GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2695
ANSWERED ON 24.03.2025

RENEWABLE ENERGY TARGETS AND CLEAN ENERGY ADOPTION

2695 SHRI SANJEEV ARORA:

Will the Minister of **POWER** be pleased to state:

(a) the Ministry's current progress in achieving country's renewable energy target of 500 GW non-fossil fuel-based power capacity by 2030, and the amount of gigawatts of renewable energy capacity added so far in the current year;

(b) manner in which Government is addressing the challenges in integration of renewable energy sources into the grid, particularly with regard to solar and wind energy intermittency; and

(c) in light of India's COP26 commitment to achieve net-zero emissions by 2070, specific measures Government is taking to accelerate the adoption of clean energy technologies, including green hydrogen?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : As on 28.02.2025, the country's electricity generation capacity from non-fossil fuel sources was about 223 Giga Watts (GW) including around 215 GW of Renewable Energy (RE) capacity. During the current financial year, around 24 GW RE capacity has been added so far.

(b) : The measures taken by the Government to address the challenges in integration of renewable energy sources into the grid, are placed at **Annexure-I**.

(c) : The measures taken by Government of India towards adoption of clean energy technologies are placed at **Annexure-II.**

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ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PART (b) OF UNSTARRED QUESTION NO. 2695 ANSWERED IN THE RAJYA SABHA ON 24.03.2025

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For addressing the integration of Renewable Energy (RE) sources into the national grid to ensure reliability and stability inter alia following initiatives have been taken:

1. Technical Standards for Connectivity,2007 and subsequent amendments, issued by Central Electricity Authority (CEA) have mandates like Low and High Voltage Ride Through (LVRT and HVRT) to avoid outages due to voltage fluctuations, Reactive power capabilities, active power and frequency control, power quality requirements for connecting RE with Grid.

2. Indian Electricity Grid Code, 2023 issued by Central Electricity Regulatory Commission (CERC) have provisions like trial run operation , frequency response requirements and periodic testing.

3. Flexible Operation of Coal based Thermal Power Generating Units Regulations, 2023 issued by CEA mandates coal based thermal power generating units to have minimum power level of forty percent and specified ramp rate capability.

4. A comprehensive policy and regulatory framework has been established to ensure resource adequacy, which includes advance planning for generation capacity addition.

5. 13 Renewable Energy Management Centers have been established in RE rich states and regions for dedicated monitoring, forecasting and scheduling of solar and wind plants.

6. Several key initiatives undertaken for planned development of RE in line with resource adequacy plans, shifting loads to periods of high solar generation, Time of Day Tariff etc.

7. The Central Electricity Authority (CEA) prepared a Transmission Plan for 500 GW of Renewable Energy (RE) by 2030. To enhance grid stability, the plan incorporates use of advanced technologies, and energy storage solutions.

8. A number of state-of– the art Static Synchronous Compensators installed to improve grid reliability and voltage stability.

9. Various initiatives including notification of national framework for Energy Storage Systems (ESS), Issuance of Guidelines to promote development of Pump Storage Projects (PSP), implementation of a Viability Gap Funding (VGF) scheme for 13,200 MWh grid-scale Battery Energy Storage system (BESS) taken for development of ESS.

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ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PART (c) OF UNSTARRED QUESTION NO. 2695 ANSWERED IN THE RAJYA SABHA ON 24.03.2025

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Government of India has taken various measures towards **adoption of clean energy technologies** including the following: -

1. 100% Foreign Direct Investment (FDI) permitted under the automatic route for renewable energy projects.

2. Waiver of ISTS (Inter-State Transmission System) charges for renewable and storage projects.

3. Renewable Purchase Obligation (RPO) trajectory has been declared up to 2030.

4. Ultra Mega Renewable Energy Parks established to provide land and transmission infrastructure on a plug-and-play basis.

5. Key government schemes launched, including PM-KUSUM, Solar Rooftop Phase II, and the 12,000 MW CPSU Scheme Phase II.

6. PM Surya Ghar Muft Bijli Yojana for installing rooftop solar for 1 crore households launched.

7. Production Linked Incentive (PLI) scheme "National Programme on High Efficiency Solar PV Modules" for promoting domestic manufacturing capacity of solar PV modules.

8. Green Energy Corridor Scheme facilitating new transmission lines and sub-station capacity for renewable power evacuation.

9. Transmission plan in place for integrating 500 GW of renewable energy capacity by 2030.

10. Standard Bidding Guidelines issued for tariff-based competitive procurement of power from grid-connected renewable and storage projects.

11. LPS (Late Payment Surcharge) Rules, 2022 issued for ensuring timely payments to generators.

12. Green Energy Open Access Rules 2022 notified to promote renewable energy.

13. Green Day Ahead Market (GDAM) and Green Term Ahead Market (GTAM) launched to enable the sale of renewable energy through power exchanges.

14. Promotion of Generation of Electricity from Must Run Power Plants Rules, 2021 notified to ensure optimum utilization of the renewable energy sources.

15. National Green Hydrogen Mission has been launched to facilitate production of Green Hydrogen and its derivatives.

16. VGF scheme launched for development of Off-shore wind energy projects.

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