

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.796
ANSWERED ON 10.02.2025

24 HOUR POWER SUPPLY

796 # DR. BHIM SINGH:

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

- (a) the impact of the schemes and policies run by Government in order to ensure 24-hour power supply in the country, the details thereof; and
- (b) the major technical and administrative challenges faced during implementation of smart grid and smart metering, and the steps taken by Government to deal with these challenges?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : There is adequate availability of power in the country. Present installed generation capacity of the country is 462 GW. Government of India has addressed the critical issue of power deficiency by adding 230 GW of generation capacity since April, 2014 transforming the country from power deficit to power sufficient.

Further, addition of 2,00,168 circuit kilometer (ckm) of Transmission lines, 7,66,859 MVA of Transformation capacity and 82,790 MW of Inter-Regional capacity has been done since 2014 with capability of transferring 1,18,740 MW from one corner of the country to another.

Electricity being a concurrent subject, supply and distribution of electricity to the consumers is within the purview of the respective State Government/Power Utility. As per the Electricity (Rights of Consumers) Rules, 2020, the distribution licensee shall supply 24x7 power to all consumers. However, the Commission may specify lower hours of supply for some categories of consumers like agriculture.

Government of India has been supporting the States/ UTs through schemes like Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY), Integrated Power Development Scheme (IPDS), Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA) to improve access and quality of power supply to all consumers. These schemes stand closed as on 31.03.2022. Under these scheme, projects worth Rs. 1.85 lakh Cr. were executed for strengthening of power distribution infrastructure. A total of 18,374 villages were electrified under the DDUGJY and 2.86 Cr households were electrified during SAUBHAGYA.

Further, Government of India launched the Revamped Distribution Sector Scheme (RDSS) in July, 2021 with the objective of improving the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient Distribution Sector. Under the scheme, infrastructure works worth Rs. 2.78 lakh Cr. have been sanctioned for the distribution utilities.

With the collective efforts of the Centre and States/UTs, the average hours of electricity supply have improved from 12.5 hours in rural areas in FY 2014 to 21.9 hours in FY 2024, and from 22.1 hours in urban areas in FY 2014 to 23.4 hours in FY 2024.

Further, the Government of India has taken following steps to ensure round the clock 24x7 power for all:

1. **Generation Planning:**

- (i) 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.
- (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.

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- (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) Ministry of Power, in consultation with States, has envisaged a plan to add thermal capacity of a minimum 80,000 MW by 2031-32. Against this target, 28,020 MW Thermal Capacity is already under construction and contracts for 19,200 MW thermal capacity have been awarded in FY 2024-25. Further, 36,320 MW of coal and lignite based candidate capacity has been identified which is at various stages of planning in the country.

(B) 13,997.5 MW of Hydro Electric Projects are 8,000 MW Pumped Storage Projects (PSPs) are under construction and 24,225.5 MW of Hydro Electric Projects and 50,760 MW of PSPs are under various stage of planning and targeted to be completed by 2031-32.

(C) 7,300 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) 147,160 MW Renewable Capacity including 84,190 MW of Solar, 26,200 MW of Wind and 36,330 MW Hybrid power is under construction while 79,270 MW of Renewable Capacity including 50,830 MW of Solar, 600 MW of Wind and 27,840 MW Hybrid Power is at various stages of planning and targeted to be completed by 2029-30.

(E) Six (06) Battery Energy Storage System (BESS) projects of 522.60 MW capacity are under construction and 45 BESS projects of 14,242.29 MW capacity are at various stages of planning.

- 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 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 for non-compliance.
- (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, National Green Hydrogen Mission, Viability Gap Funding (VGF) Scheme for Offshore Wind Energy Projects have been launched.
- (vii) Scheme for setting up of Ultra Mega Renewable Energy Parks 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.

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- (ix) "Strategy for Establishment of Offshore Wind Energy Projects" has been issued indicating a bidding trajectory of 37 GW by 2030 and various business models for project development.
- (x) The Offshore Wind Energy Lease Rules, 2023 have been notified vide Ministry of External Affairs notification dated 19th December 2023, to regulate the grant of lease of offshore areas for development of offshore wind energy projects.
- (xi) 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

(b) : Smart Grids and Smart Meters are comparatively newer and innovative technologies being introduced in the Indian Distribution Sector to make it modern and future ready. Some of the main challenges being faced by the utilities during implementation of Smart Grid and Smart Meters under ongoing RDSS scheme are, Lack of awareness of adoption of new technology by consumers & Utilities, Delay in tendering and award of smart metering works by utilities for approved smart metering projects under RDSS, Lack of dedicated IT team with distribution utilities having knowledge of new technologies including smart grid and smart metering, Shortage of skilled manpower, Collection and validation of data for Consumer Indexing, Delays in Testing and approvals like Field installation and integration test, Factory acceptance test and likewise, and Delay in administrative approvals such as signing of agreements etc.

The following measures have been / are being taken to expedite installation of the sanctioned Smart meters:

- (i) Regular follow up with the States and Distribution Utilities through coordination meetings, conferences, etc. on the progress of tendering, award and physical progress of the Smart meter works is being carried out by Ministry of Power.
- (ii) Advisories have been issued for Installation of check meters for up-to 5% of the Smart meters installed and mandatorily in case of complaints related to Smart meters.
- (iii) Smart meter advisories and Standard operating Procedures (SoPs) prioritizing installation of Smart meter in Government Establishments, Government colonies and Industrial and commercial category of consumers and other high load consumers. Based on successful demonstration in above category of consumers, Smart meter installation may be rolled out for other category of consumers. SoP also prescribes for regular consumer engagement exercise in respect of Smart meters and its benefits so as to build consumer confidence.
- (iv) Monitoring and review of works sanctioned under RDSS is being done by the Ministry on a regular basis. Weekly review meetings are conducted by the Ministry of Power along with nodal agencies for monitoring the progress. Further, an institutional mechanism at the State level i.e., Distribution Reforms Committee headed by Chief Secretary of the State concerned, and at the Central level i.e., Inter-Ministerial Monitoring Committee headed by Secretary (Power), has been put in place under the RDSS guidelines to review and monitor the implementation of the works sanctioned under the Scheme.
- (v) A Standard Bidding Document (SBD) for Smart metering projects in TOTEX (Total Expenditure which includes both Capital and Operational Expenditure) mode and SBD for infrastructure works have been issued to help the States/Discoms in tendering the works.
- (vi) A Smart Grid Expert Group (SGEG) has also been constituted to advise/help the States to expedite the implementation of smart metering projects in the country.
- (vii) A comprehensive consumer engagement plan has been developed and is being taken up by AMISP (Advanced Metering Infrastructure Service Provider)/Utilities/nodal agencies in the State.
- (viii) Skill Development programs are being conducted under RDSS on emerging topics including smart meters.
