GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 4198
ANSWERED ON 26/03/2025

RENEWABLE ENERGY TARGET

4198. SMT. JYOTSNA CHARANDAS MAHANT:
ADV DEAN KURIAKOSE:

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

(a) the progress made in achieving India's renewable energy target of 500 GW by the year 2030;

(b) the status of the National Green Hydrogen Mission (NGHM) and investments made in green hydrogen production;

(c) the challenges in integrating renewable energy into the national grid and solutions proposed; and

(d) the Government's initiatives to promote offshore wind energy projects?

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

(a) As on 28.02.2025, a total of 222.86 GW non-fossil power capacity has been installed in the country which includes 102.57 GW solar power, 48.59 GW wind power, 11.45 GW bio-power, 52.07 GW hydro power and 8.18 GW nuclear power. Further, projects of about 183.19 GW are under implementation and projects of 77.21 GW have been tendered.

(b) The Ministry of New and Renewable Energy 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.

India's Green Hydrogen production capacity is likely to reach 5 MMT per annum, contributing to reduction in dependence on import of fossil fuels. Achievement of Mission targets is expected to reduce a cumulative ₹ 1 lakh crore worth of fossil fuel imports by 2030. This is likely to leverage over ₹8 lakh crore in total investments and create over 6 lakh jobs.

Under the Incentive scheme for Green Hydrogen production, 8,62,000 tonnes per annum of Green Hydrogen production capacity awarded to 18 companies. Further, under the Incentive scheme for Electrolyser Manufacturing, 3000 MW per annum of electrolyser manufacturing capacity awarded to 15 companies.

A production capacity of 8,62,000 tonnes per annum of Green Hydrogen has been allocated, while electrolyser manufacturing capacity of 3,000 MW per annum has been assigned.

Scheme Guidelines for Implementation of Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme – Component – II: Incentive for Procurement of Green Ammonia Production

(under Mode – 2A) and Component – II: Incentive for Procurement of Green Hydrogen Production (under Mode – 2B), under the Mission have been issued on 16th January 2024.

Additionally, scheme guidelines have been issued for implementing Green Hydrogen-based pilot projects in the steel, shipping, and road transport sectors. Total three pilot projects have been sanctioned in the steel sector. Five pilot projects have been sanctioned consisting total of 37 vehicles (buses and trucks), and 9 hydrogen refueling stations. The vehicles that will be deployed for the trials include 15 hydrogen fuel cell-based vehicles and 22 hydrogen internal combustion engine-based vehicles.

(c) Wind and Solar energy are variable and intermittent sources of power. The measures taken by the Government to address the challenges in integrating renewable energy into the national grid, include:

(i) Laying of new transmission lines and creating new sub-station capacity has been funded under the Green Energy Corridor Scheme for evacuation of renewable power.

(ii) To augment transmission infrastructure needed for steep RE trajectory, transmission plan has been prepared till 2030.

(iii) Government has set up thirteen Renewable Energy Management Centres (REMCs) for better forecasting and real time monitoring of RE generation.

(iv) Load dispatch centres ensure that electricity demand is fully met using dispatchable sources such as hydro and thermal power when the wind does not blow and sun does not shine.

(v) Installation of Static Synchronous Compensators (STATCOMs) to improve the grid reliability and voltage stability limit. A STATCOM acts as a voltage controller for the electricity grid, quickly adding or removing extra power to keep the system running smoothly.

(vi) Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations lay down the minimum technical requirements for RE generating plants to ensure the safe, secure and reliable operation of the grid.

(d) Government has taken several initiatives to promote offshore wind energy projects in the country, as given at **Annexure.**

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Annexure

Annexure referred to in reply of part (d) of the Lok Sabha Unstarred Question No. 4198 to be answered on 26.03.2025

Government has taken several initiatives to promote offshore wind energy projects in the country. These, *inter alia*, include;

- Notification of 'Offshore Wind Energy Policy' in October 2015 to provide framework for the development of offshore wind energy in the country.
- Issuance of 'Guidelines for Offshore wind Power Assessment, Studies and Surveys' in September, 2018 by National Institute of Wind Energy (NIWE) in order to facilitate the offshore wind studies/surveys by interested developers.
- For initial phase of developments, potential offshore wind zones off the coast of Gujarat and Tamil Nadu have been identified through meso-scale study.
- Installation of a LiDAR by NIWE off the coast of Gujarat in Nov, 2017 and collection of 02 years wind data. NIWE has also conducted Geophysical, Geotechnical study, Rapid EIA study, Oceanographic study (Wave, Tide & current) for a site equivalent to 1 GW capacity off the coast of Gujarat.
- Geotechnical study at three bore hole locations carried out off Tamil Nadu coast. Further, 4 LiDARs off Tamil Nadu coast installed for wind resource measurement.
- Issuance of a 'Strategy Paper for Establishment of Offshore Wind Energy Projects' in July, 2022 indicating various development models.
- The Offshore Wind Energy Lease Rules, 2023 have been notified to regulate the grant of lease of offshore areas for development of offshore wind energy projects.
- Central Transmission Utility (CTU) has completed the planning for initial 10 GW offshore transmission capacity (05 GW each off Gujarat and Tamil Nadu coast).
- Government through Solar Energy Corporation of India (SECI) has issued first tender for 'Leasing out Seabed for development of 4 GW of Offshore Wind Power Projects' under Captive Mode/bilateral agreements/Open Access Mode.
- The Union Cabinet has approved the 'Viability Gap Funding (VGF) scheme for offshore wind energy projects' on 19.06.2024 at a total outlay of ₹ 7453 crore, including an outlay of ₹ 6853 crore for installation and commissioning of 1 GW of offshore wind energy projects (500 MW each off the coast of Gujarat and Tamil Nadu), and grant of ₹ 600 crore for upgradation of two ports to meet logistics requirements for offshore wind energy projects. The scheme guidelines for implementation of "VGF Scheme for Offshore Wind Energy Projects" issued on 11th September 2024.
- SECI has issued tender for 500 MW offshore wind energy project off Gujarat coast on 13th September 2024 under VGF scheme.
- Offshore Wind has been included in the list of activities to be considered for trading of Carbon Credits under bilateral/co-operative approaches as per Article 6.2 Mechanism of Paris Agreement.
- Waiver of Inter-State Transmission (ISTS) Charges has been extended for offshore wind power projects commissioned on or before 31.12.2032 with graded ISTS charges thereafter.
- Waiver of additional surcharge is granted for electricity produced from offshore wind projects commissioned up to December, 2032 and supplied to Open Access Consumers.