

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
STARRED QUESTION NO.318
ANSWERED ON 23.03.2026

WATER CRISIS IN THE COAL SECTOR

318 SMT. SAGARIKA GHOSE:

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

- (a) units of coal-generated power lost due to water shortages since 2023, year-wise;
- (b) the details of power plant shut down due to water shortages since 2023;
- (c) the details of new projects shortlisted for future operations that are located in areas classified as either suffering from water scarcity or stress;
- (d) whether there have been farmer protests and local diversions over the effects of water shortage; and
- (e) compensation to affected districts for economic losses from halted output?

A N S W E R

THE MINISTER OF POWER

(SHRI MANOHAR LAL)

(a) to (e) : A Statement is laid on the Table of the House.

STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) IN RESPECT OF RAJYA SABHA STARRED QUESTION NO.318 FOR REPLY ON 23.03.2026 REGARDING WATER CRISIS IN THE COAL SECTOR ASKED BY SMT. SAGARIKA GHOSE.

(a) & (b): As per details submitted by the generating utilities, there has been no shutdown of coal based power plants due to water shortage. However, the coal-based plants have intimated some generation loss due to other water related issues (pipeline leakages, desalination plant outage etc.) and the year-wise details since 2023 are given at **Annexure-I**.

(c): As per the National Compilation on Dynamic Ground Water Resources of India, 2025 of the Ministry of Jal Shakti, groundwater assessment units (districts, blocks etc) across the country are categorised as Safe (less or equal to 70%), Semi-critical (greater than 70% and less or equal to 90%), Critical (greater than 90% and less or equal to 100%) & Over Exploited (greater than 100%) based on ratio of annual groundwater extraction and replenishment of phreatic aquifer. Accordingly, there are three (03) numbers of coal-based power projects under construction or expansion located in water-stressed districts and their details are at **Annexure-II**.

Generation being a de-licensed activity any decision related to establishment/ operationalization of coal-based thermal power plant is taken by the generating company/project developer based on their techno-economic and commercial requirements and assessment of local conditions, which includes availability of water.

(d) & (e): Ministry of Power has not received any report regarding farmer protests on account of diversion/scarcity of water.

ANNEXURE-I**ANNEXURE REFERRED TO IN PARTS (a) & (b) OF THE STATEMENT LAID IN
REPLY TO STARRED QUESTION NO. 318 ANSWERED IN THE RAJY SABHA ON
23.03.2026 REGARDING WATER CRISIS IN THE COAL SECTOR**

Details of Coal generated power lost due to other water related issues

Year	State	Sector Type	Station	District	Unit No	Capacity (MW)	Actual Trip Date & Time	Duration (Hrs)	Losses (MU)
2024	Chhattisgarh	IPP SECTOR	BINJKOTE TPP	Raigarh	1	300.00	18-Mar-2024 14:54:00	213.95	64.19
	Chhattisgarh	IPP SECTOR	BINJKOTE TPP	Raigarh	2	300.00	09-Jun-2024 01:30:00	83.10	24.93
	Andhra Pradesh	IPP SECTOR	VIZAG TPP	Visakhapatnam	2	520.00	10-Jun-2024 13:30:00	220.13	114.47
2025	Chhattisgarh	IPP SECTOR	BINJKOTE TPP	Raigarh	1	300.00	23-May-2025 01:11:00	108.87	32.66
	Gujarat	STATE SECTOR	GANDHI NAGAR TPS	Gandhi Nagar	3	210.00	23-Jul-2025 11:28:00	84.53	17.75
	Gujarat	STATE SECTOR	GANDHI NAGAR TPS	Gandhi Nagar	4	210.00	23-Jul-2025 11:53:00	82.62	17.35

ANNEXURE-II**ANNEXURE REFERRED TO IN PART (c) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO. 318 ANSWERED IN THE RAJY SABHA ON 23.03.2026 REGARDING WATER CRISIS IN THE COAL SECTOR**

Coal-based Thermal Power Plants (TPPs) under construction and awarded located in water-stressed districts

Sl No	State	District	Name of TPP	Utility	Sector	Status (Under Construction/ Awarded)	Category	Source of Water
1.	Uttar Pradesh	Kanpur Nagar	Ghatampur TPP	NUPPL	Central	Under Construction	Semi-critical	Ganga River
2.	Haryana	Yamuna Nagar	DCR TPP Ext	HPGCL	State	Under Construction	Over Exploited	Western Jamuna Canal
3.	Rajasthan	Baran	Kawai TPP	Adani Power	Private	Awarded but due for construction	Over Exploited	Parwan River

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
STARRED QUESTION NO.323
ANSWERED ON 23.03.2026

**BOTTLENECKS IN POWER TRANSMISSION DUE TO SHORTAGE OF
TRANSFORMER AND REACTOR**

323 SMT. JEBI MATHER HISHAM:

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

- (a) whether transformer and reactor shortages caused bottlenecks in power transmission projects, details of current shortfall and affected States/UTs;
- (b) whether such shortages have delayed capacity addition in generation and renewable energy integration, the details of projects impacted and timeline slippages;
- (c) whether Government has relaxed procurement norms, including imports of critical transmission equipment, to address these constraints, the details thereof;
- (d) whether a comprehensive assessment has been undertaken on grid infrastructure readiness to meet the 2030 capacity targets, the details thereof; and
- (e) whether any steps have been taken to strengthen domestic manufacturing of transmission equipment to reduce import dependence, the details thereof?

A N S W E R

THE MINISTER OF POWER

(SHRI MANOHAR LAL)

(a) to (e) : A Statement is laid on the Table of the House.

STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) IN RESPECT OF RAJYA SABHA STARRED QUESTION NO.323 FOR REPLY ON 23.03.2026 REGARDING BOTTLENECKS IN POWER TRANSMISSION DUE TO SHORTAGE OF TRANSFORMER AND REACTOR ASKED BY SMT. JEBI MATHER HISHAM.

(a) & (b) : Transformers and reactors are critical for transmission systems, and their timely availability is essential for meeting project timelines. While supply of transformers and reactors depends on manufacturing capacity and key components such as Cold-Rolled Grain-Oriented (CRGO) steel, bushings, insulation, and copper conductors, the supply chain constraints of these components have been observed. As regards augmentation of Transformation Capacity (of 220 kV & above) targeted for FY 2025-26, Transmission Corporation of Andhra Pradesh (APTRANSCO) and Tamil Nadu Transmission Corporation Limited (TANTRANSCO) have reported delay in implementation of intra-state substations due to delay in transformer supply (**Annexure**).

To address the capacity constraints, the industry is undertaking significant expansion in production, adding about 315 GVA over next three years, which will increase total manufacturing capacity from 375 Giga Volt Ampere (GVA) (viz. 95 GVA in FY 25-26, 180 GVA in FY 26-27 & 40 GVA in FY 27-28) to around 690 GVA by FY 2027–28. Simultaneously, steps are being taken to strengthen the supply of critical raw materials through capacity augmentation and new manufacturing facilities. At present, current delivery timelines are about 11–15 months for 220 kV transformers, around 15 months for 400 kV transformers and around 20-24 months for 765 kV transformers.

(c): Government has not relaxed procurement norms to import the critical items. The Ministry of Power has granted project-specific relaxations in Minimum Local Content (MLC) requirements for certain High Voltage Direct Current (HVDC) projects. In July 2024, the MLC requirement was reduced to 25% for key projects including the Khavda–Nagpur HVDC transmission line, and the Bhadrawati HVDC back-to-back station. Further, in September 2024, the MLC requirement for the Khavda Pooling Station-3 (KPS3)–South Olpad HVDC transmission line was also reduced from 60% to 25%.

(d) : Yes, a comprehensive assessment of grid infrastructure readiness has been undertaken. The National Electricity Plan (Transmission) for the period 2023–32 was launched in October 2024. The Plan provides a detailed transmission roadmap up to the year 2031–32 and aligns with national energy transition and energy security goals. It outlines the development of a robust, efficient and sustainable transmission network to meet future electricity demand and generation expansion.

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Over the ten-year period from 2022–23 to 2031–32, more than 1.91 lakh circuit kilometres (ckm) of transmission lines and about 1,270 Giga Volt Ampere (GVA) of transformation capacity (220 kV and above) are planned to be added. Inter-regional transmission capacity is planned to increase to 168 GW by 2032.

Grid readiness is continuously evaluated through detailed technical studies, including load flow, stability, and contingency analyses. Additionally, multiple operational, regulatory, and technological measures such as grid standards, ancillary services, energy storage integration, advanced reactive power compensation systems, and flexible generation are being implemented to ensure reliable grid operation and smooth integration of renewable energy.

(e): To strengthen domestic manufacturing of transmission equipment and reduce import dependence, the Ministry of Power issued the Public Procurement (Preference to Make in India) Order on 16.11.2021. The Order mandates minimum local content in procurement and classifies 210 items across generation, transmission, and distribution as “self-sufficient and competitive” with at least 50% local content, thereby prioritizing domestic suppliers. Additionally, XLPE cables (above 220 kV and up to 400 kV) and Head-End Systems (HES) and Meter Data Management Systems (MDMS) have been included in the list of such items vide MoP PPP-MII modification orders dated 23.04.2024 and 30.12.2024, respectively. The Order aims to reduce import dependence, strengthen supply chains, and enhance manufacturing capabilities in line with the objectives of Atmanirbhar Bharat and Make in India.

ANNEXURE

ANNEXURE REFERRED TO IN PARTS (a) & (b) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO. 323 ANSWERED IN THE RAJY SABHA ON 23.03.2026 REGARDING BOTTLENECKS IN POWER TRANSMISSION DUE TO SHORTAGE OF TRANSFORMER AND REACTOR

The reported delay by Transmission Corporation of Andhra Pradesh (APTRANSCO) and Tamil Nadu Transmission Corporation Limited (TANTRANSCO) for Transformation Capacity (of 220 kV & above) targeted for Financial Year 2025-26 in implementation of intra-state substations due to delay in transformer supply

Sl. No.	Name of Substation	Developer	State	Voltage Ratio (kV/kV)	Target date	Anticipated Commercial Operation Date
1	Vepakyaladibba	APTRANSCO	Andhra Pradesh	220/33	Feb-26	Mar-26
2	Nanguneri (Augmentation)	TANTRANSCO	Tamil Nadu	230/110	Dec-25	Jun-26
3	Thiruvannamalai (Augmentation)	TANTRANSCO	Tamil Nadu	230/110	Dec-25	Sep-26
4	Oragadam (Augmentation)	TANTRANSCO	Tamil Nadu	230/110	Dec-25	Sep-26

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
STARRED QUESTION NO.329
ANSWERED ON 23.03.2026

**DIGITAL INITIATIVES FOR ENERGY EFFICIENCY AND
RENEWABLE COMPLIANCE**

329 DR. SIKANDER KUMAR:

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

- (a) whether Government has launched a new mobile application to assist consumers in verifying the energy efficiency of appliances, if so, the details thereof;
- (b) the primary objectives and features of Renewable Consumption Obligation Portal and its role in monitoring compliance for designated consumers;
- (c) whether India has achieved its 50 per cent non-fossil fuel installed capacity target ahead of the 2030 deadline, if so, the contribution of BEE's initiatives toward this milestones; and
- (d) the steps being taken to integrate these digital platforms with the Indian carbon market to enhance transparency in emission reductions?

A N S W E R

THE MINISTER OF POWER

(SHRI MANOHAR LAL)

(a) to (d) : A Statement is laid on the Table of the House.

STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) IN RESPECT OF RAJYA SABHA STARRED QUESTION NO.329 FOR REPLY ON 23.03.2026 REGARDING DIGITAL INITIATIVES FOR ENERGY EFFICIENCY AND RENEWABLE COMPLIANCE ASKED BYDR. SIKANDER KUMAR

(a): Yes. The Bureau of Energy Efficiency (BEE), a statutory body under the Ministry of Power, launched the Star Label Mobile App in March 2026. The app enables consumers to instantly access star label information for appliances. It is designed to enhance transparency, strengthen consumer awareness, and support informed purchasing decisions by making energy efficiency information readily accessible at the point of sale.

(b): The Ministry of Power notified the Renewable Consumption Obligation (RCO) targets on 27 September 2025, outlining a year-wise trajectory from FY 2024–25 to FY 2029–30. These obligations apply to designated consumers, including distribution licensees, captive power consumers, and open access consumers.

To monitor the compliances and submitting periodic reports in regard to RCO, BEE has developed the National RCO Portal. Key features of the portal include online submission of RCO compliance data by designated consumers, role-based access for review and verification by stakeholders, certification of compliance data. The portal enables transparent, efficient and centralized monitoring of RCO compliance across the country.

(c): India has achieved the milestone of 50% non-fossil fuel-based power generation installed capacity out of its total installed power generation capacity and as of February 2026, the installed capacity of non-fossil fuel-based power plants stood at 275 GW out of a total power generation capacity of 524 GW. The Bureau of Energy Efficiency (BEE) plays a significant role in this context by promoting energy efficiency and low-carbon pathways across sectors of the economy through consumer awareness and capacity-building initiatives.

(d): At present there is no proposal to integrate these digital platforms with the carbon market as the digital platforms developed for RCO, Star Label Mobile App and the Indian Carbon Market serve distinct objectives and operate based on different assessment frameworks.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.3506
ANSWERED ON 23.03.2026

POWER ALLOCATION AND RENEWABLE ENERGY DEVELOPMENT IN KERALA

3506 SHRI SANDOSH KUMAR P:

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

- (a) the total power allocation from Central Generating Stations to the State of Kerala during the last five years, year-wise details;
- (b) whether the Central Government has received any request from the State for additional power allocation and the status thereof;
- (c) details of central assistance provided to the State for strengthening transmission infrastructure and grid modernization during the last five years;
- (d) status of renewable energy projects, including solar and wind projects, supported by the Central Government in the State; and
- (e) whether Government proposes any special measures for States like Kerala which are highly dependent on hydropower and vulnerable to monsoon variations?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): The power allocation (firm and unallocated quota) from Central Sector Generating Stations (CGSs) to the State of Kerala during the last five financial years (as on 31st March) and current financial year (as on 28.02.2026) is given at **Annexure-I**.

(b): Recently, Ministry of Power has received the request from state of Kerala for extension of 177 MW of allocated power. 177 MW power was allocated by the Ministry of Power (MoP) on 28.09.2024 and currently, extended up to 30.04.2026.

(c) to (e): A total of seven projects has been approved under PSDF (Power System Development Fund) for Kerala for strengthening transmission infrastructure and grid modernization, for which, a grant of ₹ 597.60 crores has been sanctioned. Out of these, five projects have been completed, and remaining two projects are under various stages of execution. The details are given at **Annexure-II**.

In addition to above, Ministry of Power (MoP) has approved 'Viability Gap Funding' (VGF) @ ₹ 18 lakh per MWh for development of 'Battery Energy Storage Systems' (BESS) of 500 MWh through PSDF for Kerala.

Ministry of New and Renewable Energy (MNRE), under Green Energy Corridor Phase-II scheme, has sanctioned ₹138.71 Cr for 224 ckm of transmission lines and 620 MVA of substations which are being implemented by Kerala State Electricity Board Limited (KSEBL) under Intra-state transmission system for integration of 452 MW of RE.

Further, The Government of India has taken several steps and initiatives to promote and accelerate renewable energy capacity in the country including State of Kerala. These include, inter-alia, the following:

- (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) Ministry of New & Renewable Energy (MNRE) has issued Bidding Trajectory for issuance of RE power procurement bids of 50 GW per annum by 'Renewable Energy Implementing Agencies' (REIAs) from FY 2023-24 to FY 2027-28.
- (iv) Foreign Direct Investment (FDI) has been permitted up to 100 percent under the automatic route.
- (v) Laying of new transmission lines and creating new sub-station capacity has been supported under the Green Energy Corridor Scheme for evacuation of renewable power
- (vi) To augment transmission infrastructure needed for steep RE trajectory, transmission plan has been prepared till 2032.
- (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) Government of India, in September 2023, approved a Viability Gap Funding (VGF) scheme for development of Battery Energy Storage Systems (BESS). BESS capacity of 13.22 GWh is under implementation with a budgetary allocation of Rs. 3,760 Cr. under this scheme. Considering the increasing demand of BESS, Ministry of Power, in June 2025, has approved another VGF scheme for development of 30 GWh BESS capacity with a financial support of Rs 5,400 Cr from Power System Development Fund (PSDF).
- (x) To promote RE consumption at scale 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.
- (xi) “Strategy for Establishments of Offshore Wind Energy Projects” has been issued.
- (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.
- (xiii) 12,723.5 MW of Hydro Electric Projects are under construction. Further, 4,274 MW of Hydro Electric Projects are under various stage of planning and targeted to be completed by 2031-32
- (xiv) Ministry of Power has initiated the steps to promote Pumped Storage Projects (PSPs) to support renewable energy integration and grid stability. At present, 10 Pumped Storage Projects totaling 11,870 MW are under construction in the country.

ANNEXURE-I**ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 3506
ANSWERED IN THE RAJYA SABHA ON 23.03.2026**

The power allocation from Central Sector Generating Stations (CGSs) to the State of Kerala during the last five years and current year

Financial Year (FY)	Firm (MW)	Unallocated (MW)	Total (MW)
2020-21 (as on 31.03.2021)	2,047.50	236.90	2,284.40
2021-22 (as on 31.03.2022)	2,047.50	236.80	2,284.30
2022-23 (as on 31.03.2023)	2,047.50	232.60	2,280.10
2023-24 (as on 31.03.2024)	2,047.50	243.70	2,291.20
2024-25 (as on 31.03.2025)	2,224.50	185.80	2,410.30
2025-26 (as on 28.02.2026)	2,224.50	584.40	2,808.90

ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PARTS (c) TO (e) OF UNSTARRED QUESTION NO. 3506 ANSWERED IN THE RAJYA SABHA ON 23.03.2026

Details of sanctioned projects under PSDF (Power System Development Fund) for state of Kerala for strengthening transmission infrastructure and grid modernization:

Sl. No.	Name of project & ID	Implementing Entity	Grant Sanctioned	Present status
1	Renovation and Upgradation of Protection System of Substations. (02)	KSEBL	82.31	Project Completed.
2	Implementation of Automatic Demand Management proposal (ADMS) (080)	KSEBL	4.77	
3	Construction of 400/220kV Multicircuit/ Multivoltage Transmission line from madakkathara to Areekode. (090)	KSEBL	333.93	
4	Up-rating Kakkaram - Nallalam 110kV line (45km) & Upgrading Nallalam-Chevayur-Westhill-Koyilandy 110kV Single Circuit line in to Double line (32km). (096)	KSEBL	66.85	
5	Renovation & Up gradation of Various 200kV Switchyard Equipment, Automatic Generation Control system of major generating stations, AMR and associated works of KSEBL. (126)	KSEBL	20.18	
6	Reliable Communication and data Acquisition System up to 110kV Substation in Kerala. (141)	KSEBL	73.76	Project is under execution
7	Implementation of SAMAST (Scheduling, Accounting, Metering & Settlement of Transactions in Electricity) report in the State of Kerala. (268)	KSEBL	15.80	
Total			597.60	

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.3507
ANSWERED ON 23.03.2026

GOVERNMENT TO ENSURE 24X7 POWER

3507 SHRI SATNAM SINGH SANDHU:

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

- (a) details of initiatives taken by Government to ensure 24x7 power supply to all households, industries and rural areas in the country;
- (b) progress of schemes such as Deendayal Upadhyaya GramJyotiYojana(DDUGJY) and Integrated Power Development Scheme (IPDS) in strengthening power distribution networks;
- (c) details of financial and technical support provided to State Electricity Boards (SEBs) and DISCOMs to reduce losses and improve efficiency;
- (d) whether Government is taking steps to improve grid stability, transmission infrastructure, and energy storage to handle peak demand efficiently; and
- (e) the measures taken to encourage renewable energy integration with the existing power grid while ensuring stability and reliability?

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, supply and distribution of electricity to consumers is within the purview of the respective State Government/ distribution utility.

Rule (10) of the Electricity (Rights of Consumers) Rules, 2020, provides that the distribution licensee shall supply 24x7 power to all consumers. However, the Commission may specify lower hours of supply for some category of consumers. The Rules are applicable for all States/UTs and for all areas including urban and rural areas.

Government of India has taken following initiatives to achieve uninterrupted power supply across the country:

- (i) 2,96,388 MW of generation capacity have been added since 2014, transforming our country from power deficit to power sufficient. The total installed generation capacity is 5,20,511 MW in January, 2026.
- (ii) 2,12,325 circuit kilometer (ckm) of transmission lines, 8,98,375 MVA of Transformation capacity and 84,390 MW of Inter-Regional capacity has been added since 2014.

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(iii) In the distribution sector, projects worth ₹1.85 lakh Cr. were executed under schemes of DDUGJY, SAUBHAGYA and IPDS wherein 2,927 new sub-stations were added, 3,965 existing sub-stations were upgraded, 6,96,302 Distribution Transformers were installed, Feeder separation of 7,833 mixed load feeders was executed and 8.4 Lakh Circuit Kilometer (CKm) of HT and LT lines have been added/ upgraded. The DDUGJY, SAUBHAGYA and IPDS schemes stand closed as on 31.03.2022.

(iv) Distribution infrastructure works worth Rs. 2.83 lakh crore have been sanctioned for loss reduction infrastructure and smart metering works under the RDSS to supplement the efforts of States to help distribution utilities in providing quality and reliable supply of power.

As a result of the concerted efforts of the Ministry of Power, the State Governments and distribution utilities, Aggregate Technical and Commercial (AT&C) Losses have reduced from 21.91% in FY21 to 15.04% in FY25. Reduction in AT&C losses improves the finances of the utilities, which will enable them to better maintain the system and buy power as per requirements, thus benefitting the consumers. Further, the availability of power supply in rural areas has increased from 12.5 Hours in FY 2015 to 22.6 Hours in FY 2025. The power supply in urban areas has increased to 23.6 Hours in FY 2025.

(c): Financial liabilities of State distribution utilities are the contingent liabilities of the respective State Governments and need to be recognized as such. However, Government of India has been supporting the distribution utilities to improve their financial and operational performance through various initiatives. Some of the key initiatives taken are as under:

- i. Revamped Distribution Sector Scheme (RDSS) has been launched in the year 2021 with the objective of improving the quality and reliability of supply of power through a financially sustainable and operationally efficient distribution sector. The release of funds under the scheme is linked to performance of the States/ distribution utilities against financial and operational parameters. Further, the smart metering works would help the utilities to reduce their aggregate technical and commercial losses through accurate energy accounting. The State wise details of fund released under RDSS are placed at **Annexure**.
- ii. Additional borrowing space of 0.5% of Gross State Domestic Product (GSDP) has been made available to State Governments, which is conditional upon them undertaking specific reforms in the power sector including financial performance of the distribution utilities.
- iii. Additional Prudential Norms have been laid down for sanctioning of loans to State-owned power utilities based on performance of power distribution utilities against prescribed conditions.
- iv. Rules for implementation of Fuel and Power Purchase Costs Adjustment (FPPCA) and cost-reflective tariff have been framed so as to ensure that all prudent costs for supply of electricity are passed through.
- v. Rules and Standard Operating Procedure have been issued for proper subsidy accounting and their timely payment.

(d)&(e): The transmission systems are planned in advance, and the National Grid is strengthened on a continuous basis, including to facilitate seamless integration of growing RE capacity, across the country. As of January 2026, the RE Capacity commissioned is around 263 GW.

The Ministry of New and Renewable Energy (MNRE) is implementing Green Energy Corridor (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 and Inter-State Transmission Systems have been planned to integrate over 500 GW of Renewable Energy (RE) capacity by 2030 and over 600 GW of RE capacity 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 Central Electricity Regulatory Commission (CERC) 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 Battery Storage Energy Storage System (BESS).

Further, Ministry of Power is administering a Viability Gap Funding (VGF) Scheme for setting up 13,850 MWh of BESS capacity with budgetary support of Rs. 3,760 Cr. The objective of the scheme is to deploy BESS for the integration of larger amount of RE. Additionally, in June, 2025, VGF scheme for development of 30 GWh of BESS capacity was approved by this Ministry for support through Power System Development Fund (PSDF).

Additionally, use of advanced Flexible Alternating Current Transmission Systems (FACTS) devices such as Static Synchronous Compensator (STATCOM) and Synchronous Condenser are considered to address dynamic grid requirements, including reactive power compensation, inertia support, and enhancement of short-circuit strength, especially in the context of rising renewable energy integration.

ANNEXURE REFERRED IN REPLY TO PART (c) OF UNSTARRED QUESTION NO. 3507
ANSWERED IN THE RAJYA SABHA ON 23.03.2026

State/ UT wise Details of funds released under RDSS

<i>(Amount in Rs. Cr.)</i>								
Sl. No.	State/UTs	Sanctioned Cost of Smart Metering	Sanctioned Cost of Infrastructure Works	Total Sanctioned Outlay	Sanctioned GBS of Smart Metering Works	Sanctioned GBS for Infrastructure Works	Total GBS (Infra + Smart Metering)	Total Released under RDSS Till 16.03.2026
1	A&NI	54	462	516	12	416	428	40.96
2	Andhra Pradesh	4,128	10,708	14,836	815	6,425	7,240	2456.11
3	Arunachal Pradesh	184	1,042	1,226	54	938	992	247.29
4	Assam	4,050	3,395	7,444	1,052	3,055	4,107	2391.18
5	Bihar	2,021	10,559	12,581	412	6,336	6,748	3484.87
6	Chhattisgarh	4,105	4,021	8,126	804	2,412	3,217	1168.78
7	Delhi	13	324	337	2	194	196	0.00
8	Goa	469	247	716	95	148	243	40.48
9	Gujarat	10,642	6,089	16,731	1,885	3,653	5,538	1910.82
10	Haryana	-	6,794	6,794	-	4,076	4,076	656.11
11	Himachal Pradesh	1,788	2,327	4,116	466	2,095	2,561	495.06
12	Jammu & Kashmir	1,064	5,034	6,098	272	4,531	4,803	2108.75
13	Jharkhand	858	3,468	4,326	191	2,081	2,272	569.4
14	Karnataka	-	45	45	-	27	27	5.34
15	Kerala	8,231	3,108	11,339	1,413	1,865	3,278	460.23
16	Ladakh	-	876	876	-	788	788	81.30
17	Madhya Pradesh	8,911	9,738	18,649	1,504	5,843	7,347	3343.46
18	Maharashtra	15,215	17,238	32,453	2,840	10,343	13,182	3776.73
19	Manipur	121	627	748	38	564	602	150.09
20	Meghalaya	310	1,232	1,542	86	1,109	1,195	297.72
21	Mizoram	182	322	503	61	290	351	98.85
22	Nagaland	208	466	674	60	419	479	114.08
23	Puducherry	251	84	335	56	51	107	14.30
24	Punjab	5,769	3,873	9,642	960	2,324	3,284	563.76
25	Rajasthan	9,715	18,693	28,408	1,686	11,216	12,902	2461.38
26	Sikkim	97	420	518	30	378	409	106.52
27	Tamil Nadu	19,235	9,568	28,803	3,398	5,741	9,139	1019.44
28	Telangana	-	120	120	-	72	72	35.65
29	Tripura	319	598	917	80	538	619	302.46
30	Uttar Pradesh	18,956	21,782	40,739	3,501	13,069	16,570	6603.12
31	Uttarakhand	1,106	2,371	3,477	310	2,134	2,444	613.91
32	West Bengal	12,670	7,223	19,893	2,089	4,334	6,423	897.73
	Sub Total	1,30,671	1,52,854	2,83,525	24,173	97,464	1,21,638	36515.88

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.3508
ANSWERED ON 23.03.2026

STATUS OF ADEETIE SCHEME

3508 SHRI MASTHAN RAO YADAV BEEDHA:
DR. KAVITA PATIDAR:
SHRI SHAMBHU SHARAN PATEL:
SHRI RAJIB BHATTACHARJEE:
SHRI ASHOKRAO SHANKARRAO CHAVAN:
SHRI UJJWAL DEORAO NIKAM:
SHRI SADANAND MHALU SHET TANAVADE:
SHRI NARAYANA KORAGAPPA:

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

- (a) specific financial incentives, such as interest subvention rates, provided to micro and small enterprises under the Assistance in Deploying Energy Efficient Technologies in Industries and Establishments (ADEETIE) scheme launched in July 2025;
- (b) the number of industrial sectors and clusters currently covered under the ADEETIE scheme for energy efficiency handholding;
- (c) whether all 36 States including Bihar and Union Territories have successfully transitioned to issuing electricity bills in regional languages with simplified formats;
- (d) if so, the details thereof; and
- (e) details of methodology and industry sectors currently notified under Carbon Credit Trading Scheme launched in 2023?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b): Under the Assistance in Deploying Energy Efficient Technologies in Industries and Establishments (ADEETIE) scheme, interest subvention @ 5% and 3% are available to Micro & Small and Medium Enterprises (MSMEs) respectively, for a period of three years for adopting suitable energy efficient technologies and measures. The scheme also provides handholding of MSMEs towards preparation of investment grade energy audit based Detailed Project Report, Monitoring and Verification reports.

This scheme covers MSMEs in 60 identified industrial clusters across 14 energy intensive sectors namely Brass, Bricks, Ceramic, Chemical, Fishery, Food Processing, Forging, Foundry, Glass & Refractory, Leather, Paper, Pharma, Steel Re-rolling and Textile.

(c) &(d): Operational Standards, including billing templates, are governed by State level Supply Codes formulated for distribution utilities by respective State Electricity Regulatory Commissions (SERCs). Further, the mandate to specify how a bill is presented to a consumer lies within the jurisdiction of the SERC to align with local administrative and language policies. As per available information, option of electricity bills in regional language is available in all 36 States and Union Territories.

(e): The Carbon Credit Trading Scheme (CCTS) defines two mechanisms – Compliance Mechanism and Offset Mechanism. Under compliance mechanism at present 490 obligated entities across seven industrial sectors namely Aluminium, Cement, Chlor Alkali, Pulp and Paper, Petro-Refinery, Petrochemical and Textile are covered.

Under offset mechanism following methodologies have been published by Bureau of Energy Efficiency (BEE) in which non-obligated entity can voluntarily register their project:

- i. BM EN01.001: Grid-connected electricity generation from renewable sources;
- ii. BM EN01.002: Hydrogen production from electrolysis of water;
- iii. BM IN02.001: Energy efficiency and fuel switching measures for industrial facilities;
- iv. BM IN02.002: Hydrogen production using methane extracted from biogas;
- v. BM WA03.001: Landfill methane recovery;
- vi. BM WA03.002: Flaring or use of landfill gas,
- vii. BM AG04.002: Methane recovery from livestock and manure management at households and small farms;
- viii. BM FR05.001: Afforestation and reforestation of degraded mangrove habitats;
- ix. BM FR05.002 Afforestation and reforestation of lands except wetlands.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.3509
ANSWERED ON 23.03.2026

IMPLEMENTATION AND OUTCOMES OF THE REVISED SHAKTI POLICY

3509 SHRI BHUBANESWAR KALITA:

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

- (a) the details of total quantity of coal offered and actually allocated under various components of the Scheme for Harnessing and Allocating Koyala Transparently in India (SHAKTI) Policy during 2025, category-wise;
- (b) the extent to which coal linkages granted under SHAKTI Policy have translated into actual power generation capacity being operationalized;
- (c) the criteria and timelines prescribed for allocation of coal linkages under the revised SHAKTI Policy; and
- (d) the measures taken to improve uptake of coal offered under linkage auctions to ensure optimal utilization of domestic coal resources?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): During the calendar year 2025, Power Sector have been allocated coal under Para B(i) and Para (iv), of erstwhile Scheme for Harnessing and Allocating Koyala Transparently in India (SHAKTI) Policy, 2017, for a capacity of 140 MW and 5320 MW respectively. Further, under Window-I of Revised SHAKTI Policy, 2025, coal linkages were allocated to 11,260 MW capacity.

In addition to above, during the same period, Coal India Limited (CIL) conducted multiple rounds of auctions under Para B (iii) and Para B (viii) (a) of the erstwhile SHAKTI Policy, 2017 and allocated coal as mentioned below:

SHAKTI Policy, 2017	Round / Tranche	Quantity Offered (Million Tonnes)	Quantity Allocated (Million Tonnes)
Para B (iii)	Round 7 to 9	86.81	23.81
Para B(viii) (a)	Tranche XXII and XXIII	61.29	26.47
Total		148.10	50.28

(b): The entire coal linkage allocated under SHAKTI Policy to the thermal power plants is for the generation of electricity.

(c) & (d): All the power generating companies are eligible for coal linkages under the revised SHAKTI Policy, 2025 issued by the Ministry of Coal (MoC) on 20.05.2025 as per the criteria and terms & conditions mentioned in the policy, timelines prescribed under the “Methodology for allocation / earmarking of coal linkage under revised SHAKTI Policy, 2025” issued by the Ministry of Power (MoP) on 17.07.2025.

The Government has introduced several measures to improve participation and uptake of coal offered under linkage auctions: -

- i. Thermal Power Plants of Central Sector, State Sector and Independent Power Producers (IPPs) have been made eligible for allocation of coal up to 100% Plant Load Factor (PLF) as per prevailing norms, as compared to 85% PLF under the earlier SHAKTI Policy, thereby facilitating higher utilisation of domestic coal.
- ii. Power generators have been provided flexibility to utilise linkage coal for generation of electricity to meet their Power Purchase Agreement (PPA) commitments as well as for sale through Power Market platforms, including the DEEP (Discovery of Efficient Electricity Price) portal. Further, Un-requisitioned Surplus (URS) power generated using linkage coal is also permitted to be sold in the power market, improving commercial viability and participation in linkage auctions.
- iii. Imported coal-based thermal power plants have also been allowed to participate in Window-II linkage auctions for securing domestic coal linkages, which helps in reducing dependence on imported coal while simultaneously increasing the uptake of domestic coal offered under linkage auctions.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.3510
ANSWERED ON 23.03.2026

SAFETY PROTOCOLS DURING TRANSPORTATION OF FLY ASH

3510 # DR. BHIM SINGH:

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

- (a) whether it is a fact that the prescribed environmental and safety protocols (covering, dust control, leakage prevention etc.) are not being fully followed at many places during transportation of fly ash from thermal power plants to road projects; and
- (b) if so, the steps taken by Government to monitor such cases, take action against the culprits and ensure strict compliance with the protocols in the future?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b): The handling, transportation and utilization of fly ash are governed by the provisions of the Fly Ash Utilization Notification, 2021 and its amendments issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC).

The responsibility for adherence to these provisions rests with thermal power plants, transporters and user agencies, under the regulatory oversight of the Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs).

The said Notification, inter alia, provides for mandatory utilization targets, environmentally sound handling and transportation of fly ash, submission of periodic reports by thermal power plants, and levy of environmental compensation in case of non-compliance, with monitoring by CPCB and SPCBs/PCCs under applicable environmental laws.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.3511
ANSWERED ON 23.03.2026

**STRENGTHENING TRANSMISSION INFRASTRUCTURE FOR INTEGRATION OF
RENEWABLE ENERGY**

3511 SHRI S.R. SIVALINGAM:

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

- (a) whether Government has taken note that the clean energy transition priority is shifting from merely expanding renewable capacity to enhancing grid readiness and energy storage capabilities nationwide to ensure stable integration of variable solar and wind power;
- (b) if so, the details of measures taken by Government to strengthen transmission infrastructure, deploy smart grid technologies and expand storage solutions including battery and other large-scale systems; and
- (c) steps proposed by Government to address supply intermittency, enhance round-the-clock clean power delivery and support renewable targets through accelerated grid modernisation and storage deployment?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) to (c) : The Government has adopted planning and implementation approach that prioritises grid readiness, transmission expansion and energy storage deployment as integral components of development of Renewable Energy (RE) sources in the country. The steps required for integration of RE into the grid, while expanding the renewable capacity, have been undertaken to achieve the goal of energy security along with energy transition. To support this, several measures have been initiated, including strengthening the transmission infrastructure and grid operation, deploying smart grid technologies, and expanding energy storage systems to address supply intermittency and enable round-the-clock power delivery. These measures are outlined below:

(i) Strengthening of transmission infrastructure and grid operation:

- a) Development of Inter-State Transmission System (ISTS) and Intra-State Transmission Systems (InSTS) for evacuation of renewable energy. Transmission system has been planned for integration of over 500 GW RE capacity by the year 2030.
- b) As per the National Electricity Plan (Volume-II Transmission), the transmission network is planned to expand from about 5.04 lakh circuit km (as on February 2026) to 6.48 lakh circuit km by 2032, and transformation capacity from about 1429 GVA to 2345 GVA. Inter-regional transmission capacity is also planned to increase from 120 GW (as on February 2026) to 143 GW by 2027 and further to 168 GW by 2032.

.....2.

- c) Ministry of New and Renewable Energy (MNRE) is implementing Green Energy Corridor (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.
- d) Dedicated High Voltage Direct Current (HVDC) transmission links with bi-directional power flow capability are envisaged to enable efficient long-distance bulk transfer of renewable power and improve grid controllability.
- e) 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.
- f) Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations have been notified to prescribe the minimum technical requirements for the RE generating plants to ensure the safe, secure and reliable operation of the grid.
- g) Flexibilization of thermal generation is mandated to address the variability of RE generation.
- h) Government has set up thirteen Renewable Energy Management Centres (REMCs) for better forecasting and real time monitoring of RE generation. The National Centre for Medium Range Weather Forecasting (NCMRWF), in coordination with the Indian Space Research Organisation (ISRO), provides advanced meteorological inputs to system operators and other stakeholders, which are utilized for renewable generation and demand forecasting, thereby supporting effective management of variability in RE generation.
- i) Hybrid RE power plants, Energy Storage Systems such as BESS (Battery Energy Storage System) and PSP (Pump Storage Project) are being promoted for mitigating variability in RE generation and provide adequate frequency support to the grid.

(ii) Deployment of Smart Grid Technologies:

- a) Advanced grid support technologies such as Static Synchronous Compensators (STATCOMS), Synchronous Condensers (SynCONS) and other Flexible AC Transmission System (FACTS) devices are planned to enhance voltage stability, improve system strength, and support reliable integration of renewable energy.
- b) Automatic Generation Control (AGC) and Ancillary Services (SRAS/TRAS) have been implemented for frequency regulation and balancing.
- c) Under the Revamped Distribution Sector Scheme (RDSS), Supervisory Control and Data Acquisition (SCADA) works have been sanctioned for distribution system covering 455 towns.

(iii) Development of Energy Storage Systems (ESS):

- a) ESS, as part of the power system, is defined under clause (50) of Section 2 of the Electricity Act, 2003.
- b) Implementation of two Viability Gap Funding (VGF) schemes for the development of approximately 43.8 GWh of Battery Energy Storage Systems.
- c) For incentivizing the ESS, 100% waiver of Inter-State Transmission System (ISTS) charges has been extended for co-located BESS projects commissioned till June, 2028 and hydro Pumped Storage Plants (PSPs) where construction work is awarded up to June, 2028.
- d) Ministry of Power has issued Tariff Based Competitive Bidding (TBCB) Guidelines for procurement of storage capacity and stored energy from Hydro PSP, Battery Energy Storage Systems and Firm and Dispatchable RE (FDRE) to facilitate standardized and transparent bidding process.
- e) Ministry of Heavy Industries is implementing a Production-Linked Incentive (PLI) Scheme with an outlay of ₹18,100 crore for establishing 50 GWh of Advanced Chemistry Cell manufacturing capacity, of which 10 GWh is earmarked for grid-scale storage.
- f) Off-stream closed-loop pumped storage schemes, irrespective of the quantum of capital expenditure have been exempted from the requirement of concurrence by the CEA.
- g) CEA in November, 2025, has issued revised guidelines for formulation of Detailed Project Reports for Pumped Storage Schemes wherein it has been stipulated that Clearance of Inter-state Aspects is not required for PSPs.
- h) Government is providing budgetary support for the cost of enabling infrastructure (roads; transmission line from power house to the nearest pooling point, including upgradation of pooling substations of State or Central Transmission Utility; railway siding; ropeway; communication infrastructure) for development of Hydro PSP.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.3512
ANSWERED ON 23.03.2026

COAL BASED POWER GENERATION

3512 SMT. RAJANI ASHOKRAO PATIL:

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

- (a) the reasons for continued reliance on coal based power generation;
- (b) the details of emissions implications on the environment;
- (c) the transition planning towards cleaner sources like hydro, solar and nuclear; and
- (d) whether climate commitments are at risk and if so, measures taken to tackle them?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): Electricity Demand in the country is being met through mix of resources like Coal, Gas, Solar, Hydro, Wind, Nuclear etc. As on 28.02.2026, installed generation capacity in the country is 524 GW, comprising of about 248.5 GW from Thermal (227.8 GW from Coal & Lignite, 20.1 GW from Gas, 0.6 GW from Diesel), 8.8 GW from Nuclear and 266.7 GW from RE sources [comprising of 51.2 GW Large Hydro, 143.6 GW Solar, 55.1 GW Wind and 16.8 GW from other RE (biomass and small hydro)]. Thrust of Government is on capacity addition from non-fossil sources, and it is planned to achieve 500 GW of non-fossil fuel based installed generation capacity by 2030.

Renewable Energy (RE) sources such as solar and wind are inherently intermittent and variable in nature. Such intermittency and variability necessitate the availability of firm and dispatchable generation sources. In this context, coal-based power plants continue to play a critical role in providing baseload power and grid stability, thereby ensuring energy security of the country.

(b): Environment Clearance (EC) which is granted by Ministry of Environment, Forest and Climate Change (MoEF&CC), is the foremost requirement for establishment of new as well as expansion of thermal power capacity. All other clearances & permissions are processed only on the basis of grant of Environment Clearance; which is based on an elaborate and rigorous process.

Further, the thermal power plants need to comply with emissions standards laid down by MoEF&CC, and the compliance is monitored by respective State Pollution Control Board (SPCB) and Central Pollution Control Board (CPCB).

(c): The Government of India has taken several steps and initiatives to promote and accelerate non-fossil energy capacity addition including hydro, solar and nuclear.

- (i) 12,723.50 MW of Hydro Electric Projects are under construction. Further, 4,274 MW of Hydro Electric Projects are under various stage of planning.
- (ii) Presently, 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.
- (iii) Government of India has set an ambitious target of achieving 100 GW of nuclear power capacity by 2047. A dedicated Nuclear Energy Mission with an allocation of ₹20,000 crore has been launched to develop at least five indigenously designed Small Modular Reactors (SMRs) by 2033 and promote advanced nuclear technologies. Further, Sustainable Harnessing and Advancement of Nuclear energy for Transforming India (SHANTI) Act, 2025 has been enacted to pave a way to harness nuclear energy through active involvement of both the public and private sectors.
- (iv) 1,57,800 MW Renewable Capacity including 67,280 MW of Solar, 6,500 MW of Wind and 60,040 MW Hybrid power is under construction while 48,720 MW of Renewable Capacity including 35,440 MW of Solar and 11,480 MW Hybrid Power is at various stages of planning.
- (v) In energy storage systems, 11,620 MW/69,720 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. Currently, 9,653.94 MW/ 26,729.32 MWh Battery Energy Storage System (BESS) capacity are under construction and 19,797.65 MW/ 61,013.40 MWh BESS capacity are under tendering stage.

Further, Government is taking following steps for Promotion of Renewable 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 KisanUrjaSurakshaevamUtthaanMahabhiyan (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 JanjatiAdivasiNyayaMahaAbhiyan (PM JANMAN) and DhartiAabhaJanjatiya Gram UtkarshAbhiyan (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.

(d): India has achieved a landmark in its energy transition journey by reaching 50% of its installed electricity capacity from non-fossil fuel sources in June- 2025, more than five years ahead of the target set under its Nationally Determined Contributions (NDCs) to the Paris Agreement. As on 28.02.2026, the share of non-fossil fuel based installed capacity in the country is 52.57%. This significant milestone underscores the country’s steadfast commitment to climate action and sustainable development.

GOVERNMENT OF INDIA
MINISTRY OF POWER
RAJYA SABHA
UNSTARRED QUESTION NO.3513
ANSWERED ON 23.03.2026

EMPLOYMENT IN CVPPL AND NHPC IN JAMMU AND KASHMIR

3513 SHRI SAJJAD AHMAD KICHLOO:

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

- (a) project-wise details of families affected by hydroelectric power projects in Kishtwar district and how many have been provided employment in Chenab Valley Power Projects Ltd. (CVPPL) and National Hydro electronic Power Corporation (NHPC) Ltd; and
- (b) reasons for CVPPL functioning without a Joint Managing Director for the last ten years and details of all the vacancies in CVPPL and NHPC in Jammu and Kashmir?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : The details of Project Affected Families (PAFs) due to development of hydroelectric projects (HEPs) in Kishtwar district and number of PAFs to whom employment has been provided in Chenab Valley Power Projects Limited (CVPPL) and NHPC Limited, are as under :

Sl. No.	Name of Project	Capacity (MW)	Developer	Number of PAFs	Number of PAFs to whom Employment provided
1.	Dulhasti Power Station	390	NHPC	60	60
2.	PakalDul HEP	1000	CVPPL	766	**
3.	Kiru HEP	624	CVPPL	151	
4.	Kwar HEP	540	CVPPL	27	

** While, there is no provision of employment for PAFs under the R&R Plan of these projects, as approved by the Government of Jammu & Kashmir, the employment opportunities have been provided through contractors to around 6,211 local persons from Kishtwar district including 552 PAFs. Moreover, bidding opportunities are also provided to PAFs and local people to promote entrepreneurship and support local businesses.

(b) : As per the Articles of Association of Chenab Valley Power Projects Limited (CVPPL) dated 02.06.2011, the post of Joint Managing Director (JMD) is to be held by the nominee of Jammu & Kashmir State Power Development Corporation (JKSPDC). JKSPDC nominated their candidates for the post of Joint Managing Director during the period from December 2013 to January 2015 and again from March 2023 to January 2024.

Further, the vacancies in CVPPL and NHPC Limited are filled up regularly as and when it arises.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.3514
ANSWERED ON 23.03.2026

AVAILABILITY OF ELECTRICITY IN URBAN AND RURAL AREAS

3514 SHRI A. A. RAHIM:

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

- (a) the details of availability of electricity and the extent of load shedding reported in urban and rural areas during the last three years, State-wise and year-wise ;
- (b) whether there are significant disparities in the availability and reliability of electricity supply between urban and rural areas and, if so, the details thereof;
- (c) the reasons for load shedding reported in various States during the said period, including shortages in generation, transmission constraints and distribution-related issues; and
- (d) the steps taken and assistance given by Government to ensure an uninterrupted and reliable electricity supply in both urban and rural areas across the country?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) to (d): There is adequate availability of power in the country. Present installed generation capacity of the country is 520.511 GW (as on January, 2026). Government of India has addressed the critical issue of power deficiency by adding 296.388 GW of fresh generation capacity since April, 2014 transforming the country from power deficit to power sufficient.

The state- wise 'Power Supply Position' in terms of energy for last three financial years and the current financial year i.e. FY 2025-26 (up to January, 2026) is given at **Annexure-I**. The 'Energy Supplied' has been commensurate to the 'Energy Requirement' with only a marginal gap which is generally on account of constraints in the State transmission / distribution network.

Electricity being a concurrent subject, the supply and distribution of electricity is responsibility of the respective State Government / Distribution Utility. Hence, it is the responsibility of the respective distribution utility to take necessary actions to provide reliable and quality power to the consumers. The Central Government supplements the efforts of the State Governments by establishing power plants through Central Public Sector Undertakings (CPSUs) and making power available to the various States / UTs.

Further, Government of India has supplemented the efforts of the States earlier through schemes like Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY), Integrated Power Development Scheme (IPDS), Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA) and currently under Revamped Distribution Sector Scheme (RDSS), to help them achieve the objective of providing quality and reliable supply of power.

Government of India launched 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. The scheme has an outlay of Rs. 3,03,758 Cr. and estimated Gross Budgetary Support (GBS) from Central Government of Rs. 97,631 Cr. Under the scheme, financial assistance is being provided to the Distribution Utilities (excluding Private Sector Utilities) for loss reduction infrastructure works and smart metering works. Projects worth Rs. 1.53 lakh crore for loss reduction infrastructure and Rs. 1.31 lakh crore for smart metering works have been sanctioned under the scheme which would help improve the reliability and quality of power supply in the country.

Further, the Government have taken the following steps to ensure uninterrupted power supply to all sectors:

1. Generation and Storage Planning:

- (i) As per National Electricity Plan (NEP), installed generation capacity in 2031-32 is likely to be 874 GW. 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.
- (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) 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.

To meet this requirement, several initiatives have already been undertaken. Thermal capacities of around 18,160 MW have already been commissioned since April 2023 till 31.01.2026. In addition, 38,745 MW of thermal capacity (including 4,845 MW of stressed thermal power projects) is currently under construction. The contracts of 22,920 MW have been awarded and are due for construction. Further, 24,020 MW of coal and lignite-based candidate capacity has been identified which is at various stages of planning in the country.

(B) 12,723.50 MW of Hydro Electric Projects are under construction. Further, 4,274 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) 1,57,800 MW Renewable Capacity including 67,280 MW of Solar, 6,500 MW of Wind and 60,040 MW Hybrid power is under construction while 48,720 MW of Renewable Capacity including 35,440 MW of Solar and 11,480 MW Hybrid Power is at various stages of planning and targeted to be completed by 2029-30.

(E) In energy storage systems, 11,620 MW/69,720 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. Currently, 9,653.94 MW/ 26,729.32 MWh Battery Energy Storage System (BESS) capacity are under construction and 19,797.65 MW/ 61,013.40 MWh BESS capacity are under tendering stage.

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 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.

3. **Promotion of Renewable Energy 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 KisanUrjaSurakshaevamUtthaanMahabhiyan (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 JanjatiAdivasiNyayaMahaAbhiyan (PM JANMAN) and DhartiAabhaJanjatiya Gram UtkarshAbhiyan (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 Day Ahead Market (GDAM) and Green Term Ahead Market (GTAM) have 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.

With the concerted efforts of Central and State Government, the average hours of supply in rural areas have increased from 12.5 hours in FY 14 to 22.6 hours in FY 25 and in urban areas the same has increased from 22.1 hours in FY 14 to 23.4 hours in FY 25

ANNEXURE

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (d) OF UNSTARRED QUESTION NO. 3514 ANSWERED IN THE RAJYA SABHA ON 23.03.2026

The state-wise 'Power Supply Position' in terms of energy for last three financial years and the current financial year i.e. FY 2025-26 (up to January, 2026):

(Figures in MU)

State/ System / Region	April, 2022 - March, 2023				April, 2023 - March, 2024			
	Energy Requirement	Energy Supplied	Energy not Supplied		Energy Requirement	Energy Supplied	Energy not Supplied	
	(MU)	(MU)	(MU)	(%)	(MU)	(MU)	(MU)	(%)
Chandigarh	1,788	1,788	0	0.0	1,789	1,789	0	0.0
Delhi	35,143	35,133	10	0.0	35,501	35,496	5	0.0
Haryana	61,451	60,945	506	0.8	63,983	63,636	348	0.5
Himachal Pradesh	12,649	12,542	107	0.8	12,805	12,767	38	0.3
Jammu & Kashmir	19,639	19,322	317	1.6	20,040	19,763	277	1.4
Punjab	69,522	69,220	302	0.4	69,533	69,528	5	0.0
Rajasthan	1,01,801	1,00,057	1,745	1.7	1,07,422	1,06,806	616	0.6
Uttar Pradesh	1,44,251	1,43,050	1,201	0.8	1,48,791	1,48,287	504	0.3
Uttarakhand	15,647	15,386	261	1.7	15,644	15,532	112	0.7
Northen Region	4,63,088	4,58,640	4,449	1.0	4,76,852	4,74,946	1,906	0.4
Chhattisgarh	37,446	37,374	72	0.2	39,930	39,872	58	0.1
Gujarat	1,39,043	1,38,999	44	0.0	1,45,768	1,45,740	28	0.0
Madhya Pradesh	92,683	92,325	358	0.4	99,301	99,150	151	0.2
Maharashtra	1,87,309	1,87,197	111	0.1	2,07,108	2,06,931	176	0.1
Dadra & Nagar Haveli and Daman & Diu	10,018	10,018	0	0.0	10,164	10,164	0	0.0
Goa	4,669	4,669	0	0.0	5,111	5,111	0	0.0
Western Region	4,77,393	4,76,808	586	0.1	5,17,714	5,17,301	413	0.1
Andhra Pradesh	72,302	71,893	410	0.6	80,209	80,151	57	0.1
Telangana	77,832	77,799	34	0.0	84,623	84,613	9	0.0
Karnataka	75,688	75,663	26	0.0	94,088	93,934	154	0.2
Kerala	27,747	27,726	21	0.1	30,943	30,938	5	0.0
Tamil Nadu	1,14,798	1,14,722	77	0.1	1,26,163	1,26,151	12	0.0
Puducherry	3,051	3,050	1	0.0	3,456	3,455	1	0.0
Lakshadweep	64	64	0	0.0	64	64	0	0.0
Southern Region	3,71,467	3,70,900	567	0.2	4,19,531	4,19,293	238	0.1
Bihar	39,545	38,762	783	2.0	41,514	40,918	596	1.4
DVC	26,339	26,330	9	0.0	26,560	26,552	8	0.0
Jharkhand	13,278	12,288	990	7.5	14,408	13,858	550	3.8
Odisha	42,631	42,584	47	0.1	41,358	41,333	25	0.1
West Bengal	60,348	60,274	74	0.1	67,576	67,490	86	0.1
Sikkim	587	587	0	0.0	544	543	0	0.0
Andaman- Nicobar	348	348	0	0.12914	386	374	12	3.2
Eastern Region	1,82,791	1,80,888	1,903	1.0	1,92,013	1,90,747	1,266	0.7
Arunachal Pradesh	915	892	24	2.6	1,014	1,014	0	0.0
Assam	11,465	11,465	0	0.0	12,445	12,341	104	0.8
Manipur	1,014	1,014	0	0.0	1,023	1,008	15	1.5
Meghalaya	2,237	2,237	0	0.0	2,236	2,066	170	7.6
Mizoram	645	645	0	0.0	684	684	0	0.0
Nagaland	926	873	54	5.8	921	921	0	0.0
Tripura	1,547	1,547	0	0.0	1,691	1,691	0	0.0
North-Eastern Region	18,758	18,680	78	0.4	20,022	19,733	289	1.4
All India	15,13,497	15,05,914	7,583	0.5	16,26,132	16,22,020	4,112	0.3

The state- wise 'Power Supply Position' in terms of energy for last three financial years and the current financial year i.e. FY 2025-26 (up to January, 2026) :

(Figures in MU)

State/ System / Region	April, 2024 - March, 2025				April, 2025 - January, 2026			
	Energy Requirement	Energy Supplied	Energy not Supplied		Energy Requirement	Energy Supplied	Energy not Supplied	
	(MU)	(MU)	(MU)	(%)	(MU)	(MU)	(MU)	(%)
Chandigarh	1,952	1,952	0	0.0	1,658	1,658	1	0.0
Delhi	38,255	38,243	12	0.0	33,809	33,801	8	0.0
Haryana	70,149	70,120	30	0.0	61,111	61,046	65	0.1
Himachal Pradesh	13,566	13,526	40	0.3	11,561	11,520	40	0.3
Jammu & Kashmir	20,374	20,283	90	0.4	16,840	16,824	16	0.1
Punjab	77,423	77,423	0	0.0	65,972	65,913	59	0.1
Rajasthan	1,13,833	1,13,529	304	0.3	93,062	93,062	0	0.0
Uttar Pradesh	1,65,090	1,64,786	304	0.2	1,41,475	1,41,449	26	0.0
Uttarakhand	16,770	16,727	43	0.3	14,081	14,027	53	0.4
Northern Region	5,18,869	5,17,917	952	0.2	4,40,909	4,40,641	268	0.1
Chhattisgarh	43,208	43,180	28	0.1	34,968	34,960	8	0.0
Gujarat	1,51,878	1,51,875	3	0.0	1,30,452	1,30,452	0	0.0
Madhya Pradesh	1,04,445	1,04,312	133	0.1	85,679	85,670	9	0.0
Maharashtra	2,01,816	2,01,757	59	0.0	1,66,392	1,66,383	9	0.0
Dadra & Nagar Haveli and Daman & Diu	10,852	10,852	0	0.0	9,372	9,372	0	0.0
Goa	5,411	5,411	0	0.0	4,528	4,528	0	0.0
Western Region	5,28,924	5,28,701	223	0.0	4,42,777	4,42,750	26	0.0
Andhra Pradesh	79,028	79,025	3	0.0	66,329	66,323	6	0.0
Telangana	88,262	88,258	4	0.0	69,259	69,252	7	0.0
Karnataka	92,450	92,446	4	0.0	76,580	76,571	9	0.0
Kerala	31,624	31,616	8	0.0	25,558	25,556	3	0.0
Tamil Nadu	1,30,413	1,30,408	5	0.0	1,10,000	1,09,990	10	0.0
Puducherry	3,549	3,549	0	0.0	2,947	2,944	3	0.1
Lakshadweep	68	68	0	0.0	60	60	0	0.0
Southern Region	4,25,373	4,25,349	24	0.0	3,50,715	3,50,677	38	0.0
Bihar	44,393	44,217	176	0.4	40,749	40,735	14	0.0
DVC	25,891	25,888	3	0.0	20,708	20,704	3	0.0
Jharkhand	15,203	15,126	77	0.5	13,005	13,000	5	0.0
Odisha	42,882	42,858	24	0.1	37,290	37,284	6	0.0
West Bengal	71,180	71,085	95	0.1	61,969	61,906	63	0.1
Sikkim	574	574	0	0.0	444	444	0	0.0
Andaman- Nicobar	425	413	12	2.9	354	336	18	5.2
Eastern Region	2,00,180	1,99,806	374	0.2	1,74,215	1,74,124	91	0.1
Arunachal Pradesh	1,050	1,050	0	0.0	1,007	1,007	0	0.0
Assam	12,843	12,837	6	0.0	11,875	11,875	1	0.0
Manipur	1,079	1,068	10	0.9	978	975	3	0.3
Meghalaya	2,046	2,046	0	0.0	1,741	1,741	0	0.0
Mizoram	709	709	0	0.0	629	629	0	0.0
Nagaland	938	938	0	0.0	849	849	0	0.0
Tripura	1,939	1,939	0	0.0	1,655	1,654	0	0.0
North-Eastern Region	20,613	20,596	16	0.1	18,820	18,816	4	0.0
All India	16,93,959	16,92,369	1,590	0.1	14,27,436	14,27,009	427	0.0
