

GOVERNMENT OF INDIA  
MINISTRY OF POWER  
  
**RAJYA SABHA**  
**UNSTARRED QUESTION NO.2875**  
ANSWERED ON 18.08.2025

**ELECTRICITY CONSUMPTION IN THE COUNTRY**

2875 SHRI C. VE. SHANMUGAM:

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

- (a) whether Government is aware that India's electricity consumption is expected to triple by the year 2050;
- (b) if so the details thereof;
- (c) whether it is also a fact that the International Energy Agency projected that India would become the third-largest electricity consumer globally by 2050;
- (d) if so, the details thereof; and
- (e) the steps taken by Government to achieve the anticipated target reported by the International Energy Agency?

**A N S W E R**

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

**(a) & (b):** The Energy Requirement in the year 2024-25 was 1,694 BU which is projected to be 5,748 BU in year 2049-50, thus showing a growth of more than three times in the electricity consumption in the country.

**(c) & (d):** As per the World Energy Outlook 2024 published by International Energy Agency, India would become third largest electricity consumer in the world by the year 2050 on the back of growth in demand of over 4% a year. The report mentions that India is poised to experience more energy demand growth than any other country over the next decade. Report also indicates that India will have world's third-largest installed battery storage capacity in place by 2030 to accommodate the rising share of variable renewables. However, India is already third-largest consumer of electricity globally.

**(e):** The Government of India has proactively undertaken several measures along with existing initiatives to ensure the adequacy of generation and transmission resources. These, inter-alia, include the following:

**1. Generation Planning:**

- (i) As per National Electricity Plan (NEP), installed generation capacity in 2031-32 is likely to be 874 GW. This includes capacity from conventional sources- Coal, Lignite etc., renewable sources- Solar, Wind and Hydro.

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- (ii) With a view to ensure generation capacity remains ahead of projected peak demand, all the States, in consultation with CEA, have prepared their “ **Resource Adequacy Plans (RAPs)**”, which are dynamic 10 year rolling plans and includes power generation as well as power procurement planning.
- (iii) All the States were advised to initiate process for creation of generation capacities; from all generation sources, as per their Resource Adequacy Plans.
- (iv) In order to augment the power generation capacity, the Government of India has initiated following capacity addition programme:

(A) The projected thermal (coal and lignite) capacity requirement by the year 2034–35 is estimated at approximately 3,07,000 MW as against the 2,11,855 MW installed capacity as on 31.03.2023. To meet this requirement, Ministry of Power has envisaged to set up an additional minimum **97,000 MW** coal and lignite based thermal capacity.

Several initiatives have already been undertaken. Thermal capacities of around 11,680 MW have already been commissioned since April 2023 till June 2025. In addition, 38,935 MW (including 5,695 MW of stressed thermal power projects) of thermal capacity is currently under construction. Further, contracts for 15,440 MW thermal capacity have been awarded in FY 2024-25 and is due for construction. To meet the projected demand in the country, 35,460 MW of coal and lignite based candidate capacity has been identified, which is at various stages of planning.

(B) 13,463.5 MW of Hydro Electric Projects are under construction. Further, 9802 MW of Hydro Electric Projects are under various stage of planning and targeted to be completed by 2031-32.

(C) 6,600 MW of Nuclear Capacity is under construction and targeted to be completed by 2029-30. 7,000 MW of Nuclear Capacity is under various stages of planning and approval.

(D) 1,58,450 MW Renewable Capacity including 74,150 MW of Solar, 30,080 MW of Wind and 53,750 MW Hybrid power is under construction while 62,000 MW of Renewable Capacity including 46,010 MW of Solar and 15,990 MW Hybrid Power is at various stages of planning and targeted to be completed by 2029-30.

(E) In energy storage systems, 8250 MW/49500MWh Pumped Storage Projects (PSPs) are under construction. Further, a total of 5780 MW/34680 MWh capacity of Pumped Storage Projects (PSPs) are concurred and yet to be taken up for construction. Out of these, 3500 MW/21000 MWh capacity of Pumped Storage Projects (PSPs) are under bidding and 15,829 MW/51,106 MWh Battery Energy Storage System (BESS) are currently under various stages of construction/bidding

- 2. **Transmission Planning:** Inter and Intra-State Transmission System has been planned and implementation of the same is taken up in matching time frame of generation capacity addition. As per the National Electricity Plan, about 1,91,474 ckm of transmission lines and 1274 GVA of transformation capacity is planned to be added (at 220 kV and above voltage level) during the ten year period from 2022-23 to 2031-32.

### **3. Promotion of Renewable Energy Generation:**

- (i) Ministry of New & Renewable Energy (MNRE) has issued Bidding Trajectory for issuance of RE power procurement bids of 50 GW/annum by Renewable Energy Implementing Agencies (REIAs) from FY 2023-24 to FY 2027-28.
- (ii) Foreign Direct Investment (FDI) has been permitted up to 100 percent under the automatic route.
- (iii) Inter State Transmission System (ISTS) charges have been waived for inter-state sale of solar and wind power for projects to be commissioned by 30th June 2025, for Green Hydrogen Projects till December 2030 and for offshore wind projects till December 2032.
- (iv) To boost RE consumption, Renewable Purchase Obligation (RPO) followed by Renewable Consumption Obligation (RCO) trajectory has been notified till 2029-30. The RCO which is applicable to all designated consumers under the Energy Conservation Act 2001 will attract penalties on non-compliance. RCO also includes specified quantum of consumption from Decentralized Renewable Energy sources.
- (v) Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Solar, Wind, Wind-Solar Hybrid and Firm & Dispatchable RE (FDRE) projects have been issued.
- (vi) Schemes such as Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), PM Surya Ghar Muft Bijli Yojana, National Programme on High Efficiency Solar PV Modules, New Solar Power Scheme (for Tribal and PVTG Habitations/Villages) under Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN) and Dharti Aabha Janjatiya Gram Utkarsh Abhiyan (DA JGUA), National Green Hydrogen Mission, Viability Gap Funding (VGF) Scheme for Offshore Wind Energy Projects have been launched.
- (vii) Scheme for setting up of Solar Parks and Ultra Mega Solar Power projects is being implemented to provide land and transmission to RE developers for installation of RE projects at large scale.
- (viii) 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.
- (ix) “Strategy for Establishments of Offshore Wind Energy Projects” has been issued.
- (x) To augment transmission infrastructure needed for steep RE trajectory, transmission plan has been prepared till 2032.
- (xi) Green Term Ahead Market (GTAM) has been launched to facilitate sale of Renewable Energy Power through exchanges.
- (xii) To achieve the objective of increased domestic production of Solar PV Modules, the Govt. of India is implementing the Production Linked Incentive (PLI) scheme for High Efficiency Solar PV Modules. This will enable manufacturing capacity of Giga Watt (GW) scale in High Efficiency Solar PV Module.

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