

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 669
ANSWERED ON 03.12.2025

PROJECTS UNDER NATIONAL GREEN HYDROGEN MISSION

669. SHRI APPALANAIDU KALISETTI

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

- (a) the details of projects sanctioned, approved or operational under the National Green Hydrogen Mission, State-wise including Andhra Pradesh along with project locations, implementing agencies, capacity targets and present status;
- (b) the funds allocated, sanctioned, released and utilised for each Mission component especially for infrastructure, skilling and R&D, year and State-wise including Andhra Pradesh;
- (c) the names of companies selected under the Incentive Schemes for Electrolyser Manufacturing and Green Hydrogen Production along with their approved capacity, investment commitments, locations and commissioning timelines;
- (d) whether any coastal locations, ports or renewable energy zones in Andhra Pradesh have been identified for Green Hydrogen export hubs and the status of feasibility studies or proposals and if so, the details thereof; and
- (e) the details of international collaborations, technology transfers or investments linked to the mission including those proposed or underway in Andhra Pradesh?

ANSWER

THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER

(SHRI SHRIPAD YESSO NAIK)

(a) to (c) The details of projects under the National Green Hydrogen Mission (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**.

(v) The details of the funds allocated, sanctioned, released/utilized under the NGHM, are provided in the **Annexure-V**.

(d) (i) Government of Andhra Pradesh has issued an order for establishing the State as green hydrogen hub.

(ii) Ministry of New and Renewable Energy (MNRE) has endorsed the proposal by NTPC Green Energy Limited for setting up of the Green Hydrogen Hub at Pudimadaka, Andhra Pradesh.

(e) (i) M/s AM Green partnered with M/s John Cockerill for developing an electrolyser manufacturing plant in Kakinada.

(ii) M/s Juno Joule Green Energy Pvt. Ltd. signed a Memorandum of Understanding (MoU) with M/s Select Energy GmbH to co-develop Green Hydrogen and Ammonia facility in Andhra Pradesh.

(ii) M/s Nel Hydrogen Electrolyser AS has entered into a technology licensing agreement with M/s Reliance Industries Limited.

(iii) M/s Larsen & Toubro (L&T) has entered into an Electrolyzer Manufacturing Agreement with M/s McPhy Energy.

(iv) M/s Thermax partners with M/s Ceres Power Limited for Green Hydrogen Production with Large – Scale Solid Oxide Electrolysis Cell (SOEC) Manufacturing in India.

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

S. No.	Company	Allocated capacity (tonnes per annum)	Investment commitments	Tentative Location	Commissioning Timelines
1	CESC Projects Limited	10500	Not made available by the Green Hydrogen Producer	Odisha	February 2027
2	UPL Limited	10000		Gujarat	February 2027
3	Reliance Industry Limited	90000		Gujarat	February 2027
4	Welspun Sabarmati GH2 Private Limited	20000		Gujarat	February 2027
5	HHP Two Pvt Ltd	75000		Odisha	February 2027
6	Torrent Power Ltd	18000		Not finalised	February 2027
7	Acme Cleantech Solutions Pvt Ltd	90000		Odisha	February 2027
8	Greenko ZeroC Pvt Ltd	90000		Andhra Pradesh	February 2027
9	JSW Neo Energy Limited [SPV: JSW Renewable Energy - (Vijaynagar)]	6500		Karnataka	February 2027
10	Bharat Petroleum Corporation Limited	2000		Madhya Pradesh and Kerala	February 2027

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

S. No.	Company	Allocated capacity (tonnes per annum)	Investment commitments	Tentative Location	Commissioning Timelines
1	AM Green Ammonia (India) Private Limited	90000	Not made available by the Green Hydrogen Producer	Not finalised	February 2028
2	GH2 Solar Limited	10500		Not finalised	February 2028
3	Green Infra Renewable Energy Farms Private Limited	90000		Tamil Nadu	February 2028
4	L&T Energy Green Tech Limited	90000		Gujarat	February 2028
5	Oriana Power Limited	10000		Uttar Pradesh	February 2028

6	Reliance Industry Limited	49000		Gujarat	February 2028
7	Suryadeep KA1 Project Private Limited	19000		Not finalised	February 2028
8	Matrix Gas & Renewables Limited	1500		Not finalised	February 2028
9	Waaree Clean Energy Solutions Pvt Limited	90000		Not finalised	February 2028

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

S. No.	Company	Allocated capacity (MW per annum)	Investment commitments	Tentative Location	Commissioning Timelines
1	Reliance Industries Limited	300	Not made available by the Electrolyser Manufacturer	Gujarat	August 2026
2	Ohmium Operations Private Limited	137		Karnataka	August 2026
3	John Cockerill Greenko Hydrogen Solutions Private Limited	300		Andhra Pradesh	August 2026
4	Advait GreenEnergy Private Limited	100		Gujarat	August 2026
5	Adani New Industries Limited	198.5		Gujarat	August 2026
6	L&T Electrolysers Limited	300		Gujarat	August 2026
7	Matrix Gas and Renewables Limited	63		Gujarat	August 2026
8	Homihydrogen Private Limited	101.5		Maharashtra	August 2026

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

S. No.	Company	Allocated capacity (MW per annum)	Investment commitments	Tentative Location	Commissioning Timelines
1	Adani New Industries Limited	101.5	Not made available by the Electrolyser Manufacturer	Gujarat	March 2027
2	Advait GreenEnergy Private Limited	200		Gujarat	March 2027

3	Avaada Electrolyser Private Limited	49.5		Not finalised	March 2027
4	Eastern Electrolyser Limited	30		Uttar Pradesh	March 2027
5	Greenovate Hydrogen Private Limited	105		Madhya Pradesh	March 2027
6	Matrix Gas and Renewables Limited	237		Gujarat	March 2027
7	Newage Green Electro Private Limited (SPV- Newage Electro One Private Limited)	300		Not finalised	March 2027
8	Newtrace Private Limited	30		Karnataka	March 2027
9	Ohmium Operations Private Limited	137		Karnataka	March 2027
10	Suryaashish KA1 Solar Park Private Limited	10		Gujarat	March 2027
11	Waaree Clean Energies Solution private Ltd	300		Gujarat	March 2027

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

S. No.	Company	Allocated capacity (tonnes per annum)	Investment commitments	Tentative Location	Commissioning Timelines
1	L&T Energy Greentech Ltd (LTEG)	10000	Not made available by the Green Hydrogen Producer	Panipat, Haryana	December 2027
2	Ocior Energy	5000		Visakh refinery, Visakhapatnam	March 2028
3	Ocior Energy	5000		Bina Refinery, Madhya Pradesh	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	<p>Routes:</p> <ol style="list-style-type: none"> Greater Noida - Delhi – Agra Bhubaneswar - Konark – Puri <p>Hydrogen refuelling station system location:</p> <ol style="list-style-type: none"> NTPC campus in Greater Noida Bhubaneswar 	NTPC (with buses manufactured by Ashok Leyland)
		<p>Routes:</p> <ol style="list-style-type: none"> Ahmedabad - Vadodara - Surat Sahibabad - Faridabad - Delhi Pune - Mumbai Jamshedpur - Kalinga Nagar <p>Hydrogen refuelling station system location:</p> <ol style="list-style-type: none"> Balasore Mumbai Highway 	Tata Motors + IOCL
		<p>Routes:</p> <ol style="list-style-type: none"> Thiruvananthapuram - Kochi, Kochi – Edappally 	ANERT + BPCL

		Hydrogen refuelling station system location: 1. Trivandrum 2. Kochi	
		Routes: 1. Jamnagar – Ahmedabad Hydrogen refuelling station system location: 1. Near Rajkot 2. Near Vadodara	RIL + AL
		Routes: 1. NH – 16 Vasakhapatnam – Bayyavaram Hydrogen refuelling station system location: 1. Bayyavaram, Anakapalli	HPCL – Volvo
4	Pilot Bunkering and refuelling 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	SSS NIBE
6	Project under Testing Scheme: Electrolyser Stack, H2 dispensers, Fuel Cell, Storage cylinder and piping; valves	Gandhinagar, Gujarat	GERMI
7	Project under Testing Scheme: Fuel Cell	Hyderabad, Telangana	BHEL
8	Project under Testing Scheme: H2 ICE (Type approval Testing), FCEV and Materials	Pune, Maharashtra	ARAI
9	Project under Testing Scheme: Material for H2 storage and transportation	Jamshedpur, Jharkhand	NML (Jamshedpur)
10	JHV Innovation Foundation	Jodhpur, Rajasthan	IIT Jodhpur
11	Odisha Hydrogen Valley Foundation	Bhubaneswar, Odisha	IIT Bhubaneswar
12	Pune Hydrogen Valley Foundation	Pune, Maharashtra	CSIR – NCL Pune
13	Kerala HVIC Foundation	Kochi, Kerala	ANERT
14	Development and Demonstration of Direct Injection Hydrogen	Pune, Maharashtra	Automotive Research Association of India

	Fuelled Internal Combustion Engines (H2ICE) for Heavy Duty Commercial		
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 approach 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
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 H ₂ production via oxy-steam-CO ₂ gasification integrated with catalytic CO conversion and continuous H ₂ 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 H ₂ leaks in hydrogen storage and distribution structures	Thiruvananthapuram, Kerala	Indian Institute of Science Education and Research
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 - NIIST
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

Funds allocated, sanctioned, released, and utilised under the Mission – Annexure V

S. No.	Mission Component	Funds allocated (INR crore)	Funds sanctioned (INR crore)	Funds released/utilised (INR crore)
1	Strategic Interventions for Green Hydrogen Programme (SIGHT) – Incentive for electrolyser manufacturing	4440	4440	-
2	SIGHT – Incentive for green hydrogen production	13050	5533.98	-
3	Pilot -steel	455	131.38	26.276
4	Pilot – shipping	115	35	7
5	Pilot – Road Transport	496	207.91	41.582
6	HVIC and hubs	200	169.89	67.96
7	Research & Development	400	114.98	28.69
8	Testing and Infrastructure	200	113.72	22.745
9	New and Innovative Technology	200	-	-
10	Skill Development	35	0.55	0.44

11	Advertisement and Publicity	70	15.84	15.84
12	Programme Management	83	4.28	4.28