GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
STARRED QUESTION NO.217
ANSWERED ON 16.12.2024

POWER CONSUMPTION TRENDS AND POWER MIX IN THE COUNTRY

217 SMT. SUMITRA BALMIK:

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

(a) the details of the daily electric power consumption in the country, State-wise and trend during the last three years including for the year 2024;

(b) the per capita power consumption and related trend during the above-said period;

(c) the electric power mix of the country and trends during the above-said period;

(d) the plan of Government to enhance power generation in view of rising demands, the details thereof; and

(e) whether any study has been done to figure out current requirement of electricity for EV charging and the increase in coming years, the details thereof?

A N S W E R

THE MINISTER OF POWER

(SHRI MANOHAR LAL)

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

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STATEMENT

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) IN RESPECT OF RAJYA SABHA STARRED QUESTION NO.217 FOR REPLY ON 16.12.2024 REGARDING POWER CONSUMPTION TRENDS AND POWER MIX IN THE COUNTRY ASKED BY SMT. SUMITRA BALMIK.

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(a): The State/ UT wise details of daily average energy supplied indicating the growth trend during the last three years and current year (till October, 2024) are given at **Annexure-I**.

(b): The State/ UT wise details of per capita power consumption indicating the growth trend during the period 2020-21, 2021-22 and 2022-23 are given at **Annexure-II**.

(c): The details of source wise installed capacity of the country for the last three years and the current year (till October, 2024) are given at **Annexure-III**.

(d) : Government of India has taken the following steps to enhance power generation in order to meet the rising Power demand in the country:

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

a. Ministry of Power, in consultation with States, has envisaged a plan to add thermal capacity of a minimum 80,000 MW by 2031-32. Against this target, 29,200 MW Thermal Capacity is already under construction while 51,520 MW is at various stages of planning & development.

b. 13,997.5 MW of Hydro Electric Projects and 6,050 MW Pumped Storage Projects (PSP) are under construction. 24,225.5 MW of hydro electric projects and 50,760 MW of PSP are under various stage of planning and targeted to be completed by 2031-32.

c. 7,300 MW of Nuclear Capacity is under construction and 7,000 MW is under various stages of planning and approval.

d. Present installed Renewable Energy (RE) capacity of the country is 2,03,215 MW. Further, 1,27,050 MW of RE is under construction and 89,690 MW is under various stages of tendering. India has committed to augment non fossil fuel based installed electricity generation capacity to over 5,00,000 MW by 2030.

(ii) Directions under Section 11 of Electricity Act have been issued to imported coal based plants to operate and generate power to their full capacity.

(iii) Steady supply of coal to all the thermal power plants is being ensured to prevent fuel shortages.

(iv) All the GENCOs including IPPs and Central generating stations have been advised to generate and maintain full availability on daily basis excluding the period of planned maintenance or forced outage.

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(v) Hydro based generation is being scheduled in a manner so as to conserve water for meeting demand during peak period.

(vi) Planned maintenance of generating units is being minimized during period of high demand.

(vii) New power generation capacity is being monitored closely for timely addition.

(viii) Government has facilitated power trading through regulatory framework whereby states with surplus generation can sell power to states which are in deficit through three (3) power exchanges viz. Indian Energy Exchange (IEX), Power Exchange India Ltd (PXIL) and Hindustan Power Exchange Ltd. These exchanges are being utilized for Inter-state trading of power by the States.

(ix) Electricity market has been reformed by adding the Real Time Market (RTM), Green Day Ahead Market (GDAM), Green Term Ahead Market (GTAM), High Price Day Ahead Market (HPDAM) in Power exchange. Also, there is DEEP portal (Discovery of Efficiency Electricity Price) for e-bidding and e-Reverse for procurement of short-Term power by DISCOMs.

Further, Government has undertaken the following steps to promote uptake of Renewable Energy:

(i) Transmission plan for integration of 5,00,000 MW RE capacity is being implemented in a phased manner commensurate with RE capacity

(ii) Waiver of ISTS charges on transmission of electricity generated from Solar, Wind, Pumped Storage Plants and Battery Energy Storage Systems.

(iii) Renewable Purchase Obligations (RPOs) and Energy Storage obligations Trajectory till 2029-30.

(iv) Construction of Green Energy Corridors and putting in place 13 Renewable Energy Management Centres.

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

(vi) To achieve the objective of increased domestic production of Solar PV Modules, the Govt. of India is implementing the Production Linked Incentive (PLI) scheme for High Efficiency Solar PV Modules with an outlay of Rs. 24,000 crore. This will enable manufacturing capacity of Giga Watt (GW) scale in High Efficiency Solar PV Module.

(e): In terms of Section 73(a) of the Electricity Act-2003, Electric Power Survey (EPS) is being conducted by Central Electricity Authority (CEA) every five years for estimating the electricity demand of the country on medium and long-term basis. As a part of mid-term review of 20th EPS report, the electricity demand on account of Electric Vehicles (EV) charging was estimated. The details of projected energy requirement due to EVs during the period from 2024-25 to 2029-30 are given at **Annexure-IV**.

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ANNEXURE-I

ANNEXURE REFERRED TO IN PART (a) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO.217 ANSWERED IN THE RAJY SABHA ON 16.12.2024 REGARDING POWER CONSUMPTION TRENDS AND POWER MIX IN THE COUNTRY

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State/ UT wise details of daily average energy supplied indicating the growth trend during the last three years and current year (till October, 2024)

State/UT	**April,2021 - March,2022**		**April,2022- March,2023**		**April,2023- March,2024**		**April,2024 - October,2024**	
	Energy Supplied	Energy Supplied (Daily Avg.)	Energy Supplied	Energy Supplied (Daily Avg.)	Energy Supplied	Energy Supplied (Daily Avg.)	Energy Supplied	Energy Supplied (Daily Avg.)
	(MU)	(MU)/Day	(MU)	(MU)/Day	(MU)	(MU)/Day	(MU)	(MU) /Day
Chandigarh	1,606	4.4	1,788	4.9	1,789	4.9	1,360	6.4
Delhi	31,122	85.3	35,133	96.3	35,496	97.0	26,693	124.7
Haryana	55,209	151.3	60,945	167.0	63,636	173.9	47,490	221.9
Himachal Pradesh	12,088	33.1	12,542	34.4	12,767	34.9	7,964	37.2
UT of J&K and Ladakh	18,434	50.5	19,322	52.9	19,763	54.0	11,042	51.6
Punjab	62,411	171.0	69,220	189.6	69,528	190.0	54,610	255.2
Rajasthan	89,310	244.7	1,00,057	274.1	1,06,806	291.8	64,860	303.1
Uttar Pradesh	1,28,310	351.5	1,43,050	391.9	1,48,287	405.2	1,11,188	519.6
Uttarakhand	15,426	42.3	15,386	42.2	15,532	42.4	10,479	49.0
Chhattisgarh	31,872	87.3	37,374	102.4	39,872	108.9	25,640	119.8
Gujarat	1,23,666	338.8	1,38,999	380.8	1,45,740	398.2	89,842	419.8
Madhya Pradesh	86,455	236.9	92,325	252.9	99,150	270.9	55,841	260.9
Maharashtra	1,72,809	473.4	1,87,197	512.9	2,06,931	565.4	1,14,777	536.3
Dadra & Nagar Haveli and Daman & Diu	9,433	25.8	10,018	27.4	10,164	27.8	6,351	29.7
Goa	4,448	12.2	4,669	12.8	5,111	14.0	3,157	14.8
Andhra Pradesh	68,219	186.9	71,893	197.0	80,151	219.0	46,475	217.2
Telangana	70,523	193.2	77,799	213.1	84,613	231.2	48,385	226.1
Karnataka	72,417	198.4	75,663	207.3	93,934	256.7	50,018	233.7
Kerala	26,570	72.8	27,726	76.0	30,938	84.5	18,407	86.0
Tamil Nadu	1,09,798	300.8	1,14,722	314.3	1,26,151	344.7	79,600	372.0
Puducherry	2,893	7.9	3,050	8.4	3,455	9.4	2,205	10.3
Lakshadweep	56	0.2	64	0.2	64	0.2	39	0.2
Bihar	35,761	98.0	38,762	106.2	40,918	111.8	29,656	138.6

DVC	23,736	65.0	26,330	72.1	26,552	72.5	15,536	72.6
Jharkhand	10,590	29.0	12,288	33.7	13,858	37.9	9,286	43.4
Odisha	38,332	105.0	42,584	116.7	41,333	112.9	26,991	126.1
West Bengal	53,945	147.8	60,274	165.1	67,490	184.4	46,687	218.2
Sikkim	609	1.7	587	1.6	543	1.5	297	1.4
Andaman-Nicobar Island	327	0.9	348	1.0	374	1.0	240	1.1
Arunachal Pradesh	874	2.4	892	2.4	1,014	2.8	601	2.8
Assam	10,825	29.7	11,465	31.4	12,341	33.7	8,533	39.9
Manipur	1,018	2.8	1,014	2.8	1,008	2.8	579	2.7
Meghalaya	2,243	6.1	2,237	6.1	2,066	5.6	1,128	5.3
Mizoram	644	1.8	645	1.8	684	1.9	391	1.8
Nagaland	851	2.3	873	2.4	921	2.5	570	2.7
Tripura	1,578	4.3	1,547	4.2	1,691	4.6	1,235	5.8
All India	**13,74,024**	**3,764.5**	**15,05,914**	**4,125.8**	**16,22,020**	**4,431.7**	**10,25,379**	**4,791.5**

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ANNEXURE-II

ANNEXURE REFERRED TO IN PART (b) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO.217 ANSWERED IN THE RAJY SABHA ON 16.12.2024 REGARDING POWER CONSUMPTION TRENDS AND POWER MIX IN THE COUNTRY

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The State/ UT wise details of per capita power consumption indicating the growth trend during the period 2020-21, 2021-22 and 2022-23

Name of the State/UT	Per Capita Power Consumption (in kWh)		
	2020-21	**2021-22**	**2022-23**
Chandigarh	1460	1529	1674
Delhi	1619	1684	1848
Haryana	2131	2186	2360
Himachal Pradesh	1478	1742	1799
Jammu & Kashmir	1402	1475	1526
Punjab	2200	2350	2574
Rajasthan	1301	1345	1501
Uttar Pradesh	634	663	723
Uttarakhand	1384	1520	1536
Chhattisgarh	1923	2211	2117
Gujarat	2048	2239	2393
Madhya Pradesh	1271	1232	1230
Maharashtra	1378	1588	1676
Daman & Diu	5473	5914	8870
Dadar & Nagar Haveli	10478	12250	
Goa	3137	3736	3360
Andhra Pradesh	1434	1567	1634
Telangana	2012	2126	2349
Karnataka	1284	1376	1425
Kerala	814	844	882
Tamil Nadu	1549	1714	1763
Puducherry	2031	2138	2145
Lakshadweep	820	819	960
Bihar	316	329	348
Jharkhand	794	867	992
Odisha	1829	2264	2419
West Bengal	697	733	819
Sikkim	911	1011	954
A.& N. Islands	873	878	932
Arunachal Pradesh	528	645	651
Assam	350	384	398
Manipur	347	362	354
Meghalaya	679	751	730
Mizoram	645	582	564
Nagaland	421	433	445
Tripura	449	435	444
Total All India	**1161**	**1255**	**1331**

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ANNEXURE-III

ANNEXURE REFERRED TO IN PART (c) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO.217 ANSWERED IN THE RAJY SABHA ON 16.12.2024 REGARDING POWER CONSUMPTION TRENDS AND POWER MIX IN THE COUNTRY

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The details of source wise installed capacity of the country for the last three years and the current year (till October, 2024)

(All figures in MW)

Year	**Mode wise breakup**									**Grand Total**
	Thermal					**Nuclear**	**Renewable**			
	Coal	**Lignite**	**Gas**	**Diesel**	**Total**		**Hydro**	**RES***	**Total**	
As on 31.03.2022	2,04,080	6,620	24,900	510	2,36,109	6,780	46,723	1,09,885	1,56,608	3,99,497
As on 31.03.2023	2,05,236	6,620	24,824	589	2,37,269	6,780	46,850	1,25,160	1,72,010	4,16,059
As on 31.03.2024	2,10,969	6,620	25,038	589	2,43,217	8,180	46,928	1,43,645	1,90,573	4,41,970
As on 31.10.2024	2,11,030	6,620	24,818	589	2,43,057	8,180	46,968	1,56,247	2,03,215	4,54,452

Note: *RES (Renewable Energy Sources) include Solar and Wind Energy, Small Hydro Project (≤ 25 MW), Biomass Power and Urban & Industrial Waste Power.

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ANNEXURE-IV

ANNEXURE REFERRED TO IN PART (e) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO. 217 ANSWERED IN THE RAJY SABHA ON 16.12.2024 REGARDING POWER CONSUMPTION TRENDS AND POWER MIX IN THE COUNTRY

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The details of projected energy requirement due to EVs during the period from 2024-25 to 2029-30:

(All figures in MUs)

Years	**Energy Requirement**
2024-25	7170
2025-26	12160
2026-27	18910
2027-28	27688
2028-29	38788
2029-30	52604

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