GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.100
ANSWERED ON 20.07.2026

CHINESE COMPANIES' PARTICIPATION IN GOVERNMENT TENDERS FOR CRITICAL POWER PROJECTS

100. SHRI JOSE K. MANI:

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

(a) whether Government recently allowed four companies with Chinese ownership or links to participate in Government tenders for critical power projects;

(b) if so, the reasons for granting such permission; and

(c) the details of the safeguards put in place to address national security concerns arising from their participation in India's critical power project?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b): The Government has recently allowed four entities, having substantial ownership by entities from land border sharing countries, for participation in India in the procurement bids for power projects for a period of two years w.e.f. 24.06.2026, subject to such entities complying with the prescribed domestic content requirements. This would enhance competition, promote price stability, and address supply constraints, while supporting the objectives of the Atmanirbhar Bharat initiative.

(c): The products manufactured at such India-based facilities are subject to mandatory BIS/IS testing and certification by designated certifying agencies. In addition, compliance with applicable Indian cyber security guidelines and standards, including mandatory cyber security testing, as may be required. Accordingly, adequate safeguards are in place to address potential national security concerns without imposing a blanket exclusion on such entities, thereby ensuring that security interests are protected while facilitating competitive procurement.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.144
ANSWERED ON 20.07.2026

POWERSECTORREFORMSANDINFRASTRUCTUREDEVELOPMENT

144. SHRILAHARSINGHSIROYA:

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

(a) whetherGovernmenthasachievedsignificantprogressinstrengtheningthepower sectorthroughgeneration,transmissionanddistributionreforms;

(b) thedetailsofthemajorinitiativesundertakenduringthelastthreeyearstoensure affordable,reliableandqualitypowersupplyacrossthecountry;

(c) theState/UT-wiseincludingKarnatakadetailsofcapacityaddition,transmission infrastructureandfinancialassistanceprovidedbytheCentralGovernment;and

(d) theoutcomesachievedinimprovingpoweravailability,reducingAT&Clossesand enhancing consumer services under these initiatives?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) to (c) : Government of India has undertaken several initiatives to strengthen the power sector across the generation, transmission and distribution segments. The major initiatives are outlined below:

1. Generation

1.1 Thermal Generation

As per the National Generation Adequacy Plan (2026-27 to 2035-36) prepared by CEA in March, 2026, the required thermal capacity based on coal and lignite is estimated at around 3,15,000 MW to meet the projected electricity demand by 2035–36.

Against this, the installed coal and lignite-based capacity as on 31st March, 2026, stood at 2,28,560 MW. The minimum additional thermal capacity required to meet the projected demand is estimated at approximately 86,440 MW. During the FY 2026–27 (till June, 2026), thermal capacities of 2,260 MW have already been commissioned. In addition, there is 47,545 MW of capacity currently under construction. Furthermore, **16,000 MW** of capacity has been awarded and is due for construction. **The details are at Annexure-I.**

Further, the details of Thermal Units commissioned during the last three years are given at **Annexure-II**.

…….2.

1.2 Hydro Generation

(i) Budgetary support is provided towards enabling infrastructure for hydroelectric projects. The limits under the scheme have been revised as follows:

a) Rs. 1.0 crore per MW for projects up to 200 MW

b) Rs. 200 crore + Rs. 0.75 crore per MW exceeding 200 MW, for projects above 200 MW.

(ii) Waiver of Inter-State Transmission System (ISTS) charges on transmission of power from new Hydro Power Projects, for which construction work is awarded and PPA is signed on or before 30.06.2025, has been provided. Subsequently, part waiver of ISTS charges, in steps of 25% from 01.07.2025 to 01.07.2028, have been extended for Hydro Electric Projects (HEPs) for which construction work is awarded and PPA is signed up to 30.06.2028.

(iii) 100% waiver of ISTS charges for Pumped Storage Projects (PSPs) for which construction work is awarded on or before 30.06.2028.

(iv) Tariff Based Competitive Bidding (TBCB) guidelines have been issued for procurement of power from PSPs.

(v) No HEP or PSP has been commissioned in the state of Karnataka during the last three years. However, the details of Hydro capacity added in the country during the last three years are given at **Annexure-III.**

1.3 Renewable Energy and Energy Storage Systems (ESS)

(i) As on 30th June, 2026, the country's total installed power generation capacity was 542 GW, of which non-fossil generation capacity constituted over 53%.

(ii) For facilitating the integration of renewable energy in the country, Ministry of Power is administering a Viability Gap Funding (VGF) scheme for setting up 13.8 GWh of Battery Energy Storage System (BESS) capacity with budgetary support of Rs. 3,760 Cr.

(iii) Additionally, Ministry of Power, in June, 2025, has approved a VGF scheme for development of 30 GWh of BESS capacity supported through Power System Development Fund (PSDF). The BESS capacity has been allocated to 15 States and NTPC with Rs. 18 lakhs per MWh of VGF support, which amounts to total financial support of Rs. 5,400 Crores.

(iv) Overall, Government of India is supporting the development of 43.8 GWh of BESS capacity by providing VGF.

(v) Details of State and UT-wise BESS capacity allocation along with proposed grant under the VGF schemes for BESS administered by MoP is placed at **Annexure-IV.**

……..3.

2. Transmission

(i) As on 30th June, 2026, Transmission System (of 220 kV and above) consists of 5,09,603 ckm of transmission lines, 14,77,951 MVA of transformation capacity and the entire country operates as an integrated national grid with inter-regional transfer capability of 1,20,340 MW.

(ii) To strengthen the transmission infrastructure in line with the growing electricity demand, the Government notified the National Electricity Plan (Volume-II: Transmission), 2024, which outlines the transmission system requirements for the period 2023–2032. The Plan envisages expansion of the transmission network to 6.48 lakh ckm by 2032 and an increase in transformation capacity to 2,345 GVA. Also, the inter-regional transmission capacity is projected to increase from 120 GW as on June 2026 to 168 GW by the year 2032.

(iii) At present, transmission systems for integrating over 500 GW of non-fossil fuel-based generation capacity have already been commissioned or are at various stages of implementation. The implementation of the transmission systems shall be taken up in a phased manner, commensurate with generation capacity addition, Resource Adequacy assessments, connectivity applications and other system requirements.

(iv) In Karnataka, the Intra-State Transmission System (InSTS) developed under Green Energy Corridor (GEC) Phase-I has been completed with Central Financial Assistance (CFA) of Rs. 326.50 crore. Further, under GEC Phase-II, the development of the InSTS of Karnataka, with an approved project cost of Rs. 1,036.25 crore, including CFA of Rs. 341.96 crore, is under implementation.

3. Distribution

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

(ii) Government of India launched the Revamped Distribution Sector Scheme (RDSS) in July 2021 with the objective of improving the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient distribution sector. 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. The scheme aims to reduce the AT&C losses to pan-India levels of 12-15% and the gap between Average Cost of Supply and Average Revenue Realised (ACS-ARR Gap) to zero by end of the scheme period.

(iii) Under RDSS, financial assistance is provided to the eligible Distribution Utilities for loss reduction and smart metering, including for consumers, feeders and distribution transformers. Under the scheme, projects have been sanctioned worth Rs. 1.53 lakh crore for loss reduction and Rs. 1.31 lakh crore for smart metering works. Sanctioned loss reduction works include replacement of bare conductors with covered conductors, Aerial Bunched (AB) cables upgradation, augmentation of distribution transformers (DT), sub-stations, segregation of mixed-load feeders, etc. Further, smart metering works have been sanctioned for 19.79 crore consumers, 2.05 lakh feeders and 52.53 lakhs distribution transformers as part of Advanced Metering Infrastructure (AMI).

(iv) The State of Karnataka has not participated under RDSS, except for household electrification works. State/ UT-wise details of sanctioned works under RDSS are placed at **Annexure-V.**

4. Other Key Reforms

(i) The Late Payment Surcharge (LPS) Rules were notified to improve the financial viability of the power sector and promote payment discipline. The Rules provided a framework for the clearance of legacy dues of generating companies, transmission licensees and trading licensees, including late payment surcharge, through equated monthly instalments. Legacy dues of around Rs. 1.4 lakh crore, outstanding as on June 2022, have since been fully cleared. The Rules also provide a framework for the time-bound clearance of current dues.

(ii) It is provided under the Electricity Rules that all prudent power procurement costs incurred by a distribution licensee for ensuring 24×7 supply of electricity to consumers and meeting the requirements of the Resource Adequacy Plan shall be allowed, provided that such power procurement has been undertaken in a transparent manner or the procurement price has been approved by the Appropriate Commission.

(iii) Consumers, along with generators, licensees, system operators, and independent storage providers, are now permitted to develop, own, lease, or operate Energy Storage Systems (ESS). It will allow entities to sell, lease, or rent energy storage capacity to other users or participants, thereby enhancing RE integration, flexibility, and efficiency in the energy sector.

(iv) Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Amendment Regulations, 2025 were notified on 10.10.2025. Central Government has issued guidelines for determination of compensation for laying Inter-State Transmission System (ISTS) lines. The reform facilitates optimization of the transmission corridor by clearly defining Right of Way (RoW) widths according to tower configuration, conductor type, and terrain conditions. This enables a reduction of approximately 20–25% in the required corridor width for 765 kV and 400 kV transmission lines, which are generally developed as part of the Inter-State Transmission System (ISTS), leading to more efficient land use and lowering overall project costs.

(v) Additional prudential norms for sanctioning loans to State-owned power utilities have been introduced, linking lending to performance targets and promoting better financial discipline. The Fuel and Power Purchase Cost Adjustment (FPPCA) mechanism has been implemented to ensure automatic pass-through in consumer tariff for the costs on account of variation in price of fuel or power purchase costs. Rules have been notified and Standard Operating Procedures have been issued for accounting of subsidies and ensuring their timely payment.

(vi) Off-stream closed-loop pumped storage schemes, irrespective of the quantum of capital expenditure, have now been exempted from the requirement of concurrence by the CEA. 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. However, developer is required to submit a certificate from the host state confirming that the water required for one-time filling and for replenishment of losses (including evaporation losses and water conductor system losses) will be provided from the host state's allocated share of water.

(d) : (i) With concerted efforts of Central and State Governments, the Aggregate Technical and Commercial (AT&C) losses at national level have reduced from 21.91% in FY2021 to 15.04% in FY2025.

(ii) Further, with adequate availability of power in the country, the requirement of electricity has been adequately met both in terms of Energy and Peak Demand with only a marginal gap. The details of actual power supply position in terms of energy and peak for last three years and the current FY 2026-27 (up to June, 2026) are as under:

Financial Year	Energy				Peak			
	Energy Requirement	Energy Supplied	Energy not Supplied		Peak Demand	Peak Met	Demand not Met	
	(MU)	(MU)	(MU)	(%)	(MW)	(MW)	(MW)	(%)
2023-24	16,26,132	16,22,020	4,112	0.3	2,43,271	2,39,931	3,340	1.4
2024-25	16,93,959	16,92,369	1,590	0.1	2,49,856	2,49,854	2	0.0
2025-26	17,07,493	17,06,985	508	0.0	2,45,444	2,45,416	28	0.0
2026-27 (up to June, 2026)	4,83,117	4,82,435	682	0.1	2,70,832	2,70,820	12	0.0

In addition, Electricity (Rights of Consumers) Rules, 2020 have been notified, which provide for SERCs to prescribe standards of performance in respect of consumer services for distribution utilities.

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ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 144 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Details of Thermal Capacity Addition Target/Achievement

Sl. No	Project Name / Implementing Agency	Sector	State	Unit No.	Capacity (MW)	Techno-logy	Pit Head / Non Pit Head	Greenfield / Brownfield	BTG - Contractor	Anticipated/ Actual Trial Run Date
F Y. 2026-27		**Sub-Total**	**6225**							
1	Buxar TPP (SJVN)	CENTRAL	Bihar	U-2	660	USC	NPH	Greenfield	EPC-L&T	Jul-26
2	Udangudi STPP St-I (TNGENCO)	STATE	Tamil Nadu	U-1	660	SC	NPH	Greenfield	EPC-BHEL	Jul-26
3	Korba TPP. Ph-II (LancoAmarkantak TPP), M/s Adani Power Ltd	PRIVATE	Chhattisgarh	U-3	660	SC	PH	Brownfield (Augm)	Non-BHEL	Jul-26
4	Malibrahamani TPP(JPL)	PRIVATE	Odisha	U-2	525	Sub-Critl	PH	Greenfield	Non-BHEL	Jul-26
5	Yadadri TPS (TSGENCO)	STATE	Telangana	U-5	800	SC	PH	Greenfield	EPC-BHEL	Oct-26
6	Udangudi STPP St-I (TNGENCO)	STATE	Tamil Nadu	U-2	660	SC	NPH	Greenfield	EPC-BHEL	Dec-26
7	Mahan STPP,St-II (Mahan Energen)	PRIVATE	M. P.	U-3	800	USC	NPH	Brownfield (Augm)	BTG-BHEL(Sply)	Jan-27
8	Patratu STPP (PVUNL)	CENTRAL	Jharkhand	U-3	800	USC	PH	Greenfield	EPC-BHEL	Mar-27
9	Korba TPP. Ph-II (LancoAmarkantak TPP), M/s Adani Power Ltd	PRIVATE	Chhattisgarh	U-4	660	SC	PH	Brownfield (Augm)	Non-BHEL	Mar-27
F Y. 2027-28		**Sub-Total**	**4980**							
10	Ennore SCTPP (TANGEDCO)	STATE	Tamil Nadu	U-1	660	SC	NPH	Brownfield (Augm)	EPC-BHEL	Jun-27
11	Mahan STPP,St-II (Mahan Energen)	PRIVATE	M. P.	U-4	800	USC	NPH	Brownfield (Augm)	BTG-BHEL(Sply)	Jun-27
12	Singhitarai TPP(M/s Vedanata)	PRIVATE	Chhattisgarh	U-2	600	Sub-Critl	PH	Greenfield	Non-BHEL	Jul-27
13	Ennore SCTPP (TANGEDCO)	STATE	Tamil Nadu	U-2	660	SC	NPH	Brownfield (Augm)	EPC-BHEL	Aug-27
14	Talcher TPP St-III (NTPC)	CENTRAL	Odisha	U-1	660	USC	PH	Brownfield (Repl)	EPC-BHEL	Nov-27
15	Raipur Ext TPP, Ph-II /Adani Power	PRIVATE	Chhattisgarh	U-3	800	USC	NPH	Brownfield (Augm)	BTG-BHEL(Sply)	Jan-28
16	Raigarh USCTPP, St-II/ Adani Power	PRIVATE	Chhattisgarh	U-2	800	USC	PH	Brownfield (Augm)	BTG-BHEL(Sply)	Jan-28
F Y. 2028-29		**Sub-Total**	**8320**							
17	Talcher TPP St-III (NTPC)	CENTRAL	Odisha	U-2	660	USC	PH	Brownfield (Repl)	EPC-BHEL	May-28
18	Lara STPP St-II (NTPC)	CENTRAL	Chhattisgarh	U-3	800	USC	PH	Brownfield (Augm)	EPC-BHEL	May-28
19	Raipur Ext TPP, Ph-II /Adani Power	PRIVATE	Chhattisgarh	U-4	800	USC	NPH	Brownfield (Augm)	BTG-BHEL(Sply)	Jul-28
20	Raigarh USCTPP, St-II/ Adani Power	PRIVATE	Chhattisgarh	U-3	800	USC	PH	Brownfield (Augm)	BTG-BHEL(Sply)	Jul-28
21	Koderma TPS, St-II/ DVC	CENTRAL	Jharkhand	U-3	800	USC	PH	Brownfield (Augm)	EPC-BHEL	Aug-28
22	Lara STPP St-II (NTPC)	CENTRAL	Chhattisgarh	U-4	800	USC	PH	Brownfield (Augm)	EPC-BHEL	Nov-28
23	Koderma TPS, St-II/ DVC	CENTRAL	Jharkhand	U-4	800	USC	PH	Brownfield (Augm)	EPC-BHEL	Dec-28
24	Raghunathpur TPS, Ph-II/DVC	CENTRAL	W. B.	U-3	660	SC	PH	Brownfield (Augm)	BTG-BHEL	Dec-28
25	Akaltara TPP(JSW Energy)	PRIVATE	Chhattisgarh	U-5	600	Sub-Critl	PH	Brownfield (Augm)	Non-BHEL	Dec-28

26	SingareniTPP,Ph-II/SCCL	STATE	Telangana	U-3	800	USC	NPH	Brownfield (Augm)	EPC-BHEL	Feb-29
27	Mirzapur TPP/Adani Power	PRIVATE	U.P.	U-1	800	USC	PH	Greenfield	BTG-BHEL(Sply)	Mar-29
F Y. 2029-30		**Sub-Total**	**17820**							
28	Raghunathpur TPS, Ph-II/DVC	CENTRAL	W. B.	U-4	660	SC	PH	Brownfield (Augm)	BTG-BHEL	Apr-29
29	KoradiTPS,St-V (MSPGCL)	STATE	Maharashtra	U-11	660	SC	PH	Brownfield (Augm)	BTG-BHEL	May-29
30	Annupur TPP/Adani Power	PRIVATE	M. P.	U-1	800	USC	PH	Greenfield	BTG-BHEL(Sply)	May-29
31	Pirpainti USCTPP/ Adani Power	PRIVATE	Bihar	U-1	800	USC	PH	Greenfield	BTG-LnT(Sply)	Jun-29
32	Singrauli STPP, St-III (NTPC)	CENTRAL	UP	U-8	800	USC	PH	Brownfield (Augm)	EPC-BHEL	Jul-29
33	Korba(W) SCTPP (CSPGCL)	STATE	Chhattisgarh	U-1	660	SC	PH	Brownfield (Augm)	EPC-BHEL	Jul-29
34	Mahan STPP,St-III (Mahan Energen)	PRIVATE	M. P.	U-5	800	USC	PH	Brownfield (Augm)	BTG-BHEL(Sply)	Aug-29
35	Nabinagar STPP, St-II (NTPC)	CENTRAL	Bihar	U-4	800	USC	NPH	Brownfield (Augm)	BTG-L&T	Sep-29
36	Mirzapur TPP/Adani Power	PRIVATE	U.P.	U-2	800	USC	PH	Greenfield	BTG-BHEL(Sply)	Sep-29
37	DCR TPP Ext., /HPGCL	STATE	Haryana	U-1	800	USC	NPH	Brownfield (Augm)	EPC-BHEL	Sep-29
38	Ukai TPP/GSECL	STATE	Gujarat	U-7	800	SC	NPH	Brownfield (Replcmnt)	EPC-BHEL	Sep-29
39	Sipat STPP, St-III (NTPC)	CENTRAL	Chhattisgarh	U-6	800	USC	PH	Brownfield (Augm)	EPC-BHEL	Nov-29
40	Gadarwara STPP, Ph-II(NTPC)	CENTRAL	M. P.	U-3	800	USC	NPH	Brownfield (Replcmnt)	BTG-L&T	Nov-29
41	Akaltara TPP(JSW Energy)	PRIVATE	Chhattisgarh	U-1	600	Sub-Critl	PH	Brownfield (Augm)	Non-BHEL	Sep-29
42	KoradiTPS,St-V (MSPGCL)	STATE	Maharashtra	U-12	660	SC	PH	Brownfield (Augm)	BTG-BHEL	Nov-29
43	Annupur TPP/Adani Power	PRIVATE	M. P.	U-2	800	USC	PH	Greenfield	BTG-BHEL(Sply)	Nov-29
44	Pirpainti USCTPP/ Adani Power	PRIVATE	Bihar	U-2	800	USC	PH	Greenfield	BTG-LnT(Sply)	Dec-29
45	Akaltara TPP(JSW Energy)	PRIVATE	Chhattisgarh	U-6	600	Sub-Critl	PH	Brownfield (Augm)	Non-BHEL	Dec-29
46	Korba(W) SCTPP (CSPGCL)	STATE	Chhattisgarh	U-2	660	SC	PH	Brownfield (Augm)	EPC-BHEL	Jan-30
47	Mahan STPP,St-III (Mahan Energen)	PRIVATE	M. P.	U-6	800	USC	PH	Brownfield (Augm)	BTG-BHEL(Sply)	Feb-30
48	TALABIRA TPP (NLC)	CENTRAL	Odisha	U-1	800	USC	PH	Greenfield	EPC-BHEL	Feb-30
49	Nabinagar STPP, St-II (NTPC)	CENTRAL	Bihar	U-5	800	USC	NPH	Brownfield (Augm)	BTG-L&T	Mar-30
50	AmarkantakTPS,St-IV (MPPGCL)	STATE	M. P.	U-6	660	USC	PH	Brownfield (Replcmnt)	EPC-BHEL	Mar-30
51	Satpura TPS, St-V (MPPGCL)	STATE	M. P.	U-12	660	USC	NPH	Brownfield (Replcmnt)	EPC-BHEL	Mar-30
F Y. 2030-31		**Sub-Total**	**7200**							
52	Singrauli STPP, St-III (NTPC)	CENTRAL	UP	U-9	800	USC	PH	Brownfield (Augm)	EPC-BHEL	Apr-30
53	Gadarwara STPP, Ph-II(NTPC)	CENTRAL	M. P.	U-4	800	USC	NPH	Brownfield (Replcmnt)	BTG-L&T	May-30
54	Pirpainti USCTPP/ Adani Power	PRIVATE	Bihar	U-3	800	USC	PH	Greenfield	BTG-LnT(Sply)	Jun-30
55	TALABIRA TPP (NLC)	CENTRAL	Odisha	U-2	800	USC	PH	Greenfield	EPC-BHEL	Aug-30
56	Nabinagar STPP, St-II (NTPC)	CENTRAL	Bihar	U-6	800	USC	NPH	Brownfield (Augm)	BTG-L&T	Sep-30
57	AnnupurTPP,Ph-II/MB Power	PRIVATE	M. P.	U-1	800	USC	PH	Brownfield (Augm)	BTG-BHEL	Jan-31
58	Telangana STPP,St-II/NTPC	CENTRAL	Telangana	U-3	800	USC	PH	Brownfield (Augm)	BTG-BHEL	Jan-31
59	TALABIRA TPP (NLC)	CENTRAL	Odisha	U-3	800	USC	PH	Greenfield	EPC-BHEL	Feb-31
60	Darlipalli STPP, St-II (NTPC)	CENTRAL	Odisha	U-3	800	USC	PH	Brownfield (Augm)	EPC-BHEL	Mar-31

F Y. 2031-32		Sub-Total	3000							
61	Annupur TPP/Adani Power	PRIVATE	M. P.	U-3	800	USC	PH	Greenfield	BTG-LnT(Sply)	May-31
62	Telangana STPP,St-II/NTPC	CENTRAL	Telangana	U-4	800	USC	PH	Brownfield (Augm)	BTG-BHEL	Jul-31
63	Telangana STPP,St-II/NTPC	CENTRAL	Telangana	U-5	800	USC	PH	Brownfield (Augm)	BTG-BHEL	Jan-32
64	Binjkote TPP(Sharda Energy)	PRIVATE	Chhattisgarh	U-3	300	Sub-Critl	PH	Brownfield (Augm)	Non-BHEL	Feb-32
65	Binjkote TPP(Sharda Energy)	PRIVATE	Chhattisgarh	U-4	300	Sub-Critl	PH	Brownfield (Augm)	Non-BHEL	Mar-32
			Grand Total		**47545**					

List of Thermal power projects awarded and due for construction

Sl.No	Name of Project	Sector	Developer	State	Total Capacity (in MW)
1	Meja-II	Central	NTPC-UP-JV	Uttar Pradesh	2400
2	Durgapur TPS Ph-III	Central	DVC	West Bengal	800
3	Salboni STPP Ph-I	Private	JSW	West Bengal	1600
4	Salboni STPP Ph-II	Private	JSW	West Bengal	1600
5	Kawai	Private	Adani	Rajasthan	3200
6	Chapar Ultra Supercritical TPP	Private	Adani Power	Assam	3200
7	Newzone TPP	Private	Torrent Power	Madhya Pradesh	1600
8	Korba Power Limited Ph-III	Private	Adani Power	Chhattisgarh	1600
				TOTAL	**16,000**

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ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 144 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Thermal Units commissioned during the last 3 years

State	FY	Sector	Project Name	Implementing Agency	Fuel	Unit No	Capacity added (MW)	Commission-ing Date
Andhra Pradesh	2023-24	State	Dr.Narla Tata Rao TPS St-V	APGENCO	Coal	U-8	800	20-12-2023
Andhra Pradesh	2025-26	Private	Meenakshi Energy Ltd. (Thammina-patanam TPP) / Vedanta Ltd.	Vedanta Ltd	Coal	U-3	350	05-07-2025
Andhra Pradesh	2025-26	Private	Meenakshi Energy Ltd. (Thammina-patanam TPP) / Vedanta Ltd.	Vedanta Ltd	Coal	U-4	350	21-08-2025
Bihar	2023-24	Central	Barh STPP St-I	NTPC	Coal	U-2	660	30-06-2023
Bihar	2025-26	Central	Barh STPP , St-I	NTPC	Coal	U-3	660	05-06-2025
Bihar	2025-26	Central	Buxar TPP (SJVN)	SJVN	Coal	U-1	660	05-11-2025
Chhattisgarh	2025-26	Private	Vedanta Ltd Chhattisgarh TPP	Vedanta Ltd	Coal	U-1	600	19-07-2025
Jharkhand	2023-24	Central	North Karanpura STPP	NTPC	Coal	U-2	660	28-02-2024
Jharkhand	2025-26	Central	North Karanpura STPP	NTPC	Coal	U-3	660	14-04-2025
Jharkhand	2025-26	Central	Patratu STPP (PVUNL)	PVUNL	Coal	U-1	800	16-10-2025
Karnataka	2024-25	State	Yelahanka CCPP	KPCL	Gas	GT+ ST	370	10-01-2025
Maharashtra	2023-24	Private	Shirpur Power Pvt. Ltd.	M/s Jindal Power Ltd.	Coal	U-2	150	22-11-2023
Maharashtra	2024-25	State	Bhusawal TPP	MAHAGENCO	Coal	U-6	660	21-02-2025
Odisha	2024-25	Private	Maadurga Thermal Power Company Ltd	MTPCL	coal	U-2	30	19-08-2024
Odisha	2024-25	Private	Maadurga Thermal Power Company Ltd	MTPCL	coal	U-1	30	23-09-2024
Odisha	2025-26	Private	JSW Energy Utkal Limited	JSWEUL	Coal	U-2	350	01-04-2025
Tamil Nadu	2025-26	State	North Chennai TPP St-III	TNPGCL	Coal	U-6	800	24-01-2026
Telangana	2023-24	Central	Telangana STPP St-I	NTPC	Coal	U-1	800	05-09-2023
Telangana	2023-24	Central	Telangana STPP St-I	NTPC	Coal	U-2	800	11-02-2024
Telangana	2024-25	State	Yadadari TPS	TGGENCO	coal	U-2	800	25-01-2025
Telangana	2025-26	State	Yadadari TPS	TGGENCO	Coal	U-1	800	12-07-2025
Telangana	2025-26	State	Yadadari TPS	TGGENCO	Coal	U-4	800	08-01-2026
Uttar Pradesh	2023-24	State	Obra-C STPS	UPRVUNL	Coal	U-1	660	02-02-2024

Uttar Pradesh	2023-24	State	Jawaharpur STPP	UPRVUNL	Coal	U-1	660	09-02-2024
Uttar Pradesh	2024-25	Central	Ghatampur TPP	NUPPL	coal	U-1	660	03-12-2024
Uttar Pradesh	2024-25	State	Jawaharpur STPP	UPRVUNL	coal	U-2	660	23-12-2024
Uttar Pradesh	2024-25	Central	Khurja STPP	THDC	coal	U-1	660	23-01-2025
Uttar Pradesh	2024-25	State	Panki TPP	UPRVUNL	Coal	U-1	660	25-02-2025
Uttar Pradesh	2025-26	State	Obra-C STPS	UPRVUNL	Coal	U-2	660	16-06-2025
Uttar Pradesh	2025-26	Central	Khurja SCTPP (THDC)	THDC	Coal	U-2	660	22-09-2025
Uttar Pradesh	2025-26	Central	Ghatampur TPP	NUPPL	Coal	U-2	660	23-11-2025
Uttrakhand	2023-24	Private	Kashipur CCPP, Ph-II (M/s SEPL)	SEPL	Gas	Mod -2	214	13-06-2023
West Bengal	2025-26	State	Sagardighi TPP	WBPDCL	Coal	U-5	660	15-03-2026
					Total		**19404**	

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ANNEXURE-III

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 144 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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HYDRO CAPACITY ADDITION DURING THE YEAR 2023 - 24						
Sl. No.	**Name of Project/Executing Agency I.C. (No.xMW)**	**Sector**	**Unit No.**	**Capacity (MW)**		**Date of Commissioning**
	Uttarakhand					
1	**Naitwar Mori, SJVNL**	**Central**	**1**	**30**		24.11.2023
	2x30		**2**	**30**		04.12.2023
	Sub-total:			**60**		
	Total: (2023-24)			**60**		

HYDRO CAPACITY ADDITION DURING THE YEAR 2024 - 25						
Sl. No.	**Name of Project/Executing Agency I.C. (No.xMW)**	**Sector**	**Unit No.**	**Capacity (MW)**		**Date of Commissioning**
	Himachal Pradesh					
1	**Parbati(NHPC)**	**Central**	**2**	**200**		24.03.2025
	4x200		**3**	**200**		26.03.2025
			1	**200**		28.03.2025
2	**UHL-III (BVPCL)**	**State**	**1**	**33.33**		28.02.2025
	3x33.33		**2**	**33.33**		05.03.2025
			3	**33.33**		03.03.2025
	Sub-total:			**700**		
	Kerala					
1	**Thottiyar (KSEB)**	**State**	**1**	**10**		18.10.2024
	1x10+1x30		**2**	**30**		
2	**Pallivasal (KSEB)**	**State**	**1**	**30**		24.12.2024
	1x30+1x30		**2**	**30**		24.12.2024
	Sub-total:			**100**		
	Total (2024 -25)			**800**		

HYDRO CAPACITY ADDITION DURING THE YEAR 2025 - 26

Sl. No.	**Name of Project/Executing Agency I.C. (No.xMW)**	**Sector**	**Unit No.**	**Capacity (MW)**		**Date of Commissioning**
	Himachal Pradesh					
1	**Parbati(NHPC)**	**Central**	**4**	**200**		13.04.2025
	4x200					

2	**Kutehr(JSW)**	**Private**	**1**	**80**		05.08.2025
	3x80 = 240		**2**	**80**		31.07.2025
			3	**80**		08.08.2025
	Sub-total:			**440**		
	Arunachal Pradesh					
1	**Subansiri Lower (NHPC)**	**Central**	**2**	**250**		18.12.2025
	8x250 = 2000		**3**	**250**		24.01.2026
			1	**250**		28.02.2026
	Sub-total:			**750**		

	Uttarakhand					
1	**Tehri PSP(THDC)**	**Central**	**1**	**250**		05.06.2025
	4x250 = 1000		**2**	**250**		05.07.2025
			3	**250**		10.12.2025
	Sub-total:			**750**		
	Andhra Pradesh					
1	**Pinnapuram PSP(Greenco)**	**Private**	**1**	**240**		04.06.2025
	6x240+2x120 = 1680		**2**	**240**		27.05.2025
			3	**240**		30.05.2025
			4	**240**		27.06.2025
			5	**240**		23.10.2025
			6	**240**		24.06.2025
			7	**120**		14.08.2025
			8	**120**		14.08.2025
	Sub-total:			**1680**		
	Total (2025 -26)			**3620**		

HYDRO CAPACITY ADDITION DURING THE YEAR 2026 - 27						
Sl. No.	**Name of Project/Executing Agency I.C. (No.xMW)**	**Sector**	**Unit No.**	**Capacity (MW)**		**Date of Commissioning**
	Uttarakhand					
1	**Tehri PSP(THDC)**	**Central**	**4**	**250**		09.04.2026
	4x250 = 1000					
	Sub-total:			**250**		

	Arunachal Pradesh					
1	**Subansiri Lower (NHPC)**	**Central**	**4**	**250**		01.05.2026
	8x250 = 2000					
	Sub-total:			**250**		
	Himachal Pradesh					
1	**Tidong I(JSW)**	**Private**	**1**	**50**		08.05.2026
	3x50=150		**2**	**50**		12.06.2026
			3	**50**		07.06.2027
	Sub-total:			**150**		
	Total (2026 -27)			**650**		
	Grand Total (2023-24 to 30.06.2026)			**5130**		

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ANNEXURE-IV

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 144 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Sl.No.	State/UT	Total Capacity Allocation (In MWh)	Total VGF to be disbursed (Rs in Crs.)
1	Rajasthan	6000	1260
2	Gujarat	5000	990
3	Maharashtra	4500	855
4	TamilNadu	2500	540
5	Karnataka	3000	630
6	Andhra Pradesh	3000	630
7	Madhya Pradesh	1500	270
8	Telangana	1500	270
9	Uttar Pradesh	4000	945
10	Haryana	530	95.4
11	Kerala	1500	360
12	Punjab	500	90
13	Chhattisgarh	500	90
14	Odisha	500	90
15	Uttarakhand	500	90
16	Bihar	500	135
17	MP-UPJoint	1130	135.6
18	NVVN(Market Component	1000	460
19	SECI(Market Component	1200	324
20	NTPC	5000	900
	TOTAL	**43860**	**9160**

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ANNEXURE-V

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 144 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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State/UT-wise sanctioned cost under RDSS

(inRs. Cr.)

State/UTs	Sanctioned Cost of Distribution Infrastructure Works	Sanctioned Cost of Smart Metering Works	Total Sanctioned Project Cost
Andaman & Nicobar Islands	462	54	516
Andhra Pradesh	10,708	4,128	14,838
Arunachal Pradesh	1,042	184	1,226
Assam	3,395	4,050	7,444
Bihar	10,559	2,021	12,580
Chhattisgarh	4,021	4,105	8,126
Delhi	324	13	337
Goa	247	469	716
Gujarat	6,089	10,642	16,731
Haryana	6,794	-	6,794
Himachal Pradesh	2,327	1,788	4,116
Jammu & Kashmir	5,034	1,064	6,098
Jharkhand	3,468	858	4,326
Karnataka	45	-	45
Kerala	3,108	8,231	11,339
Ladakh	876	-	876
Madhya Pradesh	9,738	8,911	18,649
Maharashtra	17,238	15,215	32,453
Manipur	627	121	748
Meghalaya	1,232	310	1,542
Mizoram	322	182	503
Nagaland	466	208	674
Puducherry	84	251	335
Punjab	3,873	5,769	9,642
Rajasthan	18,693	9,715	28,408
Sikkim	420	97	518
Tamil Nadu	9,568	19,235	28,803
Telangana	120	-	120
Tripura	598	319	917
Uttar Pradesh	21,782	18,956	40,739
Uttarakhand	2,371	1,106	3,477
West Bengal	7,223	12,670	19,893
Grand Total:	**1,52,854**	**1,30,671**	**2,83,525**

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.145
ANSWERED ON 20.07.2026

SMARTMETERINSTALLATIONPROGRESSINWEST BENGAL

145. SHRIBISWAJITSINHA(RAHULSINHA):

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

(a) whether West Bengal has installed only 5,45,586 of 2,07,17,969 sanctioned consumer smart meters, a mere 2.63 per cent, as on 31st December, 2025, making it the worst-performingStateamongallStates;

(b) district-wise status of smart meter installation in West Bengal, including consumer meters, distribution transformer meters and feeder meters and the districts where installation progress is below even the State average of 2.63 per cent; and

(c) updated installation figures following Power Minister's visit to West Bengal in May, 2026 and the specific district-wise targets and monthly milestones committed to by the newState Government for smart meter deployment?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) to (c): Under Revamped Distribution Sector Scheme (RDSS), West Bengal has awarded contracts for 40,35,262 smart meters in the initial phase against sanctioned 2,10,35,262 smart meters. Progress as on 30.06.2026 is as below:

Category	**Sanctioned (Nos.)**	**Awarded (nos.)**	**Installed (Nos.)**	**Installed (%)**
Consumer	2,07,17,969	37,17,969	6,02,982	2.91%
DT	3,05,419	3,05,419	86,772	28.41%
Feeder	11,874	11,874	11,917	100%
Total	**2,10,35,262**	**40,35,262**	**7,01,671**	**3.34%**

District wise details are enclosed at **Annexure-I**.

In addition, as informed by the State, smart meters are also being installed for 4.8 lakh consumers through World Bank funding, out of which 77,760 Nos. have been installed. Details, as provided by State, are enclosed at **Annexure-II.**

During the Union Power Minister’s visit to West Bengal in May 2026, theState committed to complete the installation of all currently awarded smart meters by November 2027.

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ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 145 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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District wise details of smart metering works under RDSS

District	Consumer Metering			DT Metering			Feeder Metering		
	Sanctioned (Nos)	Installed (Nos)	Installed (%)	Sanctioned (Nos)	Installed (Nos)	Installed (%)	Sanctioned (Nos)	Installed (Nos)	Installed (%)
24 PGS (North)	17,00,280	3,02,711	17.80%	18,313	12,771	70%	879	911	104%
24 PGS (South)	18,96,986	13,734	0.72%	18,411	-	0%	777	836	108%
Alipurduar	4,08,578	4,352	1.07%	3,863	-	0%	202	182	90%
Bankura	7,83,395	11,468	1.46%	15,099	4,231	28%	529	488	92%
Bidhan Nagar	6,85,815	10,253	1.50%	5,990	-	0%	857	1,072	125%
Birbhum	7,83,437	9,777	1.25%	20,687	-	0%	625	566	91%
Cooch Behar	7,13,010	7,087	0.99%	9,383	-	0%	426	290	68%
DakshinDinajpur	4,22,269	3,339	0.79%	10,954	-	0%	228	212	93%
Darjeeling	5,71,105	7,826	1.37%	6,020	-	0%	568	588	104%
Hooghly	15,96,183	14,661	0.92%	19,302	9,510	49%	829	690	83%
Howrah	11,68,460	15,948	1.36%	8,686	7,615	88%	588	659	112%
Jalpaiguri	5,58,971	5,712	1.02%	8,404	-	0%	229	316	138%
Jhargram	1,01,212	4,259	4.21%	5,217	4,672	90%	182	155	85%
Kalimpong	90,798	692	0.76%	717	-	0%	76	29	38%
Malda	9,82,963	8,351	0.85%	13,954	-	0%	406	390	96%
Murshidabad	16,65,836	16,411	0.99%	23,835	-	0%	693	720	104%
Nadia	11,00,554	85,285	7.75%	15,801	15,126	96%	481	601	125%
PaschimBurdwan	5,62,628	5,301	0.94%	7,778	36	0%	565	524	93%
PaschimMidnapur	10,73,838	14,107	1.31%	30,999	14,579	47%	888	726	82%
PurbaBurdwan	14,53,372	34,974	2.41%	24,067	14,830	62%	769	767	100%
PurbaMedinipur	14,66,227	13,602	0.93%	21,738	-	0%	413	589	143%
Purulia	2,53,255	6,911	2.73%	7,326	3,402	46%	366	317	87%
Uttar Dinajpur	6,78,797	6,221	0.92%	8,875	-	0%	298	289	97%
Total	**2,07,17,969**	**6,02,982**	**2.91%**	**3,05,419**	**86,772**	**28.41%**	**11,874**	**11,917**	**100%**

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ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 145 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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District wise Smart Meter Installation under World Bank Funding

Region	Scope	Total Installed	Percentage of Installation (%)
Bidhannagar	2,88,713	42,401	14.69
Hooghly	1,92,077	35,359	18.41

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.146
ANSWERED ON 20.07.2026

SMART METERING AND CONSUMER BILLING IN ODISHA

146. SHRI SUBHASISH KHUNTIA:

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

(a) the district-wise details of consumer grievances relating to smart metering and electricity billing in the State of Odisha;

(b) whether instances of inaccurate billing, disputed arrears or faulty smart meters have been reported under the Revamped Distribution Sector Scheme and, if so, the details thereof; and

(c) whether any guidelines have been issued for billing verification, consumer protection and grievance redressal and, if so, the details thereof, and if not, the reasons therefor?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): Electricity being a concurrent subject, supply and distribution of electricity to consumers is within the purview of the respective State Government/ distribution utility. Consumer grievances relating to metering and billing are dealt with by the concerned distribution utilities which function under the guidance of the State Electricity Regulatory Commission and the State Government.

As per the Revamped Distribution Sector Scheme (RDSS) guidelines, all State-owned Distribution Companies (DISCOMs) and State/ UT Power Departments, are eligible for financial assistance under the scheme. All four DISCOMs of Odisha fall under the category of private sector and, hence, no smart metering works have been sanctioned for the State of Odisha under RDSS.

(b) & (c): Government of India launched the Revamped Distribution Sector Scheme (RDSS) in July 2021 with the objective of improving the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient distribution sector. Installation of smart meters for consumers and system (feeder and distribution transformer) metering is an important intervention under the scheme, which leads to improved financial discipline of distribution utilities through increased collection efficiency and better energy accounting. Under the scheme, smart metering works for 19.79 crore consumers, 2.05 lakh feeders and 52.53 lakh Distribution Transformers (DTs), totalling 20.33 crore smart meters, have been sanctioned based on the proposals submitted by the States/ distribution utilities, and 5.73 crore smart meters have been installed. In total, 7.24 crore smart meters have been installed across the country under various schemes, including States' own schemes.

……..2.

The benefits provided by smart meters for consumers include accurate billing due to elimination of manual meter reading errors, greater transparency, mobile application-based consumption monitoring and enablement of Time-of-Day consumption.

Further, Government of India has issued various guidelines, advisories and Standard Operating Procedures (SoPs) to enhance billing accuracy, consumer protection and grievance redressal, which, inter alia, include the following:

i. Smart meters are required to adhere to the relevant technical and quality standards as per the BIS (Bureau of Indian Standards) certification.

ii. Installation of check meters to verify the readings of smart meters on a random basis and mandatory installation in case of consumer complaints.

iii. No penalty on consumers based on maximum demand recorded by smart meters; and a mechanism for recovery of past arrears in easy instalments.

iv. Smart meter mobile applicationsfor consumption monitoring, convenience of recharge in small denominations, and advance alerts for low balance and emergency credit.

v. Provisions for multiple recharge options, consumer feedback mechanism, effective complaint resolution mechanism and comprehensive consumer engagement campaigns.

The distribution utilities provide internal grievance redressal mechanisms to resolve complaints related to metering, billing, etc. In addition to this, a multi-tier structure for Consumer Grievance Redressal Forum (CGRF) has been established by the Distribution Utility/ State as per the provisions of Electricity (Rights of Consumers) Rules, 2020. If a consumer is dissatisfied with the resolution provided by the utility, the consumer may approach the CGRF and, thereafter, the Electricity Ombudsman, for resolution. As per the Rules, the Electricity Regulatory Commissions are also required to notify standards of performance for the utilities, which specify the time periods for resolution of various electricity related complaints.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.147
ANSWERED ON 20.07.2026

SUSTAIN POWER SUPPLY

147. SHRI S. KALYANASUNDARAM:

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

(a) whether Government has reviewed the current status of power generation, transmission and grid stability in States facing peak demand, including Tamil Nadu;

(b) the details of funds sanctioned, released and utilised under schemes such as Revamped Reforms-Based & Results-Linked Distribution Sector Scheme (RDSS) for strengthening State power distribution infrastructure;

(c) the steps being taken to address power outages, renewable integration challenges and tariff sustainability while ensuring reliable supply; and

(d) the measures proposed to accelerate renewable energy generation, storage solutions and grid modernization to meet future demand and climate goals, particularly in energy intensive southern States?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (c): Ministry of Power regularly reviews the status of power supply across the country including Tamil Nadu.There is adequate availability of power in the country. Present installed generation capacity of the country is 548.86 GW (as on June, 2026). The country has addressed the critical issue of power deficiency by adding 324.7 GW of generation capacity since April, 2014 transforming the country from power deficit to power sufficient. Further, as on 30.05.2026, addition of 2,17,199 circuit kilometre (ckm) of Transmission lines, 9,38,495 MVA of Transformation capacity and 84,390 MW of Inter-Regional capacity has been done since 2014. Thus, total inter-regional transmission capacity has become 1,20,340 MW, enabling reliable transfer of power across regions.

The state- wise & month wise 'Power Supply Position' including the State of Tamil Nadu in terms of energy and peak for FY 2026-27 (up to June, 2026) is given at **Annexure-I**.

The various steps taken to address power outage, renewable energy integration challenges, grid stability and tariff sustainability are as follows:

(i) Transmission system has been planned for integration of over 500 GW RE capacity by the year 2030. The transmission schemes associated with RE generation projects are being taken up for implementation in a phased manner commensurate with the RE Capacity addition.

(ii) Development of intra-state transmission network is being planned to keep pace with RE capacity addition. Strong inter connection of Inter-State Transmission System (ISTS) RE schemes with the intra-state network to ensure better reliability in terms of anchoring voltage stability, angular stability, losses reduction etc. is being done.

(iii) 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.

(iv) Setting up of Regional Energy Management Centers (REMCs) for better forecasting of renewable power and to assist grid operators to manage variability and intermittency of renewable power.

(v) Innovative products like Solar-Wind Hybrid Projects, RE projects with energy storage systems launched to reduce intermittency.

(vi) Implementation of Green Term Ahead Market (GTAM) and Green Day Ahead Market (GDAM) for sale of renewable energy.

(vii) Flexibilization of thermal generation is mandated to address the variability of RE generation.

(viii) 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 / Regional Load DespatchCentres (RLDCs) before granting connectivity/interconnection to the national grid. Robust compliances verification is done before interconnection of any new plant to the grid.

(ix) 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.

(x) A number of state-of– the art Static Synchronous Compensators (STATCOM) and Static VAR Compensator (SVC) are being deployed to dynamically adjust the reactive power flow in the grid for maintaining stable voltage levels.

(xi) Automatic Generation Control (AGC) is being utilized to maintain frequency stability by sending Secondary Reserve Ancillary Services (SRAS) Up or Down signals every four (04) seconds to AGC-enabled power plants.

(xii) Market-based Tertiary Reserve Ancillary Services (TRAS) for addressing real-time demand–supply imbalances.

(xiii) The generators with high ramp rate (e.g. hydro or gas) are also scheduled optimally to maintain load generation balance.

(xiv) CEA has issued an advisory for implementation of 100% Grid Forming Invertors (GFMs) in all upcoming BESS projects, which helps in improving the stability in RE complexes and also provide black start support.

(xv) Budgetary Support is being provided for Flood Moderation/Storage Hydro Electric Projects (HEPs).

(xvi) Budgetary Support for cost of enabling infrastructure, i.e. roads, bridges, railway siding, transmission system etc. is being provided to Hydro Electric/ PSP projects.

(xvii) Procurement through tariff-based bidding has led to competitive discovery of prices for renewable based generation.

(b): 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.

State-wise details of funds sanctioned, released and utilized under RDSS are given at **Annexure-II**.

(d) : Government of India has taken various steps and initiatives to promote and accelerate renewable energy generation in the country and grid modernization, including for southern States. 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) Foreign Direct Investment (FDI) has been permitted up to 100 percent under the automatic route.

(iv) 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

(v) To augment transmission infrastructure needed for steep RE trajectory, transmission plan has been prepared till 2032 and is updated on regular basis.

(vi) 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).

(vii) 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.

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

Also, Government of India has taken number of measures to promote storage solutions in the country including southern States, details of these measures are given below:

(i) Ministry of Power (MoP) has notified Electricity (Amendment) Rules 2022, ESS for enabling Energy Storage System (ESS).

(ii) MoP in March, 2022 notified the Guidelines for Procurement and Utilization of Battery Energy Storage Systems as part of Generation, Transmission and Distribution assets, along with Ancillary Services.

(iii) MoP has notified Guidelines to promote development of Pumped Storage Projects in the country on 10th April, 2023.

(iv) MoP, vide order dated 01.08.2025, has increased the limit for concurrence of hydro generating stations, off- stream open loop and on-stream PSP by Central Electricity Authority from ₹1,000 crore to ₹3,000 crore. Further, off-stream closed loop PSPs has been exempted from the requirement of concurrence from the Authority.

(v) Tariff Based Competitive Bidding (TBCB) guidelines have been issued for procurement of power from Pumped Storage Projects.

(vi) Central Electricity Authority (CEA) issued an advisory on 18.02.2025 recommending the co-location of Energy Storage Systems (ESS) with solar power projects to enhance grid stability and cost efficiency.

(vii) CEA (Measures Relating to Safety and Electric Supply) (First Amendment) Regulations, 2025 has been notified on 30.03.2026, which includes the safety requirements for BESS.

(viii) CEA's (Technical Standards for Construction of Electrical Plants and Electric Lines) Amendment Regulations, 2026 has been notified to specify the construction standards for BESS.

(ix) Details of BESS capacity allocated to Southern States under the above said VGF Schemes for implementation is given at **Annexure-III**.

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ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PARTS (a) & (c) OF UNSTARRED QUESTION NO. 147 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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The state- wise & month wise 'Power Supply Position' including the State of Tamil Nadu in terms of energy and peak for FY 2026-27 (upto June, 2026):

State/ System / Region	April, 2026							
	Energy Requirement	Energy Supplied	Energy not Supplied		Peak Demand	Peak Met	Demand not Met	
	(MU)	(MU)	(MU)	(%)	(MW)	(MW)	(MW)	(%)
Chandigarh	138	138	0	0.0	340	340	0	0.0
Delhi	3,188	3,187	1	0.0	7,091	7,091	0	0.0
Haryana	5,314	5,292	22	0.4	11,018	11,018	0	0.0
Himachal Pradesh	924	921	3	0.3	1,839	1,839	0	0.0
Jammu & Kashmir	1,548	1,544	4	0.3	2,715	2,715	0	0.0
Punjab	5,249	5,140	109	2.1	11,863	11,863	0	0.0
Rajasthan	7,862	7,862	0	0.0	14,825	14,825	0	0.0
Uttar Pradesh	13,779	13,776	3	0.0	29,932	29,475	457	1.5
Uttarakhand	1,337	1,310	27	2.0	2,691	2,536	155	5.8
Northern Region	**39,473**	**39,306**	**167**	**0.4**	**76,862**	**76,611**	**251**	**0.3**
Chhattisgarh	4,653	4,642	11	0.2	7,080	7,078	2	0.0
Gujarat	14,049	14,049	0	0.0	25,795	25,786	9	0.0
Madhya Pradesh	8,841	8,841	0	0.0	14,375	14,375	0	0.0
Maharashtra	18,933	18,923	10	0.1	32,161	32,161	0	0.0
Dadra & Nagar Haveli and Daman & Diu	843	843	0	0.0	1,284	1,284	0	0.0
Goa	525	525	0	0.0	891	891	0	0.0
Western Region	**49,140**	**49,119**	**21**	**0.0**	**81,355**	**81,355**	**0**	**0.0**
Andhra Pradesh	8,126	8,126	0	0.0	14,145	14,145	0	0.0
Telangana	8,714	8,713	1	0.0	17,005	17,002	3	0.0
Karnataka	10,441	10,427	14	0.1	18,488	18,478	10	0.1
Kerala	3,256	3,250	6	0.2	6,488	6,178	310	4.8
Tamil Nadu	**12,849**	**12,849**	**0**	**0.0**	**21,000**	**21,000**	**0**	**0.0**
Puducherry	326	326	0	0.0	568	568	0	0.0
Lakshadweep	7	7	0	0.0	14	14	0	0.0
Southern Region	**43,717**	**43,696**	**21**	**0.0**	**74,473**	**74,469**	**4**	**0.0**
Bihar	4,289	4,288	1	0.0	8,172	8,158	14	0.2
DVC	2,114	2,114	0	0.0	3,676	3,676	0	0.0
Jharkhand	1,388	1,387	1	0.1	2,409	2,409	0	0.0
Odisha	4,231	4,231	0	0.0	7,598	7,594	4	0.1
West Bengal	6,954	6,953	1	0.0	13,023	12,946	77	0.6
Sikkim	49	49	0	0.0	118	118	0	0.0
Andaman- Nicobar	40	39	1	2.5	73	67	6	8.2
Eastern Region	**19,029**	**19,028**	**1**	**0.0**	**32,832**	**32,758**	**74**	**0.2**
Arunachal Pradesh	88	88	0	0.0	195	195	0	0.0
Assam	955	952	3	0.3	2,315	2,287	28	1.2
Manipur	94	94	0	0.0	252	252	0	0.0
Meghalaya	167	167	0	0.0	364	363	1	0.3
Mizoram	60	60	0	0.0	151	151	0	0.0
Nagaland	77	77	0	0.0	174	174	0	0.0
Tripura	156	156	0	0.0	366	366	0	0.0
North-Eastern Region	**1,597**	**1,594**	**3**	**0.2**	**3,752**	**3,743**	**9**	**0.2**
All India	**1,52,956**	**1,52,743**	**213**	**0.1**	**2,56,117**	**2,56,117**	**0**	**0.0**

The state- wise & month wise 'Power Supply Position' including the State of Tamil Nadu in terms of energy and peak for FY 2026-27 (upto June, 2026):

State/ System / Region	May,2026							
	Energy Requirement	Energy Supplied	Energy not Supplied		Peak Demand	Peak Met	Demand not Met	
	(MU)	(MU)	(MU)	(%)	(MW)	(MW)	(MW)	(%)
Chandigarh	194	194	0	0.0	411	411	0	0.0
Delhi	4,215	4,214	1	0.0	8,439	8,439	0	0.0
Haryana	6,964	6,924	40	0.6	13,507	13,507	0	0.0
Himachal Pradesh	1,070	1,068	2	0.2	1,836	1,836	0	0.0
Jammu & Kashmir	1,637	1,626	11	0.7	3,063	3,063	0	0.0
Punjab	7,134	7,106	28	0.4	14,268	14,268	0	0.0
Rajasthan	9,930	9,930	0	0.0	17,333	17,333	0	0.0
Uttar Pradesh	16,815	16,808	7	0.0	31,824	31,824	0	0.0
Uttarakhand	1,545	1,544	1	0.1	2,982	2,982	0	0.0
Northern Region	**49,649**	**49,557**	**92**	**0.2**	**87,675**	**87,675**	**0**	**0.0**
Chhattisgarh	4,045	4,044	1	0.0	6,471	6,471	0	0.0
Gujarat	15,519	15,482	37	0.2	26,455	26,418	37	0.1
Madhya Pradesh	9,670	9,643	27	0.3	15,519	15,492	27	0.2
Maharashtra	20,235	20,102	133	0.7	32,430	32,317	113	0.3
Dadra & Nagar Haveli and Daman & Diu	892	892	0	0.0	1,358	1,358	0	0.0
Goa	535	535	0	0.0	875	875	0	0.0
Western Region	**52,228**	**52,029**	**199**	**0.4**	**82,114**	**82,000**	**114**	**0.1**
Andhra Pradesh	8,142	8,142	0	0.0	15,019	15,014	5	0.0
Telangana	7,320	7,319	1	0.0	12,717	12,706	11	0.1
Karnataka	9,198	9,198	0	0.0	17,695	17,682	13	0.1
Kerala	3,023	3,021	2	0.1	5,742	5,742	0	0.0
Tamil Nadu	**12,411**	**12,410**	**1**	**0.0**	**19,425**	**19,425**	**0**	**0.0**
Puducherry	335	335	0	0.0	577	577	0	0.0
Lakshadweep	7	7	0	0.0	14	14	0	0.0
Southern Region	**40,434**	**40,430**	**4**	**0.0**	**68,234**	**68,234**	**0**	**0.0**
Bihar	4,523	4,523	0	0.0	8,646	8,628	18	0.2
DVC	2,098	2,098	0	0.0	3,431	3,427	4	0.1
Jharkhand	1,494	1,494	0	0.0	2,589	2,589	0	0.0
Odisha	4,390	4,389	1	0.0	8,829	8,823	6	0.1
West Bengal	7,131	7,129	2	0.0	13,340	13,340	0	0.0
Sikkim	43	43	0	0.0	100	100	0	0.0
Andaman-Nicobar	40	39	1	2.5	70	65	5	7.1
Eastern Region	**19,686**	**19,683**	**3**	**0.0**	**34,908**	**34,875**	**33**	**0.1**
Arunachal Pradesh	94	94	0	0.0	184	184	0	0.0
Assam	1,173	1,170	3	0.3	2,495	2,495	0	0.0
Manipur	105	105	0	0.0	261	261	0	0.0
Meghalaya	181	181	0	0.0	368	368	0	0.0
Mizoram	62	62	0	0.0	153	153	0	0.0
Nagaland	90	90	0	0.0	191	191	0	0.0
Tripura	158	158	0	0.0	355	355	0	0.0
North-Eastern Region	**1,864**	**1,862**	**2**	**0.1**	**3,952**	**3,952**	**0**	**0.0**
All India	**1,63,861**	**1,63,561**	**300**	**0.2**	**2,70,832**	**2,70,820**	**12**	**0.0**

The state- wise & month wise 'Power Supply Position' including the State of Tamil Nadu in terms of energy and peak for FY 2026-27 (upto June, 2026):

State/ System / Region	June, 2026 (Provisional)							
	Energy Requirement	Energy Supplied	Energy not Supplied		Peak Demand	Peak Met	Demand not Met	
	(MU)	(MU)	(MU)	(%)	(MW)	(MW)	(MW)	(%)
Chandigarh	214	214	0	0.0	456	456	0	0.0
Delhi	4,340	4,339	1	0.0	8,748	8,748	0	0.0
Haryana	7,697	7,665	32	0.4	15,558	15,558	0	0.0
Himachal Pradesh	1,138	1,136	2	0.2	1,913	1,913	0	0.0
Jammu & Kashmir	1,584	1,569	15	0.9	2,653	2,653	0	0.0
Punjab	9,123	9,082	41	0.4	17,004	17,004	0	0.0
Rajasthan	9,764	9,764	0	0.0	17,672	17,672	0	0.0
Uttar Pradesh	18,816	18,816	0	0.0	33,197	32,673	524	1.6
Uttarakhand	1,689	1,685	4	0.2	3,078	3,063	15	0.5
Northern Region	**54,562**	**54,466**	**96**	**0.2**	**94,416**	**93,981**	**435**	**0.5**
Chhattisgarh	3,792	3,788	4	0.1	5,990	5,990	0	0.0
Gujarat	16,543	16,543	0	0.0	28,833	28,833	0	0.0
Madhya Pradesh	8,400	8,400	0	0.0	13,439	13,439	0	0.0
Maharashtra	19,371	19,349	22	0.1	31,273	31,273	0	0.0
Dadra & Nagar Haveli and Daman & Diu	948	948	0	0.0	1,427	1,427	0	0.0
Goa	473	473	0	0.0	835	835	0	0.0
Western Region	**50,630**	**50,604**	**26**	**0.1**	**80,330**	**80,330**	**0**	**0.0**
Andhra Pradesh	7,540	7,537	3	0.0	13,935	13,935	0	0.0
Telangana	7,098	7,095	3	0.0	12,685	12,685	0	0.0
Karnataka	8,363	8,360	3	0.0	16,367	16,357	10	0.1
Kerala	2,618	2,610	8	0.3	5,481	5,472	9	0.2
Tamil Nadu	**12,213**	**12,209**	**4**	**0.0**	**20,945**	**20,945**	**0**	**0.0**
Puducherry	341	341	0	0.0	572	571	1	0.2
Lakshadweep	6	6	0	0.0	13	13	0	0.0
Southern Region	**38,176**	**38,156**	**20**	**0.1**	**64,266**	**64,266**	**0**	**0.0**
Bihar	5,324	5,307	17	0.3	9,068	9,068	0	0.0
DVC	2,122	2,122	0	0.0	3,335	3,335	0	0.0
Jharkhand	1,549	1,548	1	0.1	2,583	2,583	0	0.0
Odisha	4,249	4,248	1	0.0	7,854	7,854	0	0.0
West Bengal	7,513	7,511	2	0.0	13,570	13,570	0	0.0
Sikkim	41	41	0	0.0	121	121	0	0.0
Andaman-Nicobar	40	39	1	2.5	70	65	5	7.1
Eastern Region	**20,805**	**20,783**	**22**	**0.1**	**34,324**	**34,324**	**0**	**0.0**
Arunachal Pradesh	102	102	0	0.0	202	202	0	0.0
Assam	1,403	1,399	4	0.3	2,683	2,658	25	0.9
Manipur	103	103	0	0.0	264	264	0	0.0
Meghalaya	183	183	0	0.0	366	366	0	0.0
Mizoram	61	61	0	0.0	155	155	0	0.0
Nagaland	97	97	0	0.0	204	204	0	0.0
Tripura	177	177	0	0.0	366	366	0	0.0
North-Eastern Region	**2,127**	**2,123**	**4**	**0.2**	**4,018**	**4,018**	**0**	**0.0**
All India	**1,66,300**	**1,66,131**	**169**	**0.1**	**2,65,184**	**2,64,768**	**416**	**0.2**

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ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PART (b) OF UNSTARRED QUESTION NO. 147 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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State/UT-wise Loss Reduction and Smart Metering works sanction details under RDSS (in Rs. Cr.)

State/UTs	Sanctioned Cost of Smart Metering	Sanctioned Cost of Infrastructure Works	Total Sanctioned Outlay	Total Sanctioned GBS	GBS released	GBS Utilized
Andaman & Nicobar Islands	54	462	516	428	41	41
Andhra Pradesh	4,128	10,708	14,836	7,240	2,980	2,956
Arunachal Pradesh	184	1,042	1,226	992	301	249
Assam	4,050	3,395	7,444	4,107	2,473	2,471
Bihar	2,021	10,559	12,581	6,748	3,536	3,533
Chhattisgarh	4,105	4,021	8,126	3,217	1,231	1,231
Delhi	13	324	337	196	0	0
Goa	469	247	716	243	41	41
Gujarat	10,642	6,089	16,731	5,538	1,936	1,917
Haryana	0	6,794	6,794	4,076	854	702
Himachal Pradesh	1,788	2,327	4,116	2,561	495	495
Jammu & Kashmir	1,064	5,034	6,098	4,803	2,260	2,156
Jharkhand	858	3,468	4,326	2,272	599	570
Karnataka	0	45	45	27	10	5
Kerala	8,231	3,108	11,339	3,278	517	509
Ladakh	0	876	876	788	219	82
Madhya Pradesh	8,911	9,738	18,649	7,347	3,469	3,429
Maharashtra	15,215	17,238	32,453	13,182	4,562	4,561
Manipur	121	627	748	602	152	152
Meghalaya	310	1,232	1,542	1,195	404	349
Mizoram	182	322	503	351	101	101
Nagaland	208	466	674	479	116	116
Puducherry	251	84	335	107	14	14
Punjab	5,769	3,873	9,642	3,284	629	629
Rajasthan	9,715	18,693	28,408	12,902	3,679	3,327
Sikkim	97	420	518	409	108	108
Tamil Nadu	19,235	9,568	28,803	9,139	1,498	1,256
Telangana	0	120	120	72	36	36
Tripura	319	598	917	619	314	307
Uttar Pradesh	18,956	21,782	40,739	16,570	7,028	6,989
Uttarakhand	1,106	2,371	3,477	2,444	6,86	636
West Bengal	12,670	7,223	19,893	6,423	1,268	1,267
Total	**1,30,671**	**1,52,854**	**2,83,525**	**1,21,637**	**41,555**	**40,233**

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ANNEXURE-III

ANNEXURE REFERRED IN REPLY TO PART (d) OF UNSTARRED QUESTION NO. 147 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Details of BESS capacity allocated to Southern States under the above said VGF Schemes for implementation:

Sl. No.	State/ UTs	Total Capacity Allocation (in MWh)
1	Tamil Nadu	2,500
2	Karnataka	3,000
3	Andhra Pradesh	3,000
5	Telangana	1,500

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.148
ANSWERED ON 20.07.2026

RECURRING TRANSMISSION BOTTLENECKS AND RENEWABLE POWER CURTAILMENT IN TAMIL NADU

148. SHRI S. KALYANASUNDARAM:

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

(a) whether the Central Government is aware of recurring transmission bottlenecks and renewable power curtailment in the State of Tamil Nadu during peak solar and wind generation periods;

(b) the details of central assistance sanctioned, released and utilised under RDSS and other schemes for strengthening intra-State transmission, substations and evacuation corridors in Tamil Nadu;

(c) whether Government proposes grid-scale storage, pumped hydro and balancing mechanisms to address intermittency and prevent curtailment while protecting DISCOM finances; and

(d) the timeline for upgrading southern regional grid capacity to ensure reliable supply for households, MSMEs and energy-intensive industries in Tamil Nadu?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): Presently, there is no curtailment of Renewable Energy (RE) generation integrated with Inter-State Transmission System (ISTS) in Tamil Nadu. However, as reported by Tamil Nadu Electricity Board (TNEB) Ltd., RE curtailment is experienced in Intra-State Transmission System (InSTS) during high wind and solar season due to overloading of 400 kV Kanarpatti-Abhishekapatti line where bay extension works are under implementation.

(b): (i) Under Green Energy Corridor (GEC) Schemes Phase I and II of Ministry of New and Renewable Energy (MNRE), ₹766.86 crore has been sanctioned as Central Finance Assistance (CFA) for strengthening InSTS in the State of Tamil Nadu, of which ₹529.28 crore has been released.

(ii) Under the Revamped Distribution Sector Scheme (RDSS), for the State of Tamil Nadu, a total outlay of ₹28,803 crore has been sanctioned for projects worth ₹ 9,568 crore towards loss reduction works and ₹19,235 crore towards smart metering works. As on 30.06.2026, out of the sanctioned Gross Budgetary Support (GBS) of ₹9,139 crore, ₹1,498 crore has been released, and ₹1,106 crore has been utilised.

(c): To address the intermittency associated with renewable energy sources and to ensure reliable power supply, the Government is promoting grid-scale energy storage and hybrid renewable energy solutions. In this regard:-

(i) The 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 Battery Energy Storage System (BESS). As 15.07.2026, 276 applications involving 71GW/185 GWh of BESS capacity have been received.

(ii) The Central Electricity Authority (CEA) has prepared a roadmap for integration of about 100 GW of Pumped Storage Project (PSP) capacity during 2025-26 to 2035-36, which includes about 21.3 GW of PSP potential identified in Tamil Nadu. The associated transmission system for evacuation of power from these PSPs shall be planned and developed in a phased manner, in line with the progress of the respective projects and system requirements.

(iii) To facilitate the integration of RE in the country, two Viability Gap Funding (VGF) Schemes for setting up a total 43.8 GWh of BESS capacity with a budgetary support of ₹ 9,160 crore are under implementation. Tamil Nadu has been allocated 2,500 MWh of BESS capacity with VGF of ₹540 crore.

(d): The Southern Regional Grid is well interconnected with the National Grid through high-capacity transmission corridors comprising 765 kV and 400 kV AC transmission lines and ±800 kV HVDC systems, facilitating transfer of power through ISTS network between the Southern Region and other States/Regions. Power transfer capacities are strengthened on a continual basis to address emerging power transfer scenarios with reliability and security.

Further, various Inter-Regional links, including the Narendra–Pune 765 kV Double Circuit (D/c) line, Angul–Srikakulam 765 kV 2nd D/c line and Bidar–Parli 765 kV D/c line are under implementation, to facilitate the import requirements of Southern Region during peak demand season.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.149
ANSWERED ON 20.07.2026

COAL AVAILABILITY FOR THERMAL PLANTS

149. SHRI CONSTANDINE RAVINDRAN:

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

(a) whether Government is aware that despite rising solar output, coal remains thebackbone of electricity generation during non-solar hours and increasing evening demand is placing additional pressure on thermal plants;

(b) if so, the coal stock availability at thermal plants during the current summer season;

(c) the thermal plants maintenance schedules deferred to meet rising summer demand;

(d) whether Government proposes thermal plants flexibility reforms, operational improvements, and technological upgrades to complement renewable energy expansion; and

(e) the initiatives proposed by Government to maintain uninterrupted thermal power generation during peak demand periods?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : The coal (including Lignite) based generation capacity in the country is about 230.8 GW and its share in the total electricity supplied from April to June 2026 is 69.54 %. Further, the maximum generation achieved from such power plants is about 188.8 GW (around 75% of the total generation - 251.4 GW) during non-solar peak demand hours.

(b): As on 12.07.2026, 42.8 Million Tonnes (MT) coal stock is available at the Thermal Power Plants, sufficient for 14 days at 85% Plant Load Factor (PLF). Also, sufficient coal is being received by the Thermal power Plants at present to meet the daily demands.

(c): The scheduled maintenance of thermal units is planned in advance by taking into consideration the demand scenario for different months. It is a standard practice to minimize scheduled maintenance during the peak months. CEA further monitors & permits deferment on case-to-case basis based on the technical parameters of the plant if increased demand necessitates so.

(d): To integrate renewable energy sources in the electricity grid, "Central Electricity Authority (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023" has been notified on 30.01.2023, which mandates all coal based thermal power generating units to achieve minimum technical level of 40% as per the phasing plan specified by the Central Electricity Authority (CEA) from time to time.

(e): Government of India has taken various initiatives to ensure uninterrupted thermal power generation during peak demand periods and are given below:

(i) During FY 2025-26, 9,470 MW Thermal capacity has been added and further 2,260 MW has been commissioned during current Financial Year. Coal supply to the Thermal Power Plants is presently being monitored on daily basis through a joint committee of Ministry of Power, Railways and Ministry of Coal.

(ii) Priority to coal rakes and coal dispatch to power houses has also been accorded.

(iii) Inter Ministerial Committee (IMC) comprising Chairman, Railway Board; Secretary, Ministry of Coal and Secretary, Ministry of Power is being held regularly to closely review coal supplies to Thermal Power Plants.

(iv) About 2,669 MW of Battery Energy Storage Systems (BESS) & 7,426 MW of Pumped Storage Projects (PSPs) have been commissioned till date to supplement the power generation by the thermal plants during the non-solar hours. These Energy Storage Systems (BESS / PSP) store the excess power generated during solar hours and utilize the stored electricity primarily during non-solar hours.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.150
ANSWERED ON 20.07.2026

ENVIRONMENT IMPACT OF NEW THERMAL POWER PLANTS

150. SHRI NATHWANI PARIMAL:

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

(a) the number and capacity of new thermal power plants approved, under construction and commissioned in the country during the last five years, State-wise;

(b) the details of thermal power plants proposed to be set up during the next five years, including location, fuel type and capacity;

(c) whether environmental and water availability concerns have been assessed before approval of such projects; and

(d) the steps taken by Government to balance power generation needs with environmental sustainability?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b): As per Section 7 of Electricity Act, 2003 setting up of a power plant is a de-licensed activity in the country. Any generating company may establish, operate and maintain a generating station without requiring a license under Electricity Act, 2003 if it complies with the technical standards relating to connectivity with the grid.

The details of thermal power plants commissioned in last 5 years, State wise is given at **Annexure-I.**

The details of thermal power plants which are under construction, State wise, is given at **Annexure-II.**

The details of thermal power plants for which contracts have been awarded but work is yet to start, is given at **Annexure-III**

(c): The project developer has to take Environment Clearance from the Ministry of Environment, Forest and Climate Change (MoEF&CC) before establishment of a new thermal power plant. The allocation of water for Thermal Power Plants is done by Water Resources Department of the State Government where the project is located and they assess all factors before allocation of water.

(d): The Government of India have taken several measures to balance power generation needs with environmental sustainability like increasing the share of installed RE capacity & its uptake and promoting energy efficiency in all sphere of life**.** The share of non-fossil fuel installed capacity in the total installed capacity of the country as on 31.05.2026 is about 53.75 %. In order to push the share of Renewable Power in the energy mix of the country, Government has taken various steps, as outlined **in Annexure-IV**

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ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 150 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Thermal Power projects commissioned in the country during the last 5 years (FY 2021-22 to FY 2025-26) [Capacity: 25,349 MW; No of Units: 43]

Sl. No	Project Name	State	FY	Sector	Implementing Agency	Unit No	Capacity (MW)
1	Sri DamodaramSanjeevaiah TPP St-II	Andhra Pradesh	2022-23	State	APGENCO	U-1	800
2	Dr.Narla Tata Rao TPS St-V		2023-24	State	APGENCO	U-8	800
3	Meenakshi Energy Ltd		2025-26	Private	Vedanta Ltd	U-3	350
4	Meenakshi Energy Ltd. patanam TPP) / Vedanta Ltd.		2025-26	Private	Vedanta Ltd	U-4	350
5	Nabi Nagar TPP	Bihar	2021-22	Central	BRBCL(JV of NTPC/Railway)	U-4	250
6	Nabi Nagar STPP		2021-22	Central	NPGCL	U-3	660
7	Barh STPP, Stage-I		2021-22	Central	NTPC	U-1	660
8	Barh STPP St-I		2023-24	Central	NTPC	U-2	660
9	Barh STPP , St-I		2025-26	Central	NTPC	U-3	660
10	Buxar TPP		2025-26	Central	SJVN	U-1	660
11	Vedanta Ltd Chhattisgarh TPP	Chhattisgarh	2025-26	Private	Vedanta Ltd	U-1	600
12	North Karanpura STPP	Jharkhand	2022-23	Central	NTPC	U-1	660
13	North Karanpura STPP		2023-24	Central	NTPC	U-2	660
14	North Karanpura STPP		2025-26	Central	NTPC	U-3	660
15	Patratu STPP		2025-26	Central	PVUNL	U-1	800
16	Yelahanka CCPP	Karnataka	2024-25	State	KPCL	GT+ST*	370
17	Shirpur Power Pvt. Ltd.	Maharashtra	2023-24	Private	M/s Jindal Power Ltd.	U-2	150
18	Bhusawal TPP		2024-25	State	MAHAGENCO	U-6	660
19	Darlipalli STPP St-I	Odisha	2021-22	Central	NTPC	U-2	800
20	Maadurga Thermal Power Company Ltd		2024-25	Private	MTPCL	U-2	30
21	Maadurga Thermal Power Company Ltd		2024-25	Private	MTPCL	U-1	30
22	Ind Bharat TPP		2025-26	Private	JSWEUL	U-2	350
23	Suratgarh SCTPP	Rajasthan	2021-22	State	RRVUNL	U-8	660
24	Tuticorin TPP, St-IV	Tamil Nadu	2021-22	Private	SEPC	U-1	525
25	North Chennai TPP St-III		2025-26	State	TNPGCL	U-6	800
26	Bhadradri TPP	Telangana	2021-22	State	TGGENCO	U-4	270
27	Telangana STPP St- I		2023-24	Central	NTPC	U-1	800
28	Telangana STPP St- I		2023-24	Central	NTPC	U-2	800
29	Yadadari TPS		2024-25	State	TGGENCO	U-2	800
30	Yadadari TPS		2025-26	State	TGGENCO	U-1	800
31	Yadadari TPS		2025-26	State	TGGENCO	U-4	800

32	HarduaganjExpn-II	Uttar Pradesh	2021-22	State	UPRVUNL	U-1	660
33	Obra-C STPS		2023-24	State	UPRVUNL	U-1	660
34	Jawaharpur STPP		2023-24	State	UPRVUNL	U-1	660
35	Ghatampur TPP		2024-25	Central	NUPPL	U-1	660
36	Jawaharpur STPP		2024-25	State	UPRVUNL	U-2	660
37	Khurja STPP		2024-25	Central	THDC	U-1	660
38	Panki TPP		2024-25	State	UPRVUNL	U-1	660
39	Obra-C STPS		2025-26	State	UPRVUNL	U-2	660
40	Khurja SCTPP		2025-26	Central	THDC	U-2	660
41	Ghatampur TPP		2025-26	Central	NUPPL	U-2	660
42	Kashipur CCPP, Ph-II	Uttrakhand	2023-24	Private	SEPL	Module-2 **	214
43	Sagardighi TPP	West Bengal	2025-26	State	WBPDCL	U-5	660
							25,349

* GT: Gas Turbine
ST: Steam Turbine

** Module-2 consists of 2 no. Gas Turbines (GT) and 1 no. Steam Turbine (ST).

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ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 150 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Details of Under Construction Thermal Power Projects across the country, State wise (As on 30-06-2026)
[Capacity: 47,545 MW; No of Units :65]

Sl.No	Project Name / Implementing Agency	State	Sector	Unit No.	Capacity (MW)
1	Buxar TPP (SJVN)	Bihar	CENTRAL	U-2	660
2	Nabinagar STPP, St-II (NTPC)		CENTRAL	U-4	800
3			CENTRAL	U-5	800
4			CENTRAL	U-6	800
5	Pirpainti USCTPP (Adani Power Ltd)		PRIVATE	U-1	800
6			PRIVATE	U-2	800
7			PRIVATE	U-3	800
8	Korba TPP. Ph-II (LancoAmarkantak TPP), M/s Adani Power Ltd	Chhattisgarh	PRIVATE	U-3	660
9			PRIVATE	U-3	660
10	Korba(W) SCTPP (CSPGCL)		STATE	U-1	660
11			STATE	U-2	660
12	Lara STPP St-II (NTPC)		CENTRAL	U-3	800
13			CENTRAL	U-4	800
14	Raigarh USCTPP, St-II/ Adani Power		PRIVATE	U-2	800
15			PRIVATE	U-3	800
16	Raipur Ext TPP, Ph-II /Adani Power		PRIVATE	U-3	800
17			PRIVATE	U-4	800
18	Singhitarai TPP(M/s Vedanata)		PRIVATE	U-2	600
19	Sipat STPP, St-III (NTPC)		CENTRAL	U-6	800
20	Akaltara TPP(JSW Energy)		PRIVATE	U-4	600
21			PRIVATE	U-5	600
22			PRIVATE	U-6	600
23	Binjkote TPP(Sharda Energy & Mineral)		PRIVATE	U-3	300
24			PRIVATE	U-4	300
25	Ukai TPP/GSECL	Gujarat	STATE	U-7	800
26	DCR TPP Ext., /HPGCL	Haryana	STATE	U-1	800
27	Patratu STPP (PVUNL)	Jharkhand	CENTRAL	U-3	800
28	Koderma TPS, St-II/ DVC		CENTRAL	U-1	800
29			CENTRAL	U-2	800
30	Amarkantak TPS (MPPGCL)	Madhya Pradesh	State	U-3	660
31	Annupur TPP PH-II/APP Pvt Ltd		PRIVATE	U-1	800
32	Annupur TPP/Adani Power		PRIVATE	U-1	800
33			PRIVATE	U-2	800
34			PRIVATE	U-3	800
35	Gadarwara STPP, Ph-II(NTPC)		CENTRAL	U-3	800
36			CENTRAL	U-4	800
37	Mahan STPP,St-II (Mahan Energen)		PRIVATE	U-3	800
38			PRIVATE	U-4	800
39	Mahan STPP,St-III (Mahan Energen)		PRIVATE	U-5	800
40			PRIVATE	U-6	800
41	Satpura TPP (Sarni) (MPPGCL)		State	U-12	660

42	KoradiTPS,St-V (MSPGCL)	Maharashtra	STATE	U-11	660
43			STATE	U-12	660
44	Darlipalli STPP, St-II (NTPC)	Odisha	CENTRAL	U-3	800
45	Malibrahamani TPP(JPL)		PRIVATE	U-2	525
46	Talabira TPP (NLC)		CENTRAL	U-1	800
47			CENTRAL	U-2	800
48			CENTRAL	U-3	800
49	Talcher TPP St-III (NTPC)		CENTRAL	U-1	660
50			CENTRAL	U-2	660
51	Udangudi STPP St-I (TNPGCL)	Tamil Nadu	STATE	U-1	660
52			STATE	U-2	660
53	Ennore SCTPP (TNPGCL)		STATE	U-1	660
54			STATE	U-2	660
55	Yadadri TPS (TGGENCO)	Telangana	STATE	U-5	800
56	SingareniTPP,Ph-II/SCCL		STATE	U-3	800
57	Telangana STPS St-II (NTPC)		CENTRAL	U-3	800
58			CENTRAL	U-4	800
59			CENTRAL	U-5	800
60	Singrauli STPP, St-III (NTPC)	Uttar Pradesh	CENTRAL	U-8	800
61			CENTRAL	U-9	800
62	Mirjapur TPS (Adani Power Ltd)		Private	U-1	800
63			Private	U-2	800
64	Raghunathpur TPS, Ph-II/DVC	West Bengal	CENTRAL	U-3	660
65			CENTRAL	U-4	660
Total Capacity					**47,545**

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ANNEXURE-III

ANNEXURE REFERRED IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 150 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Coal based thermal power plants for which contracts have been awarded but work is yet to start [Capacity: 16,000 MW; No of Projects: 8]

S.No	Name of Project	State	Developer	Sector	Total Capacity (MW)
1	Chapar Ultra Supercritical TPP	Assam	Adani Power	Private	3,200
2	Korba Power Limited Ph-III	Chhattisgarh	Adani Power	Private	1,600
3	Newzone TPP	Madhya Pradesh	Torrent Power	Private	1,600
4	Kawai TPP Ph-II	Rajasthan	Adani	Private	3,200
5	Meja-II	Uttar Pradesh	NTPC-UP-JV	Central	2,400
6	Durgapur TPS Ph-III	West Bengal	DVC	Central	800
7	Salboni STPP Ph-I	West Bengal	JSW	Private	1,600
8	Salboni STPP Ph-II	West Bengal	JSW	Private	1,600
				TOTAL	**16,000**

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ANNEXURE-IV

ANNEXURE REFERRED IN REPLY TO PART (d) OF UNSTARRED QUESTION NO. 150 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Steps taken by the Government in order to push the share of Renewable Power in the energy mix of the country are detailed as under:

i. Schemes such as Pradhan Mantri KisanUrja Suraksha evamUtthaanMahabhiyan (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 MahaAbhiyan (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.

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

iii. 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.

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, suitable transmission plan has been prepared.

vii. 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).

viii. 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.

ix. “Strategy for Establishment of Offshore Wind Energy Projects” has been issued.

x. 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.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.151
ANSWERED ON 20.07.2026

STATUS ON PUMPED STORAGE PROJECTS

151# SHRI SUBHASH BARALA:
SHRI SHAMBHU SHARAN PATEL:

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

(a) the current status of pumped storage projects under construction and those approved at various stages across the country;

(b) the measures taken to facilitate timely environmental and statutory clearances for such projects;

(c) the role envisaged for pumped storage projects in integrating renewable energy and managing peak electricity demand; and

(d) the steps taken to encourage greater private sector participation in the development of pumped storage projects?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): Presently, 11 Pumped Storage Projects (PSPs) with an aggregate installed capacity of 15,870 MW are under construction **(Annexure- I).** In addition, 6 PSPs with an aggregate installed capacity of 8,140 MW have been concurred/appraised by the Central Electricity Authority (CEA) and are yet to be taken up for construction **(Annexure-II).**

(b): The measures taken in respect of timely environmental and statutory clearances for Pumped Storage Projects (PSPs) include:

(i) Ministry of Environment, Forest & Climate Change (MoEF&CC), vide its notification dated 18.05.2023, has enabled appraisal of PSPs under B2 category subject to certain conditions.

(ii) The MoEF&CC on 14.08.2023, has issued specific Terms of Reference (TOR) for the proposals involving off stream PSPs wherein collection of baseline data for one season (other than monsoon) is prescribed for off stream closed loop PSPs and collection of baseline data for two seasons (pre-monsoon & post-monsoon) is prescribed for off stream open loop PSPs.

(iii) The MOEF&CC on 20.08.2024, has extended the provisions relating to survey in the forest areas for mining projects to other development projects including hydel/PSPs.

(iv) MOEF&CC vide letter dated 10.09.2025 has enhanced the number of boreholes for undertaking survey and explorations in the forest area for mining and developmental projects including hydel / PSPs.

…….2.

(v) Central Electricity Authority (CEA) has revised Guidelines for formulation and concurrence of Detailed Project Report (DPR) of PSPs. Under the revised guidelines, the timeline for concurrence of DPR has been reduced from 90 days to 50 days for all type of PSPs. Further, the clearance of Inter-State Aspects is not required for PSPs.

(vi) The Government of India, vide Gazette notification dated 01.08.2025, has revised the capital expenditure limit for schemes related to setting up hydro generating stations to ₹3,000 crore, requiring the concurrence of the CEA. Further, the Government has exempted off-stream closed-loop pumped storage schemes, irrespective of the quantum of capital expenditure, from the requirement of concurrence by the CEA. However, Developers may seek technical guidance from the CEA for projects under exempted category.

(c): Pumped Storage Projects (PSPs) support the integration of renewable energy by storing surplus energy during off-peak periods and supplying power during peak demand. They provide long-duration energy storage, balancing power and ancillary grid services such as frequency regulation, voltage support and black start capability, thereby supporting grid stability, reliability and higher renewable energy penetration.

(d): Central Government has taken a number of measures to encourage greater private sector participation in the development of PSPs as listed below:

(i) Ministry of Power has notified Guidelines to promote development of Pumped Storage Projects in the country on 10.04.2023.

(ii) Budgetary Support to Cost of Enabling Infrastructure, i.e., roads/bridges, railway sidings, ropeways, communication infrastructure and transmission line from power house to nearest pooling point.

(iii) To provide a transparent, fair, standardized procurement framework based on open competitive bidding with appropriate risk-sharing between various stakeholders, MoP vide Gazette notification dated 06.02.2025, has notified tariff based competitive bidding (TBCB) guidelines for procurement of storage capacity/stored energy from pumped storage plants.

(iv) The Central Electricity Regulatory Commission (CERC), vide its Notification dated 26.06.2025, has provided for 100% waiver of Inter-State Transmission System (ISTS) charges for Pumped Storage Projects (PSPs) for a period of 25 years from the Commercial Operation Date (COD), in respect of projects for which the construction work is awarded on or before 30.06.2028.

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ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 151 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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LIST OF UNDER CONTRUCTION PUMPED STORAGE PROJECTS

Sl. No.	NameoftheProject (ExecutingAgency)	State/UT	Capacity (MW)	Target for Commissioning
1	UpperSileruPSP (APGENCO)	Andhra Pradesh	1350	Feb'29
2	SharavathyPSP (KPCL)	Karnataka	2000	May'32
3	KundahPSP (Phase-I,II&III) (TANGEDCO)	TamilNadu	500	Feb’27
4	MP30GandhiSagarPSP(Greenko MP01 IREP Private Limited)	MadhyaPradesh	1920	Dec'26
5	ChitravathiPSP (AdaniRenewableEnergy Forty-Two Limited)	AndhraPradesh	500	Feb'27
6	BhivpuriPSP (TataPowerCompanyLimited)	Maharashtra	1000	Feb'29
7	SaundattiPSP(GreenkoKA01IREPPrivateLimited)	Karnataka	1600	Dec'27
8	BhavaliPSP(JSWEnergyPSPTwoLimited)	Maharashtra	1500	Dec'28
9	GandikotaPSP(AdaniRenewableEnergy Fifty-One Limited)	AndhraPradesh	1000	Mar'29
10	TaraliPSP(AdaniRenewableEnergyOne Limited)	Maharashtra	1500	Jun'29
11	Saidongar-1KarjatPSP (TorrentEnergyStorageSolutions)	Maharashtra	3000	Dec'29
		TOTAL	**15,870**	

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ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 151 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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ListofPSPsconcurred/appraisedbyCEAandareyettobetakenupforconstruction

Sl.No.	Name of the project (Executing Agency)	State/UT	Capacity (MW)	DateofConcurrence/ Appraisal
1	ChichlikPSP* (AvaadaWaterBattery Pvt.Ltd.)	UttarPradesh	1560	08.07.2026
2	PanePSP (JSW NeoEnergyLtd)	Maharashtra	1500	09.10.2025
3	Shirawta PSP (TataPower Company Ltd)	Maharashtra	1800	01.09.2025
4	Kandhaura PSP (JSWEnergyPSPSix Ltd)	UttarPradesh	1680	13.06.2025
5	UpperIndravatiPSP (Odisha Hydro Power Corporation Ltd.)	Odisha	600	19.08.2024
6	TurgaPSP (West Bengal State Electricity Distribution Company Ltd.)	WestBengal	1000	05.10.2016
		TOTAL	**8,140**	

*Appraised

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.152
ANSWERED ON 20.07.2026

BATTERY ENERGY STORAGE SYSTEMS (BESS)

152 # DR. KALPANA SAINI:
SHRI RAJIB BHATTACHARJEE:

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

(a) the progress made in implementation of the Viability Gap Funding scheme for BatteryEnergy Storage Systems (BESS), including the details of the allocated and commissioned storage capacity awarded;

(b) the measures taken to promote standalone and co-located battery storage projects for integration of renewable energy;

(c) the role envisaged for battery energy storage systems in meeting peak electricity demand and ensuring grid reliability;

(d) whether Government proposes additional policy or financial support to accelerate the deployment of energy storage technologies; and

(e) if so, the details thereof?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : Ministry of Power is administering two Viability Gap Funding (VGF) schemes for the development of 43.8 GWh of Battery Energy Storage Systems (BESS). The details, including the implementation status of the two schemes, are as under:

(i) **Viability Gap Funding (VGF) Scheme through Budgetary Support:** The Central Government approved the Viability Gap Funding (VGF) Scheme on 6th September, 2023 for the development of 4 GWh of Battery Energy Storage System (BESS) capacity with a budgetary outlay of ₹3,760 crore. Subsequently, owing to the decline in BESS prices, the capacity supported under the Scheme has been enhanced to 13.8 GWh within the approved budgetary outlay. As on date, Battery Energy Storage Purchase Agreements (BESPAs) have been executed for 12.7 GWh, financial closure has been achieved for 6.54 GWh, 0.5 GWh capacity has been commissioned and VGF amounting to ₹168.04 crore has been disbursed.

(ii) **Viability Gap Funding (VGF) scheme for development of 30 GWh of BESS supported through Power System Development Fund (PSDF):** Ministry of Power, vide order dated 09.06.2025, launched another VGF scheme for development of 30 GWh of BESS with financial support of ₹5,400 crore from the Power System Development Fund. Under this scheme, 25 GWh has been allocated to 15 States for meeting their storage requirements, while 5 GWh has been allocated to NTPC Ltd. to support electricity demand during non-solar hours and optimize utilization of existing thermal and transmission infrastructure. As on date, Letters of Award (LoAs) have been issued for 22.43 GWh, Battery Energy Storage Purchase Agreements (BESPAs) have been executed for 19.65 GWh, and financial closure has been achieved for 5 GWh capacity. Further, sanction for the disbursement of ₹180 crore towards VGF, consequent upon the achievement of financial closure, has been issued.

……2.

(b), (d) & (e) : For the integration of renewable energy, Government has undertaken a series of coordinated policy, regulatory, demand-side, and supply-side measures to promote the development and deployment of Energy Storage Systems (ESS), including Battery Energy Storage Systems (BESS). The details of these measures are provided in the **Annexure**.

(c) : Battery Energy Storage Systems (BESS) can play a vital role in meeting peak electricity demand and ensuring grid reliability by storing electricity during periods of low demand or high renewable energy generation and supplying it during periods of peak demand. BESS enables time-shifting of energy, enhances grid flexibility, facilitates the integration of renewable energy, and reduces dependence on expensive peak power. Generating companies can use BESS to maximize the value of their generation by shifting off-peak energy to peak periods, while grid operators and distribution licensees can utilize BESS for peak load and congestion management, demand-supply balancing and ensuring reliable and quality power supply to consumers. BESS with Grid Forming Inverters may also help in stable grid operation.

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ANNEXURE

ANNEXURE REFERRED IN REPLY TO PARTS (b), (d) & (e) OF UNSTARRED QUESTION NO. 152 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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I. **Policy and Regulatory Measures**

1. The Electricity Rules were amended in December 2022 to explicitly recognize Energy Storage Systems (ESS) as an integral part of the power system, enabling their participation across generation, transmission and distribution functions.

2. In October 2022, ESS were included in the Harmonised Master List of Infrastructure of the Ministry of Finance, facilitating access to long-tenure and lower-cost financing.

3. In June 2023, the Government issued Guidelines for Preparation of Resource Adequacy Plans by State utilities, under which energy storage has been incorporated as a key planning resource for meeting peak demand and ensuring system reliability.

4. A National Framework for Promotion of Energy Storage Systems was issued in September 2023, providing a comprehensive roadmap for deployment, market integration and regulatory facilitation of storage technologies.

II. Demand-Side Enablers and Market Development Measures

5. Waiver of Inter-State Transmission System (ISTS) charges has been provided for co-located BESS projects commissioned up to June 2028, to improve project viability. For non co-located BESS, 100% ISTS charges waiver has been extended for projects commissioned by June 2025 with 25% annual reduction in waiver thereafter.

6. In January 2022, CERC allowed storage-based resources to provide ancillary services, including secondary and tertiary reserves, enabling ESS to support real-time grid balancing alongside conventional generators.

7. Tariff-Based Competitive Bidding (TBCB) Guidelines for procurement of BESS by distribution licensees were notified in March 2022, creating a transparent mechanism for large-scale storage procurement.

8. Under the Electricity (Rights of Consumers) Rules, 2020, amended in December 2022, consumers using diesel generator sets have been mandated to shift to cleaner backup solutions, including energy storage, within timelines specified by State Commissions.

9. Electricity supplied from BESS has been allowed to participate in the High-Price Day-Ahead Market, launched in March 2023, enabling storage to respond to peak price signals similar to gas-based generation.

III. Supply-Side and Manufacturing-Focused Measures

10. The 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 stationary storage.

11. CERC has allowed separate grid connectivity during non-solar hours, enabling additional renewable capacity at existing substations and facilitating storage-based shifting of power to evening and night hours (September 2025).

12. Through amendment of the Electricity Rules in September 2025, energy storage systems have been permitted to be developed, owned, leased or operated by consumers, expanding the range of ownership and business models.

13. In February 2025, CEA issued an advisory on co-location of ESS with solar power projects, recommending storage capacity of at least 10% of installed solar capacity for a minimum duration of two hours, to improve dispatchability of solar power.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.153
ANSWERED ON 20.07.2026

STRENGTHENING TRANSMISSION INFRASTRUCTURE IN BIHAR

153. SHRI AKHILESH PRASAD SINGH:

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

(a) whether Government has reviewed the adequacy of interstate transmission infrastructure supplying electricity to Bihar in view of increasing industrial and urban demand;

(b) whether transmission constraints have affected power reliability in Patna and adjoining districts;

(c) the measures taken to improve grid resilience against extreme weather events; and

(d) whether additional high-capacity transmission corridors are proposed to meet future electricity demand in Bihar?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a), (b) & (d): The Transmission Resource Adequacy Plan of Bihar upto the year 2034-35 has been finalised in June, 2025 considering the anticipated demand, generation capacity, demand pattern, operational feedback from Eastern Region Load Dispatch Centre (ERLDC) and State Load Dispatch Centre (SLDC).The resource adequacy plan is reviewed on regular basis by the Central Transmission Utility of India Limited (CTUIL), Central Electricity Authority (CEA), Eastern Regional Power Committee (ERPC) and Bihar State Power Transmission Company Limited (BSPTCL) through transmission planning studies and coordination meetings.

Presently, the Inter-State Transmission System (ISTS) network in Bihar comprises of about 17,160 ckm of transmission line and 26,475 MVA transformation capacity including 500MW High Voltage Direct Current (HVDC) at Pusauli (Sasaram). CTUIL publishes the Transmission Plan for the ISTS transmission system on rolling basis every year, taking into account load growth, generation addition and changes in demand projections, including increasing industrial and urban demand. Based on these assessments, the required transmission works are identified and implemented to ensure reliable and secure power supply to Bihar and other States.

No transmission constraints have been observed in the ISTS or the Intra-State transmission system in Patna and the adjoining districts. Further, the ISTS transmission scheme for reconductoring the Kahalgaon–Farakka 400 kV D/c line with High Temperature Low Sag (HTLS) conductor is under implementation to enhance the reliability of power supply to the State.

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Further, to facilitate evacuation of power from the 3x800 MW Super Thermal Power Plant (STPP) Pirpainti, Bhagalpur and from 3x800 MW Thermal Power Plant, Stage-II Nabinagar, the transmission system is under implementation by BSPTCL. These transmission work will strengthen the state transmission network and help meet the future electricity demand in Bihar.

(c) : For creating resilient transmission infrastructure, the recommended measures mentioned in the "Report of Task Force on Cyclone Resilient Robust Electricity Transmission and Distribution Infrastructure in the Coastal Areas" are to be implemented by implementing agency. Further, following measures are taken by BSPTCL, to improve grid resilience against extreme weather conditions:

i. Pile foundations are being constructed for transmission towers located in flood-prone areas to reduce damage during floods.

ii. Emergency Restoration Systems (ERS) are strategically deployed across various BSPTCL locations for rapid restoration of transmission lines during emergencies such as tower collapse, storms, floods or accidental damage.

iii. Routine preventive maintenance of Sub-Stations and transmission lines.

iv. Hotline maintenance of transmission lines and Sub-Stations on live equipment to maintain power continuity without disrupting the power system.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.154
ANSWERED ON 20.07.2026

PROMOTION OF BIOMASS-BASED POWER GENERATION

154. SHRI SANJAY RAUT:

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

(a) whether Government has assessed the potential of agricultural residues for electricity generation and production of renewable fuels through advanced biomass technologies;

(b) details of incentives, financial assistance and policy support provided for biomass-based power projects, waste-to-energy plants and biomass collection, storage and transportation infrastructure;

(c) whether thermal power plants have been directed to enhance co-firing of biomass pellets to reduce stubble burning and air pollution and if so, the details thereof; and

(d) targets fixed for biomass-based power generation, reduction in carbon emissions, employment generation and utilisation of agricultural residues under various schemes during the last three years, year-wise?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): Yes. The Ministry of Power, through the Central Electricity Authority (CEA) in 2026 has carried out an Evaluation Study for Assessment of Biomass Availability and Related Aspects in India, through Administrative Staff College of India (ASCI), Hyderabad. As per the study, it is estimated that gross agricultural biomass in India is around 903 Million Metric Tonne (MMT). The surplus biomass is around 206 MMT which can be utilized for power generation and production of bio-fuels besides other alternative uses.

(b): The Government has taken various measures, including incentives, financial assistance and policy support, to promote biomass-based power projects, waste-to-energy plants, and the development of biomass collection, storage and transportation infrastructure, as below:-

(i) Central Financial Assistance (CFA) under the National Bioenergy Programme of the Ministry of New and Renewable Energy (MNRE).

Ministry of New and Renewable Energy (MNRE) supports the installation of Bioenergy Projects in the country under National Bioenergy Programme (NBP), which was notified on 02.11.2022, for the period 2022-23 to 2025-26. The details of Central Financial Assistance (CFA) provided is given at **Annexure-I**.

(ii) Crop Residue Management (CRM) Scheme in the States of Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and NCT of Delhi.

Ministry of Agriculture & Farmers Welfare (MoA&FW) has implemented a Central Sector Scheme on Crop Residue Management (CRM) w.e.f. 2018-19. Under CRM scheme, Credit Linked Back Ended Subsidy @ 65% is provided on the capital cost of machines for establishment of paddy straw supply chain projects. The details of CRM Scheme is given at **Annexure-II**.

(iii) Swacch Bharat Mission-Urban 2.0 (SBM-U 2.0)

Under SBM-U 2.0 being implemented by the Ministry of Housing and Urban Affairs (MoHUA), Additional Central Assistance (ACA) is available to ULBs at the rate of Rs.18 crore/ 100 tonne per day for setting up of waste to energy plants.

(c): Yes. The Ministry of Power has issued policy directions from time to time to enhance biomass co-firing in coal-based thermal power plants for reducing stubble burning and improving air quality. The major measures include:

The Ministry of Power (MoP) issued a policy on 17.11.2017 to promote utilisation of biomass through co-firing in coal-based thermal power plants. The policy was subsequently modified on 08.10.2021, 03.05.2023 and 06.06.2023 to facilitate its implementation and strengthen the biomass ecosystem in the country.

MoP issued revised Comprehensive Policy for Co-firing of Biomass pellets [including Torrefied Charcoal made from Municipal Solid Waste (MSW)] in Coal based Thermal Power Plants in November 2025, as per which "All Coal based Thermal Power Plants (TPPs) of power generation utilities in the NCR shall on annual basis use 5% blend (by weight) of biomass pellets and additional 2% blend (by weight) either from biomass pellets and/or torrefied charcoal made from Municipal Solid Waste (MSW) w.e.f. FY 2025-26. TPPs in other regions shall on annual basis use 5% blend (by weight) either from biomass pellets and/or torrefied charcoal made from MSW along with coal w.e.f. FY 2025-26".

(d) : No separate year-wise national targets have been fixed for biomass-based power generation, carbon emission reduction, employment generation and utilization of agricultural residues under all biomass-related schemes taken together.

However, implementation of the biomass co-firing policy measures has resulted in significant utilisation of agricultural residues through biomass co-firing in coal-based thermal power plants, generating additional income opportunities for farmers and reduction in farm fire incidents.

As on 30th June, 2026, 75 thermal power plants have co-fired around 63.06 Lakh Metric Tonnes (LMT) of biomass, resulting in avoidance of approximately 75.6 LMT of CO_2 emissions. The year-wise quantity of biomass co-fired in Thermal Power Plants (TPPs) is given below:

Parameter	FY 2023-24	FY 2024-25	FY 2025-26
Biomass pellets utilised (MT) in TPPs	3,74,857	16,18,450	30,71,938

Besides, co-firing in TPPs, the country has also established 10,869 MW of biomass-based power generation plants and the year-wise generation is given below:

Parameter	FY 2023-24	FY 2024-25	FY 2025-26
Biomass based Power Generations (in MUs)	14,242.78	13,073.99	14,082.05

MT- Metric Tonnes
MUs- Million Units
TPPs- Thermal Power Plants

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ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PARTS (b) OF UNSTARRED QUESTION NO. 154 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Central Financial Assistance (CFA) Pattern under NBP (National Bioenergy Programme) of the Ministry of New and Renewable Energy (MNRE)

Waste to Energy Programme	Central Financial Assistance (CFA) in Rs Crore
Biogas generation	Rs 0.25 Crore per 12,000 cum/day (Maximum CFA- Rs. 5.00 Crores/project)
Compressed Bio-Gas (CBG) generation	Rs 4.0 Crore per 4800 kg/day (for CBG generation from new biogas plant) Rs 3.0 Crore per 4800 kg/day (for CBG generation from existing biogas plant) (Maximum CFA- Rs. 10.00 Crores/project)
Power generation based on Biogas	Rs 0.75 Crore/MW (for power generation from new biogas plant) Rs 0.5 Crore/MW (for power generation from existing Biogas plant) (Maximum CFA- Rs. 5.00 Crores/project)
Power based on bio & agro-industrial waste	Rs 0.4 Crore/MW (Maximum CFA- Rs. 5.00 Crores/project)
Biomass Gasifier	Rs. 2,500 per kWe with dual fuel engines for electrical application Rs. 15,000 per kWe with 100% gas engines for electrical application Rs. 2 lakh per 300 kWth for thermal applications

Note: 20% higher CFA under Waste to Energy (WTE) programme for special category states (NE Region, Sikkim, Himachal Pradesh and Uttarakhand, Jammu & Kashmir, Ladakh, Lakshadweep, Andaman & Nicobar Islands) and Gaushalas/Shelters.

Biomass Programme	CFA
Briquette manufacturing plants	Rs. 9.00 Lakhs/ Tonnes Per Hour (TPH) (Maximum CFA- Rs. 45.00 Lakh per project).
Non-Torrefied Pellet manufacturing plant	Rs. 21 lakhs/ TPH production capacity or 30% of the capital cost considered for plant and machinery of 1 TPH plant, whichever is lower (Maximum Rs. 105 lakhs per project)
Torrefied Pellet manufacturing plant	Rs. 42 lakhs/ TPH production capacity or 30% of the capital cost considered for plant and machinery of 1 TPH plant, whichever is lower (Maximum Rs. 210 lakhs per project)
Non-Bagasse Cogeneration Projects	Rs. 40 Lakhs/ Megawatt (Maximum CFA- Rs. 5.00 Crore per project).

Biogas Programme	CFA
Small biogas plants (1-25 m^3/day plant capacity)	Rs. 9,800/- to Rs. 70,400/- per plant based on size of the plant in cubic meter
For Power generation and thermal application (25 - 2500 m^3/day capacity)	Rs. 35,000/- to Rs. 45,000/- per kilowatt for power generation Rs. 17,500/- to Rs. 22,500/- per kilowatt equivalent for thermal applications. *Note: 20% higher than Standard CFA for NE Region, Islands, Registered Gaushalas and SC/ST beneficiaries);*

MW- Megawatt TPH- Tons per Hour KW- Kilo Watt Cum-Cubic Meter

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ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PARTS (b) OF UNSTARRED QUESTION NO. 154 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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CRM (Crop Residue Management) Scheme of Ministry of Agriculture and Farmers Welfare (MoAFW)

Paddy stubble burning in Punjab, Haryana, and Uttar Pradesh is one of the factors contributing to air pollution in Delhi-NCR. However, paddy stubble burning is limited to the months of October and November.

To support the efforts of the Governments of Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and NCT of Delhi to address air pollution caused due to paddy stubble burning and to subsidize machinery required for management of crop residue, a Central Sector Scheme on Crop Residue Management has been implemented w.e.f. 2018-19.

Under this scheme, financial assistance @ 50% is provided to the farmers for purchase of crop residue management machinery and @ 80% is provided to Rural Entrepreneurs (Rural youth and farmer as an entrepreneur), Cooperative Societies of Farmers (Agriculture/ Horticulture/Makhana etc.), Day-NRLM Cluster Level Federations and Self Help Groups (SHGs), Farmer Producer Organizations (FPOs) and Panchayats for establishment of Custom Hiring Centres of crop residue management machines.

Financial support of 65% on the capital cost of machines costing up to Rs. 1.50 Crore is also provided to paddy supply chain projects on the capital cost of machinery and equipment like higher HP Tractors, Cutters, Tedder, Medium to large Balers, Rakers, Loaders, Grabbers & Telehandlers.

Financial assistance to the States and ICAR is also provided for undertaking Information, Education and Communication activities for mass awareness of farmers on crop residue management.

The scheme promotes the usage of machines and equipment recommended by Indian Council of Agricultural Research (ICAR) for management of crop residues such as Super Straw Management Systems, Happy Seeder, Super Seeder, Smart Seeder, Zero Till Seed cum Fertilizer Drill, Mulcher, Shrub Master/Rotary Slasher, Paddy Straw Chopper, Hydraulically Reversible Mould Board Plough, Crop Reapers and Reaper Binders for in-situ management of crop residue and Balers & Straw Rakes for collection of straw for further ex-situ utilization.

During the period from 2018-19 to 2026-27 (as on 08.07.2026), Rs. 4,549.096 crores have been released (Punjab - Rs. 2,206.28 crores, Haryana - Rs. 1,220.42 crores, Uttar Pradesh - Rs. 911.03 crores, Madhya Pradesh - Rs. 90.218 crores, NCT of Delhi - Rs. 6.05 Crores, ICAR - Rs. 107.378 crores & others - Rs. 7.7205 Crores). The states have distributed more than 3.54 lakh machines to the individual farmers and established more than 43,508 CHCs in these States.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.155
ANSWERED ON 20.07.2026

COST AND TIME OVERRUNS AND INDEPENDENT AUDITS

155. SHRI SAJJAD AHMAD KICHLOO:

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

(a) the original sanctioned cost and completion schedule of PakalDul, Kiru, Kwar and Retlay projects vis-a-vis current estimated cost and revised schedule;

(b) the extent to which cloudburst/floods damage has been cited to justify missed deadline, with documentary basis of each instance, project-wise; and

(c) whether escalation is attributable to genuine natural causes or fund diversions/deviations under other heads and a project-wise statements of such diversions/deviations, if any?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : The original sanctioned cost and original completion schedule of PakalDul, Kiru, Kwar and Ratle Hydroelectric Projects (HEPs) vis-à-vis the anticipated cost and anticipated completion schedule are as under:

Sl. No.	Name of HEPs	Capacity (MW)	Original Sanctioned Cost (in ₹ crore)	Original Completion schedule	Anticipated Cost (in ₹ crore)	Anticipated Completion schedule
1	PakalDul	1000	8,112	April, 2020	12,728	March, 2027
2	Kiru	624	4,288	September, 2023	5,409	March, 2027
3	Kwar	540	4,526	November, 2026	4,526*	March, 2028
4	Ratle	850	5,282	February, 2026	5,282*	November, 2028

*No cost overrun is anticipated.

(b) & (c): The Project-wise details of the reasons for delay in completion of PakalDul, Kiru, Kwar and Ratle HEPs are at **Annexure.**

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ANNEXURE

ANNEXURE REFERRED IN REPLY TO PARTS (b) & (c) OF UNSTARRED QUESTION NO. 155 ANSWERED IN THE RAJYA SABHA ON 20.07.2026

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Project-wise details of reasons for delay in the hydroelectric projects

Sl. No.	Project	Reasons of delay
1	PakalDul HEP 1000 MW	1. Initial delay due to court case during tendering process. 2. Impact of Covid-19 pandemic. 3. Major Slope Failure at Adit Tunnel site of Tunnel Boring Machine (TBM). 4. Other delays such as Strike by labour Union, frequent tool downs, delay in providing encumbrance free land from the administration, agitations by local residents and PAFs, etc.
2	Kiru HEP 624 MW	1. Impact of Covid-19 pandemic. 2. Road Damages due to flood and interface activities, road blockages/ local issues, strike by labour union, frequent tool down etc. 3. Delayed supply of parts of dam tower crane from different countries during Covid-19 pandemic.
3	Kwar HEP 540 MW	1. Delay in award of Hydro-Mechanical (HM) and Electro-Mechanical (E&M) packages of the project. 2. Strike by labour Union, frequent tool downs etc.
4	Ratle HEP 850 MW	1. High monsoon discharge breached dykes, flooding of diversion tunnels. 2. Controlled and restricted blasting at dam due to inhabited areas which affected progress of excavation. 3. Due to miscellaneous factors like labour strike, disturbance by local residents due to land issues etc.

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GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.156
ANSWERED ON 20.07.2026

STRENGTHENING ENERGY SECURITY

156 # SHRI MAHENDRA BHATT:

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

(a) the key measures being taken by Government at present to strengthen the country's energy security; and

(b) the details of its strategy to reduce dependence on imported fuel?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b): Ministry of Power has diversified its electricity generation by optimal energy mix to strengthen the energy security. As on 30.06.2026, the country's total installed generation capacity has reached to 5,48,858 MW, comprising of 2,51,489 MW (45.82 % of total installed capacity) of fossil-fuel sources i.e. Coal & Lignite, Gas, Diesel and 2,97,369 MW (54.18 % of total installed capacity) of non-fossil fuel sources i.e. Solar, Wind, Hydro, Nuclear and Biomass.

Government has taken a number of steps to strengthen energy security and reduce dependence on imported fuel as given below:

i. Capacity addition from non-fossil Sources: Thrust is on capacity addition from non-fossil sources, which now exceeds 54% of the total installed electricity generation capacity. Further, Government has planned to achieve 500 GW of non-fossil fuel based installed generation capacity by 2030. During FY 2025-26 alone, India added around 55.3 GW of non-fossil generation capacity, including 44.6 GW of solar capacity and 6.1 GW of wind capacity.

ii. Capacity addition from Conventional Sources: It is projected to increase the installed capacity of coal-based plants to 315 GW by 2035-36. Keeping in view energy security, no gas based and imported coal-based power plants have been planned.

iii. Further, as part of the Government's efforts to reduce import dependence, the Ministry of Power, in coordination with the Central Electricity Authority (CEA), has facilitated trial use of domestic coal at Imported Coal-Based (ICB) power plants through blending to reduce dependence on imported coal while ensuring reliable power generation.

iv. Nuclear power has huge potential to ensure long term energy security and is vital for India's clean energy transition towards Net Zero by 2070. It is a clean and environment friendly source of base load power. The lifecycle emissions of nuclear power are comparable to those of renewables like hydro and wind. The Government of India has set an ambitious target of 100 GW nuclear power capacity by 2047.

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v. Energy Storage Systems are being encouraged to strengthen the energy security and grid stability during high demand period.

vi. As on May 2026, the country has about 5,08,535 circuit kilometer (ckm) of transmission lines (220 kV and above voltage level), transformation capacity of around 1,469 GVA (220 kV and above voltage level), and inter-regional transmission capacity of 1,20,340 MW, enabling reliable transfer of power across regions. Transmission System is being expanded commensurate with the growth in Generation capacity addition and growth in electricity demand.

vii. Government of India launched the Revamped Distribution Sector Scheme (RDSS) in July 2021 with the objective of improving the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient distribution sector.

In addition to above, the Government of India has taken several steps and initiatives to promote and accelerate renewable energy capacity in the country to further strengthen the country's energy security, as below:

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. 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).

viii. 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.

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

x. 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.

xi. The Ministry of Heavy Industries has launched the PLI scheme namely "National Programme on Advanced Chemistry Cell (ACC) Battery Storage," approved in May 2021 with a total outlay of ₹18,100 crore to establish 50 GWh of domestic Advanced Chemistry Cell manufacturing capacity, out of which 10 GWh is earmarked for Grid Scale Stationary Storage (GSSS) applications.

xii. Ministry of Power has issued guidelines for the installation and operation of EV charging infrastructure in Sep'24 and guidelines for installation and operation of battery swapping and battery charging stations in Jan'25, facilitating the development of a robust, accessible charging network for electric vehicles.

xiii. To promote e-mobility and e-cooking, the Bureau of Energy Efficiency (BEE) under Ministry of Power has conducted several digital outreach, influencer engagements, public events.

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