

**GOVERNMENT OF INDIA  
MINISTRY OF POWER**

**LOK SABHA  
UNSTARRED QUESTION NO.3146  
ANSWERED ON 06.08.2026**

**POWER SUPPLY TO MRTS PROJECTS**

**3146. SHRI ANURAG SHARMA:**

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

**(a) whether the Government has reviewed the adequacy and reliability of power supply for Mass Rapid Transit Systems (MRTS) and Metro Rail projects across the country and if so, the details thereof;**

**(b) the details of the measures taken to ensure uninterrupted, quality and dedicated power supply to operational and upcoming Metro Rail and MRTS projects along with the details of States and cities covered;**

**(c) whether the Government has promoted the use of renewable energy, energy storage systems and energy-efficient technologies for Metro Rail operations and if so, the details and outcomes thereof; and**

**(d) the steps taken by the Government to strengthen transmission and distribution infrastructure, improve power reliability and support the expansion of Metro Rail and other mass rapid transit systems as sustainable urban transport solutions?**

**A N S W E R**

**THE MINISTER OF STATE IN THE MINISTRY OF POWER**

**(SHRI SHRIPAD NAIK)**

**(a) & (b): Electricity being a concurrent subject, the supply and distribution of electricity to the various categories of consumers/areas in a State/UT is looked after by the respective State Government / Power Utility. Further, The Central Government supplements the efforts of the State Governments by establishing power plants through Central Public Sector Undertakings (CPSUs) and through development of Inter State Transmission System.**

**At the national level, Electric Power Survey (EPS) of the country is conducted by Central Electricity Authority (CEA) every five years for estimating the electricity demand of the country, as obligated under Section 73(a) of the Electricity Act-2003. As per the mid-term review of 20th Electric Power Survey (EPS) report, the estimated energy requirement and peak demand of the country is 3,365 Billion Units (BUs) and 459 GW by 2035-36.**

**Further, CEA has prepared National Generation Adequacy Plan (2026-27 to 2035-36) covering the capacity addition required to meet the projected electricity demand for ten-year period from 2026-27 to 2035-36.**

**States, in consultation with CEA, have prepared their “Resource Adequacy Plans (RAPs)” for generation and transmission, which are dynamic 10-year rolling plans with an objective to ensure generation and transmission capacity remains ahead of requirement of various end use sectors including Metro / Regional Rapid Transit System (RRTS).**

**(c): As informed by Ministry of Housing & Urban Affairs (MoHUA), Rooftop solar plant has been installed in various metro networks across the country. Metro Rail Systems are implemented with State-of-the-Art energy efficient technology such as LED (Light Emitting Diode) lighting, Variable Voltage Variable Frequency (VVVF) drives in lifts, escalators and air conditioning, Variable Refrigerant Flow (VRF) in Station Control Room and Equipment Rooms etc. including deployment of rolling stock with regenerative braking system. Such energy efficient systems along with roof top solar system reduce energy consumption besides harnessing green energy. These steps contribute significantly in making metro projects efficient, sustainable and environment friendly. In addition, Government has encouraged usage of renewable energy through Open Access.**

**(d): Government has taken following measures to strengthen the electricity grid through generation capacity addition & transmission infrastructure for ensuring reliable power and support the expansion of Metro Rail & other mass rapid transit systems:**

**I. Generation and Storage Planning:**

- (i) As per National Electricity Plan (Generation), installed generation capacity in 2031-32 is likely to be 874 GW.**
- (ii) All the States were advised to initiate process for creating/ contracting generation capacities; from all generation sources, as per their Resource Adequacy Plans.**
- (iii) In order to augment the power generation capacity, the Government of India has initiated following capacity addition programme:**
  - a. Thermal Capacity Addition: The projected thermal (coal and lignite) capacity requirement by the year 2035–36 is estimated at approximately 3,15,000 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 1,05,000 MW coal and lignite based thermal capacity.**

**Accordingly, Thermal capacities of around 21,080 MW have been commissioned since April 2023 till 30.06.2026. In addition, 47,545 MW of thermal capacity (including 4,845 MW of stressed thermal power projects) is currently under construction. The contracts of 16,000 MW have been awarded and are due for construction.**

**b. Central Electricity Authority (CEA) has projected hydro power capacity addition of about 16,448 MW during the period 2026–27 to 2031–32. Of this, 400 MW has been commissioned as on 30.06.2026 and 12,973 MW are presently under construction.**

**c. Nuclear Capacity Addition: 8,000 MW of Nuclear Capacity is under construction and targeted to be completed by 2031-32. 5,600 MW of Nuclear Capacity is under various stages of planning and approval.**

**d. Renewables Capacity Addition: 1,47,720 MW Renewable Capacity including 119,580 MW of Solar (including Hybrid-Solar) and 27,720 MW of Wind (including Hybrid-wind) is under construction while 47,830 MW of Renewable Capacity including 44,440 MW of Solar is at various stages of planning and targeted to be completed by 2029-30.**

**e. Addition of Energy Storage Systems: As on 30.06.2026, 15,870 MW/95,220 MWh Pumped Storage Projects (PSPs) are under construction. Further, a total of 6,580 MW/39,480 MWh capacity of Pumped Storage Projects (PSPs) are concurred and yet to be taken up for construction. As on 30.06.2026, 15,754 MW / 42,530 MWh Battery Energy Storage System (BESS) capacity are under construction, 11,747 MW / 38,425 MWh has been awarded and 19,192 MW / 67,574 MWh BESS capacity are under tendering stage.**

## **II. Promotion of Renewable Energy (RE) Generation:**

- (i) 100% 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 (with waiver tapering off 25% annually till June 2028), for co-located BESS projects commissioned by June 2028, for Hydro PSP projects where construction work awarded by June 2028, for Green Hydrogen Projects commissioned till December 2030 and for offshore wind projects commissioned till December 2032.**
- (ii) 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.**
- (iii) Renewable Energy Implementing Agencies (REIAs) are regularly inviting bids for procurement of RE power.**
- (iv) Foreign Direct Investment (FDI) has been permitted up to 100 percent under the automatic route.**
- (v) To augment transmission infrastructure needed for steep RE trajectory, transmission plan has been prepared till 2032.**

- (vi) Laying of new intrastate transmission lines and creating new sub-station capacity has been supported under the Green Energy Corridor Scheme for evacuation of renewable power.**
- (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) 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.**
- (ix) To encourage 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.**
- (x) “Strategy for Establishment of Offshore Wind Energy Projects” has been issued.**
- (xi) Green Term Ahead Market (GTAM) has been launched to facilitate sale of Renewable Energy Power through exchanges.**
- (xii) Production Linked Incentive (PLI) scheme has been launched to achieve the objective of localization of supply chain for solar PV Modules.**

### **III. Transmission:**

**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 (Transmission), about 1,91,474 ckm of transmission lines and 1,274 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.**

**In addition to the above, the Ministry of Power has issued guidelines dated 14.06.2024, 21.03.2025 and 15.12.2025 regarding the payment of compensation for Right of Way (RoW) for transmission lines, wherein the land rate has been linked to the prevailing market rate. These guidelines address the key challenges of RoW arising from landowners demanding higher compensation than the rates determined by the State Government**

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