

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
STARRED QUESTION NO.83
ANSWERED ON 27.07.2021

**INSTALLATION OF SULPHUR DIOXIDE REGULATORS IN
POWER PLANTS**

83 # SHRI REWATI RAMAN SINGH:

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

- (a) whether it is a fact that even after the deadline given by Government to install the technology to prevent sulphur dioxide in the black smoke emitted from the power stations, many power companies are yet to install this technology;
- (b) whether it is also a fact that the coal-fired power stations of the country are facing technical difficulties in installing sulphur regulator technology;
- (c) if so, the details thereof; and
- (d) the guidelines issued by Government for immediate installation of sulphur regulator technology in all the power stations of the country?

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

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

STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF STARRED QUESTION NO.83 ANSWERED IN THE RAJYA SABHA ON 27.07.2021 REGARDING INSTALLATION OF SULPHUR DIOXIDE REGULATORS IN POWER PLANTS

(a) to (d) : Coal based power plants are obligated to ensure compliance of the emission control norms, including sulphur dioxide (SO₂) emissions, notified by Ministry of Environment, Forest & Climate Change (MoEF&CC) and directions given by the Central Pollution Control Board (CPCB) from time to time.

As per the latest Notification issued by MoEF&CC on 31.03.2021, a task force has been constituted by the Central Pollution Control Board (CPCB) comprising of representatives from MoEF&CC, Ministry of Power (MoP), Central Electricity Authority (CEA) and CPCB to categorize Thermal Power Plants (TPPs) in three categories and the timelines to install FGD or comply with new emission standards are as follows:

Category and Description	Timelines for compliance	Environment Compensation (Rs. per unit electricity generated) for non-compliance beyond timelines		
		0-180 days	181-365 days	366 days & beyond
Category A - Within 10 km radius of National Capital Region (NCR) or cities having million plus population as per 2011 census of India.	Upto 31.12.2022	0.10	0.15	0.20
Category B - Within 10 km radius of critically polluted areas or Non-Attainment cities as defined by CPCB.	Upto 31.12.2023	0.07	0.10	0.15
Category C - Other than those included in Category A and B.	Upto 31.12.2024	0.05	0.075	0.10

As per the above notification, the earliest timelines for compliance begins from 31.12.2022 for Category A plants and therefore, time is still there for compliance by thermal power plants. Environment compensation proposed to be levied on TPPs by MoEF&CC for non-compliance beyond the timelines will result in expeditious planning by TPPs for installation of sulphur regulator technology.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.933
ANSWERED ON 27.07.2021

**RURAL ELECTRIFICATION IN BALRAMPUR-RAMANUJGANJ
DISTRICT IN CHHATTISGARH**

933 # SHRI RAM VICHAR NETAM:

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

- (a) the number of villages not yet electrified till date in Balrampur-Ramanujganj district of Chhattisgarh, the development block-wise details thereof;
- (b) the villages where electric supply has not yet started till date, even after completion of the work related to electric line extension; and
- (c) the number of applications received for electricity connection till date, alongwith the number of application pending in this regard?

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) & (b) : State Government of Chhattisgarh has reported that all the inhabited un-electrified census villages stand electrified on 28th April, 2018, including Balrampur-Ramanujganj district and that there are no villages where electricity supply has not yet started. Block-wise status of electrification of Balrampur-Ramanujganj district of Chhattisgarh is given at **Annexure**.

(c): State Government of Chhattisgarh has reported that during 1.04.2021 to 15.07.2021, 497 applications (including 251 pending applications as on 31.3.2021) were received for electricity connection, out of which, connection has been served for in respect of 229 applicants.

ANNEXURE

ANNEXURE REFERRED TO IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 933 ANSWERED IN THE RAJYA SABHA ON 27.07.2021

Block-wise status of electrification of Balrampur-Ramanujganj district of Chhattisgarh is as under:-

District	Block	Total No. of Villages	No. of villages Electrified		No. of Un-Electrified Villages
			Grid connection	Off-Grid connection	
Balrampur-Ramanujganj	Balrampur	122	118	4	0
	Rajpur	86	85	1	0
	Ramanujganj	113	113	0	0
	Samri	105	99	6	0
	Shankargarh	89	86	3	0
	Wadrafagar	119	119	0	0
Total		634	620	14	0

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.934
ANSWERED ON 27.07.2021

DEVELOPMENT SCHEMES FOR UTTAR PRADESH

934 SHRI SYED ZAFAR ISLAM:

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

- (a) the details of the schemes launched by the Ministry of Power since 2014 till date along with the details of targets set and achievements made under each of the said schemes; and
- (b) the details of the proposals received from Uttar Pradesh along with the proposals approved and sponsored by the Ministry under the schemes for Uttar Pradesh?

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) : The details of major schemes launched by the Ministry of Power since 2014 are given as under:

i) Integrated Power Development Scheme (IPDS): Ministry of Power, Government of India notified "Integrated Power Development Scheme" (IPDS) on 3rd December'14 for strengthening the power sub-transmission and distribution networks in urban areas. Further, the R-APDRP (Restructured Accelerated Power Development & Reforms Programme) scheme was carried forward and subsumed under IPDS.

ii) Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY): Government of India launched Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) in December, 2014 for rural electrification works including separation of agriculture and non-agriculture feeders, strengthening and augmentation of sub-transmission & distribution infrastructure, metering at distribution transformers/feeders/consumers and electrification of villages across the country.

iii) Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya): Government of India had launched Pradhan Mantri Sahaj Bijli Har Ghar Yojana – "Saubhagya" in October, 2017 to achieve universal household electrification by providing last mile connectivity and electricity connections to all households in rural areas and all poor households in urban areas across the country. Funds are released for sanctioned projects in installments based on the reported utilization of the amount released in the previous installments and fulfillment of stipulated conditions.

The total value of the schemes sanctioned (Including State share, Central share and loan), the value and no. of projects completed, including the State of Uttar Pradesh, and Central share released are furnished as below:

IPDS and subsumed R-APDRP at **Annexure-I**
DDUGJY and SAUBHAGYA at **Annexure-II**

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(b): Under IPDS/DDUGJY, DPRs are prepared by Discoms based upon prioritization of work and to achieve the scheme objectives. These DPRs are recommended by State level Distribution Reforms Committee (SDRC) and approved by the Monitoring Committee.

Details of DPRs submitted by UP Discoms under IPDS and approval thereof are as under:

(Rs. in crore)

Sl. No.	Name of Project	Proposed Cost in DPRs submitted by UP Discoms on IPDS web-portal	Project Cost Sanctioned under IPDS *
1	Sub-Transmission & Distribution network strengthening	6019.81	5379.28
2	IT phase-II	61.49	61.49
3	ERP	118.56	118.56
4	RT-DAS	55.13	54.92
5	GIS	26.00	26.00
	Total	6280.99	5640.25

*Project Management Agency Charges of 0.5% of the project cost amounting to Rs. 28.20 Crore were additionally sanctioned as per IPDS guidelines.

Further, proposals for electrification of the villages and households proposed by the State of Uttar Pradesh under DDUGJY and Saubhagya were sanctioned by the Government of India. The details of project cost sanctioned by the Government of India, based on the techno-economic appraisal by nodal agency REC are as under:

(Rs. in crore)

Sl. No.	Scheme	Proposed Cost in DPRs submitted by UP Discoms	Project cost sanctioned
1.	DDUGJY-New	18868.72	6946.51
2.	DDUGJY-Addl.Infra	14016.00	6289.57
3.	Saubhagya		6188.24
	Total	32884.72	19424.32

The Saubhagya Scheme got closed on 31.03.2019. The State of Uttar Pradesh reported 100% electrification of all the willing un-electrified households in the State, as on 31.03.2021.

Government of UP also submitted various requests for additional sanctions under IPDS much after the prescribed timeline for submission of schemes, and thereafter they could not be considered.

ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 934 ANSWERED IN THE RAJYA SABHA ON 27.07.2021

All amount in Rs. Cr.

IPDS (with R-APDRP subsumed)										
Sl. No.	States/ UTs	No. of Projects	Sanction Cost				Disbursement	Completed Project Detail		
			Total Value of Scheme (Sanction Cost)	Central share	Loan Component by State	State share		Central share disbursed	Projects completed	Value of Projects completed
1	A&N	1	18	11	5	2	10	0	0	0
2	AP	71	1386	829	469	87	763	67	1255	725
3	Arunachal	5	196	172	16	8	103	3	115	57
4	Assam	91	1433	1271	125	37	1149	88	1382	1144
5	Bihar	86	4139	2267	1561	311	1748	76	3365	1542
6	Chhattisgarh	39	1435	677	697	62	587	36	1333	566
7	Delhi	1	198	119	59	20	90	1	198	90
8	Goa	5	164	131	25	8	105	3	113	96
9	Gujarat	94	2284	1217	955	112	1110	94	2284	1110
10	Haryana	25	667	489	134	45	408	21	631	405
11	HP	32	567	510	48	9	466	28	500	438
12	J&K+Ladakh	51	2342	2105	214	24	1047	9	276	195
13	Jharkhand	47	1940	797	1066	76	703	45	1814	653
14	Karnataka	123	2401	1388	875	137	1308	115	2224	1265
15	Kerala	74	1966	924	975	67	842	71	1895	827
16	Maharashtra	138	5118	2416	2448	254	2217	133	5087	2201
17	Manipur	173	562	503	53	7	464	172	444	382
18	Meghalaya	18	302	270	27	5	172	15	275	165
19	Mizoram	19	367	327	35	6	257	17	346	252
20	MP	14	3762	1778	1811	172	1630	11	3611	1600
21	Nagaland	5	162	142	14	7	117	3	144	113
22	Odisha	41	1577	920	542	115	753	30	1187	556
23	Puducherry	3	116	43	70	2	34	2	94	26
24	Punjab	71	2190	918	1227	45	854	68	2065	795
25	Rajasthan	134	3530	1790	1583	158	1322	126	3352	1297
26	Sikkim	10	241	210	23	8	114	3	80	73
27	Tamil Nadu	128	4639	1905	2550	184	2067	127	4546	2051
28	Telangana	61	2096	958	1062	75	913	59	2088	912
29	Tripura	27	399	350	38	11	287	23	299	230
30	UP	255	11821	5532	5725	564	4664	237	11108	4499
31	Uttarakhand	48	1243	1096	111	36	918	46	1128	878
32	West Bengal	82	3773	2166	1303	304	1897	76	3112	1592
Total		1972	63035	34232	25845	2958	29120	1805	56351	26736

Note -

IPDS - Central share is GOI grant, R-APDRP - Central share is GOI loan (convertible to grant). Full disbursement against completed project may not have been made since project is yet to be closed by Discom. Disbursement is made as per guidelines as per project progress and Utilisation of earlier released funds.

ANNEXURE-II

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 934 ANSWERED IN THE RAJYA SABHA ON 27.07.2021

DDUGJY & Saubhagya - Status of Sanction & Release (as on 30.06.2021)

Rs. in crore

Sr. No.	State	Subsumed RE^				DDUGJY New				DDUGJY - Additional Infra for electrification of Hhs				Saubhagya				Cost of Closed projects	
		Sanction Project Cost	Grant involved	State share and loan component	Fund Released (grant + Loan)	Sanction Project Cost	Grant involved	State share and loan component	Grant Released	Sanction Project Cost	Grant involved	State share and loan component	Grant Released	Sanction Project Cost	Grant involved	State share and loan component	Grant Released	No. of project closed	Cost of projects
1	Andhra Pradesh	78	70	8	59	941	565	376	477	-	-	-	-	-	-	-	-	16	563
2	Arunachal Pradesh	170	153	17	84	427	363	64	228	292	248	44	130	323	275	48	153	22	1,195
3	Assam	1768	1591	177	1640	1,535	1,305	230	1,024	1,494	1,270	224	1,082	973	827	146	684	27	3,333
4	Bihar	6402	5761	640	4266	7,301	4,381	2,920	3,753	-	-	-	-	926	555	370	468	60	7,682
5	Chhattisgarh	730	657	73	443	1,540	924	616	770	84	50	33	39	648	389	259	336	21	1,409
6	Gujarat	15	14	2	13	925	555	370	505	-	-	-	-	-	-	-	-	44	1,010
7	Haryana ^s	0	0	0		316	190	126	160	30	18	12	-	18	11	7	3	18	218
8	Himachal Pradesh ^s	35	31	3	19	159	135	24	105	9	7	1	-	6	5	1	4	12	343
9	J&K	109	98	11	27	1,046	889	157	213	875	744	131	435	133	113	20	53	11	421
10	Jharkhand	1537	1384	154	1199	3,918	2,351	1,567	2,033	1,078	647	431	414	887	532	355	217	18	2,792
11	Karnataka	217	195	22	163	1,755	1,053	702	934	127	76	51	68	79	47	31	39	36	1,115
12	Kerala	58	52	6	52	485	291	194	239	-	-	-	-	90	54	36	55	14	314
13	Ladakh	82	74	8	15	116	98	17	47	-	-	-	-	-	-	-	-		
14	Madhya Pradesh	2356	2120	236	1806	2,891	1,734	1,156	1,387	999	599	399	363	873	524	349	414	61	2,994
15	Maharashtra	85	77	9	69	2,175	1,305	870	1,071	369	221	148	165	406	244	162	198	35	853
16	Manipur	283	255	28	176	142	121	21	58	60	51	9	44	121	103	18	86	6	189
17	Meghalaya	39	36	4	23	303	258	45	189	381	324	57	254	276	234	41	187	7	467
18	Mizoram	106	96	11	101	52	45	8	29	32	27	5	15	46	39	7	41	16	394
19	Nagaland	120	108	12	104	137	116	20	72	28	24	4	18	64	54	10	39	11	270
20	Odisha	3784	3405	378	2989	1,750	1,050	700	833	509	305	203	253	525	315	210	245	34	3,924
21	Punjab					443	266	177	188	-	-	-	-	2	1	1	0	17	184

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22	Rajasthan	1525	1372	152	1231	2,909	1,745	1,163	1,336	1,128	677	451	579	663	398	265	280	54	2,214
23	Sikkim	21	19	2	16	50	42	7	37	37	32	6	25	2	2	0	2	4	218
24	Tamil Nadu	51	46	5	36	924	554	370	456	-	-	-	-	-	-	-	-	29	489
25	Telangana	33	29	3	30	462	277	185	215	-	-	-	-	35	21	14	15	10	314
26	Tripura	317	285	32	253	74	63	11	40	359	305	54	197	418	355	63	260	9	411
27	Uttar Pradesh	10228	9205	1023	8775	6,946	4,168	2,779	3,321	6,290	3,774	2,516	2,469	6,188	3,713	2,475	1,465	141	14,433
28	Uttarakhand	107	97	11	58	845	718	127	614	-	-	-	-	149	127	22	43	13	760
29	West Bengal	899	809	90	678	4,262	2,557	1,705	2,008	-	-	-	-	259	155	104	123	32	3,029
30	Goa	-	-	-	-	20	12	8	10	-	-	-	-	-	-	-	-	-	-
31	D&N Haveli	-	-	-	-	5	3	2	1	-	-	-	-	-	-	-	-	-	-
32	Puducherry	-	-	-	-	20	12	8	10	-	-	-	-	-	-	-	-	-	-
33	Andaman Nicobar	-	-	-	-	21	13	8	3	-	-	-	-	-	-	-	-	-	-
Total		31156	28040	3116	24326	44896	28159	16737	22366	14179	9399	4780	6549	14109	9093	5016	5408	778	51538

Note:

- i) \$ The State of Haryana & Himachal Pradesh have incurred the expenditure under Additional Infra but since the amount involved is not significant, therefore, these States have decided to claim full amount at the time of closure.
- ii) Under Saubhagya projects were not sanctioned for the States/UTs who already achieved 100% household electrification viz. Andhra Pradesh, Gujarat, Tamil Nadu, Goa, D&N Haveli and Andaman Nicobar.
- iii) States where no additional infrastructure was required for electrification of households under Saubhagya scheme, no project was sanctioned under additional infrastructure

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.935
ANSWERED ON 27.07.2021

DELAY IN USE OF FGD TECHNOLOGY BY THERMAL POWER PLANTS

935 DR. VIKAS MAHATME:

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

- (a) whether Government has taken serious cognisance of the fact that India is the world's largest emitter of Sulphur Dioxide;
- (b) the reasons for delay in implementation of new emission norms using Flue- Gas Desulphurisation (FGD) technology for thermal power plants;
- (c) whether Government plans to implement the same only in less than 15 per cent of the units; and
- (d) if so, the details thereof, and reasons for the same including the reduction target?

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) to (d) : There is no conclusive report available in Ministry of Power (MoP) or Central Electricity Authority (CEA) comparing the per capita emission of sulphur dioxide (SO₂) across different countries. However, as per the latest National Ambient Air Quality Status & Trends Report 2019 published by the Central Pollution Control Board (CPCB), no location exceeded National Ambient Air Quality Standard (NAAQS) for SO₂ in Residential / Industrial / Rural areas across India.

As per the MOEF&CC notification, all power plants are required to comply with emission norms as per the timelines, and they are required to plan accordingly.

As per the latest Notification issued by Ministry of Environment, Forest & Climate Change (MoEF&CC) on 31.03.2021, a task force has been constituted by the CPCB comprising of representative from MoEF&CC, MoP, CEA and CPCB to categorize Thermal Power Plants (TPPs) in three categories and the timelines to install FGD or comply with new emission standards are as follows:

Category and Description	Timelines for compliance
Category A - Within 10 km radius of NCR or cities having million plus population as per 2011 census of India.	Upto 31.12.2022
Category B - Within 10 km radius of critically polluted areas or Non-Attainment cities as defined by CPCB.	Upto 31.12.2023
Category C - Other than those included in Category A and B.	Upto 31.12.2024

The TPPs which declare to retire before the date as specified in notification shall not be required to meet the specified norms in case such plants submit an undertaking to CPCB and CEA for exemption on ground of retirement of such plant: Provided that such plants shall be levied environment compensation at the rate of Rs.0.20 per unit electricity generated in case their operation is continued beyond the date as specified in the Undertaking.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.936
ANSWERED ON 27.07.2021

**INSTALLATION OF SULPHUR CONTROLLING TECHNOLOGY IN
POWER PLANTS**

936 # SHRI REWATI RAMAN SINGH:

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

- (a) the number of coal fired power stations in the country having Sulphur controlling technology;
- (b) whether it is a fact that the target of installing Sulphur controlling technology in 75 to 80 per cent of the coal power stations in the country by 2022 is becoming difficult to be achieved;
- (c) whether any organization of thermal power plants has requested Government to extend the deadline till 2024 for installation of this facility in power stations; 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) : Coal based power plants are required to comply with emission norms including sulphur dioxide (SO₂) emissions, notified by Ministry of Environment, Forest & Climate Change (MoEF&CC) and directions given by Central Pollution Control Board (CPCB) from time to time.

Representations have been received in Ministry of Power for recommending timeline extension from Association of Power Producers, several Independent Power Producers (IPPs) and various State Governments.

As per the revised Notification issued by Ministry of Environment, Forest & Climate Change (MoEF&CC) on 31.03.2021, a task force was constituted by Central Pollution Control Board (CPCB) comprising of representative from MoEF&CC, Ministry of Power (MoP), CEA and CPCB to

categorize Thermal Power Plants in three categories and the timelines to install FGD or comply with new emission standards are as follows:

Category and Description	Timelines for compliance	Environment Compensation (Rs. per unit electricity generated) for non-compliance beyond timelines		
		0-180 days	181-365 days	366 days & beyond
Category A - Within 10 km radius of NCR or cities having million plus population as per 2011 census of India.	Upto 31.12.2022	0.10	0.15	0.20
Category B - Within 10 km radius of critically polluted areas or Non-Attainment cities as defined by CPCB.	Upto 31.12.2023	0.07	0.10	0.15
Category C - Other than those included in Category A and B.	Upto 31.12.2024	0.05	0.075	0.10

As per the above timelines, Category A power plants have to comply with installation of FGD by 31.12.2022. The majority of the plants fall under Category B and C, for which timelines are upto 31.12.2023 and 31.12.2024 respectively.

Constraints faced by the Thermal Power Plants in implementation of Sulphur emission norms using FGD technology for Thermal Power are as follows:

- i. Minimum time period required for FGD commissioning from the date of award is 36-42 months.
- ii. Limited availability of vendors.
- iii. Price escalation due to limited supply of components.
- iv. Impact of COVID-19 pandemic on supply chain and manpower availability.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.937
ANSWERED ON 27.07.2021

COMPLETE ELECTRIFICATION IN THE COUNTRY

937 # SMT. KANTA KARDAM:

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

- (a) whether Government has achieved the target of complete electrification of all the rural and urban areas in the country, if so, the details thereof, and, if not, the reasons therefor;
- (b) the details regarding ratio of electrification across the country, State-wise;
- (c) whether Government has ensured 24 hrs electric supply to all urban and rural areas in the country, if so, the details thereof; and
- (d) if not, the steps being taken to ensure 24 hrs electric supply in all areas of the country, alongwith timeline fixed, in this regard?

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) & (b) : Government of India launched the Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) to connect every inhabited village with electricity, and to strengthen distribution system. A goal was set to electrify all remaining villages in 1000 days. This task was completed in 987 days itself and all inhabited villages as per Census 2011 stood electrified as on 28th April, 2018 across the country.

Government of India had launched Pradhan Mantri Sahaj Bijli Har Ghar Yojana – Saubhagya in October, 2017 with the objective to achieve universal household electrification for providing electricity connections to all un-electrified households in rural areas and all poor households in urban areas in the country. Under Saubhagya scheme, as on 31.03.2021 all the States have reported 100% electrification of all the willing un-electrified households, identified before 31.03.2019. As reported by the States, 2.817 crore households have been electrified upto 31.03.2021 since the launch of Saubhagya. The State-wise details of household electrification are given at **Annexure-I.**

(c) & (d): All the States and the Union Territories (UTs) have signed MoUs with the Central Government to ensure 24x7 power supply w.e.f. 1st April 2019 onwards. As per National Power Portal (NPP), the average hour of supply is 22.17 Hrs in the rural areas and 23.36 Hrs in urban areas. State-wise details are at **Annexure-II & III**, respectively.

Electricity is a concurrent subject. Supply/distribution of electricity to consumers is done by the respective State Governments and Distribution licensees in their respective areas. Government of India has helped the States through its various schemes including Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY), Integrated Power Development Scheme (IPDS) and Ujjwal Discom Assurance Yojana (UDAY) to help them to achieve the objective of providing uninterrupted power supply to all the households.

The Central Government has recently approved the “Revamped Distribution Sector Scheme - A Reforms based and Results linked Scheme” with the objective of improving the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient distribution Sector. The Scheme aims to reduce the AT&C losses at pan-India levels to 12-15% and ACS-ARR gap to zero by 2024-25. This would also contribute towards ensuring 24x7 electric supply to the urban and rural areas in the country.

ANNEXURE REFERRED TO IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 937 ANSWERED IN THE RAJYA SABHA ON 27.07.2021

State-wise electrification of households since launch of Saubhagya Scheme

Sl. No.	Name of the States	No. of Households electrified from 11.10.2017 to 31.03.2019	No. of Households electrified from 01.04.2019 to 31.03.2021	Total HHs electrified as on 31.03.2021
1	Andhra Pradesh	1,81,930		1,81,930
2	Arunachal Pradesh	47,089		47,089
3	Assam	17,45,149	2,00,000	19,45,149
4	Bihar	32,59,041		32,59,041
5	Chhattisgarh	7,49,397	40,394	7,89,791
6	Gujarat	41,317		41,317
7	Haryana	54,681		54,681
8	Himachal Pradesh	12,891		12,891
9	Jammu & Kashmir	3,77,045		3,77,045
10	Jharkhand	15,30,708	2,00,000	17,30,708
11	Karnataka	3,56,974	26,824	3,83,798
12	Ladakh	10,456		10,456
13	Madhya Pradesh	19,84,264		19,84,264
14	Maharashtra	15,17,922		15,17,922
15	Manipur	1,02,748	5,367	1,08,115
16	Meghalaya	1,99,839		1,99,839
17	Mizoram	27,970		27,970
18	Nagaland	1,32,507		1,32,507
19	Odisha	24,52,444		24,52,444
20	Puducherry	912		912
21	Punjab	3,477		3,477
22	Rajasthan	18,62,736	2,12,786	20,75,522
23	Sikkim	14,900		14,900
24	Tamil Nadu	2,170		2,170
25	Telangana	5,15,084		5,15,084
26	Tripura	1,39,090		1,39,090
27	Uttar Pradesh	79,80,568	12,00,003	91,80,571
28	Uttarakhand	2,48,751		2,48,751
29	West Bengal	7,32,290		7,32,290
	Total	2,62,84,350	18,85,374	2,81,69,724

ANNEXURE-II

ANNEXURE REFERRED TO IN REPLY TO PARTS (c) & (d) OF UNSTARRED QUESTION NO. 937 ANSWERED IN THE RAJYA SABHA ON 27.07.2021

State-wise average duration of Power supply in a day in Rural Areas for the month of May 2021

Sl. No.	States/Union Territories of India	Average Hours of Power Supply in a day (HH:MM)
1	Andhra Pradesh	23.58
2	Arunachal Pradesh*	20.00
3	Assam	21.00
4	Bihar	22.14
5	Chhattisgarh	22.70
6	Goa	24.00
7	Gujarat	24.00
8	Haryana	20.41
9	Himachal Pradesh	24.00
10	Jharkhand	19.62
11	Karnataka	20.26
12	Kerala	24.00
13	Madhya Pradesh	23.50
14	Maharashtra	24.00
15	Manipur	21.05
16	Meghalaya	22.38
17	Mizoram	17.06
18	Nagaland	21.00
19	Odisha	22.82
20	Punjab	24.00
21	Rajasthan	22.00
22	Sikkim*	17.50
23	Tamil Nadu	24.00
24	Telangana	24.00
25	Tripura	23.50
26	Uttar Pradesh	17.43
27	Uttarakhand	23.90
28	West Bengal	24.00
29	Andaman & Nicobar*	22.40
30	Chandigarh	24.00
31	Dadra & Nagar Haveli	24.00
32	Jammu & Kashmir	15.00
33	Ladakh	23.00
34	New Delhi	24.00
35	Puducherry	24.00
36	Lakshadweep	24.00
	National Average	22.17
Note: *Data was not provided for the month of May hence, the earlier provided data is incorporated.		

ANNEXURE-III

ANNEXURE REFERRED TO IN REPLY TO PARTS (c) & (d) OF UNSTARRED QUESTION NO. 937 ANSWERED IN THE RAJYA SABHA ON 27.07.2021

State-wise Average Hours of Power Supply in a Day in 11 KV Urban Feeders for April 2021		
Sl. No.	State name	Average Hours of Power Supply in a Day (HH:MM)
1	Andhra Pradesh	23:53
2	Arunachal Pradesh	22:37
3	Assam	23:39
4	Bihar	23:43
5	Chhattisgarh	23:51
6	Goa	23:38
7	Gujarat	23:57
8	Haryana	23:41
9	Himachal Pradesh	23:45
10	Jammu and Kashmir	22:36
11	Karnataka	23:50
12	Kerala	23:55
13	Madhya Pradesh	23:55
14	Maharashtra	23:56
15	Manipur	23:33
16	Meghalaya	23:55
17	Mizoram	23:51
18	Nagaland	22:27
19	Odisha	23:32
20	Punjab	23:34
21	Rajasthan	23:52
22	Telangana	23:54
23	Tripura	23:54
24	Uttar Pradesh	23:45
25	Uttarakhand	23:33
26	West Bengal	23:50
	National Average	23.36

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.938
ANSWERED ON 27.07.2021

THERMAL POWER GENERATION IN THE COUNTRY

938 DR. L. HANUMANTHAIAH:

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

- (a) the details of thermal power generation in the country during the last five years, year-wise;
- (b) whether the dependence on thermal power has reduced over the years keeping in view India's commitment to sustainable development goals;
- (c) if so, the details thereof and, if not, the reasons therefor; and
- (d) the steps being taken by Government to achieve sustainable development in power generation?

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) : The details of thermal power generation in the country during the last five years, year-wise are given as under.

Year	Generation (Million Unit)
2016-17	994230.17
2017-18	1037059.10
2018-19	1072223.88
2019-20	1042747.90
2020-21	1032513.54

(b) & (c) : As per the information available in Central Electricity Authority (CEA), the percentage of thermal generation in the country has reduced over the years, details of the same, during the last five years i.e from the period 2016-17 to 2020-21 are given as under.

CATEGORY	GENERATION (Million Units)				
	2016-17	2017-18	2018-19	2019-20	2020-21
THERMAL	994230.17	1037059.10	1072223.88	1042747.90	1032513.54
NUCLEAR	37915.87	38346.12	37812.59	46472.45	43029.08
HYDRO	122377.56	126122.70	134893.61	155769.12	150299.52
Total (Conventional)	1154523.60	1201527.92	1244930.08	1244989.47	1225842.14
RENEWABLE	81548.21	101839.48	126759.09	138337.02	147247.51
Total (Conventional+ Renewable)	1236071.81	1303367.40	1371689.17	1383326.49	1373089.65
% of THERMAL	80.43	79.57	78.17	75.38	75.20

(d) : Government of India had set a target of 1,75,000 MW installed capacity from renewable sources by the year 2022 which includes 1,00,000 MW from Solar, 60,000 MW from Wind, 10,000 MW from Biomass and 5000 MW from Small Hydro. As on 30.06.2021, the total capacity of Renewable Energy installed: under installation and under tied was 96.95 GW. This does not include large Hydro, which is also renewable. As on 30.06.2021, the total power generation capacity installed from non-fossil fuel sources was 150.06 GW; which is 39% of the total installed capacity. Therefore, India is well in its way to achieving, and surpassing its nationally determined contribution (NDC) target which was 40% capacity by non fossil-fuel sources by 2030.

Further, to promote the renewable energy sources, the following steps have been taken:

- (i) Waiver of inter-State transmission charges on transmission of the electricity generated from the solar and wind sources, for projects to be commissioned upto 30th June 2025.
- (ii) Green energy corridors have been developed to evacuate power from the Renewable Energy Sources.
- (iii) Renewable Purchase Obligation Trajectory has been notified with the objective of creating renewable power capacity of 175 GW by year 2022.

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.939
ANSWERED ON 27.07.2021

INSTALLATION OF SMART METERS

939 SHRI K.C. VENUGOPAL:
SHRI SANJAY SETH:

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

- (a) whether the National Tariff Policy has mandated provision of smart electricity meters in premises of all consumers consuming more than 200 units of electricity per month in a phased manner and, if so, the details thereof;
- (b) the aims and objective of installing smart electricity meters in premises;
- (c) the number of smart meters sanctioned under the National Smart Grid Mission to different States;
- (d) the time by which the installation of smart meters will be started and completed; and
- (e) whether time frame has been fixed for installation of smart meters in a time bound manner and, if so, the details thereof?

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) : Yes Sir. As per Para 8.4.3 of Tariff Policy 2016 “the Appropriate Commission may provide incentives to encourage metering and billing based on metered tariffs, particularly for consumer categories that are presently unmetered to a large extent. The metered tariffs and the incentives should be given wide publicity. Smart meters have the advantages of remote metering and billing, implementation of peak and off-peak tariff and demand side management through demand response. These would become essential in future for load-generation balancing due to increasing penetration of intermittent type of generation like wind and solar power.

Appropriate Commission shall, therefore, mandate smart meters for:

- (i) Consumers with monthly consumption of 500 units and more at the earliest but not later than 31.12.2017
- (ii) Consumers with monthly consumption above 200 units by 31.12.2019”.

(b) : The aims and objectives of installing Smart Meters are to help consumers in seamless online billing process & digital payment of bills; having access to real time tracking of electricity usage; helping consumers track their consumption patterns and adopt more energy-efficient behaviours and appliances; offering them an option to pre-pay for electricity based on their requirements and thus be in control of their total energy spends; enable time of day metering and thus, playing a pivotal role in the integration of renewable power; helping DISCOMs function remotely by eliminating manual collections and reduced AT&C losses.

(c) to (e) : Under National Smart Grid Mission (NSGM), 7.23 lakh smart meters have been sanctioned. State-wise/project-wise details are as under:

- i. Chandigarh (Sub Division 5 Project) – 29500 installation is in progress and is scheduled to be completed by March 2022.
- ii. Chandigarh (Complete City Project) – 184000 scheduled to be completed by March 2022.
- iii. Jharkhand (Ranchi City Project) – 360000 tendering is in process and is scheduled to be completed by March 2024.
- iv. Rajasthan (6 towns Integrated Project) – 150000 installation is in progress and is scheduled to be completed by March 2022.
