GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO. 1906
ANSWERED ON 16.12.2025

NATIONAL GREEN HYDROGEN MISSION

1906. SHRI IMRAN PRATAPGARHI

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

(a) the total expenditure incurred so far under the National Green Hydrogen Mission and the number of projects actually launched on the ground as against this expenditure;
(b) the detailed breakdown of these projects' feasibility, capacity, estimated production, investor participation and their current status; and
(c) whether any timeframe has been set within which these projects are expected to yield concrete results?

ANSWER

THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER

(SHRI SHRIPAD YESSO NAIK)

(a) to (c) 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.

As on 8th December 2025, an expenditure of ₹ 247.22 crores has been incurred under the National Green Hydrogen Mission (NGHM).

The details of projects under NGHM are given below:

i. Under the incentive scheme for Green Hydrogen production (Mode-1), companies have been awarded a Green Hydrogen capacity of 8,62,000 tonnes per annum **(Annexure-I)**
ii. Under the incentive scheme for Electrolyser Manufacturing, companies have been awarded Electrolyser manufacturing capacity of total 3000 MW per annum **(Annexure-II)**
iii. Under the incentive scheme for procurement of Green Hydrogen for refineries (Mode 2B), companies have been awarded a capacity of total 20,000 tonnes per annum **(Annexure-III)**
iv. The details of the pilot projects for the use of Green Hydrogen in the steel, shipping, and transport sectors, along with the projects under the Testing and R&D schemes, are provided in the **Annexure-IV.**

*****

Companies selected under the Incentive Scheme for Green Hydrogen Production (Mode 1 Tranche I) – Annexure I

S. No.	Developer/Investor	Allocated capacity (tonnes per annum)	Commissioning Timelines
1	CESC Projects Limited	10500	February 2027
2	UPL Limited	10000	February 2027
3	Reliance Industry Limited	90000	February 2027
4	Welspun Sabarmati GH2 Private Limited	20000	February 2027
5	HHP Two Pvt Ltd	75000	February 2027
6	Torrent Power Ltd	18000	February 2027
7	Acme Cleantech Solutions Pvt Ltd	90000	February 2027
8	Greenko ZeroC Pvt Ltd	90000	February 2027
9	JSW Neo Energy Limited [SPV: JSW Renewable Energy - (Vijaynagar)	6500	February 2027
10	Bharat Petroleum Corporation Limited	2000	February 2027

Companies selected under the Incentive Scheme for Green Hydrogen Production (Mode 1 Tranche II)

S. No.	Developer/Investor	Allocated capacity (tonnes per annum)	Commissioning Timelines
1	AM Green Ammonia (India) Private Limited	90000	February 2028
2	GH2 Solar Limited	10500	February 2028
3	Green Infra Renewable Energy Farms Private Limited	90000	February 2028
4	L&T Energy Green Tech Limited	90000	February 2028
5	Oriana Power Limited	10000	February 2028
6	Reliance Industry Limited	49000	February 2028
7	Suryadeep KA1 Project Private Limited	19000	February 2028
8	Matrix Gas & Renewables Limited	1500	February 2028
9	Waaree Clean Energy Solutions Pvt Limited	90000	February 2028

Companies selected under the Incentive Scheme for Electrolyser Manufacturing (Tranche I) - Annexure II

S. No.	Developer/Investor	Allocated capacity (MW per annum)	Commissioning Timelines
1	Reliance Industries Limited	300	August 2026
2	Ohmium Operations Private Limited	137	August 2026
3	John Cockerill Greenko Hydrogen Solutions Private Limited	300	August 2026

4	Advait GreenEnergy Private Limited	100	August 2026
5	Adani New Industries Limited	198.5	August 2026
6	L&T Electrolysers Limited	300	August 2026
7	Matrix Gas and Renewables Limited	63	August 2026
8	Homihydrogen Private Limited	101.5	August 2026

Companies selected under the Incentive Scheme for Electrolyser Manufacturing (Tranche II)

S. No.	Developer/Investor	Allocated capacity (MW per annum)	Commissioning Timelines
1	Adani New Industries Limited	101.5	March 2027
2	Advait GreenEnergy Private Limited	200	March 2027
3	Avaada Electrolyser Private Limited	49.5	March 2027
4	Eastern Electrolyser Limited	30	March 2027
5	Greenovate Hydrogen Private Limited	105	March 2027
6	Matrix Gas and Renewables Limited	237	March 2027
7	Newage Green Electro Private Limited (SPV- Newage Electrogen One Private Limited)	300	March 2027
8	Newtrace Private Limited	30	March 2027
9	Ohmium Operations Private Limited	137	March 2027
10	Suryaashish KA1 Solar Park Private Limited	10	March 2027
11	Waaree Clean Energies Solution private Ltd	300	March 2027

Companies selected under the Incentive Scheme for Green Hydrogen Production for refinery sector (Mode 2B) – Annexure III

S. No.	Developer/Investor	Allocated capacity (tonnes per annum)	Commissioning Timelines
1	L&T Energy Greentech Ltd (LTEG)	10000	December 2027
2	Ocior Energy	5000	March 2028
3	Ocior Energy	5000	April 2028

Details of projects/pilot projects sanctioned, approved or operational under the National Green Hydrogen Mission (NGHM) Annexure IV

S. No.	Project	Location	Implementing Agency
1	Use of hydrogen in existing Blast Furnace to reduce coal/coke consumption Use of hydrogen in existing Blast Furnace to reduce coal/coke consumption	Bokaro, Jharkhand	Steel Authority of India Ltd
		Vijayanagar, Karnataka	JSW Steel Limited
2	Injection of Hydrogen in vertical shaft based DRI making to partially substitute the NG/ other reducing gas & raise its proportion in a gradual manner with an objective to use the maximum hydrogen	Arcelor Mittal Nippon Steel India Limited	Hazira, Gujarat
		JSW Steel Limited	Vijayanagar, Karnataka
		Jindal Steel & Power Limited	Angul, Odisha
3	Pilot Projects Awarded in Transport Sector	Routes: 1. Greater Noida - Delhi – Agra 2. Bhubaneshwar - Konark – Puri Hydrogen refuelling station system location: 1. NTPC campus in Greater Noida 2. Bhubaneswar	NTPC (with buses manufactured by Ashok Leyland)
		Routes: 1. Ahmedabad - Vadodara - Surat 2. Sahibabad - Faridabad - Delhi 3. Pune - Mumbai 4. Jamshedpur - Kalinga Nagar Hydrogen refuelling station system location: 1. Balasore 2. Mumbai Highway	Tata Motors + Indian Oil Corporation Limited
		Routes: 1. Thiruvananthapuram - Kochi, 2. Kochi – Edappally	Agency for New and Renewable Energy Research and Technology (ANERT) + Bharat Petroleum

S. No.	Project	Location	Implementing Agency
		Hydrogen refuelling station system location: 1. Trivandrum 2. Kochi	Corporation Limited (BPCL)
		Routes: 1. Jamnagar – Ahmedabad Hydrogen refuelling station system location: 1. Near Rajkot 2. Near Vadodara	Reliance Industries Limited + Ashok Leyland
		Routes: 1. NH – 16 Vasakhapatnam – Bayyavaram Hydrogen refuelling station system location: 1. Bayyavaram, Anakapalli	Hindustan Petroleum Corporation Limited + Volvo
4	Pilot Bunkering and refueling facility for Green Hydrogen or its derivative on a pilot basis at V.O. Chidambaranar Port	V.O. Chidambaranar Port (Tuticorin, Tamil Nadu)	V.O. Chidambaranar Port Authority
5	Project under Testing Scheme: H2 Gas Purity Testing	Kapurthala, Punjab	Sardar Swaran Singh National Institute of Bio-Energy
6	Project under Testing Scheme: Electrolyser Stack, H2 dispensers, Fuel Cell, Storage cylinder and piping; valves	Gandhinagar, Gujarat	Gujarat Energy Research and Management Institute
7	Project under Testing Scheme: Fuel Cell	Hyderabad, Telangana	Bharat Heavy Electricals Limited
8	Project under Testing Scheme: H2 ICE (Type approval Testing), FCEV and Materials	Pune, Maharashtra	Automotive Research Association of India
9	Project under Testing Scheme: Material for H2 storage and transportation	Jamshedpur, Jharkhand	National Metallurgical Laboratory (Jamshedpur)
10	JHV Innovation Foundation	Jodhpur, Rajasthan	IIT Jodhpur
11	Odisha Hydrogen Valley Foundation	Bhubaneshwar, Odisha	IIT Bhubaneshwar
12	Pune Hydrogen Valley Foundation	Pune, Maharashtra	CSIR – NCL Pune

S. No.	Project	Location	Implementing Agency
13	Kerala HVIC Foundation	Kochi, Kerala	ANERT
14	Development and Demonstration of Direct Injection Hydrogen Fuelled Internal Combustion Engines (H2ICE) for Heavy Duty Commercial	Pune, Maharashtra	Automotive Research Association of India
15	Development of retrofitted kit for H2ICE Application	Gurugram, Haryana	Shigan Nexgen Technologies Private Limited (promoted by IOCL)
16	Development and Demonstration of Hydrogen fueled Internal Combustion Engine for Agricultural tractor	Chennai, Tamil Nadu	Mahindra and Mahindra Ltd
17	Prototype Development of a Highly Efficient Compression Ignition Hydrogen Engine for the Agriculture Sector Using a Novel High-Pressure Direct Injection (HPDI) Strategy	Kanpur, Uttar Pradesh	IIT Kanpur
18	Development of hydrogen-powered high-power density fuel cell drone for oil & gas applications (TRL -3/4)	Gurugram, Haryana	Hypace Solutions Private Limited, Gurugram
19	Development of Fuel cell powered high endurance UAVs for niche strategic and societal applications	Bengaluru, Karnataka	Magic Myna Private Limited, Bengaluru
20	Green Hydrogen Generation via Direct seawater electrolysis: A systematic bottom-up approch using selective electrocatalyst and electrochemical cell designs	Karaikudi, Tamil Nadu	CSIR-Central Electrochemical Research Institute, Karaikudi
21	A Supramolecular Approach to Improve the Stability and Efficiency of Alkaline Electrolyzer Membranes	Chennai, Tamil Nadu	SRM Institute of Science & Technology, Chennai

S. No.	Project	Location	Implementing Agency
22	Integrated Heat Management for Energy-Efficient Membrane-Based Direct Seawater Desalination Enabling Green Hydrogen Production	Pune, Maharashtra	CSIR-National Chemical Laboratory, Pune
23	Development of High-Performance PEM Membranes for application in Electrolyzer and Fuel Cell	Gujarat	GFCL Solar and Green Hydrogen Products Limited, Gujarat
24	Clean Hydrogen: Enhancing Biohydrogen Purity through Advanced Adsorption Purification	Karaikudi, Tamil Nadu	CSIR-Central Electrochemical Research Institute, Karaikudi
25	Synergistic Biohythane Production: Integrating Biohydrogen and Biomethane Bioprocesses	Pune, Maharashtra	Texol Energy Private Limited
26	Technology Demonstration Plant for the Production of 0.5 TPD Green Hydrogen from Pyrolysis + Gasification of Coconut Shell and Cashew Nutshell	Goa	Institute of Chemical Technology, Mumbai
27	Biomass to Green Hydrogen: Development of 100 kg/day H2 production via oxy-steam-CO2 gasification integrated with catalytic CO conversion and continuous H2 separation using a mixed matrix hollow fibre membrane system	Pilani, Rajasthan	Birla Institute of Technology and Science - Pilani
28	Pilot plant demonstration of Hydrogen production from agricultural waste through integrated pyrolysis and catalytic steam reforming process	Ropar, Punjab	Indian Institute of Technology Ropar
29	AI based smart sensors for rapid and real time detection of ppm level H2	Thiruvananthapuram, Kerala	Indian Institute of Science Education and Research

S. No.	Project	Location	Implementing Agency
	leaks in hydrogen storage and distribution structures		
30	Securing the Future: AI-Driven Insights into Global Hydrogen Incidents for Enhanced Safety and Risk Management	Patiala, Punjab	Thapar Institute of Engineering & Technology
31	Spontaneous Combustion Behaviour of Pressurized Hydrogen Leaks	Varanasi, Uttar Pradesh	IIT BHU
32	Application of Causal Analysis and Machine Learning for Risk Severity Prediction in Hydrogen Facilities	Gurugram, Haryana	Engineers India Limited
33	Electronic Hydrogen Leak Detector based on MEMS Integrated 1-D Nanofibers and Nanotubes of Semiconductor Oxides	Thiruvananthapuram, Kerala	CSIR - National Institute For Interdisciplinary Science and Technology
34	CFD Modelling in Flacs-Hydrogen software for Hydrogen Safety and Risk Assessment	Gurugram, Haryana	Shriram Institute for Industrial Research
35	Hydrogen Explosions-Developing Phenomenological Models from Fundamental Experiments	Varanasi, Uttar Pradesh and Hyderabad, Telangana	IIT BHU+ IIT Hyderabad