

GOVERNMENT OF INDIA  
MINISTRY OF NEW AND RENEWABLE ENERGY  
**LOK SABHA**  
**UNSTARRED QUESTION NO. 1702**  
ANSWERED ON 29.07.2026

**REVIEW OF RENEWABLE ENERGY EXPANSION IN TAMIL NADU**

1702. SHRI ESWARASAMY K

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

- (a) whether the Government has reviewed the progress of renewable energy expansion in Tamil Nadu;
- (b) if so, the details of implementation of the National Green Hydrogen Mission including projects sanctioned and participation of public and private sector entities for the last five years, year and State-wise; and
- (c) whether the Government has introduced guidelines to ensure sustainable and socially equitable energy transition and if so, the details thereof and if not, the reasons therefor?

**ANSWER**

**THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER  
(SHRI SHRIPAD YESSO NAIK)**

(a) & (b) Yes, As on 30.6.2026, the renewable energy installed capacity in the State of Tamil Nadu has reached 29.77 GW.

The Government of India is implementing the National Green Hydrogen Mission with an objective to make India a global hub of production, usage and export of green hydrogen and its derivatives. The details of projects under the Mission are given at **Annexure**.

(c) Yes, The Ministry of New and Renewable Energy has integrated principles of sustainable and social equitable energy transition into its policy guidelines and scheme frameworks.

Renewable energy projects are implemented in compliance with applicable environmental regulations and sustainability considerations. These measures aim to reduce greenhouse gas emissions, enhance energy security, diversify the energy mix, and support India's commitments towards achieving net-zero emissions by 2070 and its Nationally Determined Contribution (NDC) target of achieving 500 GW electricity capacity from non-fossil fuel based sources.

PM Surya Ghar: Muft Bijli Yojana is democratizing solar energy access by providing Central Financial Assistance (CFA) to residential households for installation of rooftop solar (RTS) systems to empower them to generate their own electricity. Under this Scheme, all residential households in the country, having a grid-connected electricity connection with the local DISCOM, can avail the benefits for installation of RTS systems by applying on the National Portal of the scheme. To facilitate adoption of RTS system for economically weaker sections under the Scheme, facility of collateral-free loan from nationalized banks at a concessional interest rate of repo-rate plus 50 bps, i.e., 5.75% per annum for the present, with a tenure of 10 years, has also been provided. Further, the Ministry has included RESCO/Utility-Led Aggregation (ULA) Models under the Scheme to enable DISCOMs/State

Governments/State Designated entities to support RTS development, primarily for low-income households/ families.

PM-Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM) is empowering farmers through installing standalone solar pumps, solarization of existing grid connected agricultural pumps including feeder level solarization and setting up of solar power plants upto 2 MW on their barren/uncultivable land.

The Ministry has also been implementing New Solar Power Scheme (for Tribal and Particularly Vulnerable Tribal Groups (PVTG) Habitations/Villages) under PM Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN) and Dharti Aabha Janjatiya Gram Utkarsh Abhiyan (DA JGUA), for the electrification of un-electrified households in PVTG and tribal habitations/villages, solarization of Multi-Purpose Centres (MPCs) in PVTG areas, and solarization of public institutions in identified tribal habitations/villages, through off-grid solar systems; where grid connectivity is not technoeconomically feasible.

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**Annexure referred to in reply of part (a) of the Lok Sabha Unstarred Question No. 1702 to be answered on 29.07.2026**

**Details of projects under the National Green Hydrogen Mission**

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

| <b>S. No.</b> | <b>Manufacturer Name</b>                            | <b>Tentative Location</b>             | <b>Awarded Capacity (TPA)</b> |
|---------------|-----------------------------------------------------|---------------------------------------|-------------------------------|
| 1             | ACME Cleantech Solutions Private Limited            | Gopalpur, Odisha                      | 90,000                        |
| 2             | Greenko ZeroC Private Limited                       | Kakinada, Andhra Pradesh              | 90,000                        |
| 3             | Reliance Green Hydrogen and Green Chemicals Limited | Jamnagar, Gujarat                     | 90,000                        |
| 4             | HHP Two Private Limited                             | Gopalpur, Odisha                      | 10,000                        |
| 5             | CESC Projects Limited                               | Paradeep, Odisha                      | 10,500                        |
| 6             | UPL Limited                                         | Jhagadia, Gujarat                     | 10,000                        |
| 7             | JSW Neo Energy Limited                              | Karnataka                             | 3,600                         |
| 8             | Bharat Petroleum Corporation Limited (Biomass Path) | Bina, Madhya Pradesh<br>Kochi, Kerala | 2,000                         |
|               | <b>Total</b>                                        |                                       | <b>3,06,100</b>               |

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

| <b>S. No.</b> | <b>Manufacturer Name</b>                            | <b>Location</b>          | <b>Awarded Capacity (TPA)</b> |
|---------------|-----------------------------------------------------|--------------------------|-------------------------------|
| 1             | AM Green Ammonia (India) Private Limited            | Kakinada, Andhra Pradesh | 90,000                        |
| 2             | Reliance Green Hydrogen and Green Chemicals Limited | Jamnagar, Gujarat        | 49,000                        |
| 3             | L&T Energy Green Tech Limited                       | Gujarat                  | 90,000                        |
| 4             | Green Infra Renewable Energy Farms Private Limited  | Tuticorin, Tamil Nadu    | 90,000                        |
| 5             | Waaree Clean Energy Solutions Private Limited       | Not Finalized            | 90,000                        |
| 6             | Suryadeep KA1 Project Private Limited               | Not Finalized            | 19,000                        |
| 7             | GH2 Solar Private Limited                           | Not Finalized            | 10,500                        |
| 8             | Oriana Power Limited                                | Not Finalized            | 10,000                        |
| 9             | Matrix Gas and Renewables Limited                   | Uttar Pradesh            | 1,500                         |
|               | <b>Total</b>                                        |                          | <b>4,50,000</b>               |

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

| <b>S. No.</b> | <b>Manufacturer Name</b>                    | <b>Location</b>          | <b>Allocated Capacity MWPA</b> |
|---------------|---------------------------------------------|--------------------------|--------------------------------|
| 1             | Reliance Electrolyzer Manufacturing Limited | Jamnagar, Gujarat        | 300                            |
| 2             | John Cockerill                              | Kakinada, Andhra Pradesh | 300                            |
| 3             | L&T Electrolysers Limited                   | Surat, Gujarat           | 300                            |
| 4             | Advait                                      | Mehsana, Gujarat         | 100                            |
| 5             | Matrix Gas and Renewable                    | Gujarat                  | 63                             |
| 8             | Adani Enterprise                            | Mundra, Gujarat          | 198.5                          |
| 9             | Ohmium Operations Private Limited           | Bangalore, Karnataka     | 137                            |
| 10            | Homihydrogen Private Limited                | Jalgaon, Maharashtra     | 101.5                          |
| <b>Total</b>  |                                             |                          | <b>1500</b>                    |

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

| <b>S. No.</b> | <b>Manufacturer Name</b>             | <b>Location</b>        | <b>Allocated Capacity MWPA</b> |
|---------------|--------------------------------------|------------------------|--------------------------------|
| 1             | Advait                               | Mehsana, Gujarat       | 200                            |
| 2             | Matrix Gas and Renewable             | Gujarat                | 237                            |
| 3             | NewAge Green Electro Private Limited | Location Not Finalized | 300                            |
| 4             | Waaree Energies                      | Gujarat                | 300                            |
| 5             | Adani Enterprise                     | Mundra, Gujarat        | 101.5                          |
| 6             | Ohmium Operations Private Limited    | Bangalore, Karnataka   | 137                            |
| 7             | GH2 Solar Pvt Ltd                    | Madhya Pradesh         | 105                            |
| 8             | Avaada                               | Location Not Finalized | 49.5                           |
| 9             | Eastern Electrolyzer                 | Uttar Pradesh          | 30                             |
| 10            | Newtrace                             | Karnataka              | 30                             |
| 11            | Suryaashish KA1 Solar Park           | Gujarat                | 10                             |
| <b>Total</b>  |                                      |                        | <b>1500</b>                    |

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

| <b>S. No.</b> | <b>Manufacturer Name</b>        | <b>Tentative Location</b>              | <b>Allocated capacity (tones per annum)</b> |
|---------------|---------------------------------|----------------------------------------|---------------------------------------------|
| 1             | L&T Energy Greentech Ltd (LTEG) | Panipat, Haryana                       | 10,000                                      |
| 2             | Ocior Energy                    | Visakhapatnam refinery, Andhra Pradesh | 5,000                                       |
| 3             | Ocior Energy                    | Bina Refinery, Madhya Pradesh          | 5,000                                       |
| 4             | NeuEN Green Energy              | Numaligarh, Assam                      | 10,000                                      |

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

| S. No. | Project                                                                                                                                                                                             | Location                                                                                                                                   | Implementing Agency                                                                                        |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 1      | 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 | Vijayanagar, Karnataka                                                                                                                     | JSW Steel Limited                                                                                          |
|        |                                                                                                                                                                                                     | Angul, Odisha                                                                                                                              | Jindal Steel Limited                                                                                       |
| 3      | Pilot Projects Awarded in Transport Sector (Phase I)                                                                                                                                                | Routes: Greater Noida–Delhi–Agra; Bhubaneswar–Konark–Puri.<br>Refueling: NTPC campus Greater Noida; Bhubaneswar                            | NTPC (with buses manufactured by Ashok Leyland)                                                            |
|        |                                                                                                                                                                                                     | Routes: Ahmedabad–Vadodara–Surat; Sahibabad–Faridabad–Delhi; Pune–Mumbai; Jamshedpur–Kalinga Nagar.<br>Refueling: Balasore; Mumbai Highway | Tata Motors + Indian Oil Corporation Limited                                                               |
|        |                                                                                                                                                                                                     | Routes: Thiruvananthapuram–Kochi; Kochi–Edappally                                                                                          | Agency for New and Renewable Energy Research and Technology (ANERT) + Bharat Petroleum Corporation Limited |
|        |                                                                                                                                                                                                     | Routes: Jamnagar–Ahmedabad. Refueling: Near Rajkot; Near Vadodara                                                                          | Reliance Industries Limited + AL                                                                           |
|        |                                                                                                                                                                                                     | Routes: NH-16 Visakhapatnam–Bayyavaram.<br>Refueling: Bayyavaram, Anakapalli                                                               | Hindustan Petroleum Corporation Limited - Volvo                                                            |
| 4      | Pilot Projects Awarded in Transport Sector (Phase II)                                                                                                                                               | Routes: Kandla - Gandhidham<br>Refueling: Deendayal Port Authority, Kandla                                                                 | NTPC Green Energy Limited                                                                                  |
|        |                                                                                                                                                                                                     | Routes: In and around Chamba, Himachal Pradesh<br>Refueling: Mohal,                                                                        | National Hydroelectric Power Corporation Limited                                                           |

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|    |                                                                                                                         | Monkhri, Dharwala, Chamba                                                                                           |                                                                                                                                         |
|    |                                                                                                                         | Routes: Kochi-Kozhikode, NH 66; Kochi-Thrissur-Palakkad<br>Refueling: Near Kozhikode; Near Kuzhalmannam, Palakkad   | Agency for New and Renewable Energy Research and Technology (ANERT) + Kerala State Road Transport Corporation (KSRTC) + TATA Motors Ltd |
|    |                                                                                                                         | Routes: Bina - Guna - Bina<br>Refueling: HRS installed along with EKA mobility will be shared with VECV             | VE Commercial Vehicles + Bharat Petroleum Corporation Limited                                                                           |
|    |                                                                                                                         | Routes: Surat-Chikhli-Tumb<br>Refueling: Near Valsad, Gujarat                                                       | WAAREE+ Indify Horizon Fuel Cell Technologies Pvt Ltd                                                                                   |
|    |                                                                                                                         | Routes: Bina-Bhopal-Bina; Bina-Jhansi-Bina; Bina-Sanchi Stupa-Bina<br>Refueling: BPCL Refinery Bina, Madhya Pradesh | EKA Mobility + KPIT Technologies +BPCL + Super Spares & Services                                                                        |
|    |                                                                                                                         | Routes: Vadodara-Ankleshwar-Vadodara<br>Vapi-Nashik-Vapi<br>Refueling: Vadodara; Vapi                               | KPI GEL + TML + AB Process Technologies                                                                                                 |
| 5  | 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                                                                                                       |
| 6  | Project under Testing Scheme: H2 Gas Purity Testing                                                                     | Kapurthala, Punjab                                                                                                  | Sardar Swaran Singh National Institute of Bio-Energy (SSS NIBE)                                                                         |
| 7  | Project under Testing Scheme: Electrolyser Stack, H2 dispensers, Fuel Cell, Storage cylinders and piping, valves        | Gandhinagar, Gujarat                                                                                                | Gujarat Energy Research & Management Institute (GERMI)                                                                                  |
| 8  | Project under Testing Scheme: Fuel Cell                                                                                 | Hyderabad, Telangana                                                                                                | Bharat Heavy Electricals Ltd (BHEL)                                                                                                     |
| 9  | Project under Testing Scheme: H2 ICE (Type approval Testing), FCEV and Materials                                        | Pune, Maharashtra                                                                                                   | Automotive Research Association of India (ARAI)                                                                                         |
| 10 | Project under Testing Scheme: Material for H2 storage and transportation                                                | Jamshedpur, Jharkhand                                                                                               | CSIR - National Metallurgical Laboratory (NML)                                                                                          |

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| 11 | Project under Testing Scheme: Material for H <sub>2</sub> storage and transportation                                                                                     | Vadodara, Gujarat     | Electrical Research and Development Association (ERDA)              |
| 12 | Project under Testing Scheme: Alkaline Electrolyser Testing (500 kW)                                                                                                     | Bhubaneswar, Odisha   | Grid Corporation of Odisha Limited                                  |
| 13 | JHV Foundation Innovation                                                                                                                                                | Jodhpur, Rajasthan    | Indian Institutes of Technology Jodhpur                             |
| 14 | Odisha Hydrogen Valley Foundation                                                                                                                                        | Bhubaneswar, Odisha   | Indian Institutes of Technology Bhubaneswar                         |
| 15 | Pune Hydrogen Valley Foundation                                                                                                                                          | Pune, Maharashtra     | CSIR – National Chemical Laboratory (NCL)                           |
| 16 | Kerala HVIC Foundation                                                                                                                                                   | Kochi, Kerala         | Agency for New and Renewable Energy Research and Technology (ANERT) |
| 17 | Development and Demonstration of Direct Injection Hydrogen Fueled Internal Combustion Engines (H <sub>2</sub> ICE) for Heavy Duty Commercial                             | Pune, Maharashtra     | Automotive Research Association of India                            |
| 18 | Development of retrofitted kit for H <sub>2</sub> ICE Application                                                                                                        | Gurugram, Haryana     | Shigan Technologies Private Limited                                 |
| 19 | Development and Demonstration of Hydrogen fueled Internal Combustion Engine for Agricultural tractor                                                                     | Chennai, Tamil Nadu   | Mahindra and Mahindra Ltd                                           |
| 20 | 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 | Indian Institutes of Technology Kanpur                              |
| 21 | Development of hydrogen-powered high-power density fuel cell drone for oil & gas applications (TRL-3/4)                                                                  | Gurugram, Haryana     | Hypace Solutions Private Limited, Gurugram                          |
| 22 | Development of Fuel cell powered high endurance UAVs for niche strategic and societal applications                                                                       | Bengaluru, Karnataka  | Magic Myna Private Limited, Bengaluru                               |
| 23 | Manufacturing and development of Reversible Solid Oxide Cells (R-SOCs)                                                                                                   | Bengaluru, Karnataka  | Hylan Power One P Ltd                                               |
| 24 | Green Hydrogen Generation via Direct seawater electrolysis: A systematic bottom-up approach using                                                                        | Karaikudi, Tamil Nadu | CSIR-Central Electrochemical Research Institute, Karaikudi          |

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|    | selective electrocatalyst and electrochemical cell designs                                                                                                                                                                                                   |                            |                                                            |
| 25 | A Supramolecular Approach to Improve the Stability and Efficiency of Alkaline Electrolyzer Membranes                                                                                                                                                         | Chennai, Tamil Nadu        | SRM Institute of Science & Technology, Chennai             |
| 26 | Integrated Heat Management for Energy-Efficient Membrane-Based Direct Seawater Desalination Enabling Green Hydrogen Production                                                                                                                               | Pune, Maharashtra          | CSIR-National Chemical Laboratory, Pune                    |
| 27 | Development of High-Performance PEM Membranes for application in Electrolyzer and Fuel Cell                                                                                                                                                                  | Gujarat                    | GFCL Solar & Green Hydrogen Products Limited, Gujarat      |
| 28 | Clean Hydrogen: Enhancing Hydrogen Purity through Advanced Adsorption Purification                                                                                                                                                                           | Karaikudi, Tamil Nadu      | CSIR-Central Electrochemical Research Institute, Karaikudi |
| 29 | Technology Demonstration Plant for the Production of 0.5 TPD Hydrogen from Pyrolysis + Gasification of Coconut Shell and Cashew Nutshell                                                                                                                     | Goa                        | Institute of Chemical Technology, Mumbai                   |
| 30 | Biomass to Green Hydrogen: Development of 100 kg/day H <sub>2</sub> production via oxy-steam-CO <sub>2</sub> gasification integrated with catalytic CO conversion and continuous H <sub>2</sub> separation using a mixed matrix hollow fibre membrane system | Pilani, Rajasthan          | Birla Institute of Technology and Science - Pilani         |
| 31 | Pilot plant demonstration of Hydrogen production from agricultural waste through integrated pyrolysis and catalytic steam reforming process                                                                                                                  | Ropar, Punjab              | Indian Institute of Technology Ropar                       |
| 32 | Fabrication of 200 kW Alkaline Water Electrolyser                                                                                                                                                                                                            | Karaikudi, Tamil Nadu      | CSIR- Central ElectroChemical Research Institute           |
| 33 | AI based smart sensors for rapid and real time detection of ppm level H <sub>2</sub> leaks in hydrogen storage and distribution structures                                                                                                                   | Thiruvananthapuram, Kerala | Indian Institute of Science Education and Research (IISER) |
| 34 | Securing the Future: AI-Driven Insights into Global Hydrogen                                                                                                                                                                                                 | Patiala, Punjab            | Thapar Institute of Engineering & Technology               |

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|----|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|    | Incidents for Enhanced Safety and Risk Management                                                               |                                                  |                                                                                                                              |
| 35 | Spontaneous Combustion Behaviour of Pressurized Hydrogen Leaks                                                  | Varanasi, Uttar Pradesh                          | Indian Institutes of Technology BHU                                                                                          |
| 36 | Electronic Hydrogen Leak Detector based on MEMS Integrated 1-D Nanofibers and Nanotubes of Semiconductor Oxides | Thiruvananthapuram, Kerala                       | Council of Scientific & Industrial Research (CSIR) - National Institute For Interdisciplinary Science and Technology (NIIST) |
| 37 | CFD Modelling in Flacs-Hydrogen software for Hydrogen Safety and Risk Assessment                                | Gurugram, Haryana                                | Shriram Institute for Industrial Research                                                                                    |
| 38 | Hydrogen Explosions-Developing Phenomenological Models from Fundamental Experiments                             | Varanasi, Uttar Pradesh and Hyderabad, Telangana | Indian Institutes of Technology BHU + Indian Institutes of Technology Hyderabad                                              |
| 39 | Next-Generation Trace-Resilient Self-Powered Hydrogen Sensors (2D Materials/4H-SiC)                             | Pilani, Rajasthan                                | Birla Institute of Technology And Science (BITS Pilani)                                                                      |
| 40 | Field-Deployable Multi-Gas Monitoring System for Hydrogen Safety, Purity & Compliance                           | Ropar, Punjab                                    | Indian Institutes of Technology, Ropar                                                                                       |
| 41 | Renewable LOHC (Bio-Oil) Prototype for Hydrogen Transport                                                       | Roorkee, Uttarakhand                             | Indian Institutes of Technology, Roorkee                                                                                     |
| 42 | Low-Cost Type-IV Composite Pressure Vessels                                                                     | Trivandrum, Kerala                               | Vashishtha Research Pvt. Ltd.                                                                                                |
| 43 | Advanced Materials for 700-bar Hydrogen Storage                                                                 | Madurai, Tamil Nadu                              | Gudlyf Mobility Pvt. Ltd.                                                                                                    |
| 44 | Centre of Excellence for Green Hydrogen Research for Power, Steel & Fertilizer Industry                         | Kolkata, West Bengal                             | Damodar Valley Corporation (DVC)                                                                                             |
| 45 | CoE for Hydrogen Transportation Through Pipeline                                                                | New Delhi                                        | Gas Authority of India Limited                                                                                               |
| 46 | CoE for Development of Innovative Solutions for Green Hydrogen Storage and Transportation                       | New Delhi                                        | Indian Oil Corporation Limited                                                                                               |
| 47 | CHESS: Centre for Hydrogen Energy Systems & Solutions                                                           | Hyderabad, Telangana                             | NonFerrous Materials Technology Development Centre (NFTDC)                                                                   |