogen in the transport sector
        - Five pilot projects have been sanctioned for deployment of 37 hydrogen - fuelled vehicles with 9 Hydrogen Refuelling Stations (HRS) across 10 different routes in India.

3. Hydrogen Valley Innovation Clusters (HVIC)
    i. Four projects have been awarded to be developed as Hydrogen Valley Innovation Clusters (HVICs) namely, Jodhpur hydrogen valley, Odisha hydrogen valley, Pune hydrogen valley and Kerala hydrogen valley.
    ii. The objectives of HVIC scheme are as under:
        - Showcase diverse applications of green hydrogen in different demand sectors.
        - Serve as real-world test beds for innovative technologies and enabling experiential learning and insights from small-scale hydrogen implementations

- Foster business innovation, new business models, and techno-economic viability through strategic linkages that connect hydrogen producers to off-takers.

4. Green Hydrogen Hubs
    i. MNRE has recognised Deendayal Port (Kandla, Gujarat), V. O. Chidambaranar Port (Tuticorin, Tamil Nadu) and Paradip Port (Odisha) as green hydrogen hubs under NGHM.
    ii. MNRE has also endorsed the proposal by NTPC for setting up of the Green Hydrogen Hub at Pudimadaka, Andhra Pradesh.
    iii. Government of Andhra Pradesh has issued an order for establishing the State as India's largest green hydrogen hub and outlining a roadmap to transform Andhra Pradesh into a Green Hydrogen Valley by 2030.

5. Green Hydrogen Standard and Certification scheme of India
    i. The Green Hydrogen Standard has been notified in August 2023, which defines green hydrogen as having not more than 2 kg CO2 equivalent / kg H2.
    ii. The Green Hydrogen Certification Scheme of India has been launched in April, 2025.

6. Establishing a robust framework of regulations and standards
    i. A total of 128 standards have been adopted / published by entities involved in developing standards for Green Hydrogen such as Bureau of Indian Standards (BIS), Oil Industry Safety Directorate (OISD), Petroleum and Explosives Safety Organization (PESO), Petroleum and Natural Gas Regulatory Board (PNGRB).

7. Research & Development projects
    i. Twenty three (23 nos.) projects have been sanctioned as part of Research and Development (R&D) scheme of NGHM.

8. Establishment of testing facilities
    i. Five projects have been sanctioned for establishment of testing facilities, infrastructure, and institutional support.

9. Skill development initiatives
    i. 24 qualifications packs and 19 micro - credentials have been developed to cater to green hydrogen value chain job roles.
    ii. Additionally, 83 master trainers and 334 trainers have been certified in the qualification packs developed.
    iii. 6,309 trainees have been certified.

The above listed activities under the NGHM address key challenges including high production costs, lack of standardised frameworks, and infrastructure limitations.

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