

**GOVERNMENT OF INDIA
MINISTRY OF POWER
LOK SABHA
UNSTARRED QUESTION NO.1857
ANSWERED ON 14.12.2023**

INCREASING DEMAND OF POWER

**1857. ADV. ADOOR PRAKASH:
SHRI CHANDRA SEKHAR SAHU:
DR. PRITAM GOPINATHRAO MUNDE:
SHRI RAHUL RAMESH SHEWALE:**

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

- (a) whether thermal energy remains relevant until energy storage becomes cost-effective for round-the-clock supply through renewable energy;**
- (b) if so, the details of the action plan proposed by the Union Government in this regard along with the expected demand and the planned production of power from each source by 2031-32 in the country;**
- (c) whether the Union Government proposes to add 80 GW of thermal power capacity by 2031-32 to meet the surging power demand resulting from rapid economic growth;**
- (d) whether the Union Government has requested the States to ensure the availability of existing thermal capacity and timely renovation and modernisation of thermal power plants;**
- (e) if so, the details thereof along with the response of the State Governments thereon, State/UT-wise, particularly Maharashtra and Odisha;**
- (f) the details of existing thermal capacity of various States particularly of Odisha and Maharashtra; and**
- (g) the details of the action plan proposed by the Union Government to ensure uninterrupted power supply for the nation's growth?**

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) & (b): The country needs 24x7 availability of power for its economic growth. Energy security of the country cannot be achieved by renewable sources of energy alone because solar power is not available round the clock and wind energy is intermittent in nature. To meet our requirements, we need to add capacity which can provide round the clock power. Also, large-scale integration of variable and intermittent renewable energy resources with the grid requires power sources which can act as base load and balance the grid for grid stability. Hence, dependence on coal-based generation is likely to continue till cost-effective energy storage solutions are available.

The power demand of the country is increasing rapidly because we have added 2.86 crore new consumers and because our economy is growing rapidly. The peak demand during the FY 2013-14 was 135000 MW. The peak demand during the current financial year (till Nov. 2023) has increased to 243000 MW. The projected peak demand as per the 20th Electric Power Survey (EPS) will be 277200 MW in FY 2026-27 and 366400MW in FY 2031-32.

As per the National Electricity Plan, the installed capacity requirement for the year 2031-32 is likely to be 9,00,422 MW, comprising 2,84,467 MW of fossil-based capacity (Coal & Lignite-2,59,643 MW, Gas-24,824 MW) and 6,15,955 MW of non-fossil-based capacity (Nuclear-19,680 MW, Large Hydro-62,178 MW, Solar-364,566 MW, Wind-121,895 MW, Small Hydro-5450 MW, Biomass-15,500 MW, PSP-26,686 MW) along with BESS capacity of 47,244 MW/236,220 MWh).

(c) : As per the generation planning studies carried out by CEA, the required coal based installed capacity will be at 283000 MW by FY 2032 as against the present installed capacity of 214000 MW.

In order to achieve the projected requirement of 283000 MW of coal/lignite-based capacity by 2032, additional 80000 MW of coal & lignite-based capacity is planned. Against this requirement, 27180 MW is under construction; 31010 MW is under advanced stages of planning/ development; and 29720 MW capacity is further identified for development to meet the target of a minimum 80000MW of coal-based capacity addition by 2031-2032.

(d) & (e) : Central Electricity Authority (CEA) has prepared a report after studying various aspects of R&M and LE of Coal based power plants in August 2023 and the same has been circulated by MoP to all power utilities wherein CEA has identified 148 units with total capacity of 38150 MW as potential candidates for R&M/LE works. The Phasing Plan for implementation of R&M/LE at 148 units was prepared in consultation with central, state & private power utilities.

Further, CEA vide letters dated 20.01.2023 and 07.07.2023 issued an advisory to all the Thermal Power Utilities not to retire or repurpose their coal-based power stations before 2030 and to ensure the availability of thermal units after carrying out R&M activities, if required, keeping in view the expected energy demand scenario and availability of capacity.

(f): Total installed Thermal Capacity (Coal & Lignite, Gas and Diesel) is 2,39,072 MW which includes Odisha (9540 MW) and Maharashtra (27063 MW). A detailed list is enclosed at Annexure.

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

- 27180 MW of Thermal Capacity is under construction and the total anticipated Thermal capacity addition by 2031-2032 is likely to be 87910MW**
- 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.**
- 8000 MW of Nuclear Capacity is under construction and the total anticipated Nuclear capacity addition by 2031-2032 is likely to be 12200 MW.**
- 78935 MW of Renewable Energy Capacity is under construction and the anticipated RE capacity addition by 2031-32 will be 375279 MW.**

Thus, total 132148.5 MW of Capacity is under construction and the total anticipated capacity addition by 2031-2032 is likely to be 517403 MW

ANNEXURE REFERRED TO IN REPLY TO PART (f) OF UNSTARRED QUESTION NO. 1857 ANSWERED IN THE LOK SABHA ON 14.12.2023

State-wise list of Thermal Power Plants (Coal & Lignite, Gas and Diesel) as on 31.10.2023

Sl. No.	State-wise list of Thermal Power Plants as on 31.10.2023	Fuel Used	Organisation	Name of Project	Capacity (MW)	
1	Andaman & Nicobar	Diesel	A&N ADM	AND. NICOBAR DG	57.52	
2				AND. NICOBAR Pvt. DG	35.19	
	Andaman & Nicobar Total				92.71	
3	Andhra Pradesh	Coal	NTPC	SIMHADRI	2000.00	
4			APGENCO	Dr. N.TATA RAO TPS	1760.00	
5				RAYALASEEMA TPS	1650.00	
6			APPDCL	DAMODARAM SANJEEVAIAH TPS	2400.00	
7			HNPC	VIZAG TPP	1040.00	
8			MEL	THAMMINAPATNAM TPS	300.00	
9			SEIL	PAINAMPURAM TPP	1320.00	
10				SGPL TPP	1320.00	
11			SEPL	SIMHAPURI TPS	600.00	
12			Gas	APEPDCL	JEGURUPADU CCPP PH I	235.40
13				APGPCL	VIJJESWARAM CCPP	272.00
14		BSES AP		PEDDAPURAM CCPP	220.00	
15		GAUTAMI		GAUTAMI CCPP	464.00	
16		GMR ENERG		GMR Energy Ltd - Kakinada	220.00	
17		GREL		GREL CCPP (Rajahmundry)	768.00	
18		GVKP&IL		JEGURUPADU CCPP PH II	220.00	
19		KONA		KONASEEMA CCPP	445.00	
20		KONDAPALI		KONDAPALLI CCPP	368.14	
21				KONDAPALLI EXTN CCPP	366.00	
22				KONDAPALLI ST-3 CCPP	742.00	
23		SPGL		GODAVARI CCPP	208.00	
24		VEMAGIRI		VEMAGIRI CCPP	370.00	
25		Diesel		LVS POWER	LVS POWER DG	36.80
		Andhra Pradesh Total				17325.34
26		Assam	Coal	NTPC	BONGAIGAON TPP	750.00
27	Gas		APGCL	LAKWA GT	97.20	
28				LAKWA REPLACEMENT POWER PROJECT	69.76	
29				NAMRUP CCPP	139.40	
30				NEEPCO.	KATHALGURI CCPP	291.00
	Assam Total				1347.36	

31	Bihar	Coal	NTPC	BARAUNI TPS	710.00		
32				BARH I	1320.00		
33				BARH II	1320.00		
34				KAHALGAON TPS	2340.00		
35			BRBCL	NABINAGAR TPP	1000.00		
36			K.B.U.N.L	MUZAFFARPUR TPS	390.00		
37			NPGCL	NABINAGAR STPP	1980.00		
	Bihar Total				9060.00		
38	Chhattisgarh	Coal	NTPC	KORBA STPS	2600.00		
39				LARA TPP	1600.00		
40				SIPAT STPS	2980.00		
41			NSPCL	BHILAI TPS	500.00		
42			ACB	CHAKABURA TPP	30.00		
43				KASAIPALLI TPP	270.00		
44				SWASTIK KORBA TPP	25.00		
45			APL	ADANI POWER LIMITED RAIGARH TPP	600.00		
46				ADANI POWER LIMITED RAIPUR TPP	1370.00		
47			BALCO	BALCO TPS	600.00		
48			CSPGCL	DSPM TPS	500.00		
49				KORBA-WEST TPS	1340.00		
50				MARWA TPS	1000.00		
51			DBPCL	BARADARHA TPS	1200.00		
52			JPL	OP JINDAL TPS	1000.00		
53				TAMNAR TPP	2400.00		
54			LANCO	PATHADI TPP	600.00		
55			MCCPL	BANDAKHAR TPP	300.00		
56			RKMPPL	UCHPINDA TPP	1440.00		
57			SCPL	RATIJA TPS	100.00		
58			SKS	BINJKOTE TPP	600.00		
59			SVPPL	SVPL TPP	63.00		
60			TRNE	NAWAPARA TPP	600.00		
61			VESPL	KATGHORA TPP	35.00		
62			VVL	SALORA TPP	135.00		
63			WPCL	AKALTARA TPS	1800.00		
			Chhattisgarh Total				23688.00
64			Delhi	Gas	IPGCL	I.P.CCPP	270.00
65					PPCL	PRAGATI CCGT-III	1500.00
66						PRAGATI CCP	330.40
67					TPDDL	RITHALA CCP	108.00
			Delhi Total				2208.40
68			Goa	Gas	RELIANCE	GOA CCP (Liq.)	48.00
	Goa Total				48.00		

69	Gujarat	Coal	GSECL	GANDHI NAGAR TPS	630.00	
70				SIKKA REP. TPS	500.00	
71				UKAI TPS	1110.00	
72				WANAKBORI TPS	2270.00	
73			APL	ADANI POWER LIMITED MUNDRA TPP - I & II	2640.00	
74				ADANI POWER LIMITED MUNDRA TPP - III	1980.00	
75				CGPL	MUNDRA UMTTP	4000.00
76			EPGL	SALAYA TPP	1200.00	
77			TOR. POW. (UNOSUGEN)	SABARMATI (D-F STATIONS)	362.00	
78			Lignite	GSECL	BHAVNAGAR CFBC TPP	500.00
79		KUTCH LIG. TPS			150.00	
80		GIPCL		SURAT LIG. TPS	500.00	
81		GMDCL		AKRIMOTA LIG TPS	250.00	
82		Gas	NTPC	GANDHAR CCPP	657.39	
83				KAWAS CCPP	656.20	
84			GSECL	DHUVARAN CCPP	594.72	
85				UTRAN CCPP	374.00	
86				HAZIRA CCPP	156.10	
87				HAZIRA CCPP EXT	351.00	
88			CLPINDIA	PEGUTHAN CCPP	655.00	
89			ESSAR	ESSAR CCPP	515.00	
90			GIPCL	BARODA CCPP	160.00	
91			GPPCL	PIPAVAV CCPP	702.00	
92			TOR. POW. (SUGEN)	SUGEN CCPP	1147.50	
93			TOR. POW. (UNOSUGEN)	DGEN MEGA CCPP	1200.00	
94		UNOSUGEN CCPP		382.50		
		Gujarat Total			23643.41	
95		Haryana	Coal	APCPL	INDIRA GANDHI STPP	1500.00
96				HPGCL	PANIPAT TPS	710.00
97					RAJIV GANDHI TPS	1200.00
98					YAMUNA NAGAR TPS	600.00
99					JhPL(HR)	MAHATMA GANDHI TPS
100			Gas	NTPC	FARIDABAD CCPP	431.59
		Haryana Total			5761.59	
101	Jammu & Kashmir	Gas	JKSPDC	PAMPORE GPS (Liq.)	175.00	
	Jammu & Kashmir Total				175.00	
102	Jharkhand	Coal	ADHUNIK	MAHADEV PRASAD STPP	540.00	
103			DVC	BOKARO TPS `A` EXP	500.00	
104				CHANDRAPURA(DVC) TPS	500.00	
105				KODARMA TPP	1000.00	
106			MPL	MAITHON RB TPP	1050.00	
107			NTPC	NORTH KARANPURA STPP	660.00	
108			TATA PCL	JOJOBERA TPS	240.00	
109			TVNL	TENUGHAT TPS	420.00	
	Jharkhand Total			4910.00		

110	Karnataka	Coal	NTPC	KUDGI STPP	2400.00
111			KPCL	BELLARY TPS	1700.00
112				RAICHUR TPS	1720.00
113			APL	ADANI POWER LIMITED UDUPI TPP	1200.00
114			JSWEL	TORANGALLU TPS(SBU-I)	260.00
115				TORANGALLU TPS(SBU-II)	600.00
116			RPCL	YERMARUS TPP	1600.00
117			Diesel	BELLARY	BELLARY DG
	Karnataka Total				9505.20
118	Kerala	Gas	NTPC	R. GANDHI CCPP (Liq.)	359.58
119			BSES(C)	COCHIN CCPP (Liq.)	174.00
120		Diesel	KSEB	BRAMHAPURAM DG	63.96
121				KOZHICODE DG	96.00
	Kerala Total				693.54
122	Lakshadweep	Diesel	ED, UT of Lakshadweep	Lakshadweep DG	26.83
	Lakshadweep Total				26.83
123	Madhya Pradesh	Coal	NTPC	GADARWARA TPP	1600.00
124				KHARGONE STPP	1320.00
125				VINDHYACHAL STPS	4760.00
126			MPPGCL	AMARKANTAK EXT TPS	210.00
127				SANJAY GANDHI TPS	1340.00
128				SATPURA TPS	1330.00
129				SHREE SINGAJI TPP	2520.00
130			BLAPPL	NIWARI TPP	90.00
131			ESSARPMPL	MAHAN TPP	1200.00
132			JHAPL	SEIONI TPP	600.00
133			JPPVL	BINA TPS	500.00
134				NIGRI TPP	1320.00
135			MBPMPL	ANUPPUR TPP	1250.00
136			SPL	SASAN UMTTP	3960.00
	Madhya Pradesh Total				22000.00
137	Maharashtra	Coal	NTPC	MAUDA TPS	2320.00
138				SOLAPUR STPS	1320.00
139			MAHAGENCO	BHUSAWAL TPS	1210.00
140				CHANDRAPUR(MAHARA SHTRA) STPS	2920.00
141				KHAPARKHEDA TPS	1340.00
142				KORADI TPS	2190.00
143				NASIK TPS	630.00
144				PARAS TPS	500.00
145				PARLI TPS	750.00
146			AEML	DAHANU TPS	500.00
147			APL	ADANI POWER LIMITED TIRODA TPP	3300.00
148			DIL	DHARIWAL TPP	600.00
149			GEPL	GEPL TPP Ph-I	120.00
150			GMR ENERG	GMR WARORA TPS	600.00
151			IEPL	BELA TPS	270.00
152			JSWEL	JSW RATNAGIRI TPP	300.00

153			RATTANINDIA	AMRAVATI TPS	1350.00
154			RPGPL	MIHAN TPS	246.00
155			SPPL	SHIRPUR TPP	150.00
156			STPL	NASIK (P) TPS	1350.00
157			TATA PCL	TROMBAY TPS	750.00
158			VIP	BUTIBORI TPP	600.00
159			WPCL	WARDHA WARORA TPP	540.00
160		Gas	MAHAGENCO	URAN CCPP	672.00
161			PGPL	MANGAON CCPP	388.00
162			RGPPL	RATNAGIRI CCPP	1967.08
163			TATA PCL	TROMBAY CCPP	180.00
	Maharashtra Total				27063.08
164	Manipur	Diesel	ED, Manipur	LEIMAKHONG DG	36.00
	Manipur Total				36.00
165	Odisha	Coal	NTPC	DARLIPALI STPS	1600.00
166				TALCHER STPS	3000.00
167			OPGC	IB VALLEY TPS	1740.00
168			GMR ENERG	KAMALANGA TPS	1050.00
169			IBPIL	UTKAL TPP (IND BARATH)	350.00
170			JITPL	DERANG TPP	1200.00
171			VEDANTA	VEDANTA TPP	600.00
	Odisha Total				9540.00
172	Puducherry	Gas	P&ED, Pudu.	KARAIKAL CCPP	32.50
	Puducherry Total				32.50
173	Punjab	Coal	GP GSL (GVK)	GOINDWAL SAHIB TPP	540.00
174			NPL	RAJPURA TPP	1400.00
175			PSPCL	GH TPS (LEH.MOH.)	920.00
176				ROPAR TPS	840.00
177			TSPL	TALWANDI SABO TPP	1980.00
	Punjab Total				5680.00
178	Rajasthan	Coal	RRVUNL	CHHABRA-I PH-1 TPP	500.00
179				CHHABRA-I PH-2 TPP	500.00
180				CHHABRA-II TPP	1320.00
181				KALISINDH TPS	1200.00
182				KOTA TPS	1240.00
183				SURATGARH STPS	1320.00
184				SURATGARH TPS	1500.00
185				APL	ADANI POWER LIMITED KAWAI TPP
186		SCL	SHREE CEMENT LTD TPS	300.00	
187		Lignite	JSWBL	JALIPA KAPURDI TPP	1080.00
188			NLC	BARSINGSAR LIGNITE	250.00
189			RRVUNL	GIRAL TPS	250.00
190		Gas	NTPC	ANTA CCPP	419.33
191			RRVUNL	DHOLPUR CCPP	330.00
192				RAMGARH CCPP	273.50
		Rajasthan Total			

193	Tamil Nadu	Coal	NTECL	VALLUR TPP	1500.00	
194			TANGEDCO	METTUR TPS	840.00	
195				METTUR TPS-II	600.00	
196				NORTH CHENNAI TPS	1830.00	
197				TUTICORIN TPS	1050.00	
198				CEPL	MUTHIARA TPP	1200.00
199			IBPIL	TUTICORIN (P) TPP	300.00	
200			ITPCL	ITPCL TPP	1200.00	
201			NTPL	NTPL TUTICORIN TPP	1000.00	
202			SPPL	TUTICORIN TPP ST-IV	525.00	
203			Lignite	NLC	NEYVELI (EXT) TPS	420.00
204					NEYVELI NEW TPP	1000.00
205		NEYVELI TPS-II			1470.00	
206		NEYVELI TPS-II EXP			500.00	
207		ST-CMSECP	NEYVELI TPS(Z)	250.00		
208		Gas	TANGEDCO	BASIN BRIDGE GT (Liq.)	120.00	
209				KOVIKALPAL CCPP	107.88	
210				KUTTALAM CCPP	100.00	
211				NARIMANAM GPS	10.00	
212				VALUTHUR CCPP	186.20	
213	ABAN POWR		KARUPPUR CCPP	119.80		
214	PENNA		VALANTARVY CCPP	52.80		
215	PPNPGCL		P.NALLUR CCPP	330.50		
216	Diesel	MADURAI P	SAMAYANALLUR DG	106.00		
217		SAMALPATI	SAMALPATTI DG	105.70		
	Tamil Nadu Total			14923.88		
218	Telangana	Coal	NTPC	RAMAGUNDEM STPS	2600.00	
219				TELANGANA STPP PH-1	800.00	
220			SCCL	SINGARENI TPP	1200.00	
221		TSGENCO	BHADRADRI TPP	1080.00		
222			KAKATIYA TPS	1100.00		
223			KOTHAGUDEM TPS (NEW)	1000.00		
224			KOTHAGUDEM TPS (STAGE-7)	800.00		
225			RAMAGUNDEM-B TPS	62.50		
	Telangana Total			8642.50		
226	Tripura	Gas	NEEPCO.	AGARTALA GT	135.00	
227				MONARCHAK CCPP	101.00	
228			ONGC	TRIPURA CCPP	726.60	
229			TSECL	BARAMURA GT	42.00	
230				ROKHIA GT	63.00	
	Tripura Total			1067.60		
231	Uttar Pradesh	Coal	NTPC	DADRI (NCTPP)	1820.00	
232				RIHAND STPS	3000.00	
233				SINGRAULI STPS	2000.00	
234				TANDA TPS	1760.00	
235				UNCHAHAR TPS	1550.00	
236		UPRVUNL	ANPARA TPS	2630.00		
237			HARDUAGANJ TPS	1265.00		
238		Coal	UPRVUNL	OBRA TPS	1000.00	
239			PARICHHA TPS	920.00		
240			BEPL	BARKHERA TPS	90.00	

241				KHAMBARKHERA TPS	90.00
242				KUNDARKI TPS	90.00
243				MAQSOODPUR TPS	90.00
244				UTRAULA TPS	90.00
245			LAPPL	ANPARA C TPS	1200.00
246			LPGCL	LALITPUR TPS	1980.00
247			MUNPL	MEJA STPP	1320.00
248			PPGCL (Jaypee)	PRAYAGRAJ TPP	1980.00
249			RPSCCL	ROSA TPP Ph-I	1200.00
250		Gas	NTPC	AURAIYA CCPP	663.36
251				DADRI CCPP	829.78
	Uttar Pradesh Total				25568.14
252	Uttarakhand	Gas	GIPL	GAMA CCPP	225.00
253			SEPL	SRAVANTHI CCPP	439.00
	Uttarakhand Total				664.00
254	West Bengal		NTPC	FARAKKA STPS	2100.00
255				DURGAPUR STEEL TPS	1000.00
256			DVC	MEJIA TPS	2340.00
257				RAGHUNATHPUR TPP	1200.00
258				BAKRESWAR TPS	1050.00
259				BANDEL TPS	270.00
260			WBPDC	KOLAGHAT TPS	840.00
261				SAGARDIGHI TPS	1600.00
262				SANTALDIH TPS	500.00
263				BUDGE BUDGE TPS	750.00
264			CESC	SOUTHERN REPL. TPS	135.00
265				TITAGARH TPS	240.00
266			DPL	D.P.L. TPS	550.00
267			DPSCCLTD	DISHERGARH TPP	12.00
268			HEL	HALDIA TPP	600.00
269			HMEL	HIRANMAYE TPP	300.00
270		Gas	WBPDC	HALDIA GT (Liq.)	40.00
271				KASBA GT (Liq.)	40.00
	West Bengal Total				13567.00
	Grand Total				239072.91
