RENEWABLE ENERGY INTEGRATION

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The Government is accelerating Renewable Energy (RE) integration through development of Green Energy Corridors (GEC) and expansion of Inter-State Transmission System (ISTS) have been planned to integrate over 500 Giga Watt (GW) of non-fossil fuel capacity by 2030 and over 600 GW by 2032 (including GEC-I & II). Under National Electricity Plan (NEP) (Volume-II Transmission), the transmission network (220kV and above) is projected to expand to 6.48 lakh circuit kilometer (ckm) with transformation capacity increasing to 2,345 Giga Volt Ampere (GVA) by 2031-32. The inter-regional transmission capacity is planned to increase from 120 GW as on January 2026 to 168 GW by the year 2032.

The transmission schemes associated with Renewable Energy (RE) generation projects are under various stages of implementation in a phased manner commensurate with the RE Capacity addition.

The Ministry of New and Renewable Energy (MNRE) is implementing GEC as Intra-State Transmission projects scheme in ten States namely Rajasthan, Karnataka, Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Kerala, Gujarat, Uttar Pradesh, Maharashtra and Tamil Nadu in two phases, i.e. GEC-I and GEC-II for evacuation of 44 GW of RE. Out of which, 26 GW of RE is integrated. Further, Intra-State transmission system under GEC-III scheme for large-scale renewable energy integration is under consideration.

To address the intermittency associated with RE sources, the Government is promoting a combination of energy storage and hybrid solutions to ensure grid stability and reliable power supply. Under NEP (Volume-II Transmission), the transmission system upto 2031-32 for 35.6 GW Pumped Storage Projects (PSP) has already been planned. Further, the transmission system has been identified/ planned for achieving 100 GW PSPs from the year 2025-26 to 2035-36. Under the plan, around 47 GW of Battery Energy Storage Systems (BESS) has been considered for integration by 2031-32. To support energy storage systems deployment, the Government is implementing two Viability Gap Funding (VGF) schemes for approximately 43.8 GWh of Battery Energy Storage Systems, launched in March 2024 and June 2025.

In addition, Ministry of Heavy Industries (MHI), is implementing National Programme on Advanced Chemistry Cell (ACC) Battery Storage with a ₹18,100 crore Production Linked Incentive (PLI) scheme outlay to establish 50 GWh of ACC battery manufacturing capacity, including 10 GWh for grid-scale storage

The Central Electricity Regulatory Commission through the Connectivity and General Network Access to the Inter-State Transmission System (Third Amendment) Regulations, 2025 has introduced solar-hour and non-solar-hour connectivity, enabling optimal use of transmission infrastructure and promoting hybrid renewable projects combining solar, wind and BESS.

To support Rooftop Solar (RTS) adoption across the country, MNRE is implementing PM Surya Ghar: Muft Bijli Yojana (PMSG: MBY) since February 2024. The scheme targets to achieve rooftop solar installations in one crore households in the residential sector by Financial Year (FY) 2026-27 with an

outlay of ₹ 75,021 crore. Government has taken following steps to simplify the procedure for adoption of RTS adoption across the country under the PMSG: MBY:

i. Online process from application to disbursal of subsidy directly into the bank account of the residential consumer through National Portal.
ii. Availability of collateral free loan from nationalized banks at concessional interest rate with tenure of 10 years. JanSamarth portal has been integrated with National Portal of the scheme for availing the loan online.
iii. Simplified the regulatory approval process by waiving technical feasibility requirement and introducing auto load enhancement upto 10 kW.
iv. A total of 31.04 lakh households has been benefited with installation of Rooftop Solar under the scheme till February 2026.

The development of GEC scheme and expansion of the ISTS are providing the necessary backbone for large-scale RE integration. Simultaneously, promotion of BESS, PSPs and hybrid/round-the-clock RE projects is enhancing grid flexibility, managing intermittency and ensuring availability of firm and dispatchable green power at competitive price. Further, the support extended by Government for RTS systems through simplified procedures and financial incentives is encouraging affordable distributed generation and reducing burden on the grid.

The transmission systems associated with RE generation are planned in advance, and the National Grid is strengthened on a continuous basis to facilitate seamless integration of growing RE capacity across the country. As of January 2026, the RE Capacity commissioned is around 263 GW. For integration of about 207 GW of upcoming Wind and Solar generation capacity, ISTS network is under various stages of implementation. Further, around 18 GW RE capacity has been considered for integration to intra-state network under GEC scheme of MNRE. Additional Hydro capacity of around 19 GW has been planned till the year 2030.

This information was given by The Minister of State in the Ministry of Power, Shri Shripad Naik, in a written reply in the Rajya Sabha today.

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