GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
STARRED QUESTION NO.265
ANSWERED ON 18.08.2025

DRAFT GREENHOUSE GAS EMISSION REDUCTION TARGETS FOR INDUSTRY

265 SHRI DEREK O' BRIEN:

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

(a) the rationale behind selecting the sectors for the mandated draft Greenhouse Gas (GHG) emission reduction and the details thereof;

(b) the reasons for the exclusion of power sector, India's biggest emitter from the list of obligated entities and the details thereof; and

(c) whether Government intends to provide any financial or technical support to smaller entities facing high emission reduction targets, , if so, the details thereof

A N S W E R

THE MINISTER OF POWER

(SHRI MANOHAR LAL)

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

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STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (c) IN RESPECT OF RAJYA SABHA STARRED QUESTION NO.265 FOR REPLY ON 18.08.2025 REGARDING DRAFT GREENHOUSE GAS EMISSION REDUCTION TARGETS FOR INDUSTRY ASKED BY SHRI DEREK O' BRIEN.

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(a) : Emission-intensive entities already covered under the Perform, Achieve and Trade (PAT) scheme of Bureau of Energy Efficiency have been considered for transition to mandatory compliance with the Greenhouse Gas Emission Intensity (GEI) targets prescribed under the Carbon Credit Trading Scheme (CCTS).

Further, while finalizing the GEI targets under CCTS, the marginal abatement cost of possible technological measures in the units of obligated entities are taken into consideration to ensure that such entities are given pragmatic and achievable targets.

At present, eight emission intensive sectors are covered under compliance mechanism of CCTS namely Aluminum, Cement, Chlor - Alkali, Pulp & Paper, Petroleum Refinery, Petrochemical, Iron & Steel and Textile.

(b) : Thermal power plants (TPPs) have not been transitioned to the CCTS primarily due to the following reasons:

i. Limited scope for further energy efficiency improvements since energy-efficient technologies, such as supercritical and ultra-supercritical units, have already been widely adopted.

ii. At present, the fuel switching options are limited to the extent of small proportion of co-firing with biomass-based pellets, owing to technological constraints.

iii. The deployment of Carbon Capture, Utilization, and Storage (CCUS) technologies in the country is presently limited to the pilot scale. Further, the marginal abatement costs for emission reduction through CCUS is estimated to be too high, which would substantially increase the cost of power generation.

(c) : Ministry of Power has recently launched a scheme called “Assistance in Deploying Energy Efficient Technologies in Industries and Establishments” (ADEETIE) Scheme in which small to medium sector units of selected industrial clusters are provided technical assistance for preparation of DPR and financial assistance in the form of interest subvention for adopting energy efficient technologies.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
STARRED QUESTION NO.267
ANSWERED ON 18.08.2025

EXTENDED POWER OUTAGES DURING MAY-JUNE 2025

267 SMT. RAJANI ASHOKRAO PATIL:

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

(a) whether rural areas in States like Uttar Pradesh, Maharashtra, Bihar and Jharkhand experienced extended power outages during May–June 2025;

(b) the reasons for supply gaps despite adequate generation capacity;

(c) whether DISCOM's financial health and poor infrastructure contributed to load shedding;

(d) the measures that have been taken to ensure 24×7 power supply in rural areas; and

(e) whether any corrective action has been taken against underperforming DISCOM?

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.

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STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) IN RESPECT OF RAJYA SABHA STARRED QUESTION NO.267 FOR REPLY ON 18.08.2025 REGARDING EXTENDED POWER OUTAGES DURING MAY-JUNE 2025 ASKED BY SMT. RAJANI ASHOKRAO PATIL.

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(a) to (c): There is adequate availability of power in the country. Present installed generation capacity of the country is 490.060 GW. Government of India has addressed the critical issue of power deficiency by adding 266.026 GW of fresh generation capacity since April, 2014 transforming the country from power deficit to power sufficient.

Electricity being a concurrent subject, the supply and distribution of electricity to the various categories of consumers in a State/UT including rural areas is within the jurisdiction of the respective State Government/Power Utility. Further, as per Rule (10) of 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. The Rules are applicable for all States and for all areas including rural and urban areas.

Power Supply Position of Uttar Pradesh, Maharashtra, Bihar and Jharkhand as well as for the country during May and June, 2025 is given at **Annexure-I.** This indicates that the Energy Supplied in the country including the States of Uttar Pradesh, Maharashtra, Bihar and Jharkhand, has been almost commensurate to the respective Energy Requirement during this period.

Average daily hours of supply at 11kV feeder level for the rural areas of Bihar, Jharkhand, Maharashtra and Uttar Pradesh during May-June 2025, as per National Feeder Monitoring System (NFMS) portal, is given at **Annexure-II.** As reported by the States, there were interruptions in power supply due to inclement weather and constraints in Transmission & Distribution network during this period.

(d) : Government of India has taken following measures to enable 24x7 power supply in the country including rural areas:

1. **Generation Planning:**

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

(ii) With a view to ensure generation capacity remains ahead of projected peak demand, all the States, in consultation with CEA, have prepared their " **Resource Adequacy Plans (RAPs)",** which are dynamic 10 year rolling plans and includes power generation as well as power procurement planning.

(iii) All the States were advised to initiate process for creation of generation capacities; from all generation sources, as per their Resource Adequacy Plans.

……2.

(iv) In order to augment the power generation capacity, the Government of India has initiated following capacity addition programme:

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

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

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

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

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

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

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

…….3.

3. Distribution System Planning:

(i) 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. 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.

(ii) Further, Government of India launched 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. 2.82 lakh Cr. have been sanctioned for the distribution utilities.

(iii) Government of India is further supporting States for grid electrification of left-out households during SAUBHAGYA, under RDSS. In addition, all Particularly Vulnerable Tribal Group (PVTG) households identified under PM-JANMAN (Pradhan Mantri Janjati AdivasiNyaya Maha Abhiyan), tribal households under DA-JGUA (Dharti Aaba Janjatiya Gram Utkarsh Abhiyan),Scheduled Caste households under Pradhan MantriAnusuchit Jaati Abhyuday Yojna (PM-AJAY) and remote & border households under Vibrant VilllageProgram (VVP)are being sanctioned for on-grid electrification under RDSS as per the scheme guidelines. Till date, works amounting to Rs. 6,486 Cr. have been sanctioned for electrification of 13.59 lakh households under RDSS.

With collective efforts of Centre and States/UTs, the average hours of supply in rural and urban areas have improved to 22.6 hrs and 23.4 hrs, respectively, in FY 2025.

4. Promotion of Renewable Energy Generation:

(i) Ministry of New & Renewable Energy (MNRE) has issued Bidding Trajectory for issuance of RE power procurement bids of 50 GW/annum by Renewable Energy Implementing Agencies (REIAs) from FY 2023-24 to FY 2027-28.

(ii) Foreign Direct Investment (FDI) has been permitted up to 100 percent under the automatic route.

(iii) Inter State Transmission System (ISTS) charges have been waived for inter-state sale of solar and wind power for projects to be commissioned by 30th June 2025, for Green Hydrogen Projects till December 2030 and for offshore wind projects till December 2032.

(iv) To boost RE consumption, Renewable Purchase Obligation (RPO) followed by Renewable Consumption Obligation (RCO) trajectory has been notified till 2029-30. The RCO which is applicable to all designated consumers under the Energy Conservation Act 2001 will attract penalties on non-compliance. RCO also includes specified quantum of consumption from Decentralized Renewable Energy sources.

(v) Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Solar, Wind, Wind-Solar Hybrid and Firm & Dispatchable RE (FDRE) projects have been issued.

(vi) Schemes such as Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), PM Surya Ghar Muft Bijli Yojana, National Programme on High Efficiency Solar PV Modules, New Solar Power Scheme (for Tribal and PVTG Habitations/Villages) under Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN) and Dharti Aabha Janjatiya Gram Utkarsh Abhiyan (DA JGUA), National Green Hydrogen Mission, Viability Gap Funding (VGF) Scheme for Offshore Wind Energy Projects have been launched.

(vii) Scheme for setting up of Solar Parks and Ultra Mega Solar Power projects is being implemented to provide land and transmission to RE developers for installation of RE projects at large scale.

(viii) Laying of new transmission lines and creating new sub-station capacity has been funded under the Green Energy Corridor Scheme for evacuation of renewable power.

(ix) "Strategy for Establishments of Offshore Wind Energy Projects" has been issued.

(x) To augment transmission infrastructure needed for steep RE trajectory, transmission plan has been prepared till 2032.

(xi) Green Term Ahead Market (GTAM) has been launched to facilitate sale of Renewable Energy Power through exchanges.

(xii) To achieve the objective of increased domestic production of Solar PV Modules, the Govt. of India is implementing the Production Linked Incentive (PLI) scheme for High Efficiency Solar PV Modules. This will enable manufacturing capacity of Giga Watt (GW) scale in High Efficiency Solar PV Module.

(e): The distribution licensees (DISCOMs), are governed by the rules and regulations set by the respective State Government/ State Electricity Regulatory Commissions (SERCs). Government of India has also been supporting States/Utilities to improve efficiency in the power distribution sector through various initiatives which are as under:

i. Linking of fund release under Revamped Distribution Sector Scheme (RDSS) with performance of the States/ Distribution Utilities against various performance parameters including losses.

ii. Rules and Standard Operating Procedure for timely release of subsidies declared by the State Governments.

iii. Rules for implementing Fuel and Power Purchase Cost Adjustment (FPPCA) and cost reflective tariff so as to ensure that all prudent cost for supply of electricity are passed through and are timely recovered.

iv. Timely issuance of tariff and true up orders.

v. Issuing Additional Prudential Norms for providing loans to State Power utilities.

vi. Allowing Additional borrowing space of 0.5% of Gross State Domestic Product (GSDP) to State based on performance of Distribution Utilities.

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ANNEXURE-I

ANNEXURE REFERRED TO IN PARTS (a) TO (c) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO. 267 ANSWERED IN THE RAJY SABHA ON 18.08.2025 REGARDING EXTENDED POWER OUTAGES DURING MAY-JUNE 2025

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Power Supply Position of Uttar Pradesh, Maharashtra, Bihar and Jharkhand as well as for the country during the months of May, 2025 and June, 2025:

State	ENERGY (in Million Units)							
	May, 2025				June, 2025			
	Energy Requirement	Energy Supplied	Energy Not Supplied		Energy Requirement	Energy Supplied	Energy Not Supplied	
	(MU)	(MU)	(MU)	(%)	(MU)	(MU)	(MU)	(%)
Uttar Pradesh	16,117	16,117	0	0.0	16,837	16,833	4	0.0
Maharashtra	17,029	17,027	2	0.0	15,597	15,597	0	0.0
Bihar	4,415	4,412	3	0.1	4,657	4,657	0	0.0
Jharkhand	1,350	1,349	1	0.1	1,326	1,326	0	0.0
All India	**1,47,948**	**1,47,892**	**56**	**0.0**	**1,49,183**	**1,49,135**	**48**	**0.0**

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ANNEXURE-II

ANNEXURE REFERRED TO IN PARTS (a) TO (c) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO. 267 ANSWERED IN THE RAJY SABHA ON 18.08.2025 REGARDING EXTENDED POWER OUTAGES DURING MAY-JUNE 2025

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Average daily hours of supply for the rural areas of Bihar, Jharkhand, Maharashtra and Uttar Pradesh during May-June 2025:

State	Year	Month	HH:MM
Bihar	2025	May	22:50
		June	22:12
Jharkhand	2025	May	20:13
		June	20:28
Maharashtra	2025	May	20:54
		June	21:00
Uttar Pradesh	2025	May	22:04
		June	20:47

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2863
ANSWERED ON 18.08.2025

COAL PLANT POLLUTION EXEMPTIONS

2863 SMT. PRIYANKA CHATURVEDI:

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

(a) directive under which coal-fired power plants in State of Maharashtra have been exempted from installing Flue-Gas Desulfurization (FGD) systems;

(b) the number of these plants and their respective power generation capacities in State of Maharashtra;

(c) whether any assessment was conducted by Government regarding the public health and environmental impact of such exemptions in non-attainment cities under the National Clean Air Programme, if so, the details thereof;

(d) if not, the reasons for the same; and

(e) whether Government has proposed measures to mitigate the pollution burden arising from continued SO_2 and PM emissions from these exempted plants?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : Ministry of Environment, Forest and Climate Change (MoEF&CC) notified emission standards [including Sulphur Dioxide (SO_2)] for coal / lignite based Thermal Power Plants (TPPs) vide its Notification dated 07.12.2015. Further, MoEF&CC vide notification dated 05.09.2022 has categorized the Thermal Power Plants (TPPs) into the following three categories:

(i) **Category-A** (Within 10 km radius of National Capital Region or cities having million plus population);

(ii) **Category-B** (Within 10 km radius of Critically Polluted Areas or Non-attainment cities);

(iii) **Category- C** (Other than those included in Category A and B**).**

To meet the SO_2 emission norms, Flue Gas Desulphurization (FGDs) systems are being installed in coal/lignite based TPPs.

Now, MoEF&CC has issued a Notification on 11.07.2025 regarding applicability of SO_2 emission standards for TPPs along with timelines and its details are given below:

(i) thermal power plants declared to retire before 31.12.2030 shall not be required to meet specified standards for SO_2 emissions in case such plants submit an undertaking to Central Pollution Control Board(CPCB) and Central Electricity Authority(CEA) for exemption on ground of retirement of such plant;

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(ii) the existing and under commissioning Category A thermal power plants shall comply with SO_2 emission standards by 31.12.2027. Other Category A plants to be commissioned after 31.12.2027 will operate only after ensuring compliance of these standards;

(iii) for all Category B Plants or Units, whether existing or upcoming, the applicability of SO_2 emission standards, shall be decided by the Central Government based upon recommendations of the Expert Appraisal Committee in charge of Thermal Power Projects as per the procedure laid in the Notification dated 11.07.2025;

(iv) the SO_2 emission standards shall not be applicable to all Category-C thermal power plants subject to compliance of stack height criteria notified by MoEF&CC on 30.08.1990 and timeline for compliance of stack height criteria is 31.12.2029.

(b): As per categorization of TPPs based on MoEF&CC Notification dated 05.09.2022, there are 04 TPPs [14 units (4910 MW)] under Category-A, 03 TPPs [11 units (4840 MW)] under Category-B, and 16 TPPs [46 units (15006 MW)] under Category-C in the state of Maharashtra. These TPPs are owned by Central/State Public Sector Undertakings (PSUs) and Independent Power Producers (IPPs).

(c) & (d): TPPs located within 10 Km radius of Critically Polluted areas or Non-attainment cities fall under Category B. The applicability of emission standards for SO_2 in TPPs for all Category B Plants or Units, whether existing or upcoming, shall be decided on a case-to-case basis by the Central Government based upon the recommendations of the Expert Appraisal Committee in charge of Thermal Power Projects.

(e) : Thermal Power Plants are using Electrostatic Precipitator (ESPs) for meeting Particulate Matter (PM) emission norms.

Further, MoEF&CC Notification dated 11.07.2025 is based on approach of resource conservation by avoiding additional consumption of water, auxiliary power, and limestone, increase in carbon footprint / CO_2 emissions resulting from the FGD operation, as well as the mining and transportation of limestone required for these measures.

In all cases where SO_2 emission standards are not applicable, all such TPPs (irrespective of location) shall ensure compliance to stack height criteria notified by MoEF&CC on 30.08.1990.

In case of non-compliance beyond the specified timelines, MoEF&CC has prescribed the following Environmental Compensation on non-retiring TPPs:

Non-Compliant operation beyond the Timeline	**Environmental Compensations (Rs. Per unit electricity generated)**
0-180 days	0.20
181-365 days	0.30
366 days and beyond	0.40

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2864
ANSWERED ON 18.08.2025

OBJECTIVES & FEATURES OF NATIONAL FEEDER MONITORING SYSTEM

2864 SHRI NARAYANA KORAGAPPA:
DR. MEDHA VISHRAM KULKARNI:
SMT. DARSHANA SINGH:

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

(a) the objectives and key features of the National Feeder Monitoring System (NFMS);

(b) the number of feeders currently being monitored under the system and the number of DISCOMs integrated with the platform; and

(c) the manner in which the NFMS is expected to improve the reliability, transparency, and efficiency of power distribution across the country?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (c) : The objective of National Feeder Monitoring System (NFMS) is to Monitor 11 kV feeders, for parameters including supply hours and outages based on seamless Machine to Machine (M2M) automatic flow of data.

Essentially, NFMS is a monitoring dashboard which collects data from communicable feeder meters. It would enable distribution utilities to track performance of the power distribution systems and identify areas of improvement.

(b) : Till date, 2,06,767 feeders out of total 2,49,507 11 kV feeders across States have been integrated with the NFMS.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2865
ANSWERED ON 18.08.2025

SOURCE-WISE POWER GENERATION AND RENEWABLE ENERGY STRATEGY

2865 SMT. PHULO DEVI NETAM:

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

(a) the aggregate amount of power generated in the country from April to May in the year 2025, categorised by generation source;

(b) factors contributing to the decrease in coal fired power generation and overall energy consumption during this period; and

(c) whether Government is undertaking any measures to ensure incorporation of renewable energy in response to the fluctuating demand, if so, the details thereof, if not, the reasons therefor?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b): The comparative details of electricity generated in the country from various sources during April, 2025 to May, 2025 vis-à-vis corresponding period in 2024 are given at **Annexure.**

As against the Energy Requirement of 2,99,749 Million Units (MUs) during April to May 2024, the Energy Requirement was 2,96,014 MUs during April to May 2025, showing a decline of 1.2 % in the Energy Requirement. This was primarily due to favorable weather conditions this year resulting in decline in overall generation.

Further, during the aforesaid period, overall percentage contribution from coal, lignite and gas sources in the total generation declined while the percentage contribution from hydro, nuclear and renewables in the total generation has increased.

(c): The Government of India has taken following broad steps to ensure the integration of renewable energy and address fluctuations:

(i) Development of inter and intra-State transmission network is being planned to keep pace with RE capacity addition. Strong inter connection of transmission networks to ensure better reliability in terms of anchoring voltage stability, angular stability, losses reduction etc. is being done.

(ii) Central Financial Assistance (CFA) is being provided to the States for setting up Transmission infrastructure for RE integration within their State under the Green Energy Corridor Scheme.

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(iii) Encouraging setting up of RE projects with storage facilities for optimal utilisation of transmission facilities.

(iv) Flexibilization of Thermal generation is mandated to address the variability of RE generation.

(v) CEA (Technical Standards for Connectivity to the Grid) Regulations lay down the minimum technical requirements for the RE generating plants to ensure the safe, secure and reliable operation of the grid. The compliances to the said regulations by RE plants are verified jointly by Central Transmission Utility (CTUIL) and Grid-India/RLDCs before granting connectivity/interconnection to the national grid.

(vi) Indian Electricity Grid Code mandates that RE plants participate in the primary and secondary frequency control in case of contingencies. 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.

(vii) The grid stability in case of voltage fluctuations is dependent on the adequate reactive power support from generators. The requirements w.r.t to the dynamic reactive power support from the Generators is covered in the CEA (Technical Standards for connectivity to the Grid) Regulations. Power equipment like STATCOM (Static Synchronous Compensator) and Synchronous Condensers are being planned for dynamically varying reactance support in the grid.

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ANNEXURE

ANNEXURE REFERRED IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 2865 ANSWERED IN THE RAJYA SABHA ON 18.08.2025

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The comparative details of electricity generated in the country from various sources for the period April, 2025 to May, 2025 vis-à-vis April, 2024 to May, 2024:-

(All figures in Million Units)

Fuel		April,2024 to May,2024		April,2025 to May,2025	
		Generation	% of Total Generation	Generation	% of Total Generation
FOSSIL FUEL	**Coal**	2,36,339.11	73.27	2,22,225.6	70.03
	Diesel	83.16	0.03	79.01	0.02
	Lignite	6,245.55	1.94	4,883.97	1.54
	Natural gas	8,884.19	2.75	5,977.86	1.88
Fossil Fuel Total		**2,51,552.01**	**77.99**	**2,33,166.44**	**73.48**
NON-FOSSIL FUEL	**Nuclear**	8,890.66	2.76	10,088.53	3.18
	Hydro	20,755.83	6.44	22,882.75	7.21
	Bhutan import	208.8	0.06	731.51	0.23
	Renewable (excluding Large Hydro)	41,136.92	12.75	50,450.78	15.90
Non-Fossil Fuel Total		**70,992.21**	**22.01**	**84,153.57**	**26.52**
GRAND TOTAL		**3,22,544.22**	**100.00**	**3,17,320.01**	**100.00**

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2866
ANSWERED ON 18.08.2025

RECYCLING AND END-OF-LIFE POLICY FOR SMART METERS

2866 SHRI TIRUCHI SIVA:

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

(a) whether Government has a national policy for recycling and disposal of smart electricity meters and conventional meters once they reach their end-of-life;

(b) total number of smart meters installed, average lifespan, and estimated quantity of smart meters/conventional meters that have reached or will reach end-of-life during the next five years;

(c) whether provisions exist for environmentally safe and scientific disposal of such meters by States or utilities;

(d) whether any States have set up recycling facilities or contracted CPCB-certified recyclers for electricity meter recycling, and if so, details thereof; and

(e) measures taken to prevent improper disposal of electricity meters that may contain hazardous components?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) to (e) : Management of e-waste is regulated under E-Waste (Management) Rules, 2022 notified under Environment (Protection) Act 1986 with the objective to take steps to ensure management of e-waste in a manner which shall protect health and environment against any adverse effects. These Rules provide for managing e-waste in an environmentally sound manner and putting in place an improved Extended Producer Responsibility (EPR) regime for e-waste recycling wherein all the manufacturers, producers, refurbishers and recyclers are required to be registered on the portal developed by the Central Pollution Control Board (CPCB). Further, an Action Plan for implementation of E-Waste (Management) Rules, 2022 is in place and the same is being implemented by all the State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) in their respective States/UTs.

The responsibility for installation of energy meter is of the concerned distribution utility/ licensee as per rules and regulations specified by concerned Electricity Regulatory Commission. The utilities are also responsible for maintenance, replacement and safe disposal of these meters.

Further, Roll-out of smart meters under RDSS is envisaged on TOTEX mode in which the AMISP (Advanced Metering Infrastructure Service Provider) will be responsible for supplying, maintaining and operating the metering infrastructure post installation. This approach provides end-to-end responsibility of AMISP for delivery of services during the entire life cycle of the project (7-10 years). 20.33 Cr smart meters have been sanctioned under RDSS and overall 3.78 crore smart meters have been installed across the country till date under various other schemes.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2867
ANSWERED ON 18.08.2025

TARGETS SET TO LIMIT AT&C LOSSES

2867 # SHRI SANJAY KUMAR JHA:

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

(a) the target set to limit Aggregate Technical and Commercial (AT&C) losses by the year 2025;

(b) whether any special financial or technical assistance scheme has been rolled out for power loss-incurring distribution companies; and

(c) whether any real-time data tracking system has been put in place for monitoring AT&C losses?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b): Government of India launched 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. The scheme aims at bringing down the AT&C losses to pan-India level of 12-15% by the end of the scheme period i.e. 31.03.2028.

Government of India has been supporting States/ distribution utilities to improve performance of the power distribution sector through various initiatives which are as under:

i. Linking of fund release under RDSS with performance of the States/ distribution utilities against various performance parameters including AT&C losses. Distribution infrastructure works, including smart metering works, amounting to Rs. 2.82 lakh crore have been sanctioned under the scheme which includes works like new/ augmentation of substations/ distribution transformers, agriculture feeder segregation, replacement of conductors, household electrification works etc. Execution of these works would help to improve losses of the utilities.

ii. Rules and Standard Operating Procedure for timely release of subsidies declared by the State Governments have been issued.

iii. Rules for implementing Fuel and Power Purchase Cost Adjustment (FPPCA) and cost reflective tariff so as to ensure that all prudent cost for supply of electricity are passed through and are recovered in a timely manner.

……2.

iv. Additional Prudential Norms for providing loans to State power utilities and allowing additional borrowing space of 0.5% of Gross State Domestic Product (GSDP) to States based on performance of distribution utilities.

As a result of various reform measures undertaken, AT&C losses at pan India level have come down from 21.91% in FY21 to 16.12% in FY24.

(c): AT&C loss of distribution utilities are assessed annually on the basis of audited annual financial accounts of the utilities and are published by Power Finance Corporation as "Report on Performance of Power Utilities" on an annual basis.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2868
ANSWERED ON 18.08.2025

SMART METERS UNDER RDSS

2868 SHRI RYAGA KRISHNAIAH:
SHRI SADANAND MHALU SHET TANAVADE:
SHRI LAHAR SINGH SIROYA:
SHRI SUBHASH BARALA:
SHRI BRIJ LAL:

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

(a) whether Government has directed States to install smart meters;

(b) if so, the details of the achievement made so far;

(c) the benefits that the distribution utilities will have as a result of installation of smart meters;

(d) the details of benefit the consumer will have after installation of smart meter; and

(e) whether Government has sanctioned infrastructure works to strengthen the distribution system in the States over the last five years, if so, the details thereof?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b) : As per the Central Electricity Authority (Installation and Operation of Meters) (Amendment) Regulations, 2022, all consumers in areas with communication network, shall be supplied electricity with Smart Meters working in pre-payment mode, conforming to relevant Indian Standards (IS).

Government of India launched Revamped Distribution Sector Scheme (RDSS) in July 2021 to support the States/ UTs to improve the operational efficiencies and financial sustainability of distribution utilities, so as to provide quality and reliable supply of power. One of the key initiatives under the scheme is smart metering of consumers, distribution transformers and feeders. Under RDSS, 20.33 Cr smart meters have been sanctioned, out of which 2.57 Cr meters have been installed till date, of which 56 lakh functioning in prepaid mode.

…….2.

Smart meters have also been installed by distribution utilities under their own schemes in addition to RDSS.

Overall, 3.78 crore smart meters have been installed across the country, till date, out of which 1.22 Cr are functioning in pre-paid mode.

(c) : Benefits envisaged to distribution utilities after installation of smart meters are as below:

i. Automatic Energy accounting
ii. Improved Load forecasting
iii. Optimization of power purchase costs
iv. Reduction in losses by improvement in billing and collection
v. Use of Data analytics to understand demand pattern
vi. Facilitation for large scale Renewable Energy Integration
vii. Ease in real time update of tariffs

(d): Benefits envisaged to consumers after installation of smart meters are as below:

i. Error free billing
ii. Convenience of recharge with small recharges
iii. Emergency credit in meter to avoid disconnection on zero balance
iv. Tracking of consumption

(e) : Under RDSS, infrastructure works, including smart metering works, amounting to Rs. 2.82 lakh crore have been sanctioned for 32 States/ UTs. The sanctioned works include new/ upgradation of substations, distribution transformer, HT & LT lines, agricultural feeder segregation, household electrification, smart metering works etc. State-wise details are placed at **Annexure.**

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ANNEXURE

ANNEXURE REFERRED IN REPLY TO PART (e) OF UNSTARRED QUESTION NO. 2868 ANSWERED IN THE RAJYA SABHA ON 18.08.2025

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State-wise total sanctioned costs under RDSS

(In Rs.Crores)

Sl. No.	State/UT	Sanctioned Cost of Smart Metering	Sanctioned Cost of Infrastructure Works	Total Sanctioned Outlay
1	Andaman & Nicobar Islands	54	462	516
2	Andhra Pradesh	4,128	10,710	14,838
3	Arunachal Pradesh	184	1,042	1,226
4	Assam	4,050	3,395	7,444
5	Bihar	2,021	9,983	12,004
6	Chhattisgarh	4,105	4,021	8,126
7	Delhi	13	324	337
8	Goa	469	247	716
9	Gujarat	10,642	6,089	16,731
10	Haryana	0	6,797	6,797
11	Himachal Pradesh	1,788	2,327	4,116
12	Jammu & Kashmir	1,064	5,034	6,098
13	Jharkhand	858	3,468	4,326
14	Karnataka	0	36	36
15	Kerala	8,231	3,108	11,339
16	Ladakh	0	876	876
17	Madhya Pradesh	8,911	9,674	18,584
18	Maharashtra	15,215	17,238	32,453
19	Manipur	121	627	748
20	Meghalaya	310	1,232	1,542
21	Mizoram	182	322	503
22	Nagaland	208	466	674
23	Puducherry	251	84	335
24	Punjab	5,769	3,873	9,642
25	Rajasthan	9,715	18,693	28,408
26	Sikkim	97	420	518
27	Tamil Nadu	19,235	9,568	28,803
28	Telangana	0	120	120
29	Tripura	319	598	917
30	Uttar Pradesh	18,956	21,782	40,739
31	Uttarakhand	1,106	1,815	2,921
32	West Bengal	12,670	7,223	19,893
	Total	**1,30,671**	**1,51,653**	**2,82,324**

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2869
ANSWERED ON 18.08.2025

STATUS AND PROSPECTS OF IMPLEMENTATION OF INDIA ENERGY STACK INITIATIVE

2869 # SMT. DARSHANA SINGH:

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

(a) whether Government has launched an initiative called "India Energy Stack" to digitally integrate the energy ecosystem;

(b) if so, the details of the key components, objectives and benefits of this initiative;

(c) whether the State of Uttar Pradesh has been included as a pilot project or as a priority State under this digital public infrastructure; and

(d) if so, the details of work done so far in the State of Uttar Pradesh, DISCOMs benefited and potential consumer benefits?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) to (d): Ministry of Power has constituted a task force comprising domain experts and various stakeholders including representatives from Ministries, State utilities, Regulators etc. to chart a roadmap for the India Energy Stack (IES). The Task force has representatives from the Distribution Utilities from the States/UTs of Maharashtra, Gujarat, Delhi and Uttar Pradesh.

IES is envisioned to create a unified, secure, and interoperable digital platform to transform the power sector by enabling seamless data exchange, real-time analytics, and enhanced consumer services. It aims to create a standardised platform that will enable data, services, and systems to work together seamlessly across the power sector value chain

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2870
ANSWERED ON 18.08.2025

COMPENSATION FOR TRANSMISSION PROJECTS

2870 SMT. KIRAN CHOUDHRY:

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

(a) whether Government is aware of the fact that reduction of value of a land takes place when a transmission line passes through it; and

(b) if so, steps Government have taken to compensate the affected land owners?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b): Yes, there is diminution in the value of the affected land parcels when a transmission line passes through it.

Accordingly, to compensate the affected land owners for diminution of land value, Ministry of Power had issued Guidelines for payment of compensation in regard to Right of Way (RoW) for laying Inter- State Transmission System (ISTS) lines on 14.06.2024 **(Annexure-I)**, with the provisions for compensation for tower base @200% and RoW corridor @30% of the market value. States may adopt these guidelines in their entirety or issue their own modified guidelines.

Further, this Ministry issued Supplementary Guidelines for payment of compensation in regard to RoW on 21.03.2025 **(Annexure-II)**. These supplementary guidelines provide for assessment of market rate of land, to be determined by a Market Rate Committee (MRC) based on the valuation by independent land valuers, for the payment of RoW compensation. The compensation amount for RoW corridor for ISTS lines has been revised as 30% to 60% of the land value, based on its location in rural areas, municipalities/ other urban planning areas, municipal corporations/ metropolitan areas notified by the State Government.

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ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 2870 ANSWERED IN THE RAJYA SABHA ON 18.08.2025

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F. No. 3/4/2016-Trans-part(4)
Government of India
Ministry of Power
Shram Shakti Bhavan, New Delhi - 110001

Dated: 14.06.2024

To

1. Chief Secretaries/Administrators of all the States/UTs.
2. Chairperson, CEA, New Delhi-with a request to disseminate the subject guidelines to all the stakeholders.
3. Additional Chief Secretaries/Principal Secretaries/Secretaries of Energy of all States/UTs.
4. Secretary, CERC, New Delhi.
5. CMD, Grid India, New Delhi.
6. COO, CTUIL, Gurugram,
7. CMDs of State Power Utilities/SEBs.
8. All Transmission Licensees through COO, CTUIL.

Subject: Guidelines for payment of compensation in regard to Right of way (RoW) for transmission lines.

Reference: (i) MoP letter No. 3/7/2015-Trans dated 15.10.2015
(ii) MoP letter No. 3/4/2016-Trans dated 16.07.2020
(iii) MoP letter No. 3/4/2016-Trans-part (1) dated 27.06.2023

Sir,

The Ministry of Power, as referenced above, has issued Guidelines for the payment of Right of way (RoW) compensation concerning transmission lines including those in urban areas. It is imperative to address the RoW issues effectively to expedite the construction of transmission lines and ensure timely completion.

2. After careful consideration of the matter, the Central Government has issued the following guidelines for determining compensation for damages regarding the RoW for laying transmission lines under Sections 67 and 68 of the Electricity Act, 2003, read with Sections 10 and 16 of the Indian Telegraph Act, 1885, in addition to the compensation for normal crop and tree damages. These guidelines are issued in supersession of the earlier guidelines mentioned in the references above.

COMPENSATION GUIDELINES FOR TRANSMISSION LINES

(1) ***Applicability****:* The compensation shall be payable only for transmission lines supported by a tower base of 66 kV voltage level and above, and not for sub-transmission and distribution lines below 66 kV.

(2) ***Authority for determination of Compensation****:* District Magistrate/District Collector/Deputy Commissioner shall be the authority for determining the compensation.

(3) ***Determination of compensation:*** The compensation shall ordinarily be based on the circle rate/Guideline value/Stamp Act rates of the land, except where the market rate exceeds the circle rate/Guideline value/Stamp Act rates. In such instances, the land value shall be determined based on the prevailing market rate as ascertained by the District Magistrate/District Collector/Deputy Commissioner in the manner as may be specified by the State Government. The determined land value shall serve as the basis for compensation and shall be promptly communicated by the respective District Magistrate/District Collector/Deputy Commissioner.

(4) ***Tower Base compensation:*** Compensation for the tower base area shall be 200% of the land value. The tower base area shall be the area enclosed by the four legs of the tower at ground level, plus an additional one (1) meter extension on each side.

(5) ***RoW Corridor compensation:*** The compensation amount for Right-of-way (RoW) corridor shall be 30% of the land value. Land within the RoW corridor, as defined in Schedule VII of the Central Electricity Authority (Technical Standards for construction of Electrical Plants and Electric Lines) Regulations, 2022 (Annex-I), shall be eligible for compensation. This compensation will address the potential diminution of land value due to the presence of overhead lines or underground cables within the RoW corridor. No construction activity of any kind would be permitted within the RoW of the transmission line. States/UTs may decide higher rate depending on the area and urgency of the work.

(6) ***Alternate compensation:*** In areas where land owner/owners have been offered/accepted alternate mode of compensation by Corporation/Municipality concerned under Transfer of Development Rights (TDR) policy of the State/UT, the licensee/utility shall deposit compensation amount as per (4) to (5) above with the Corporation/Municipality/Local Development Authority or the State Government concerned.

(7) ***Areas with RoW constraints****:* When laying transmission lines in areas with RoW constraints, various technologies can be considered to optimize the use of space. These technologies are outlined in the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022. Some options include: steel pole structures, narrow-based lattice towers, multi-circuit and multi-voltage towers, single-side stringing with lattice or steel poles, XLPE underground cables, Gas Insulated Lines (GIL), compact towers with insulated cross arms, Voltage Source Converter (VSC) based High Voltage Direct Current (HVDC) systems, and more. A cost matrix comparing these technologies is attached in Annex-II for reference by implementing agencies. This matrix can help them choose the most cost-effective option for each project.

(8) ***Landowner Identification:*** During the check survey conducted at the execution stage, the names of landowners whose property falls within the transmission line's Right-of-Way (RoW) will be documented. This process shall adhere to the Regulation 84(8) of the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022.

(9) ***Compensation Payment:*** Compensation payment shall be one-time and upfront. Whenever possible, compensation will be paid through various digital payment methods, such as the Aadhaar Enabled Payment System (AEPS) and Unified Payments Interface (UPI).

(10) ***Standard Operating Procedure (SOP):*** States/UTs and transmission developers should refer to the Standard Operating Procedure (SOP) at Annex-III for detailed guidelines.

3. The States/UTs may adopt these guidelines in their entirety or issue their own modified guidelines. In the absence of State Government guidelines, these guidelines issued by the Central Government shall apply for determining compensation.

4. This issues with the approval of the Minister of Power.

Yours faithfully,
Sd/-
(Om Kant Shukla)
Director (Trans)
Tele: 011-23716674

Copy to :

1. Secretaries to the Government of India.
2. Prime Minister's Office.
3. Technical Director, NIC, Ministry of Power – with the request to upload on the website of Ministry of Power.
4. PS to MoP
5. Addl. PS to MoSP
6. Sr.PPS/PPS/PS to Secretary (Power)/AS(Trans)/JS&FA/AS(IC)/All Joint Secretaries/ EA/ All Directors/Deputy Secretaries, Ministry of Power

Annex-I

Right-of-way (ROW) for normal route, forest area, urban area, populated area and approach section near substation

Voltage level	Configuration	Conductor type	Terrain	Design Span	String Type	RoW width in m (for compensation purpose)
765kV D/C	Vertical	ACSR ZEBRA	Normal route without constraint	400	"I" String "V" String Tension	67
			Forest	300	"V" String Tension	56
			Urban area/ populated area/ approach section near substation	250	"V" String Tension	54
765kV S/C	Vertical/Delta	ACSR BERSIMIS	Normal route without constraint	400	"I" String "V" String Tension	64
			Forest	300	"V" String Tension	54
			Urban area/ populated area/ approach section near substation	250	"V" String Tension	52
765kV S/C	Horizontal	ACSR BERSIMIS	Normal route without constraint	400	"I" String "V" String Tension	74
			Forest	300	"V" String Tension	65
			Urban area/ populated area/ approach section near substation	250	"V" String Tension	62
± 800kV HVDC	Horizontal	ACSR Lapwing		400	"Y" String	69
± 500kV HVDC	Horizontal	ACSR Lapwing		400	"V" String	52
400kV D/C	Vertical	ACSR MOOSE	Normal route without constraint	400	"I" String "V" String Tension	46
			Forest	300	"V" String Tension	40
			Urban area/ populated area/ approach section near substation	250	"V" String Tension	38
400kV S/C	Horizontal / Vertical	ACSR MOOSE	Normal route without constraint	400	"I" String "V" String Tension	52
			Forest	300	"V" String Tension	47
			Urban area/ populated area/ approach section near substation	250	"V" String Tension	44

1200kV	Horizontal	ACSR Moose	Normal route without constraint/ Forest/Urban Normal route without constraint	400	"V" String	89
220kV D/C	Vertical	ACSR ZEBRA		350	"I" String "V" String Tension	32
			Forest	300	"V" String Tension	28
			Urban area/ populated area/ approach section near substation	200	"V" String Tension	24
132kV D/C	Vertical	ACSR PANTHER	Normal route without constraint	320	"I" String "V" String Tension	25
			Forest	200	"V" String Tension	21
			Urban area/ populated area/ approach section near substation	150	"V" String Tension	19
110kV D/C		ACSR PANTHER	Normal route without constraint	305	"I" String "V" String Tension	22
			Forest	200	"V" String Tension	19
			Urban area/ populated area/ approach section near substation	150	"V" String Tension	17
66kV	Vertical	ACSR PANTHER	Normal route without constraint	250	"I" String "V" String Tension	18
			Forest	150	"V" String Tension	14
			Urban area/ populated area/ approach section near substation	100	"V" String Tension	13

Annex-II

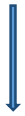
Indicative Cost Matrix for various alternatives at different voltage levels				
Voltage Level	Type of Tower	Span (in m)	Type of Conductor	Indicative cost for laying of transmission line per Km based on past experience (Rs. In Crore)
765 kV D/C	Normal	400	Hexa Zebra	3.83
		250	Hexa Zebra	4.79
	Narrow Base	400	Hexa Zebra	9.72
		250	Hexa Zebra	12.14
	Pole**	250	Hexa Zebra	13.41
	Underground Cable	Technologically not feasible		
400 kV D/C	Normal	400	Quad Moose	2.11
			Twin HTLS	1.41
			Twin Moose	1.24
		250	Quad Moose	2.64
			Twin HTLS	1.76
			Twin Moose	1.55
	Narrow Base	400	Quad Moose	5.36
			Twin HTLS	3.58
			Twin Moose	3.15
		250	Quad Moose	6.7
			Twin HTLS	4.48
			Twin Moose	3.94
	Pole	250	Quad Moose	7.39
			Twin HTLS	4.94
			Twin Moose	4.34
	Underground Cable @			12
	GIL***			70
220kV D/C	Normal	350	Zebra	0.53
			HTLS	0.64
		200	Zebra	0.66
			HTLS	0.8
	Narrow Base	350	Zebra	1.34
			HTLS	1.63
		200	Zebra	1.68
			HTLS	2.04
	Pole	250	Zebra	1.86
			HTLS	2.24
	Underground Cable @			7.2
132 kV D/C	Normal	320	Panther	0.36
		150	Panther	0.45
	Narrow Base	320	Panther	0.76
		150	Panther	1.14
	Pole	250	Panther	1.26
	Underground Cable @			1.8
800 kV HVDC (Horizontal)	Normal	400	Lapwing	2.69
		250	Lapwing	3.36
	Pole	250	Lapwing	9.42
500 kV HVDC (Horizontal)	Normal	400	Lapwing	1.32
		250	Lapwing	1.65
	Pole	250	Lapwing	4.62

All costs are indicative exclusive of RoW Cost. For transmission lines mounted on poles, design span used is lower than normal span.
Note: Different insulator string configurations (l and V Types) would not account for considerable difference in per km cost of transmission lines, hence not have been factored in the matrix.
** Poles prevalent are only for S/c. 765 kV D/C Pole under Design / R&D
@ Underground Cable for short distances.
*** No GIL experience in country.

Annex-III

Standard Operating Procedure (SOP)

Identify Landowners and issue notice to proceed (by TSP)



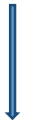
Collect documents (e.g. proof of identity and ownership) (by TSP)

Verify land records with revenue maps/officials(by revenue officials)

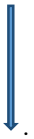
In case of multiple landowners, obtain NOC from all co-owners attested by Sarpanch and Revenue officer (by TSP)

Measure tower footing/corridor area in the presence of landowners and obtain signature of landowners/revenue officials (by TSP)

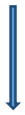
In case of grievances relating to land rates, DM to issue orders on land rates



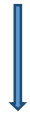
DM or authorised Executive Magistrate to fix compensation



TSP to pay compensation. Compensation payment to include: tower footing, corridor surface, working area and access road. It will also include permanent and temporary structures like hutment, house, line shifting etc. based on assessment. The measurement sheet will be verified by project RoW lead and countersigned by landowner and revenue officials concerned



Disburse the Payment (by TSP)



Collect receipt from landowners (by TSP)

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ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 2870 ANSWERED IN THE RAJYA SABHA ON 18.08.2025

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F.No. 3/4/2016-Trans-Part(4)
Government of India
Ministry of Power
Shram Shakti Bhavan, New Delhi –110 001.
****

Dated: 21.03.2025

To

1. Chief Secretaries/Administrators of all the States/UTs.
2. Chairperson, CEA, New Delhi – with a request to disseminate the subject guidelines to all the stakeholders.
3. Additional Chief Secretaries/Principal Secretaries/Secretaries of Energy of all States/UTs.
4. Secretary, CERC, New Delhi.
5. CMD, Grid India, New Delhi.
6. COO, CTUIL, Gurugram.
7. CMDs of State Power Utilities/SEBs.
8. All Transmission Licensees through COO, CTUIL

Subject: Supplementary Guidelines for payment of compensation in regard to Right of Way (RoW) for transmission lines.

Sir,

The Central Government vide letter No. 3/4/2016-Trans-Part (4) dated 14.06.2024 has issued guidelines for determination of compensation for laying Inter-State Transmission System (ISTS) lines under Sections 67 and 68 of the Electricity Act, 2003, read with Sections 10 and 16 of the Indian Telegraph Act, 1885, in addition to the compensation for normal crop and tree damages (hereinafter referred as *RoW Guidelines*). As per these guidelines, compensation shall ordinarily be based on the Circle rates/Guideline value/Stamp Act rates of the land, except where the market rate exceeds the Circle rate/Guideline value/Stamp Act rates. In such instances, the land value shall be determined based on the prevailing market rate as ascertained by the District Magistrate/District Collector/Deputy Commissioner in the manner as may be specified by the State Government. However, many States have yet to specify the manner of determination of market rate, and land owners have raised concerns that compensation is still being proposed at unacceptable circle rates which are significantly lower than market rates.

2. This issue is more pronounced in urban and semi-urban areas, where District Collectors face difficulties in arriving at a fair market rate. Additionally, while land falling under RoW corridors can still be used for agriculture in rural areas, land in urban planning and urban areas cannot be used for development due to changes in land use. As a result, the 30% compensation paid for RoW in rural areas has been reported to be inadequate for urban and urban-planning areas, where landowners incur higher opportunity costs.

3. After careful consideration of the matter, the Central Government hereby issues the following supplementary guidelines for assessing the market rate of land for the limited purpose of payment of RoW compensation for laying of ISTS lines.

SUPPLEMENTARY GUIDELINES FOR DETERMINATION OF MARKET RATE AND ROW COMPENSATION FOR ISTS LINES

1. Applicability: These supplementary guidelines shall apply to Inter-State Transmission System lines only in cases where landowners have objected to the compensation because the Circle Rates are below the Market Rates. State Governments may adopt these guidelines in their entirety or issue their own modified guidelines. These guidelines shall apply in cases where State Governments have yet to specify the manner of determination of market value of land.

2. Committee for Market Rate Determination: The market rate of land shall be determined by the following Market Rate Committee (MRC) based on the valuation by independent land valuers:

i. District Magistrate/District Collector/Deputy Commissioner or his/her nominee (not below Sub-Divisional Magistrate) - Chair
ii. Representative of land owners - Member
iii. Nominee of ISTS Transmission Service Provider (TSP) – Member

The District Magistrate/District Collector/Deputy Commissioner may co-opt upto two additional members as may be required.

3. Land Valuation Methodology:

(1) MRC shall appoint two valuers—one nominated by the TSP and the other by the representative of landowners. The MRC shall engage the land valuers empanelled by the Insolvency and Bankruptcy Board of India (IBBI) as per the list available at website of IBBI (https://ibbi.gov.in). The valuers should preferably be from the same State or, if an adequate pool of valuers is not available, from adjoining States. The reference market rate shall be determined as specified below:

(i) If the difference in the market rates worked out by valuers is less than 20% over the lowest value, then average value of the two valuations shall be taken as the reference market rate.

(ii) If the difference exceeds 20%, MRC may negotiate the reference market rate.

(iii) Else, or if negotiation fails, then MRC shall engage a third valuer, and the reference market value shall be determined as the average of the two closest valuations.

(2) The assessed reference market rate shall serve as the basis for determination of market rate by the MRC.

(3) The professional fee/charges of the land valuers shall be borne by the TSP and shall form part of the RoW compensation cost.

4. Compensation Rates: (1) The compensation for tower base shall be as per RoW guidelines dated 14.06.2024.

(2) The compensation amount for Right-of-Way (RoW) corridor shall be as follows for ISTS lines:

i. 30% of the land value in rural areas.
ii. 60% of the land value in municipal corporations and metropolitan areas notified by the State Government.
iii. 45% of the land value for municipalities, nagar panchayats and all other urban planning areas notified by the State Government.

5. The District Collector may allow the construction of ISTS lines to proceed without obstruction on the condition that compensation would be paid based on the market rate determined by the MRC. The market rate determination should ideally be completed within one month from the date of application by TSP.

6. Pass through by CERC: If the actual RoW compensation paid by the TSP due to implementation of these guidelines or the extant guidelines /policy of the appropriate government differs from the base RoW compensation determined for the ISTS Scheme as per Tariff Based Competitive Bidding (TBCB) Guidelines, the same shall be eligible for pass through under Change in Law (CIL) by the Central Electricity Regulatory Commission.

Yours faithfully,

Sd/-
(Naorem Indrakumar Singh)
Under Secretary (Trans)
Tele: 011- 23325242

Copy to:

1. Secretaries to the Government of India.
2. Prime Minister's Office.
3. Technical Director, NIC, Ministry of Power – with the request to upload on the website of Ministry of Power.
4. PS to MoP.
5. Addl. PS to MoSP.
6. Sr. PPS/ PPS/ PS to Secretary (Power)/ AS(Trans)/ JS&FA/ AS (IC)/ All Joint Secretaries/ EA/ All Directors/ Deputy Secretaries, Ministry of Power.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2871
ANSWERED ON 18.08.2025

STATUS OF THERMAL POWER PLANTS BASED ON IMPORTED COAL

2871 SHRI ANIL KUMAR YADAV MANDADI:

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

(a) number of thermal power plants in the country which uses imported coal;

(b) whether these import coal based thermal power plants are generating electricity upto their full capacity;

(c) if so, details of power generated by import coal based thermal power plants since the year 2020 till date; and

(d) whether any instances of low production of power by import coal based thermal power plants has been reported to Government / Regulatory Body / Authority?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : As per the existing import policy, coal is kept under the Open General License (OGL) and as such, any power plant can import coal from the source of their choice as per their techno-economic requirements.

As on 31.07.2025, 17 power plants with total capacity of 18,319 MW, are designed to operate on imported coal. The list of these Imported Coal Based (ICB) plants along with their respective capacity is given at **Annexure-I.**

Apart from these ICB Plants, some of the power plants designed on domestic coal also import coal, from time to time, in view of their specific requirements.

(b) to (d) : Power plant gets schedule based on the demand of electricity and its merit order. Thus, generation from a plant may vary based on these factors. The details of total generation from ICB plants and Plant Load Factor (PLF) from 2020-21 to 2025-26 (April-June) are given at **Annexure-II**.

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ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 2871 ANSWERED IN THE RAJYA SABHA ON 18.08.2025

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The list of ICB plants along with their respective capacity

Sr. No.	**ICB Plants**	**Installed Capacity in Megawatt (MW)**
1	SIKKA REP. TPS	500
2	ADANI POWER LIMITED MUNDRA TPP - I & II	2,640
3	ADANI POWER LIMITED MUNDRA TPP - III	1,980
4	MUNDRA UMTPP	4,000
5	SALAYA TPP	1,200
6	SHREE CEMENT LTD TPS	300
7	JSW RATNAGIRI TPP	300
8	TROMBAY TPS	750
9	SIMHAPURI TPS	600
10	THAMMINAPATNAM TPS	650
11	TORANGALLU TPS(SBU-I)	260
12	TORANGALLU TPS(SBU-II)	600
13	ADANI POWER LIMITED UDUPI TPP	1,200
14	ITPCL TPP	1,200
15	MUTHIARA TPP	1,200
16	OPG Power Generation Private Limited	414
17	TUTICORIN TPP ST-IV	525
	Total	**18,319**

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ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PARTS (b) TO (d) OF UNSTARRED QUESTION NO. 2871 ANSWERED IN THE RAJYA SABHA ON 18.08.2025

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Details of total generation from ICB plants and Plant Load Factor (PLF) from 2020-21 to 2024-25 and 2025-26 (April-June)

ICB plants	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26 (April-June)
Generation (BU)	79.5	39.8	40.6	83.8	96.5	24.9
PLF (%)	51.5%	25.8%	26.9%	53.1%	61.3%	63.4%

BU - Billion Unit

PLF: Plant Load Factor

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2873
ANSWERED ON 18.08.2025

ELECTRIFICATION OF HOUSEHOLDS UNDER SAUBHAGYA SCHEME

2873 SHRI SANJAY SINGH:

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

(a) the total number of households electrified under the SAUBHAGYA (Pradhan Mantri Sahaj Bijli Har Ghar Yojana) scheme since year 2020, State-wise;

(b) whether the target of universal household electrification has been achieved as claimed by Government in 2019;

(c) whether there are still households, particularly in remote or tribal areas, that remain un-electrified or are currently disconnected from the power supply; and

(d) the steps taken by Government to identify such households, reconnect them, and improve the reliability and quality of electricity services in these regions?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) to (d) : Government of India launched the Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA) in October, 2017 with the objective of providing electricity connections to all willing un-electrified households in rural areas and all willing poor households in urban areas in the country. All sanctioned works have been successfully completed under SAUBHAGYA and scheme stands closed as on 31.03.2022. As reported by the States, around 2.86 crore households have been electrified during the SAUBHAGYA Period. State-wise details are at **Annexure**.

Government of India is further supporting the States for on-grid electrification of all left out households under the ongoing scheme of Revamped Distribution Sector Scheme (RDSS) based upon survey conducted by Utilities. This includes works sanctioned for electrification of Particularly Vulnerable Tribal Group (PVTG) households identified under PM-JANMAN (Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan), tribal households under DA-JGUA (Dharti Aaba Janjatiya Gram Utkarsh Abhiyan), Scheduled Caste households under Pradhan Mantri Anusuchit Jaati Abhyuday Yojana (PM-AJAY) and households in remote & border areas under Vibrant Village Program (VVP), wherever found feasible. Till date, under RDSS, works amounting to Rs 6,487 Cr have been sanctioned for electrification of 13.59 lakh households across the country.

In addition, under New Solar Power Scheme, works amounting to Rs. 50 Cr. have been sanctioned for off-grid solar based electrification of 9,961 households as on 30th June, 2025.

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ANNEXURE

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (d) OF UNSTARRED QUESTION NO. 2873 ANSWERED IN THE RAJYA SABHA ON 18.08.2025

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Number of Households electrified since the launch of SAUBHAGYA scheme including Additional Households achievement under DDUGJY

S. No.	Name of the States	No of Households electrified
1	Andhra Pradesh*	1,81,930
2	Arunachal Pradesh	47,089
3	Assam	23,26,656
4	Bihar	32,59,041
5	Chhattisgarh	7,92,368
6	Gujarat*	41,317
7	Haryana	54,681
8	Himachal Pradesh	12,891
9	Jammu & Kashmir	3,77,045
10	Jharkhand	17,30,708
11	Karnataka	3,83,798
12	Ladakh	10,456
13	Madhya Pradesh	19,84,264
14	Maharashtra	15,17,922
15	Manipur	1,08,115
16	Meghalaya	2,00,240
17	Mizoram	27,970
18	Nagaland	1,39,516
19	Odisha	24,52,444
20	Puducherry*	912
21	Punjab	3,477
22	Rajasthan	21,27,728
23	Sikkim	14,900
24	Tamil Nadu*	2,170
25	Telangana	5,15,084
26	Tripura	1,39,090
27	Uttar Pradesh	91,80,571
28	Uttarakhand	2,48,751
29	West Bengal	7,32,290
Total		**2,86,13,424**

***Not funded under SAUBHAGYA Scheme**

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2874
ANSWERED ON 18.08.2025

CLIMATE RESILIENT POWER INFRASTRUCTURE

2874 SMT. REKHA SHARMA:

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

(a) whether Government has initiated climate-resilient infrastructure upgradation in power transmission corridors vulnerable to cyclones or floods;

(b) if so, the regions prioritised under this initiative; and

(c) whether remote monitoring technologies like Lidar or SCADA are being deployed to reduce power restoration time after extreme weather events?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : Ministry of Power has prepared the "Disaster Management Plan" for the power sector under the provisions of section 37 of the Disaster Management Act, 2005. The plan published by Central Electricity Authority (CEA) in the year 2022 focuses on grid resilience, disaster resistant generation, transmission and distribution network to ensure reliable power supply to all geographically specific areas, including coastal areas, keeping in view extreme weather related instance and natural disasters and also, enumerates the measures required to be taken by Generation, Transmission and Distribution Utilities for Mitigation, Preparedness, Response and Recovery from disasters.

Following measures have been recommended by the Task Force, constituted by Ministry of Power vide Order No. 12/6/2020-Trans dated 02.06.2020, in the "Report of Task Force on Cyclone Resilient Robust Electricity Transmission and Distribution (T&D) Infrastructure in Coastal Area" issued vide Ministry of Power letter No. 12/9/2020-Trans dated 10.06.2021, for creating resilient T&D infrastructure:

a) (N-1/N-1-1/N-2) contingency level Planning for Critical Load Centres

b) Critical Infrastructure Protection Framework

c) Mapping of T&D infrastructure in cyclone affected zones

d) Designing of Distribution network in Ring or Mesh configuration

e) Emergency Restoration System (ERS), spare towers, material banks, spares for substation equipment

f) Mobile Substation

g) Mobile Diesel Generator (DG) Set

h) Digitalization of system

i) Distributed Energy Resources (DERs)

j) Use of Unmanned Arial Vehicles (Drones)

k) Standardization and use of Energy efficient equipment

l) The structural integrity of transmission & distribution infrastructure

m) Underground transmission corridor along coastal highway project

n) Use of Gas Insulated Lines (GIL)

MOP vide DO letter dated 05.12.2014 issued Availability and Plan for Deployment of ERS to State & Central Transmission Utilities. All transmission utilities are required to maintain ERS availability as per norms.

(b) : The recommendations of the Task Force on Cyclone-Resilient Robust Electricity Transmission and Distribution (T&D) Infrastructure in Coastal Areas have been incorporated in the planning/ technical specification of Inter State Transmission System (ISTS) project under Tariff Based Competitive Bidding (TBCB) mode for the areas upto 60 km from the sea coast in coastal states.

(c) : The Supervisory Control and Data Acquisition (SCADA)/ Remote Terminal Units (RTUs) systems deployed across the grid enable continuous monitoring of operational parameters of Extra High Voltage (EHV) transmission assets, with real-time data from substations and field equipment being monitored by the Load Despatch Centres (LDCs) for secure grid operation. SCADA is extensively utilized in the Indian power system to enhance situational awareness and expedite restoration efforts following extreme weather events. In accordance with the Crisis Management Plan (CMP) issued by CEA, the LDCs coordinate with utilities to facilitate grid operation, system restoration, and inter-regional power flow management during such events.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2875
ANSWERED ON 18.08.2025

ELECTRICITY CONSUMPTION IN THE COUNTRY

2875 SHRI C. VE. SHANMUGAM:

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

(a) whether Government is aware that India's electricity consumption is expected to triple by the year 2050;

(b) if so the details thereof;

(c) whether it is also a fact that the International Energy Agency projected that India would become the third-largest electricity consumer globally by 2050;

(d) if so, the details thereof; and

(e) the steps taken by Government to achieve the anticipated target reported by the International Energy Agency?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

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

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

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

1. **Generation Planning:**

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

……2.

(ii) With a view to ensure generation capacity remains ahead of projected peak demand, all the States, in consultation with CEA, have prepared their " **Resource Adequacy Plans (RAPs)",** which are dynamic 10 year rolling plans and includes power generation as well as power procurement planning.

(iii) All the States were advised to initiate process for creation of generation capacities; from all generation sources, as per their Resource Adequacy Plans.

(iv) In order to augment the power generation capacity, the Government of India has initiated following capacity addition programme:

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

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

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

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

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

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

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

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3. Promotion of Renewable Energy Generation:

(i) Ministry of New & Renewable Energy (MNRE) has issued Bidding Trajectory for issuance of RE power procurement bids of 50 GW/annum by Renewable Energy Implementing Agencies (REIAs) from FY 2023-24 to FY 2027-28.

(ii) Foreign Direct Investment (FDI) has been permitted up to 100 percent under the automatic route.

(iii) Inter State Transmission System (ISTS) charges have been waived for inter-state sale of solar and wind power for projects to be commissioned by 30th June 2025, for Green Hydrogen Projects till December 2030 and for offshore wind projects till December 2032.

(iv) To boost RE consumption, Renewable Purchase Obligation (RPO) followed by Renewable Consumption Obligation (RCO) trajectory has been notified till 2029-30. The RCO which is applicable to all designated consumers under the Energy Conservation Act 2001 will attract penalties on non-compliance. RCO also includes specified quantum of consumption from Decentralized Renewable Energy sources.

(v) Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Solar, Wind, Wind-Solar Hybrid and Firm & Dispatchable RE (FDRE) projects have been issued.

(vi) Schemes such as Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), PM Surya Ghar Muft Bijli Yojana, National Programme on High Efficiency Solar PV Modules, New Solar Power Scheme (for Tribal and PVTG Habitations/Villages) under Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN) and Dharti Aabha Janjatiya Gram Utkarsh Abhiyan (DA JGUA), National Green Hydrogen Mission, Viability Gap Funding (VGF) Scheme for Offshore Wind Energy Projects have been launched.

(vii) Scheme for setting up of Solar Parks and Ultra Mega Solar Power projects is being implemented to provide land and transmission to RE developers for installation of RE projects at large scale.

(viii) Laying of new transmission lines and creating new sub-station capacity has been funded under the Green Energy Corridor Scheme for evacuation of renewable power.

(ix) "Strategy for Establishments of Offshore Wind Energy Projects" has been issued.

(x) To augment transmission infrastructure needed for steep RE trajectory, transmission plan has been prepared till 2032.

(xi) Green Term Ahead Market (GTAM) has been launched to facilitate sale of Renewable Energy Power through exchanges.

(xii) To achieve the objective of increased domestic production of Solar PV Modules, the Govt. of India is implementing the Production Linked Incentive (PLI) scheme for High Efficiency Solar PV Modules. This will enable manufacturing capacity of Giga Watt (GW) scale in High Efficiency Solar PV Module.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2876
ANSWERED ON 18.08.2025

THE AVERAGE OPERATIONAL LIFESPAN OF COAL-BASED THERMAL POWER PLANTS

2876 DR. KANIMOZHI NVN SOMU:

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

(a) the average operational lifespan of coal-based thermal power plants in the country, and the environmental or efficiency benchmarks considered for its decommissioning;

(b) the list of thermal power plants identified for retirement or decommissioning in the next five years, along with their installed capacities and locations;

(c) whether any assessment has been made on the impact of these retirements on the national power supply-demand balance; and

(d) the roadmap prepared by the Ministry to compensate for the generation capacity lost due to plant retirements, including planned renewable or hybrid capacity additions?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): The average operational lifespan of coal-based thermal power plants varies plant to plant**.** As per Regulation 5 (1) of CEA (Technical Standards for construction of Electric Plants and Electric lines) Regulations, 2022, the coal, lignite and gas based thermal generating stations shall be designed to give life of not less than twenty-five (25) years. Further, their life extension can be done up to fifteen (15) years by Renovation and Modernisation (R&M) intervention considering environmental or efficiency benchmarks.

(b) to (d): The Central Electricity Authority (CEA) has issued an advisory dated 20.01.2023 and 07.07.2023 to all Thermal Power Utilities not to retire or repurpose their coal-based power stations before 2030 and to ensure the availability of thermal units after carrying out Renovation and Modernization(R&M) activities, if required, considering the expected energy demand scenario in future.

Further, electricity generation is a de-licensed activity as per Section-7 of the Electricity Act, 2003 and phasing out / retirement of units are decided by Power Generating Utilities / Companies based on their own techno-economic and environmental considerations.

……..2.

As per National Electricity Plan (Generation), 2023, the installed generation capacity in 2031-32 is likely to be 874 GW which includes capacity from conventional sources- Coal, Lignite etc., renewable sources- Solar, Wind and Hydro. Ministry of Power has taken necessary measures to enhance the generation capacity, inter alia, including compensate for the generation capacity lost due to plant retirements, including planned renewable or hybrid capacity additions in the country.

- 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. It is estimated that 2,000 MW capacity will be retired by March, 2032. To meet this requirement, the Ministry has envisaged to set up an additional minimum 97,000 MW coal and lignite based thermal capacity.

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

- 13,463.5 MW of Hydro Electric Projects are under construction. Further, 9,802 MW of Hydro Electric Projects are under various stage of planning and targeted to be completed by 2031-32.

- 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.

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

- In energy storage systems, 8,250 MW / 49,500 MWh Pumped Storage Projects (PSPs) are under construction. Further, a total of 5,780 MW / 34,680 MWh capacity of Pumped Storage Projects (PSPs) are concurred and yet to be taken up for construction, out of these, 3,500 MW / 21,000 MWh capacity of Pumped Storage Projects (PSPs) are under bidding. Further, 15,829 MW / 51,106 MWh Battery Energy Storage System (BESS) are currently under various stages of construction / bidding.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2877
ANSWERED ON 18.08.2025

RELIABLE POWER SUPPLY TO FARMERS

2877 # SMT. RAMILABEN BECHARBHAI BARA:
DR. PARMAR JASHVANTSINH SALAMSINH:

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

(a) whether Government has made efforts to separate agricultural feeders where the agricultural load is higher;

(b) the total number of feeders identified and separated so far;

(c) the total cost involved in separation of feeders; and

(d) the benefit of feeder segregation works being undertaken?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) to (d): Government of India has been laying emphasis on segregation of mixed load feeders having more than 30% agricultural load into agriculture and non-agricultural feeders with the objective of efficient load management and enabling solarisation of agri-feeders.

Under the scheme of Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY), 7,833 feeders were segregated with a project cost of Rs. 10,394 Cr and the scheme stands closed as on 31.03.2022. Under ongoing Revamped Distribution Sector Scheme (RDSS), feeder segregation works amounting to Rs. 40,525 Cr have been sanctioned which are to be completed within the scheme period i.e. by 31.03.2028.

The details of feeder segregation works are as under:

Sl No	Particulars	Numbers
1	Total feeders with more than 30% agricultural load feasible for segregation	80,720
2	Feeders segregated till date under various schemes	56,018
3	Feeders for which segregation works are on-going	24,702

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