

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
STARRED QUESTION NO.90
ANSWERED ON 08.02.2024**

CSR ACTIVITIES BY NTPC

**†*90. SHRI ARUN KUMAR SAGAR:
SHRI ASHOK KUMAR RAWAT:**

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

- (a) the details of the works undertaken by National Thermal Power Corporation Limited (NTPC) for social welfare related works under the Corporate Social Responsibility (CSR) during the last three years and the current year;**
- (b) the details of the amount of funds spent on various works during the said period and the place-wise number of people benefitted from the same;**
- (c) whether the Government has fixed any criteria regarding utilization of funds under CSR;**
- (d) if so, whether the Government proposes to take some effective steps to ensure that the funds under CSR are spent particularly in the backward and Scheduled Caste dominated areas;**
- (e) if so, the details thereof;**
- (f) whether the Government has received any Social Audit Report to monitor the CSR activities undertaken by the NTPC; and**
- (g) if so, the details and the outcome thereof?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

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

STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (g) IN RESPECT OF LOK SABHA STARRED QUESTION NO.90 FOR REPLY ON 08.02.2024 REGARDING CSR ACTIVITIES BY NTPC ASKED BY SHRI ARUN KUMAR SAGAR AND SHRI ASHOK KUMAR RAWAT.

(a) : The details of works undertaken & the amount of funds spent by NTPC for social welfare related works under Corporate Social Responsibility (CSR) during the last three years and the current year are enclosed as Annexure-I.

(b) : Location-wise details of the amount of funds spent by NTPC under CSR, during the last three years and the current year are enclosed as Annexure-II.

(c) to (e) : Department of Public Enterprises (DPE) has issued guidelines on CSR activities which stipulates that it would be mandatory for all CPSEs which meet the criteria as laid down in Section 135 of the Companies Act, 2013, to spend at least 2% of the average net profits of the three immediately preceding financial years in pursuance of their CSR activities as stipulated in the Companies Act, 2013 and the CSR Rule. This stipulated percentage of average net profits is to be spent every year in a manner specified in the Companies Act, 2013 and CSR Rules. In case a company fails to spend such amount, it shall have to specify the reasons for not spending it. However, in case of CPSEs mere reporting and explaining the reasons for not spending this amount in a particular year would not suffice and the unspent CSR amount in a particular year would not lapse. It would instead be carried forward to the next year for utilization for the purpose for which it was allocated. As mentioned in the Act, CPSEs should give preference to the 'local area' in selecting the location of their CSR activities.

DPE has also been issuing guidelines from the financial year 2018-19 onwards to all administrative Ministries and CPSEs for adopting annual theme-based focussed approach on CSR expenditure by the CPSEs. These

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instructions, inter-alia, provide that CSR expenditure for such thematic programmes should be around 60% of annual CSR expenditure of CPSEs and the Aspirational districts, as identified by NITI Aayog, may be given preference in CSR expenditure. The details of annual CSR theme prescribed by DPE since 2018-19 are as under:

Year	Theme
2018-19	School Education and Health care
2019-20	School Education, Healthcare & Nutrition
2020-21	Health & Nutrition
2021-22	Health & Nutrition, with special focus on Covid related measures including setting up makeshift hospitals and temporary COVID Care facilities
2022-23	Health & Nutrition
2023-24	Health & Nutrition

Most of the NTPC's stations are located in areas having significant populations of communities belonging to Backward classes and Scheduled castes. The benefits of the CSR activities, which are inclusive in nature, extend to all the communities including that of Backward classes and Scheduled castes.

(f) & (g) : C&AG undertakes thematic audit of CSR expenditure of the CPSEs to assess the correctness of planning and implementation of CSR policy/project in accordance with the relevant provisions of the Company Act/Rules/Guidelines. In addition to that NTPC's stations undertake the regular Need Assessment Surveys (NAS) and Societal Impact Evaluation (SIE) at regular intervals as per NTPC's policy for CSR.

ANNEXURE-I**ANNEXURE REFERRED TO IN PART (a) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO. 90 ANSWERED IN THE LOK SABHA ON 08.02.2024 REGARDING CSR ACTIVITIES BY NTPC**

The details of works undertaken by NTPC for social welfare related works under CSR**(Figure in Rs. Cr.)**

Focus area	2020-21	2021-22	2022-23	2023-24 (Provisional as on 31.12.2023)	People Benefitted
Health	268.71	153.54	123.71	26.35	Approx. 16,00,000 persons per year benefitted from various CSR activities of NTPC undertaken majorly in the vicinity of NTPC Stations & Projects located across the country.
Education	62.01	59.78	21.87	15.49	
Environment & Sustainable Development Activities	32.77	30.98	37.65	21.47	
Infrastructure Development	26.70	16.95	14.04	8.62	
Drinking Water	3.08	9.59	6.90	4.09	
Swachh Vidyalaya Abhiyan	0.00	38.42	62.79	9.73	
Sanitation	14.27	4.84	2.22	1.83	
Construction of Roads	3.40	3.86	4.39	1.77	
Vocational Training	0.95	7.24	4.86	1.56	
Cul/ Sports/ Animal	2.41	5.33	14.79	9.49	
Support to Divyangjans	1.44	0.40	0.01	0.32	
Women Empowerment	0.78	7.24	5.49	0.68	
Others	2.34	18.56	16.60	0.60	
Total	418.87	356.72	315.32	101.98	

ANNEXURE-II

ANNEXURE REFERRED TO IN PART (b) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO. 90 ANSWERED IN THE LOK SABHA ON 08.02.2024 REGARDING CSR ACTIVITIES BY NTPC

NTPC Plant/station/Region HQ wise CSR expenditure

(Figure in Rs. Lakhs.)

Sl. No	NTPC Station/Project/Region/CC	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24 (as on 31.12.2023)
1	Anta Gas Power Project	293.16	409.21	134.42	7.65
2	Auraiya Gas Power Project	293.26	342.99	119.58	73.62
3	Badarpur Thermal Power Station	549.78	642.93	572.88	321.41
4	Barauni Thermal Power Plant			12.95	
5	Barh Thermal Power Plant	26.38	74.25	536.20	329.12
6	Bongaigaon Thermal Power		118.61	95.67	117.75
7	Coal Mining Head Quarters**		5.46	92.95	29.60
8	Corporate Center*	28093.16	15957.76	13073.47	1616.33
9	Dadri Gas Power Project		61.38		21.90
10	Dadri Thermal Power Project	1269.43	1077.19	669.22	56.23
11	Darlipali STPP	5.80	23.36	351.57	11.48
12	Dadri Badarpur & Faridabad-HQ**	26.75	2.28	***-1.41	0.65
13	Dulanga Coal Mining Project		162.45	64.36	
14	Eastern Region HQ Patna**	43.05	336.22	548.64	390.92
15	ERHQ II**	395.84	108.59	131.24	78.79
16	Farakka Super Thermal Power	787.91	1086.26	897.34	119.44
17	Faridabad Gas Power Station	130.61	146.28	126.30	93.41
18	Feroz Gandhi Unchahar Thermal	463.35	423.04	286.38	314.51
19	Gadarwara STPP	27.70	197.51	25.62	37.33
20	Hydro HQ**	19.47		17.50	22.95
21	Jhanor- Gandhar Gas Power Project	109.49	106.97	191.03	76.88
22	Kahalgaon Super Thermal Power	717.32	1106.01	1912.31	349.69
23	Kanti TPS			89.76	35.71
24	Kawas Gas Power Project	63.54	84.71	197.22	57.19
25	Kerendari 'A' Coal Mining Proj		0.00		
26	KHARGONE STPP	157.01	370.57	57.18	25.58
27	Koldam Hydro Project	24.53	16.84	155.66	88.62
28	Korba Super Thermal Power Project	513.34	2582.43	757.00	144.42
29	Kudgi STPP	13.36	33.39	298.94	360.93

30	Lara STPP		63.70	121.36	11.77
31	Mouda Super Thermal Power	62.09	1.94	10.32	119.53
32	Nabinagar STPS			650.51	145.50
33	Nokhra Solar PV Project -300MW		15.25		
34	North Karanpura Thermal Power	1.32	323.55	40.76	7.51
35	Northern Region Head Quarters**	964.90	1461.01	1518.22	783.43
36	Pakri Barwdih Coal Mining Pro.		518.52	156.60	15.01
37	Rajiv Gandhi CCPP	435.70	370.30	30.42	130.88
38	Ramagundam Super Thermal Power	435.73	702.95	472.74	426.59
39	Rihand Super thermal Power	1174.69	986.81	354.87	236.46
40	Simhadri Thermal Power Project	49.53	697.84	998.72	314.46
41	Singrauli Super Thermal Power	390.09	670.75	212.21	109.08
42	Sipat Super Thermal Power Proj	773.05	561.00	1616.80	433.28
43	Solapur STPP	435.17	210.84	266.27	595.93
44	Southern Region Head Quarters**	***-40.33	27.79	39.74	281.25
45	T&CC Office Kolkata	11.40			
46	Talaipalli Coal Mining Project	0.00	195.88	438.92	82.35
47	Talcher Super Thermal Power	534.41	1184.52	942.51	293.44
48	Talcher Thermal Power Station	885.79	944.49	464.23	56.62
49	Tanda Thermal Power Project	147.46	131.15	270.50	109.26
50	Tapovan Vishnugad hydro Project		0.00		78.94
51	Telengana Super Thermal Power	328.46	182.99	333.84	11.83
52	Vindhyachal Super Thermal Power Project	498.80	895.82	662.92	365.60
53	Western Region Head QuartersII**	773.81	23.54	297.46	138.62
54	Western Region Head Quarters**	0.25	24.41	218.51	668.78
	Grand Total	41886.57	35671.77	31532.41	10198.24

*** The CSR Spent by Corporate Office is made pan India across various states in multiple CSR Activities like Support to PMCARES Fund to fight COVID-19 pan India, Support to Archery Sport, Support to DOTs-Cum-DMC Programme, Support to NFNDRC etc.**

**** The CSR Spent by Regional Head quarters is made in multiple states in their region on various CSR Activities**

***** Accounting adjustment from previous years**

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.925
ANSWERED ON 08.02.2024**

INSTALLATION OF FGDs IN THERMAL POWER PLANTS

925. SHRI GAURAV GOGOI:

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

- (a) whether the Government is aware that none of the States in the Eastern Region, including Bihar and Assam has any thermal power plants currently complying with the emission norms with slow progress in Odisha, Jharkhand and West Bengal;**
- (b) if so, the details of the mechanism adopted by the Government to ensure compliance with installing Flue Gas Desulfurization (FGD) to control SO₂ emissions by the said plants in the region;**
- (c) whether the Government is also aware that there is no information available about on-ground inspections conducted by State-level regulatory bodies for the installation of FGDs in the said plants; and**
- (d) if so, the details and the outcomes thereof, State-wise?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) to (d) : All Thermal Power Plants are required to comply with the emission norms as notified by the Ministry of Environment, Forest and Climate Change (MoEF&CC) and directions given by Central Pollution Control Board (CPCB) from time to time.

Thermal Power Plants located in the States of the eastern region, including Bihar, West Bengal, Odisha, Assam and Jharkhand, are in the various stages of up-gradation and installation of emission control equipments as per the timelines specified vide MoEF&CC Notification dated 05.09.2022.

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For compliance to Sulphur dioxide (SO₂) emission norms, Thermal Power Plants are installing Flue Gas De-sulphurisation (FGD) equipment, for which the timelines for compliance (for non-retiring units) as specified by MoEF&CC are as follows:

Sl. No.	Category	Location/Area	Timelines
1	Category A	Within 10 km radius of National Capital Region (NCR) or cities having million plus population (as per 2011 census of India)	Upto 31st December 2024
2	Category B	Within 10 km radius of Critically Polluted Areas or Non-attainment cities (as defined by CPCB)	Upto 31st December 2025
3	Category C	Other than those included in category A and B	Upto 31st December 2026

For non-compliance beyond the specified timelines, MoEF&CC has prescribed following environment compensation on the non-retiring thermal power plants:

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

The compliance of emission norms is being monitored by Central Pollution Control Board (CPCB) and the concerned State Pollution Control Boards (SPCBs) in the States. Central Electricity Authority (CEA) assists CPCB in monitoring the progress of installation of FGD by the TPPs. The monitoring is done for all stages of FGD installation viz; Feasibility Study Started, Feasibility Study Completed, Tender Specifications Made, NIT Issued, Bids Awarded and FGD Commissioned. The time limit for Thermal Power Plants to comply with SO₂ emission parameters has not lapsed.

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.927
ANSWERED ON 08.02.2024**

DECOMMISSION OF COAL-BASED POWER PLANTS

927. SHRI VISHNU DAYAL RAM:

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

- (a) whether the Government has issued any guidelines for decommissioning of coal-based power plants for safe management, handling and disposal of hazardous substances and dismantling of scrapped thermal power plant sites;**
- (b) if so, the details of coal-based power plants decommissioned during the last three years, State-wise including Jharkhand;**
- (c) whether the Government has taken any action to rehabilitate the labourers and casual workers who lost their jobs after decommissioning of a coal-based power plant; and**
- (d) if so, the details thereof and if not, the reasons therefor?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) to (d) : For safe management, handling and disposal of hazardous substances and dismantling of scrapped thermal power plants and disposal, Thermal Power Plants (TPPs) are required to follow various rules and regulations, guidelines such as:-

- I. Adherence with the environmental norms as applicable under the Water (Prevention and Control of Pollution) Act, 1976 and the Air (Prevention and Control of Pollution) Act, 1981.**
- II. Adherence with the Hazardous Waste Management Rules, 2016, Solid Waste Management Rules, 2016 and E-waste Management Rules, 2022,**

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III. Adherence to Factory Act-1948

Generation is a de-licensed activity as per Section 7 of the Electricity Act, 2003. Decision to decommission a coal based thermal unit and rehabilitating the labourers and casual workers who may lose their jobs after decommissioning of a coal-based power plant is taken by power generating companies based on their own techno-economic & commercial considerations and environmental reasons. In general, the labourers and casual workers who may lose their work after a coal based unit is decommissioned, gets reemployed in other available assignments of the utility on a case to case basis.

19 coal based units of 2344 MW capacity have been retired in the last three years i.e. from 01.01.2021 to 31.01.2024 including Jharkhand. The State-wise list of retired coal-based units is given at Annexure.

The Central Electricity Authority has issued an advisory to all the Thermal Power Utilities not to retire or repurpose their coal based power stations (units having capacity of more than 200 MW) before 2030 and to ensure the availability of thermal units after carrying out Renovation and Modernization (R&M) activities, if required, considering the expected energy demand scenario and availability of capacity in future.

ANNEXURE**ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (d) OF UNSTARRED QUESTION NO. 927 ANSWERED IN THE LOK SABHA ON 08.02.2024**

**List of coal based Thermal Units Retired in the last three years
(from 01.01.2021 to 31.01.2024)**

Sl. No.	Name of Station/Plant	State	Fuel	Unit No.	No of Units	Installed Capacity (MW)	Retired (MW)	Retired on
1	BOKARO `B` TPS	Jharkhand	Coal	3	1	210 (1*210)	210	01.04.2021
2	Korba-III	Chhattisgarh	Coal	1,2	2	240 (2*120)	240	01.01.2021
3	TALCHER (OLD) TPS	Odisha	Coal	1,2,3, 4,5,6	6	460 (4*60+ 2*110)	460	01.04.2021
4	Koradi TPS	Maharashtra	Coal	7	1	210 (1*210)	210	02.09.2021
5	MUZAFFARPUR TPS	Bihar	Coal	1,2	2	220 (2*110)	220	31.01.2022
6	Bandel TPS	West Bengal	Coal	1	1	60(1*60)	60	28.03.2022
7	Kolaghat TPS	West Bengal	Coal	1,2	2	420 (2*210)	420	28.03.2022
8	OBRA TPS	Uttar Pradesh	Coal	7	1	94 (1*94)	94	13.10.2022
9	DURGAPUR TPS	West Bengal	Coal	4	1	210 (1*210)	210	19.12.2022
10	PARICHHA TPS	Uttar Pradesh	Coal	1,2	2	220 (2*110)	220	11.10.2023
Total					19		2344	

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.944
ANSWERED ON 08.02.2024**

MODERNIZATION OF NATION'S ELECTRICITY MARKET

**944. DR. KRISHNA PAL SINGH YADAV:
SHRI UNMESH BHAIYYASAHEB PATIL:
DR. SHRIKANT EKNATH SHINDE:
DR. SUJAY RADHAKRISHNA VIKHE PATIL:
DR. HEENA VIJAYKUMAR GAVIT:
PROF. RITA BAHUGUNA JOSHI:
SHRIMATI RANJEETA KOLI:
SHRI SUMEDHANAND SARASWATI:
DR. MANOJ RAJORIA:**

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

- (a) the total quantity of power produced in the country till now;**
- (b) the details of the initiatives the Government has implemented to modernize and restructure the nation's electricity market particularly to facilitate the seamless integration of renewable energy sources into the power grid, ensuring optimal utilization of electricity generation resources;**
- (c) the details of the corrective measures taken by the Government to ensure the financial stability of the power sector, including Discoms, electricity consumers and power generation companies; and**
- (d) the initiatives implemented by the Government to enhance the efficiency of the power sector and achieve substantial reductions in transmission and distribution losses?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) to (d) : The power demand in the country has gone up by 50.8 percent in energy terms from 2013-14 to 2022-23. The peak demand has gone up from 135918 MW in 2013-14 to 243271 MW in September 2023. We have been able to meet the increase in demand because we added 196558 MW of capacity between 2014 to 2023 which includes 104059 MW of RE capacity. The details of the quantum of power generated in the country during the last three years and the current year 2023-24 (till December, 2023) is given at Annexure.

In order to accommodate the substantial capacity addition, the Government of India planned and added 1,89,052 circuit kilometer (ckm) of transmission lines, in the same period (2013-14 to 2022-23) connecting the whole country into one grid running on one frequency with the capability of transferring 1,16,540 MW from one corner of the country to another, also further integrating the whole country into one national market.

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We have introduced new products in the Exchange for Renewable Energy such as the Green Day Ahead Market and the Green Term Ahead Market.

India has one of the fastest growing Renewable Energy Capacities in the world and have emerged as the most favoured destination for investment in Renewables in the world. Govt have constructed Green Energy Corridors and put in place 13 Renewable Energy Management Centres. Presently Renewable Energy Capacity is 180800 MW and 103660 MW is under installation.

Government has made concerted efforts to make Power Sector viable. The AT&C losses have come down from 25.72% in 2014-15 to 15.40% in 2022-23. All current payment of Gencos are up-to-date and the legacy dues of Gencos have come down from Rs. 1,39,947 crore as on 03.06.2022 to Rs. 49,451 crore as on 31.01.2024. The subsidy payment to DISCOMS on account of subsidies announced by State Government are up-to-date.

In order to reduce the AT&C losses, the Government of India has implemented the following steps:

- (i) Provided funds under DDUGJY and IPDS to install meter on unmetered connections; and installed covered wire in loss prone areas to make theft difficult;**
- (ii) Put in place energy accounting and energy audit system;**
- (iii) Revised prudential norms to ensure that no loans are given by REC/PFC to DISCOMS which are making losses, unless they draw up a plan to reduce the losses, get their State Government approval on it and file it with the Government of India; and follow up on these steps;**
- (iv) Put in place a merit order despatch system to ensure that cheaper power is despatch first;**
- (v) Reduced the late payment surcharge to reduce the burden on the DISCOMS;**
- (vi) Put in place rules to ensure that if the Genco is not paid for the power supplied, the access to the power exchange of the defaulting DISCOMS is automatically cut off;**
- (vii) Put in place an incentive of an additional borrowing space of 0.5% of GDP for the State, if the DISCOMS puts in place loss reduction measures;**
- (viii) Provided that no funds will be given under RDSS to loss making DISCOMS unless they put in place measures to reduce their losses; and**
- (ix) Put in place Rules to ensure that the tariff is up-to-date.**

As a result of the above measures, the power sector has become viable and profitable.

ANNEXURE**ANNEXURE REFERRED IN REPLY TO PARTS (a) TO (d) OF UNSTARRED QUESTION NO. 944 ANSWERED IN THE LOK SABHA ON 08.02.2024**

The details of total quantity of power produced in the country in the last three years and the current year 2023-24(till December, 2023)

(All figures are in MU)

Fuel		2020-21	2021-22	2022-23	2023-24 (upto Dec)
THERMAL	COAL	950937.55	1041487.43	1145907.58	932258.66
	DIESEL	126.31	117.24	229.71	300.5
	HIGH SPEED DIESEL	0	0	0	0
	LIGNITE	30505.68	37094.04	36188.34	24324.57
	MULTI FUEL				
	NAPTHA	101.41	0	0.83	0
	NATURAL GAS	50842.59	36015.77	23884.21	23903.53
THERMAL Total		1032513.54	1114714.48	1206210.67	980787.26
NUCLEAR		43029.08	47112.06	45861.09	36263.36
HYDRO		150299.52	151627.33	162098.77	114757.77
Bhutan Import		8765.5	7493.2	6742.4	4672.1
Renewable Energy Sources (excluding large hydro)		147247.508	170912.297	203552.685	172488.39
Grand Total		1381855.15	1491859.37	1624465.61	1308968.88

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.1020
ANSWERED ON 08.02.2024**

LATE PAYMENT SURCHARGE RULES

**1020. SHRI G.M. SIDDESHWAR:
SHRI RAJESHBHAI CHUDASAMA:**

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

- (a) whether the strict implementation of the Late Payment Surcharge (LPS) Rules would bring back financial viability of the power sector in the country and would attract investors to ensure reliable 24x7 electricity to consumers;**
- (b) if so, the total outstanding dues of State Distribution Companies (Discoms) before and after the implementation of LPS Rules; and**
- (c) the details of the steps taken/being taken by the Government to strengthen the financial viability of the power sector?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) & (b) : One of the key indicators of financial distress of the DISCOMs is mounting power purchase dues towards the Generation Companies (GENCOs). With the implementation of Electricity (LPS and Related Matters) Rules, 2022, a remarkable improvement has been seen in recovery of outstanding dues. The total outstanding dues of States which were at Rs. 1,39,947 cr as on 03.06.2022, have reduced to Rs. 49,452 Cr. after timely payment of eighteen (18) monthly installments as on 31.01.2024. Distribution companies are also paying their current dues in time to avoid regulation of open access under the Rule.

This Rule has not only ensured that the outstanding dues are liquidated but has also ensured that the current dues are paid in time. It may be seen that the Rule has played a vital role towards ensuring the financial discipline in DISCOMs. This would facilitate investment in the sector necessary to sustain 24x7 electricity supply to consumers.

(c) : Government of India has been implementing various performance linked and result oriented schemes with the objective to have a financially secure, viable and sustainable power sector (distribution segment in particular). These initiatives have been designed to tackle financial and operational issues to bring in desired financial discipline in DISCOMs and State Governments.

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Details of steps taken are:

- (i) Putting in place Rules to ensure timely payment for subsidy declared by State Government.**
- (ii) Ensuring that the tariffs are up to date.**
- (iii) Ensuring timely Energy Accounting and Energy Audit.**
- (iv) Ensuring that the GENCOs are paid on time.**
- (v) Putting in place revised Prudential Norms providing that no DISCOM or GENCO of a State Government will be able to get loans from PFC/ REC if the DISCOM is making a loss, unless the DISCOM, with the approval of the State Government, works out a plan for loss reduction and files it with the Central Government, and adheres to that loss reduction trajectory.**
- (vi) Putting in place an incentive of an additional borrowing space of 0.5% of GDP if the DISCOM implements loss reduction measures.**
- (vii) Under DDUGJY, IPDS and SAUBHAGYA a total of 1.85 lakh Cr works were executed and 2,927 new sub-stations have been added, upgradation of 3,965 existing sub-stations has been carried out, 6,92,200 Distribution Transformers have been installed, Feeder separation of 1,13,938 Circuit Kilometer (Ckm) has been done and 8.35 Lakh Ckm of HT and LT lines have been added/ changed, covered wire in high loss areas were provided, works like Gas insulated substation, underground cabling, aerial bunched cable etc. were taken up.**
- (viii) Further, the Government of India has launched Revamped Distribution Sector Scheme (RDSS) 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 crore and a Gross Budgetary Support of Rs. 97,631 crore from Government of India over a period of five years from 2021-22 to FY 2025-26. So far infrastructure works amounting to Rs. 1.22 lakh crore and smart metering works amounting to Rs. 1.30 lakh crores have been sanctioned. Infrastructure works sanctioned mainly includes 15.32 lakh Ckm new/to be upgraded HT & LT lines, 4.78 lakh new/ to be upgraded distribution transformers, 1,110 new/ to be upgraded substations etc. Implementation of these works would eventually contribute in the improvement of financial viability of Discoms which will benefit the end consumer.**
- (ix) Providing that loss making DISCOMs will not be able to draw funds under any Power Sector Scheme of Gol unless they put in place measures for loss reduction.**

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.1036
ANSWERED ON 08.02.2024**

COAL MINING PROJECT AFFECTED FAMILY

1036. SHRI CHANDRA PRAKASH CHOUDHARY:

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

- (a) whether the Government has taken any step or legal action against National Thermal Power Corporation (NTPC) Limited for non-compliance of RFCTLARR Act 2013 provision at Pakri Barwadih coal mining project at Jharkhand and if so, the details thereof;**
- (b) whether the Government has any alternative redressal machinery to protect the legal rights of Pakri Barwadih project affected family at Jharkhand and if so, the details thereof;**
- (c) whether the Government has any plan for proper rehabilitation and re-settlement of Pakri Barwadih coal mining project affected family and if so, the details thereof; and**
- (d) the action taken so far in this regard?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) : The provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013 does not apply to Pakri Barwadih Coal Mining Project, as, all the notifications and benefits extendable to landowners and Project Affected Families (PAFs) were decided prior to the effective date of implementation of the RFCTLARR Act 2013, i.e before 01.09.2015.

(b) : There is provision for settlement of disputes of compensation through Tribunal setup under Section 14(2) of Coal Bearing Areas (Acquisition and Development), Act, 1957.

(c) & (d) : Regarding Rehabilitation and re-settlement of Pakri Barwadih coal mining Project Affected Families, the Government of Jharkhand has issued a Resolution i.e. Sankalp (Sankalp No 116/R dated 27.02.2013) for the compensation / benefits that are to be extended to the landowners and PAFs. The provisions of Sankalp are being complied with.

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.1089
ANSWERED ON 08.02.2024**

CONTRIBUTION OF PRIVATE SECTORS IN POWER GENERATION

†1089. SHRI GUMAN SINGH DAMOR:

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

- (a) the details of total requirement of electricity and the quantum of electricity being supplied compared to it;**
- (b) the details of the efforts being made to increase power generation;**
- (c) the details of the contribution of private sectors in power generation along with the rate at which the power generated from private sector is being purchased;**
- (d) the details of the efforts being made to increase the private sector investment in power generation; and**
- (e) whether there is any plan to provide 24x7 three-phase power for agriculture sector and if so, the target date to provide 24 hours electricity to the farmers?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a): There is adequate availability of power in the country. We have addressed the critical issue of power deficiency by adding 196558 MW of generation capacity since April 2014 transforming our country from power deficiency to power sufficiency. We have increased the generation capacity by 72.3% from 248554 MW in March 2014 to 428299 MW in December 2023. The gap between Energy Requirement and Energy Supplied has come down from 4.2% in 2013-14 to 0.3% in 2023-24. Even this gap between Energy Requirement and Energy Supplied is generally on account of constraints in the State transmission/distribution network and financial constraints of DISCOMs etc.

The details of all India Energy Requirement and Energy Supplied during the last three years and the current year i.e. 2023-24 (upto December 2023) are given at Annexure-I.

(b): We have taken following steps to meet the increased demand for power in the country:

(i) In order to ensure an uninterrupted power supply for the nation's growth, the anticipated capacity addition between 2023-32 is given below:

(a) 26380 MW of Thermal Capacity is under construction, 11960 MW has been bid out and 19050 MW under clearances. The total anticipated Thermal capacity addition by 2031-32 will be 93380 MW.

(b) 18033.5 MW of Hydro Capacity (including stalled projects) is under construction and the total anticipated Hydro capacity addition by 2031-2032 is likely to be 42014 MW.

(c) 8000 MW of Nuclear Capacity is under construction and the total anticipated Nuclear capacity addition by 2031-2032 will be 12200 MW.

(d) 103660 MW of Renewable Energy Capacity is also currently under construction and the anticipated RE capacity addition by 2031-32 will be 322000 MW.

Thus, total 156073.5 MW of Capacity is under construction and the total anticipated capacity addition by 2031-2032 will be 469594 MW.

(ii) India has committed to augment its non fossil fuel based installed electricity generation capacity to over 500000 MW by 2030. Transmission plan for integration 500000 MW RE capacity by 2030 is being implemented in a phased manner commensurate with RE capacity addition. At present about 180800 MW of non fossil fuel generation capacity is already integrated.

(iii) Setting up of Ultra Mega Renewable Energy Parks to provide land and transmission to RE developers for installation of RE projects at large scale.

(iv) Govt have constructed Green Energy Corridors and put in place 13 Renewable Energy Management Centres. Presently Renewable Energy Capacity is 180800 MW and 103660 MW is under installation.

(v) We have made the Power Sector viable. The AT&C losses have come down from 25.72% in 2014-15 to 15.40% in 2022-23. Since implementation of LPS Rules, legacy dues of Gencos have come down from Rs. 1,39,947 crore as on 03.06.2022 to Rs. 49,451 crore as on 31.01.2024. Further, Discoms are making payments for current overdues on time

(c) & (d) : As on 31.12.2023, total installed capacity in the country is 428299 MW out of which the contribution of private sector is approximately 219691 MW. The rate, at which power generated from private sector is being purchased, is given at Annexure-II.

Generation is a de-licensed activity as per the Electricity Act, 2003. The details of the efforts being made by the Government to increase investment in power generation including the private sector are as under:

(i) 100% FDI in the power sector in India is permitted for generation from all sources (except atomic energy)

(ii) Waiver of Inter State Transmission System (ISTS) charges for inter-state sale of solar and wind power for projects to be commissioned by 30th June 2025,

(iii) Declaration of trajectory for Renewable Purchase Obligation (RPO) up to the year 2029-30;

(iv) Setting up of Ultra Mega Renewable Energy Parks to provide land and transmission to RE developers for installation of RE projects at large scale;

(v) Laying of new transmission lines and creating new sub-station capacity under the Green Energy Corridor Scheme for evacuation of renewable power;

- (vi) Setting up of Project Development Cell for attracting and facilitating investments;**
- (vii) Notification of Promoting Renewable Energy through Green Energy Open Access Rules 2022;**
- (viii) Notification of prescribed trajectory for RE power bids to be issued by Renewable Energy Implementation Agencies from FY 2023-24 to FY 2027-28. Under the trajectory, 50 GW/annum of RE bids to be issued;**
- (ix) Tariff rationalization measures for bringing down hydro power tariff;**
- (x) Budgetary Support to Cost of Enabling Infrastructure, i.e. roads/bridges for Hydro project including pump storage project.**
- (xi) Guidelines to promote development of Pumped Storage Projects issued on 10.04.2023.**

(e) : The Indian power sector has come a long way in past decade transforming from a power deficit to a power sufficient nation. Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) scheme was implemented to achieve the objective of separation of agriculture and non-agriculture feeders, strengthening and augmentation of sub-transmission & distribution infrastructure in rural areas and metering in rural areas. With an investment of 1.17 lakh crores, 18374 villages have been electrified. Besides this, 2927 new substations have been added, upgradation of 3965 existing sub stations has been carried out, 6,92,200 Distribution Transformers have been installed, Feeder separation of 1,13,938 Circuit Kilometer (CKm) has been done and 8.5 Lakh Circuit Kilometer (CKm) of HT and LT lines have been added/changed. As a result of these measures, the availability of power in rural areas has increased from 12 hours in 2015 to 20.6 hours in 2023.

Further, under the ongoing Revamped Distribution Sector Scheme (RDSS), agricultural feeder segregation is an important component as part of Distribution Infrastructure works. Segregated feeders dedicated for supply of power for agricultural consumption will be solarised under PM-KUSUM for supply of cheaper power thereby benefitting the DISCOMs and State Governments with reduced burden of subsidy. This shall further facilitate a reliable power supply to the agriculture consumers.

ANNEXURE-I**ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 1089 ANSWERED IN THE LOK SABHA ON 08.02.2024**

The details of all India Energy Requirement and Energy Supplied during the last three years and the current year i.e. 2023-24 (upto December 2023) :

Years	Energy			
	Energy Requirement	Energy Supplied	Energy not Supplied	
	(MU)	(MU)	(MU)	(%)
2020-21	12,75,534	12,70,663	4,871	0.4
2021-22	13,79,812	13,74,024	5,787	0.4
2022-23	15,13,497	15,05,914	7,583	0.5
2022-23 (upto December, 2022)	11,39,280	11,33,197	6,084	0.5
2023-24 (upto December, 2023*)	12,24,291	12,21,152	3,139	0.3

***Provisional**

ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PARTS (c) & (d) OF UNSTARRED QUESTION NO. 1089 ANSWERED IN THE LOK SABHA ON 08.02.2024

The details of rate at which power generated from private sector is being purchased

Sl. No.	Name of Utility/Power Station	Installed Capacity (MW)	UTILITY	Energy Source - Coal/ Gas/ Naptha/ LSHS/ Diesel/ Hydro	Rate of Sale of Power as approved by CERC/SERC (Paise/Kwh)
1	CHUZACHEN HEP	110	GATI INFRA. PVT. LTD.	HYDRO-HYDRO	384
2	SHRINAGAR HEP	330	ALAKNANDA HPCL	HYDRO-HYDRO	659
3	JAYPEE VISHNUPRAYAG HEP	400	JP POWER VENTURES LTD	HYDRO-HYDRO	118
4	MALANA HEP	86	MALANA PCL	HYDRO-HYDRO	467
5	MALANA STAGE- II HPS	100	EVEREST PPL	HYDRO-HYDRO	390
6	KARCHAM WANGTOO HEP	1045	JSW HYDRO ENERGY LTD.	HYDRO-HYDRO	287
7	BASPA II HEP	300	JSW HYDRO ENERGY LTD.	HYDRO-HYDRO	219
8	ALLAIN DUHANGAN HEP	192	AD HYDRO POWER LTD.	HYDRO-HYDRO	463
9	BHIRA	300	TATA POWER COM. LTD.	HYDRO-HYDRO	152
10	BHIVPURI	75	TATA POWER COM. LTD.	HYDRO-HYDRO	385
11	KHOPOLI	72	TATA POWER COM. LTD.	HYDRO-HYDRO	649
12	BHANDARDARA HEP PHASE II	34	DODSON LINDBLOM HYDRO	HYDRO-HYDRO	252
13	ULLUNKAL	7	KSEB	HYDRO-HYDRO	244
14	IRUTTUKKANAM	5	KSEB	HYDRO-HYDRO	282
15	KARIKKAYAM	15	KSEB	HYDRO-HYDRO	416
16	MEENVALLOM	3	KSEB	HYDRO-HYDRO	488
17	PATHANKAYAM	8	KSEB	HYDRO-HYDRO	349
18	CHANJU I HEP	36	IA HYDRO ENERGY PVT LTD	HYDRO-HYDRO	384
19	BUDHIL HEP	70	BUDHIL	HYDRO-HYDRO	347
20	MAHATMA GANDHI TPP JHAJJAR POWER LIMITED	1320	CLP INDIA PVT. LTD.(JHAJJAR POWER LTD)	THERMAL-COAL	451
21	GAMA INFRAPROP 225 MW GAS BASED CCPP	214	GAMA INFRAPROP PVT.	THERMAL-GAS RLNG	603
22	JP BINA TPP	500	JP POWER VENTURES LTD	THERMAL-COAL	504
23	JNSTPP(JAYPEE NIGRIE) SUPER THERMAL POWER PLANT	1320	JP POWER VENTURES LTD	THERMAL-COAL	239
24	ANUPPUR THERMAL POWER STATION	1200	MB POWER	THERMAL-COAL	429
25	ESSAR POWER MP LTD (Mahan Energy Ltd.) adani plant	1200	ESSAR POWER MP LTD	THERMAL-COAL	229
26	JHABHUA POWER LTD	600	JHABUA POWER LTD	THERMAL-COAL	490
27	JSW ENERGY (BARMER) LTD/RAJ WESTPOWER LTD. RAJASTHAN	1080	JSW ENERGY LTD.	THERMAL-LIG	420
28	RAJPURA TPS	1400	NABHA POWER LTD.(PSPCL)	THERMAL-COAL	438
29	TALWANDI SABO POWER LTD.	1980	TALWANDI SABO POWER LTD.	THERMAL-COAL	473

30	KHAMBERKHERA	90	BAJAJ ENERGY PVT. LTD.	THERMAL-COAL	574
31	BARKHERA	90	BAJAJ ENERGY PVT. LTD.	THERMAL-COAL	571
32	MAQSOODAPUR	90	BAJAJ ENERGY PVT. LTD.	THERMAL-COAL	562
33	UTRAULA	90	BAJAJ ENERGY PVT. LTD.	THERMAL-COAL	556
34	KUNDARKHI	90	BAJAJ ENERGY PVT. LTD.	THERMAL-COAL	540
35	LALITPUR PGCL	1980	LALITPUR PGCL	THERMAL-COAL	529
36	GOINDWAL TPP(GVK)	540	GVK POWER (GOINDWAL SAHIB) LTD	THERMAL-COAL	632
37	ADANI POWER, MUNDRA	1320	ADANI POWER LTD.	THERMAL-COAL	483
38	ADANI POWER, MUNDRA	1320	ADANI POWER LTD.	THERMAL-COAL	
39	ADANI POWER, MUNDRA	1980	ADANI POWER LTD.	THERMAL-COAL	
40	Raipur Energen Limited	1370	ADANI POWER LTD.	THERMAL-COAL	160
41	ADANI POWER MAHARA. LTDunit 1 to 5	3300	ADANI POWER LTD.	THERMAL-COAL	470
42	ADANI DAHANU	500	AEML	THERMAL-COAL	490
43	AMRAVATI TPP	1350	RATTANINDIA POWER LTD.	THERMAL-COAL	322
44	ADANI POWER RAJASTHAN LTD (1200 MW PPA RAJASTHAN DISCOM)	1320	ADANI POWER LTD.	THERMAL-COAL	444
45	VEDANTA LTD. (P. P. -I)	30	VEDANTA LTD. (EARLIER-SESA STERELITE LTD/GOA ENERGY LTD)	THERMAL-GAS/WHR	240
46	VEDANTA LTD. (P. P. -II)	30	VEDANTA LTD. (EARLIER-SESA STERLITE LTD)	THERMAL-GAS/WHR	240
47	145 MW POWER PLANT (STATION- I)	145	GUJARAT INDUSTRIES PCL	THERMAL-GAS	712
48	SURAT LIG. P P (SLPP STATION -I)	250	GUJARAT INDUSTRIES PCL	THERMAL-LIG	275
49	SURAT LIG. P P (SLPP STATION -II)	250	GUJARAT INDUSTRIES PCL	THERMAL-LIG	297
50	LANCO AMARKANTAK TPP PATHADIH, U-I	300	LANCO AMARKAN. POWER LTD.	THERMAL-COAL	325
51	LANCO AMARKANTAK TPP PATHADIH, U-II	300	LANCO AMARKAN. POWER LTD.	THERMAL-COAL	467
52	JINDAL POWER LTD. STPPS-I	1000	JINDAL POWER LTD., TAMNAR	THERMAL-COAL	469
53	JINDAL POWER LTD. STPPS-II	2400	JINDAL POWER LTD., TAMNAR	THERMAL-COAL	445
54	TROMBAY UNIT 5	500	TATA POWER COM. LTD.	THERMAL-COAL	517
55	TROMBAY UNIT 7	180	TATA POWER COM. LTD.	THERMAL-GAS	448
56	TROMBAY UNIT 8	250	TATA POWER COM. LTD.	THERMAL-COAL	546
57	MUNDRA UMPP	4150	TATA POWER COM. LTD.	THERMAL-COAL	265
58	KARUPPUR VILLAGE TANJORE	120	LANCO TANJORE PCL	THERMAL-GAS	407
59	SBU 1 JSW ENERGY LTD. VIJAYANAGAR	260	JSW ENERGY LTD.	THERMAL-IMP COAL & GAS	627
60	SBU 2 JSW ENERGY LTD. VIJAYANAGAR	600	JSW ENERGY LTD.	THERMAL-IMP COAL	662
61	SBU 3 JSW ENERGY LTD. U-I, Ratnagiri	1200	JSW ENERGY LTD.	THERMAL-IMP COAL	226
62	LANCO KPL MODULE 1	368	LANCO KONDAPALLI POWER LTD.	THERMAL-GAS/N	235
63	HINDUJA NATIONAL PCL	1040	HINDUJA NATIONAL PCL	THERMAL-COAL	447
64	RAIGARH ENERGY GENERATION LTD	600	ADANI POWER LTD.	THERMAL-COAL	160

65	UDUPI POWER COR. LTD.(karnatak Discom-1080 MW)	1200	ADANI POWER LTD.	THERMAL-COAL	612
66	SPECTRUM POWER GENERATION LTD. (GODAVARI GAS POWER COMBINED CYCLE POWER PLANT)	208	SPECTRUM PG LTD.	THERMAL-GAS/N	1723
67	TAQA NEYVELI POWER COM. PVT. LTD.	250	TAQA NEYVELI	THERMAL-LIG	513
68	IL&FS TN P COM. LTD. U1	600	IL&FS TAMILNADU POWER COMPANY LTD	THERMAL-COAL	499
69	IL&FS TN P COM. LTD. U 2	600	IL&FS TAMILNADU POWER COMPANY LTD	THERMAL-COAL	436
70	BUDGE BUDGE	750	CESC LIMITED	THERMAL-COAL	307
71	SOUTHERN GENERATING STATION	135	CESC LIMITED	THERMAL-COAL	422
72	HALDIA ENERGY	600	HALDIA ENERGY LTD.	THERMAL-COAL	526
73	DISHERGARH POWER STATION	12	INDIA POWER CORPN.	THERMAL-COAL	531
74	KAMALANGA TPS	1050	GMR KAMALANGA ENERGY LTD.	THERMAL-COAL	337
75	ADHUNIK POWER U-1	270	ADHUNIK POWER	THERMAL-COAL	405
76	ADHUNIK POWER U-2	270	ADHUNIK POWER	THERMAL-COAL	
77	JHARSUGUDA ,VEDANTA LTD U1,3,4	1800	VEDANTA LTD.	THERMAL-COAL	370
78	JHARSUGUDA ,VEDANTA LTD 1215 MW TPP CAPTIVE	1215	VEDANTA LTD.	THERMAL-COAL	370
79	Lanigarh,VEDANTA LTD 90 MW COGENERATION TPP CAPTIVE	90	VEDANTA LTD.	THERMAL-COAL	370
80	JHARSUGUDA ,VEDANTA LTD U2	600	VEDANTA LTD.	THERMAL-COAL	251
81	JOJOBERA UNIT 1	68	TATA POWER COM. LTD.	THERMAL-COAL	596
82	JOJOBERA UNIT 2	120	TATA POWER COM. LTD.	THERMAL-COAL	359
83	JOJOBERA UNIT 3	120	TATA POWER COM. LTD.	THERMAL-COAL	379
84	JOJOBERA UNIT 4	120	TATA POWER COM. LTD.	THERMAL-COAL	443
85	JOJOBERA UNIT 5	120	TATA POWER COM. LTD.	THERMAL-COAL	152
86	JOJOBERA PH 6	120	TATA POWER COM. LTD.	THERMAL-WHR	67
87	MAITHON UNIT 1 & 2	1050	TATA POWER COM. LTD.	THERMAL-COAL	408
88	KALINGANAGAR-IEL U1	68	TATA POWER COM. LTD.	THERMAL WASTE GAS	168
89	KALINGANAGAR-IEL U2	68	TATA POWER COM. LTD.	THERMAL WASTE GAS	168
90	PPGCL	1980	TATA POWER COM. LTD.	THERMAL-COAL	339
91	SKS POWER GENERATION CHHATTISGARH LTD(SPGCL)	1200	SKS POWER GENERATION CHHATTISGARH LTD(SPGCL)	THERMAL COAL	324
92	RKMPPL UCCHPINDA THERMAL POWER PROJECT(360x4)	1440	RKM POWERGEN PVT LTD	THERMAL-COAL	421
93	DHARIWAL INFRASTRUCTURE LTD	300	DIL	THERMAL-COAL	407
94	DHARIWAL INFRASTRUCTURE LTD	300	DIL	THERMAL-COAL	428
95	SASAN POWER	3960	SASAN POWER LTD	THERMAL-COAL	153
96	Maruti Clean Coal and Power Limited,Bandhakar, The-Palli	300	Maruti Clean Coal and Power Limited	THERMAL-COAL	344
97	Anpara C TPS	1200	LANCO anpara	THERMAL-COAL	274

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.1090
ANSWERED ON 08.02.2024**

POWER GENERATION FROM VARIOUS SOURCES

†1090. SHRI HAJI FAZLUR REHMAN:

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

- (a) the details of the installed capacity of power generation in Central/State/private sectors and the percentage of electricity being generated from various sources in the country during the year 2023-24, State/UT-wise;**
- (b) the targets set and achieved for electricity generation from various sources during the years 2022-23 and 2023-24; and**
- (c) the details of power generation capacity increased in various sectors in the country during the last year and the details of future plans formulated by the Government to enhance the power generation capacity and to meet the increasing electricity demand in the country?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) : The sector-wise All India Installed Capacity of power generation, as on 31.12.2023, is given at Annexure-I. The State/UT and source-wise details of the Electricity Generation and percentage share of conventional sources during the year 2023-24 (up to December, 2023) is given at Annexure-II. The details of State/UT and source-wise Generation from Renewable Energy (RE) sources during current year 2023-24 (up to December, 2023) are given at Annexure-III.

(b) : The generation target and electricity generation during the years 2022-23 and 2023-24 is given at Annexure-IV.

(c) : There has been generation capacity addition of 28802 MW during the period from March, 2022 to December, 2023. The details of increase of power generation capacity in various sectors in the country during the last two year and current year upto December 2023 is given at Annexure-V.

Government of India have taken following steps to meet the increased demand for power in the country:

(i) In order to ensure an uninterrupted power supply for the nation's growth, the anticipated capacity addition between 2023-32 is given below:

(a) 26380 MW of Thermal Capacity is under construction, 11960 MW has been bid out and 19050 MW under clearances. The total anticipated Thermal capacity addition by 2031-2032 will be 93380 MW.

.....2.

(b) 18033.5 MW of Hydro Capacity (including stalled projects) is under construction and the total anticipated Hydro capacity addition by 2031-2032 will be 42014 MW.

(c) 8000 MW of Nuclear Capacity is under construction and the total anticipated Nuclear capacity addition by 2031-2032 will be 12200 MW.

(d) 103660 MW of Renewable Energy Capacity is also currently under construction and the anticipated RE capacity addition by 2031-32 will be 322000 MW.

Thus, total 156073.5 MW of Capacity is under construction and the total anticipated capacity addition by 2031-2032 will be 469594 MW.

(ii) 1,89,052 circuit kilometer (ckm) of transmission lines, 6,88,142 MVA of Transformation capacity and 80,590 MW of Inter-Regional capacity has been added connecting the whole country into one grid running on one frequency with the capability of transferring 1,16,540 MW from one corner of the country to another. India's grid has emerged as one of the largest unified grids in the world. Connecting the whole country into one grid has transformed the country into one unified power market. Distribution Companies can buy power at cheapest available rates from any generator in any corner of the country thereby enabling cheaper electricity tariffs for consumers

(iii) India has committed to augment non fossil fuel based installed electricity generation capacity to over 500000 MW by 2030. Transmission plan for integration of 500000 MW RE capacity by 2030 is being implemented in a phased manner commensurate with RE capacity addition.

(iv) Setting up of Ultra Mega Renewable Energy Parks to provide land and transmission to RE developers for installation of RE projects at large scale.

(v) We have reformed the Electricity market by adding the Real Time Market (RTM), Green Day Ahead Market (GDAM), Green Term Ahead Market (GTAM), High Price Day Ahead Market (HP-DAM) in Power Exchanges. Also, DEEP Portal (Discovery of Efficient Electricity Price) for e-Bidding and e-Reverse for procurement of short-term power by DISCOMs was introduced.

(vi) We have constructed Green Energy Corridors and put in place 13 Renewable Energy Management Centres. Presently Renewable Energy Capacity is 180800 MW and 103660 MW is under installation.

(vii) We have made the Power Sector viable. The AT&C losses have come down from 25.72% in 2014-15 to 15.40% in 2022-23. Since implementation of LPS Rules, legacy dues of Gencos have come down from Rs. 1,39,947 crore as on 03.06.2022 to Rs. 49,451 crore as on 31.01.2024. Further, Discoms are making payments for current overdues on time.

ANNEXURE-I

**ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION
NO. 1090 ANSWERED IN THE LOK SABHA ON 08.02.2024**

The detail of the sector-wise All India Installed Capacity

Sector	Installed Capacity (MW)
Central Sector	102274.94
State Sector	106332.93
Private Sector	219691.40
Grand Total	428299.27

ANNEXURE-II

ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 1090 ANSWERED IN THE LOK SABHA ON 08.02.2024

The detail of State/UT and source-wise electricity generation and percentage share of conventional sources during the year 2023-24 (up to December, 23)

(All fig. in MUs)

State	SECTOR	COAL	DIESEL	HIGH SPEED DIESEL	HYDRO	LIGNITE	NAPHTHA	NATURAL GAS	NUCLEAR	Generation Total (in MU)
		% of total (State)	% of total (State)	% of total (State)	% of total (State)	% of total (State)	% of total (State)	% of total (State)	% of total (State)	
Andaman & Nicobar Islands	PVT SECTOR	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	187.02
	STATE SECTOR	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	65.68
Andhra Pradesh	CENTRAL SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8325.01
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20590.93
	STATE SECTOR	95.49	0.00	0.00	4.51	0.00	0.00	0.00	0.00	24657.65
Arunachal Pradesh	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	3752.98
Assam	CENTRAL SECTOR	73.11	0.00	0.00	3.77	0.00	0.00	23.11	0.00	5375.97
	STATE SECTOR	0.00	0.00	0.00	19.55	0.00	0.00	80.45	0.00	1614.68
Bihar	CENTRAL SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43267.06
Chhattisgarh	CENTRAL SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43284.67
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61256.67
	STATE SECTOR	98.37	0.00	0.00	1.63	0.00	0.00	0.00	0.00	15827.91
Delhi	IPP SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	STATE SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	2891.10
Goa	IPP SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gujarat	CENTRAL SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	17.25	82.75	6723.34
	IPP SECTOR	83.68	0.00	0.00	0.00	5.43	0.00	10.89	0.00	40526.71
	PVT SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2134.71
	STATE SECTOR	71.05	0.00	0.00	16.92	9.15	0.00	2.88	0.00	21962.32
Haryana	CENTRAL SECTOR	97.85	0.00	0.00	0.00	0.00	0.00	2.15	0.00	6390.87
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6504.20
	STATE SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8683.59
Himachal Pradesh	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	23150.76
	IPP SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	6738.90
	STATE SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	2379.14
Jammu and Kashmir	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	9641.89
	STATE SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	4284.77
Jharkhand	CENTRAL SECTOR	99.40	0.00	0.00	0.60	0.00	0.00	0.00	0.00	14494.35
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10171.25
	STATE SECTOR	94.81	0.00	0.00	5.19	0.00	0.00	0.00	0.00	1771.31
Karnataka	CENTRAL SECTOR	61.11	0.00	0.00	0.00	0.00	0.00	0.00	38.89	14304.87
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7220.46
	STATE SECTOR	68.77	0.00	0.00	31.23	0.00	0.00	0.00	0.00	23253.79

Kerala	CENTRAL SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	IPP SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	STATE SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	3895.44
Ladakh	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	347.39
Lakshadweep	STATE SECTOR	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	47.80
Madhya Pradesh	CENTRAL SECTOR	91.94	0.00	0.00	8.06	0.00	0.00	0.00	0.00	47244.73
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45766.63
	STATE SECTOR	93.35	0.00	0.00	6.65	0.00	0.00	0.00	0.00	22649.17
Maharashtra	CENTRAL SECTOR	69.15	0.00	0.00	0.00	0.00	0.00	3.58	27.28	23350.32
	IPP SECTOR	99.95	0.00	0.00	0.05	0.00	0.00	0.00	0.00	35009.51
	PVT SECTOR	75.15	0.00	0.00	15.95	0.00	0.00	8.90	0.00	7565.96
	STATE SECTOR	90.61	0.00	0.00	6.83	0.00	0.00	2.56	0.00	44882.17
Manipur	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	248.72
	STATE SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Meghalaya	STATE SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	714.12
Mizoram	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	81.71
Nagaland	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	155.53
Odisha	CENTRAL SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25559.10
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14249.07
	STATE SECTOR	64.30	0.00	0.00	35.70	0.00	0.00	0.00	0.00	13719.19
Puducherry	STATE SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	177.60
Punjab	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	906.62
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18317.91
	STATE SECTOR	67.79	0.00	0.00	32.21	0.00	0.00	0.00	0.00	9217.49
Rajasthan	CENTRAL SECTOR	0.00	0.00	0.00	0.00	17.76	0.00	4.94	77.30	6809.98
	IPP SECTOR	55.41	0.00	0.00	0.00	44.59	0.00	0.00	0.00	11503.61
	PVT SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	STATE SECTOR	96.02	0.00	0.00	1.87	0.00	0.00	2.10	0.00	32534.14
Sikkim	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	2226.29
	IPP SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	1973.30
	STATE SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	4292.76
Tamil Nadu	CENTRAL SECTOR	28.95	0.00	0.00	0.00	37.44	0.00	0.00	33.61	34068.78
	IPP SECTOR	91.66	0.00	0.00	0.00	8.34	0.00	0.00	0.00	12251.63
	STATE SECTOR	80.97	0.00	0.00	12.72	0.00	0.00	6.31	0.00	22483.80
Telangana	CENTRAL SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13470.14
	STATE SECTOR	96.25	0.00	0.00	3.75	0.00	0.00	0.00	0.00	28566.62
Tripura	CENTRAL SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	4580.74
	STATE SECTOR	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	364.98
Uttar Pradesh	CENTRAL SECTOR	94.10	0.00	0.00	0.00	0.00	0.00	2.54	3.36	61194.90
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32472.97
	STATE SECTOR	97.45	0.00	0.00	2.55	0.00	0.00	0.00	0.00	26199.14
Uttarakhand	CENTRAL SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	4807.79
	IPP SECTOR	0.00	0.00	0.00	89.64	0.00	0.00	10.36	0.00	3418.12
	STATE SECTOR	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	4013.19
West Bengal	CENTRAL SECTOR	96.83	0.00	0.00	3.17	0.00	0.00	0.00	0.00	33828.43
	IPP SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4823.90
	PVT SECTOR	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5116.80
	STATE SECTOR	94.93	0.00	0.00	5.07	0.00	0.00	0.00	0.00	25265.64
Bhutan	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4672.10
Grand Total										1136480.49

ANNEXURE-III

**ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 1090
ANSWERED IN THE LOK SABHA ON 08.02.2024**

**The detail of All India Generation from Renewable Energy Sources for the Year 2023-24
(upto Dec 2023)**

(All fig. in MUs)

Name of State/UT	Wind	Solar	Biomass	Bagasse	Small Hydro	Others	Renewable Energy Total
Chandigarh	0.00	9.99	0.00	0.00	0.00	0.00	9.99
Delhi	0.00	154.90	0.00	0.00	0.00	382.05	536.95
Haryana	0.00	701.62	218.99	57.46	178.80	44.91	1201.78
HP	0.00	44.94	0.00	0.00	2314.92	0.00	2359.86
J & K	0.00	0.00	0.00	0.00	347.34	0.00	347.34
Ladkh	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Punjab	0.00	2403.38	440.49	83.69	545.28	0.00	3472.84
Rajasthan	6861.59	28274.90	279.48	0.00	2.56	0.00	35418.53
Uttar Pradesh	0.00	2966.98	24.39	1486.24	126.03	76.69	4680.33
Uttarakhand	0.00	248.85	0.00	186.39	265.05	0.00	700.29
Northern Region	6861.59	34805.56	963.35	1813.77	3779.98	503.65	48727.90
Chhattisgarh	0.00	622.30	1038.31	8.85	134.17	0.00	1803.63
Gujarat	19804.55	9499.73	0.00	0.74	145.11	0.00	29450.12
Madhya Pradesh	3946.61	2696.29	64.85	27.28	355.13	19.86	7110.02
Maharashtra	7121.00	4130.21	228.17	1561.09	684.92	13.92	13739.31
Dadra and Nagar Haveli and Daman and Diu	0.00	11.10	9.71	0.00	0.00	0.00	20.81
Goa	0.00	45.72	0.00	0.00	0.00	5.92	51.64
Western Region	30872.15	17005.34	1341.04	1597.96	1319.33	39.70	52175.53
Andhra Pradesh	7257.52	5990.90	13.38	32.57	95.97	230.68	13621.02
Telangana	242.92	4988.87	3.88	38.82	50.16	108.33	5432.98
Karnataka	9216.22	11119.16	44.20	1637.40	1297.11	0.00	23314.08
Kerala	196.72	840.23	0.00	60.45	612.62	0.03	1710.05
Tamil Nadu	15177.48	8468.41	95.56	423.43	142.21	0.00	24307.08
Lakshadweep	0.00	0.07	0.00	0.00	0.00	0.00	0.07
Puducherry	0.00	9.18	0.00	0.00	0.00	0.00	9.18
Southern Region	32090.85	31416.82	157.01	2192.67	2198.06	339.05	68394.46
Andaman Nicobar	0.00	18.10	0.00	0.00	9.31	0.00	27.41
Bihar	0.00	140.65	0.00	72.73	5.51	0.00	218.89
Jharkhand	0.00	13.23	0.00	0.00	0.00	0.00	13.23
Orissa	0.00	548.77	73.21	0.00	350.59	0.00	972.57
Sikkim	0.00	0.00	0.00	0.00	9.27	0.00	9.27
West Bengal	0.00	119.30	0.00	0.00	163.65	1157.18	1440.13
Eastern Region	0.00	840.05	73.21	72.73	538.32	1157.18	2681.49
Arunachal Pradesh	0.00	1.59	0.00	0.00	0.52	0.00	2.11
Assam	0.00	238.47	0.00	0.00	56.58	0.39	295.44
Manipur	0.00	5.79	0.00	0.00	0.00	1.23	7.02
Meghalaya	0.00	0.00	0.00	0.00	53.60	0.00	53.60
Mizoram	0.00	2.39	0.00	0.00	71.95	0.00	74.34
Nagaland	0.00	0.00	0.00	0.00	72.93	0.00	72.93
Tripura	0.00	3.58	0.00	0.00	0.00	0.00	3.58
North Eastern Region	0.00	251.82	0.00	0.00	255.57	1.62	509.02
All India Total	69824.59	84319.58	2534.61	5677.13	8091.27	2041.21	172488.40

ANNEXURE- IV**ANNEXURE REFERRED IN REPLY TO PART (b) OF UNSTARRED QUESTION NO. 1090 ANSWERED IN THE LOK SABHA ON 08.02.2024**

The details of Generation Target and Electricity Generation during the years 2022-23 and 2023-24**(All fig. in MUs)**

Fuel		2022-23		2023-24 (Upto Dec)	
		Program	Generation	Program (Till December)	Generation
THERMAL	COAL	1181153.00	1145907.58	932087.00	932258.66
	DIESEL	151.00	229.71	84.00	300.50
	HIGH SPEED DIESEL	0.00	0.00	0.00	0.00
	LIGNITE	34170.00	36188.34	27063.00	24324.57
	NAPTHA	0.00	0.83	0.00	0.00
	NATURAL GAS	41914.00	23884.21	23814.00	23903.53
NUCLEAR	NUCLEAR	43324.00	45861.09	34534.00	36263.36
HYDRO	HYDRO	150661.00	162098.77	131808.00	114757.77
Bhutan Import	Bhutan Import	8000.00	6742.40	6702.00	4672.10
Renewable (excl Large Hydro)	Renewable(excl Large Hydro)	184000.00	203552.68	215000	172488
Grand Total		1643373.00	1624465.61	1371092.00	1308968.49

ANNEXURE-V**ANNEXURE REFERRED IN REPLY TO PART (c) OF UNSTARRED QUESTION NO. 1090
ANSWERED IN THE LOK SABHA ON 08.02.2024**

The details of power generation capacity increased in various sectors in the country during the last two year and current year upto December 2023.

(All fig. in MW)

Year	Central Sector	State Sector	Private Sector	All India	Increase in generation capacity
31/03/2022	99005	104855	195637	399497	
31/03/2023	100055	105726	210278	416059	16562
31/12/2023	102275	106333	219691	428299	12240
				Total	28802

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.1109
ANSWERED ON 08.02.2024**

COAL-FIRED POWER STATIONS

1109. SHRI ABHISHEK BANERJEE:

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

- (a) the details on the import of coal during the last five years, including quantities, sources and trends;**
- (b) the details of the lending norms in place for coal-fired power stations, emphasizing financial criteria and environmental compliance;**
- (c) the details of the current framework for Power Purchase Agreements (PPAs) in the coal sector, including key terms and conditions; and**
- (d) the strategies and plans framed for expanding coal-based generation capacity in the near future?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) : The details of coal imported by Domestic Coal Based plants and Imported coal based plants during last five years and the current year is as under:

(All Figures in Million Tonnes)

Period	Receipt of Imported Coal			
	Import by Domestic Coal based Plants (for blending)	Import by Imported Coal based Plant	Total Import	% Growth
2018-19	21.4	40.3	61.7	-
2019-20	23.8	45.5	69.2	12.3%
2020-21	10.4	35.1	45.5	-34.3%
2021-22	8.1	18.9	27.0	-40.6%
2022-23	35.1	20.5	55.6	106.1%
2023-24 (April-December)	17.1	29.5	46.6	3.9%*

***This growth is compared to the corresponding period of 2022-23.**

.....2.

[During the period: April – December (2022-23), the total import was 44.8 MT [Import by Domestic Coal based Plants (for blending) : 28.8 MT + Import by Imported Coal based Plants : 16.0 MT]

Power plants designed on domestic coal use imported coal for blending purpose whereas power plants designed on imported coal import coal for their fuel requirement.

As coal is under open general licence (OGL), power plants import coal as per their preference and source based on their commercial prudence.

(b) : Financial Institutions follow specific lending norms for coal-fired power stations to ensure responsible financing. These norms include maintaining a reasonable capital structure with a maximum Debt: Equity ratio of 80:20 and acceptable financial ratios like Internal Rate of Return (IRR) and debt service coverage ratio (DSCR). Funds are typically provided by consortium of lenders and loan repayment tenor is restricted to 80% of the project's economic life.

Besides this, Environmental compliance is a crucial aspect, with clearances required from relevant authorities such as Ministry of Environment, Forest and Climate Change, State Pollution Control Board, and others. Projects undergo a thorough analysis, considering factors like Environmental Impact Assessment, land acquisition status and potential pollution impact as well as other Statutory clearances related to coal linkage, water allocation and aviation clearance for chimney height for availing financial assistance. Funds are disbursed only upon full compliance with these conditions and documentations.

(c) : Power Purchase Agreements (PPAs) under Section 63 of the Electricity Act, 2003 are guided by the model PPAs issued by the Ministry of Power for procurement of power. The model PPAs inter alia have provisions for Change in Law, Force Majeure, Tariff, Performance Security, consequences of default, Payment Security Mechanism, etc.

Further, Ministry of Power (MoP) has issued the following framework for Power Purchase Agreements (PPAs):

- 1. FOO (Finance, Own and Operate)**
- 2. DBFOO (Design, Build, Finance, Own and Operate)**
- 3. DBFOT (Design, Build, Finance, Operate and Transfer)**

(d) : To ensure an uninterrupted power supply for the nation's growth, the total anticipated thermal capacity addition by 2031-32 will be 93380 MW. Currently, 26380 MW of thermal capacity is under construction, 11960 MW has been bid out and 19050 MW is under clearance. With the addition of this capacity, the installed thermal capacity will be 283000 MW in 2031-32.

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.1111
ANSWERED ON 08.02.2024**

EXPANSION OF THERMAL POWER CAPACITY

**1111. SHRI MANOJ KOTAK:
SHRI GANESH SINGH:
SHRI TAPIR GAO:
SHRI RAVINDRA KUSHWAHA:**

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

- (a) whether the Government proposes for expansion of thermal power capacity in the country;**
- (b) if so, the details thereof and the estimated total cost for expansion of the same;**
- (c) the steps taken by the Government to reduce dependency on coal-based power plants and to decrease emission levels in such thermal power plants; and**
- (d) the details of the percentage of electricity generated from various sources such as coal, gas, hydel and renewable energy since 2014?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) & (b): In order to meet the estimated electricity demand by the year 2031-32, generation planning studies has been carried out by Central Electricity Authority (CEA) considering stressed scenario. As per the study results, it is envisaged that to meet the base load requirement of the country in 2032, the required coal & lignite based installed capacity is 283 GW against the present installed capacity of 214 GW. Considering this, Government of India propose to set up an additional minimum 80 GW coal based capacity by 2031-32.

The estimated capital cost for setting up of new coal based thermal capacity as considered in National Electricity Plan is Rs 8.34 Cr/ MW (at 2021-22 price level). Hence, the thermal capacity addition is expected to entail an expenditure of minimum Rs. 6,67,200 Crs by 2031-32.

.....2.

(c) : To reduce the dependency on coal based power plants, Government has planned to augment non fossil fuel based installed electricity generation capacity to over 5,00,000 MW by 2031-32. To achieve this objective following steps have been taken to promote Renewable Energy in the country:

- **Permitting Foreign Direct Investment (FDI) up to 100 percent under the automatic route;**
- **Waiver of Inter State Transmission System (ISTS) charges for inter-state sale of solar and wind power for projects to be commissioned by 30th June 2025,**
- **Declaration of trajectory for Renewable Purchase Obligation (RPO) up to the year 2029-30;**
- **Setting up of Ultra Mega Renewable Energy Parks to provide land and transmission to RE developers for installation of RE projects at large scale;**
- **Schemes such as Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), Solar Rooftop Phase II, 12000 MW CPSU Scheme Phase II;**
- **Laying of new transmission lines and creating new sub-station capacity under the Green Energy Corridor Scheme for evacuation of renewable power;**
- **Notification of standards for deployment of solar photovoltaic system/devices;**
- **Setting up of Project Development Cell for attracting and facilitating investments;**
- **Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Solar PV and Wind Projects;**
- **Government has issued orders that power shall be dispatched against Letter of Credit (LC) or advance payment to ensure timely payment by distribution licensees to RE generators;**
- **Notification of Promoting Renewable Energy through Green Energy Open Access Rules 2022;**
- **Notification of "The Electricity (Late Payment Surcharge and related matters) Rules (LPS rules);**
- **Launch of Green Term Ahead Market (GTAM) to facilitate sale of Renewable Energy Power through exchanges;**
- **National Green Hydrogen Mission launched with an aim to make India a global hub for production, utilization and export of Green Hydrogen and its derivatives; and,**

- **Notification of prescribed trajectory for RE power bids to be issued by Renewable Energy Implementation Agencies from FY 2023-24 to FY 2027-28. Under the trajectory, 50 GW/annum of RE bids to be issued.**

Further, for reduction of emission levels of thermal power plants, following measures are taken by the Government:

- **MoEF&CC notification dated 07.12.2015 and its subsequent amendments has notified norms in respect of reducing stack emissions such as Suspended Particulate Matter (SPM), SO_x & NO_x from coal based Thermal Power Plants by using Electro Static Precipitator (ESP), Flue Gas Desulphurization (FGD), NO_x Combustion Modification, etc.**
- **Promotion of installation of efficient Ultra Supercritical/Supercritical units over Subcritical Thermal Units.**
- **Biomass co-firing- Ministry of Power has issued policy on Bio-mass Utilization for Power Generation through Co-firing in Coal based Power Plants to use 5-10% blend of biomass pellets made, primarily of agro-residue along with coal after assessing the technical feasibility.**

(d) : The details of the percentage of electricity generated from various sources such as coal, gas, hydel and renewable energy since 2014 is attached as Annexure.

ANNEXURE

ANNEXURE REFERRED IN REPLY TO PARTS (d) OF UNSTARRED QUESTION NO. 1111 ANSWERED IN THE LOK SABHA ON 08.02.2024

Percentage of Electricity Generated From Various Sources

Year-Wise Generation from 2014-15 to 2023-24 (Up to Dec)												
Source Name		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24 (upto Dec)	
		% of Total Gen	% of Total Gen	% of Total Gen	% of Total Gen	% of Total Gen	% of Total Gen	% of Total Gen	% of Total Gen	% of Total Gen	% of Total Gen	
Conventional	Thermal	Coal	72.08	73.45	73.30	72.76	71.77	69.20	68.82	69.81	70.54	71.22
		Lignite	3.20	2.92	2.80	2.66	2.51	2.37	2.21	2.49	2.23	1.86
		Diesel	0.13	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
		Naptha	0.09	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
		Natural gas	3.61	4.00	3.95	3.83	3.62	3.49	3.68	2.41	1.47	1.83
	Sub Total	79.10	80.42	80.07	79.28	77.92	75.07	74.72	74.72	74.25	74.93	
	Nuclear	3.25	3.19	3.05	2.93	2.75	3.35	3.11	3.16	2.82	2.77	
	Hydro	11.64	10.34	9.86	9.64	9.80	11.21	10.88	10.16	9.98	8.77	
	Bhutan Import	0.45	0.45	0.45	0.37	0.32	0.42	0.63	0.50	0.42	0.36	
Conventional Total		94.44	94.39	93.43	92.21	90.79	90.04	89.34	88.54	87.47	86.82	
Renewable Energy	Wind	3.04	2.81	3.70	4.03	4.51	4.65	4.35	4.60	4.42	5.33	
	Solar	0.42	0.63	1.09	1.98	2.85	3.61	4.37	4.93	6.28	6.44	
	Biomass	0.28	0.32	0.34	0.26	0.20	0.21	0.25	0.23	0.19	0.19	
	Bagasse	1.06	1.10	0.80	0.91	0.99	0.78	0.82	0.84	0.79	0.43	
	Small Hydro	0.72	0.71	0.62	0.59	0.63	0.68	0.74	0.70	0.69	0.62	
	Others	0.03	0.02	0.02	0.03	0.03	0.03	0.12	0.15	0.16	0.16	
Renewable Energy Total		5.56	5.61	6.57	7.79	9.21	9.96	10.66	11.46	12.53	13.18	
Grand Total		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.1116
ANSWERED ON 08.02.2024**

ELECTRICITY DISTRIBUTION COMPANIES

1116. SHRI V.K. SREEKANDAN:

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

- (a) whether it is a fact that many electricity distribution companies have achieved the prestigious A+ rating in the latest consumer service rating of Discoms report and if so, the details thereof;**
- (b) whether it is also a fact that there has been a substantial reduction in aggregate technical and commercial losses which were 27 per cent earlier and now have been brought down to 15 per cent and if so, the details thereof;**
- (c) whether it is also true that 12 per cent reduction in the losses of distribution companies, significantly minimized the overall deficit from Rs. 125,000 crore to Rs. 50,000 crore; and**
- (d) if so, the details thereof?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a): A financially sound and operationally strong power sector is vital for achieving the Government of India's mandate of enabling ease of doing business and ease of living. Electricity consumers are the most significant stakeholders in the power industry. In its commitment to enhance the electricity services to consumers, Ministry of Power has introduced various initiatives. Electricity (Rights of Consumer) Rules, 2020 have been promulgated which aims to "empower" consumers with rights and aims to prescribe the minimum standards of service which the DISCOMs are expected to maintain and mainly includes the right to reliable and quality power supply, the right to transparent billing and tariff information, the right to timely and effective grievance redressal, and the right to compensation to be paid by DISCOM for not meeting the standards of performance.

As the power sector seeks to achieve greater consumer satisfaction and reliability, it is imperative for DISCOMs to identify critical areas, key consumer services and meet minimum standards to strengthen their overall performance. Consumer Service rating of DISCOMs (CSR) was launched by Hon'ble Power Minister in 2022. It helped DISCOMs to self-evaluate their performance and also compare it with their peer DISCOMs and national averages. The exercise delves into key parameters of consumer services viz. operational reliability; connection services; metering, billing & collection services and fault rectification & grievance redressal.

As per Consumer Service Rating of Discoms (CSR) Report FY 2022-23, there has been improvement in the number of DISCOMs securing better grading for the services delivered by them to the consumers. While for the year 2022, none of the DISCOMs were in A+ category, for the year 2023, 4 DISCOMs have secured grade of A+ and 8 DISCOMs secured category of A the details of which are placed at Annexure-I.

(b) to (d): Government of India has been implementing various performance linked and result oriented schemes with the objective to have a financially secure, viable and sustainable power sector (distribution segment in particular). These initiatives have been designed to tackle financial and operational issues to bring in desired financial discipline in DISCOMs and State Governments. Details of steps taken are:

- (i) Rules to ensure timely payment for subsidy declared by State Government.**
- (ii) Ensuring that the tariffs are up to date.**
- (iii) Ensuring timely Energy Accounting and Energy Audit.**
- (iv) Ensuring that the GENCOs are paid on time.**
- (v) Revised Prudential Norms providing that a loss making DISCOMs will not be able to draw loans from PFC/ REC or funds under any Power Sector Scheme of GoI unless they put in place measures for loss reduction.**
- (vi) Additional borrowing space of 0.5% of GSDP if the DISCOM implements loss reduction measures.**
- (vii) Under DDUGJY, IPDS and SAUBHAGYA infrastructure works worth Rs. 1.85 lakh Cr were executed.**
- (viii) Further, the Government of India has launched Revamped Distribution Sector Scheme (RDSS) 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 crore and a Gross Budgetary Support of Rs. 97,631 crore from Government of India over a period of five years from 2021-22 to FY 2025-26.**

Fund admissibility to States and DISCOMs will be conditional on their taking steps to improve their operational and financial efficiencies.

As a result of the concerted efforts of the Ministry of Power, the State Governments and Distribution companies to implement the reforms measures and adoption of best practices, Aggregate Technical and Commercial (AT&C) Losses have reduced from 25.72% in FY 2014-15 to 15.40% (Provisional) in FY 2022-23. Reduction in AT&C losses improves the finances of the utilities, which will enable them to better maintain the system and buy power as per requirements, thus benefitting the consumers. Further, the reduction in AT&C losses have resulted in reduction in the Gap between Average Cost of Supply (ACS) and Average Realizable Revenue (ARR). The ACS-ARR Gap has declined from Rs. 0.78/kWh in FY2013-14 to Rs. 0.45/kWh in FY2022-23. Thus, financial health of the DISCOMs is improving. State wise details are attached as Annexure-II.

ANNEXURE-I**ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 1116 ANSWERED IN THE LOK SABHA ON 08.02.2024**

Sl. No.	State	DISCOM Name	Grades
1	Delhi	BSES Rajdhani Power Limited (BRPL)	A+
2	Delhi	BSES Yamuna Power Limited (BYPL)	A+
3	Delhi	Tata Power Delhi Distribution Limited (TPDDL)	A+
4	Uttar Pradesh	Noida Power Company Limited (NPCL)	A+
5	Andhra Pradesh	Andhra Pradesh Central Power Distribution Company Limited (APCPDCL)	A
6	Andhra Pradesh	Andhra Pradesh Eastern Power Distribution Company Limited (APEPDCL)	A
7	Andhra Pradesh	Andhra Pradesh Southern Power Distribution Company Limited (APSPDCL)	A
8	Maharashtra	Adani Electricity Mumbai Limited (AEML)	A
9	Manipur	Manipur State Power Distribution Company Limited (MSPDCL)	A
10	Tamil Nadu	Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO)	A
11	Telangana	Telangana State Northern Power Distribution Company Limited (TSNPDCL)	A
12	Telangana	Telangana State Southern Power Distribution Company Limited (TSSPDCL)	A

ANNEXURE-II**ANNEXURE REFERRED IN REPLY TO PARTS (b) TO (d) OF UNSTARRED QUESTION NO. 1116 ANSWERED IN THE LOK SABHA ON 08.02.2024**

AT&C Loss (%)

	2014-15	2022-23
State Sector	25.78	15.81
Andaman & Nicobar Islands	-	-
Andhra Pradesh	10.55	8.57
Arunachal Pradesh	67.83	57.59
Assam	25.84	16.22
Bihar	43.99	25.01
Chhattisgarh	27.84	16.14
Goa	13.31	11.85
Gujarat	16.06	10.65
Haryana	32.52	12.01
Himachal Pradesh	16.84	10.59
Jammu & Kashmir (JKPDD)	61.27	*
Jharkhand	47.85	30.28
Karnataka	18.71	13.91
Kerala	17.64	7.05
Ladakh	-	30.33
Madhya Pradesh	30.88	20.55
Maharashtra (MSEDCL & BEST)	19.25	18.58
Manipur	48.30	13.82
Meghalaya	40.00	23.97
Mizoram	33.51	26.27
Nagaland	78.48	45.81
Puducherry	13.34	17.49
Punjab	17.20	11.26
Rajasthan	29.28	15.90
Sikkim	42.37	36.69
Tamil Nadu	24.74	10.31
Telangana	13.23	18.65
Tripura	36.23	28.15
Uttar Pradesh	46.32	22.33
Uttarakhand	18.82	15.32
West Bengal	35.35	17.32
Others (NMDC & TCED)	-	10.28
Private Sector	24.66	10.95
Dadra & Nagar Haveli and Daman & Diu (DNHDDPDCL)	-	3.58
Delhi	12.90	7.12
Maharashtra (AEML & TPML)	-	6.48
Odisha	38.30	21.85
Uttar Pradesh (NPCL)	-	8.36
West Bengal (CESC & IPCL)	-	8.15
Gujarat (TP Ahmedabad and Surat)	-	4.02
Grand Total	25.72	15.40

**ACS-ARR Gap
(Rs./kWh)**

	2013-14	2022-23
State Sector	0.83	0.50
Andaman & Nicobar Islands		
Andhra Pradesh	0.18	(0.37)
Arunachal Pradesh	6.59	0.00
Assam	1.00	0.62
Bihar	0.24	0.00
Chandigarh		(3.59)
Chhattisgarh	0.28	0.26
Dadra & Nagar Haveli and Daman & Diu		
Goa	0.01	(0.14)
Gujarat	(0.02)	(0.02)
Haryana	0.75	(0.15)
Himachal Pradesh	0.13	0.86
Jammu & Kashmir	2.66	
Jharkhand	3.39	2.45
Karnataka	0.09	0.32
Kerala	(0.05)	0.34
Ladakh		2.18
Lakshadweep		
Madhya Pradesh	1.25	(0.20)
Maharashtra	0.12	1.24
Manipur	3.01	1.30
Meghalaya	1.56	0.67
Mizoram	4.00	1.71
Nagaland	3.03	(0.32)
Puducherry	(0.18)	0.39
Punjab	(0.05)	0.20
Rajasthan	2.63	0.20
Sikkim	(0.39)	(0.68)
Tamil Nadu	1.81	0.89
Telangana	0.00	1.40
Tripura	0.78	0.60
Uttar Pradesh	2.16	1.19
Uttarakhand	(0.27)	0.72
West Bengal	(0.01)	0.32
Others (NMDC & TCED)		0.85
Private Sector	(0.02)	(0.19)
Dadra & Nagar Haveli and Daman & Diu (DNHDDPDCL)		(0.14)
Delhi	(0.13)	(0.04)
Maharashtra (AEML & TPML)		(0.04)
Odisha	0.15	(0.25)
Uttar Pradesh (NPCL)		(0.79)
West Bengal (CESC & IPCL)		(0.18)
Gujarat (TP Ahmedabad and Surat)		(0.50)
Grand Total	0.78	0.45
