

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.2081
ANSWERED ON 08.08.2023

PRODUCTION OF RENEWABLE AND NON-RENEWABLE ENERGY

2081 # LT.GEN. (DR.) D. P. VATS (RETD.):

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

- (a) the details of total power (renewable and non-renewable) generated in the country especially in Haryana during the last three years, State-wise, power category-wise and year-wise;
- (b) the major schemes being run by Government to promote the production of renewable energy;
- (c) whether an increase has been registered in the production of renewable energy by means of these schemes during last three years, if so, the details thereof; and
- (d) whether Government is planning to implement any special scheme in the renewable energy sector assimilating the concept of collective participation at the Gram Panchayat level?

A N S W E R

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) : The details of State/UT-wise power generation in the country from Renewable and Non-Renewable sources, including the State of Haryana, during the years 2020-21, 2021-22, 2022-23 and the current year 2023-24 (upto June, 2023), are given at **Annexure-I**.

(b) to (d) : Following schemes/programmes have been undertaken by the Government for enhancing the renewable energy capacity in the country:

- (i) Grid Connected Rooftop Solar Scheme
- (ii) Central Public Sector Undertaking (CPSU) Scheme Phase-II (Government Producer Scheme) for grid-connected Solar Photovoltaic (PV) Power Projects
- (iii) PLI Scheme 'National Programme on High Efficiency Solar PV Modules'
- (iv) Solar Park Scheme
- (v) PM-KUSUM scheme
- (vi) Green Energy Corridor Scheme

- (vii) Biomass Programme
- (viii) Waste to Energy Programme
- (ix) Biogas Programme
- (x) R&D programme
- (xi) Incentive Schemes for Green Hydrogen production and Electrolyser Manufacturing

Further, Government of India have taken a number of policy measures to promote the renewable energy in the country:

- (i) Waiver of Inter State Transmission System (ISTS) charges for inter-state sale of Solar, Wind, Green Hydrogen/Green Ammonia, Pump Storage Plants & Energy Storage Source;
- (ii) Declaration of trajectory for Renewable Purchase Obligation (RPO) up to the year 2029-30;
- (iii) Laying of new transmission lines and creating new sub-station capacity under the Green Energy Corridor Scheme for evacuation of renewable power
- (iv) Notification of Promoting Renewable Energy through Green Energy Open Access Rules 2022.
- (v) Launch of Green Term Ahead Market (GTAM) to facilitate sale of Renewable Energy Power through exchanges.

As a result of these measures, power generation in the country from Renewable Energy Sources has increased during the last three (3) years. The details are at **Annexure-II**.

ANNEXURE-I

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 2081 ANSWERED IN THE RAJYA SABHA ON 08.08.2023

State/UT-wise Details of Renewable and Non-Renewable Power Generation in the country for the year 2020-21

Name of State/UT	Power Generation from Non-Renewable Sources		Power Generation from Renewable Energy Sources		Total Power Generation (MUs)
	Thermal(Coal/Lignite/Gas/Diesel)	Nuclear	Hydro (Large)	Other Renewable Energy Sources	
	(MUs)	(MUs)	(MUs)	(MUs)	
Chandigarh	0.00	0.00	0.00	10.16	10.16
Delhi	5304.01	0.00	0.00	426.70	5730.71
Haryana	14896.38	0.00	0.00	760.75	15657.13
HP	0.00	0.00	37473.47	2160.30	39633.77
J & K	0.00	0.00	17002.68	439.29	17441.97
Ladakh	0.00	0.00	376.21	0.00	376.21
Punjab	17994.79	0.00	4747.03	2864.47	25606.29
Rajasthan	46235.27	7386.05	469.63	16516.38	70607.33
Uttar Pradesh	122063.71	3284.81	1572.35	5747.78	132668.65
Uttarakhand	721.97	0.00	13592.49	1236.85	15551.31
Northern Region	207216.13	10670.86	75233.86	30162.68	323283.53
Chhattisgarh	134614.50	0.00	419.19	1633.89	136667.58
Gujarat	95936.00	3712.96	4233.36	17977.39	121859.71
Madhya Pradesh	123089.78	0.00	6477.33	8517.86	138084.97
Maharashtra	104137.26	7886.62	5548.46	14232.67	131805.01
Daman and Diu and Dadra and Nagar Haveli	0.00	0.00	0.00	52.00	52.00
Goa	0.00	0.00	0.00	1.46	1.46
Western Region	457777.54	11599.58	16678.34	42415.27	528470.73

Andhra Pradesh	49468.95	0.00	3280.12	14133.83	66882.90
Telangana	44760.76	0.00	3645.38	6933.37	55339.51
Karnataka	19861.24	7093.92	12587.35	27850.33	67392.84
Kerala	109.24	0.00	6628.39	1092.12	7829.75
Tamil Nadu	51200.05	13664.72	5212.71	21659.05	91736.53
Lakshadweep				0.45	0.45
Puducherry	232.15	0.00	0.00	6.39	238.54
Southern Region	165632.39	20758.64	31353.95	71675.53	289420.51
Andaman Nicobar	118.48	0.00	0.00	39.51	157.99
Bihar	33866.14	0.00	0.00	226.61	34092.75
Jharkhand	27219.97	0.00	223.09	26.47	27469.53
Orissa	55206.47	0.00	6859.97	877.77	62944.21
Sikkim	0.00	0.00	10879.50	55.96	10935.46
West Bengal	72735.07	0.00	3212.28	1530.70	77478.05
Eastern Region	189146.13	0.00	21174.84	2757.01	213077.98
Arunachal Pradesh	0.00	0.00	3451.34	2.10	3453.44
Assam	5698.14	0.00	270.87	51.51	6020.52
Manipur	0.00	0.00	621.62	7.71	629.33
Meghalaya	0.00	0.00	1151.99	56.79	1208.78
Mizoram	0.00	0.00	158.85	33.52	192.37
Nagaland	0.00	0.00	203.86	69.77	273.63
Tripura	7043.21	0.00	0.00	15.62	7058.83
North Eastern Region	12741.35	0.00	5858.53	237.02	18836.90
All India Total	1032513.54	43029.08	150299.52	147247.51	1373089.65

State/UT-wise Details of Renewable and Non-Renewable Power Generation in the country for the year 2021-22

Name of State/UT	Power Generation from Non-Renewable Sources		Power Generation from Renewable Energy Sources		Total Power Generation
	Thermal(Coal/Lignite/Gas/Diesel)	Nuclear	Hydro (Large)	Other Renewable Energy Sources	
	(MUs)	(MUs)	(MUs)	(MUs)	
Chandigarh	0.00	0.00	0.00	14.19	14.19
Delhi	4948.57	0.00	0.00	458.73	5407.30
Haryana	22967.73	0.00	0.00	1135.42	24103.15
HP	0.00	0.00	36459.64	2043.76	38503.40
J & K	0.00	0.00	17074.02	415.81	17489.83
Ladakh	0.00	0.00	405.98	0.00	405.98
Punjab	24175.82	0.00	3709.73	3242.15	31127.70
Rajasthan	51107.41	8308.85	481.84	24099.31	83997.41
Uttar Pradesh	131847.42	3580.25	1402.68	6328.94	143159.29
Uttarakhand	1012.32	0.00	14332.13	872.32	16216.77
Northern Region	236059.27	11889.10	73866.02	38610.64	360425.03
Chhattisgarh	140870.87	0.00	404.13	1938.21	143213.21
Gujarat	56922.27	3503.47	2621.51	24839.53	87886.78
Madhya Pradesh	129634.45	0.00	4686.72	8716.73	143037.90
Maharashtra	122610.11	8602.18	6007.38	15845.64	153065.31
Daman and Diu and Dadra and Nagar Haveli	0.00	0.00	0.00	96.83	96.83
Goa	0.00	0.00	0.00	16.82	16.82
Western Region	450037.70	12105.65	13719.74	51453.76	527316.85

Andhra Pradesh	55421.08	0.00	3113.83	15662.61	74197.52
Telangana	51550.06	0.00	5626.63	7345.89	64522.58
Karnataka	30505.26	7492.05	13936.46	28634.28	80568.05
Kerala	0.00	0.00	9317.44	1614.62	10932.06
Tamil Nadu	61182.76	15625.26	5212.07	24061.28	106081.37
Lakshadweep	0.00	0.00	0.00	0.30	0.30
Puducherry	251.13	0.00	0.00	12.24	263.37
Southern Region	198910.29	23117.31	37206.43	77331.22	336565.25
Andaman Nicobar	117.24	0.00	0.00	34.77	152.01
Bihar	43940.40	0.00	0.00	239.83	44180.23
Jharkhand	28338.72	0.00	547.96	28.71	28915.39
Orissa	60161.29	0.00	5230.63	1081.10	66473.02
Sikkim	0.00	0.00	11493.90	12.35	11506.25
West Bengal	83216.77	0.00	3189.84	1845.09	88251.70
Eastern Region	215774.42	0.00	20462.33	3241.86	239478.61
Arunachal Pradesh	0.00	0.00	4161.28	2.13	4163.41
Assam	7600.55	0.00	676.24	122.10	8398.89
Manipur	0.00	0.00	455.48	6.72	462.20
Meghalaya	0.00	0.00	841.82	44.68	886.50
Mizoram	0.00	0.00	137.44	28.09	165.53
Nagaland	0.00	0.00	100.55	63.47	164.02
Tripura	6332.25	0.00	0.00	7.62	6339.87
North Eastern Region	13932.80	0.00	6372.81	274.82	20580.43
All India Total	1114714.48	47112.06	151627.33	170912.30	1484366.17

State/UT-wise Details of Renewable and Non-Renewable Power Generation in the country for the year 2022-23

Name of State/UT	Power Generation from Non-Renewable Sources		Power Generation from Renewable Energy Sources		Total Power Generation
	Thermal(Coal/Lignite/Gas/Diesel)	Nuclear	Hydro (Large)	Other Renewable Energy Sources	
	(MUs)	(MUs)	(MUs)	(MUs)	
Chandigarh	0.00	0.00	0.00	12.61	12.61
Delhi	3784.30	0.00	0.00	530.20	4314.50
Haryana	32139.27	0.00	0.00	1419.73	33559.00
HP	0.00	0.00	38666.98	2912.95	41579.93
J & K	0.00	0.00	16777.42	393.20	17170.62
Ladakh	0.00	0.00	402.78	0.00	402.78
Punjab	31506.16	0.00	4399.65	4169.59	40075.40
Rajasthan	57418.72	6587.27	967.43	40990.05	105963.47
Uttar Pradesh	152063.22	3192.62	974.04	7217.18	163447.06
Uttarakhand	0.00	0.00	15435.77	933.72	16369.49
Northern Region	276911.67	9779.89	77624.07	58579.23	422894.86
Chhattisgarh	142599.20	0.00	237.37	2003.05	144839.62
Gujarat	55481.62	3639.91	6133.14	29762.63	95017.30
Madhya Pradesh	135838.47	0.00	7309.07	8872.71	152020.25
Maharashtra	126907.03	8985.48	5894.29	17206.59	158993.39
Daman and Diu and Dadra and Nagar Haveli	0.00	0.00	0.00	30.63	30.63
Goa	0.00	0.00	0.00	19.96	19.96
Western Region	460826.32	12625.39	19573.87	57895.56	550921.14

Andhra Pradesh	61541.93	0.00	3747.58	16411.91	81701.42
Telangana	50738.20	0.00	6010.07	7429.89	64178.16
Karnataka	35014.30	7443.24	13157.34	29575.44	85190.32
Kerala	0.12	0.00	7989.00	1946.26	9935.38
Tamil Nadu	67083.23	16012.57	5965.77	27626.45	116688.02
Lakshadweep	15.02	0.00	0.00	0.10	15.12
Puducherry	233.07	0.00	0.00	12.24	245.31
Southern Region	214625.87	23455.81	36869.76	83002.29	357953.73
Andaman Nicobar	214.57	0.00	0.00	37.88	252.45
Bihar	55200.21	0.00	0.00	288.85	55489.06
Jharkhand	30472.78	0.00	305.47	19.70	30797.95
Orissa	64874.24	0.00	5462.81	1192.10	71529.15
Sikkim	0.00	0.00	11696.79	12.35	11709.14
West Bengal	87612.45	0.00	3423.73	1959.12	92995.30
Eastern Region	238374.25	0.00	20888.80	3510.00	262773.05
Arunachal Pradesh	0.00	0.00	4820.94	24.85	4845.79
Assam	8393.08	0.00	481.60	279.01	9153.69
Manipur	0.00	0.00	477.98	8.79	486.77
Meghalaya	0.00	0.00	980.25	71.64	1051.89
Mizoram	0.00	0.00	204.13	62.27	266.40
Nagaland	0.00	0.00	177.37	111.95	289.32
Tripura	7079.48	0.00	0.00	6.58	7086.06
North Eastern Region	15472.56	0.00	7142.27	565.09	23179.92
All India Total	1206210.67	45861.09	162098.77	203552.17	1617722.70

State/UT-wise Details of Renewable and Non-Renewable Power Generation in the country for the year 2023-24 (upto June, 2023)

Name of State/UT	Power Generation from Non-Renewable Sources		Power Generation from Renewable Energy Sources		Total Power Generation
	Thermal(Coal/ Lignite/ Gas/Diesel)	Nuclear	Hydro (Large)	Other Renewable Energy Sources	
	(MUs)	(MUs)	(MUs)	(MUs)	
Chandigarh	0.00	0.00	0.00	4.93	4.93
Delhi	674.22	0.00	0.00	169.47	843.69
Haryana	6939.38	0.00	0.00	353.38	7292.76
HP	0.00	0.00	9754.75	781.19	10535.94
J & K	0.00	0.00	5772.08	167.86	5939.94
Ladakh	0.00	0.00	85.09	0.00	85.09
Punjab	8203.53	0.00	979.93	1381.28	10564.74
Rajasthan	14811.15	1819.06	8.97	12961.91	29601.09
Uttar Pradesh	38910.19	878.24	152.04	1781.87	41722.34
Uttarakhand	288.57	0.00	3114.94	233.43	3636.94
Northern Region	69827.04	2697.30	19867.80	17835.33	110227.47
Chhattisgarh	41442.45	0.00	37.64	571.70	42051.79
Gujarat	18806.11	815.70	382.78	11233.85	31238.44
Madhya Pradesh	36152.36	0.00	781.53	2795.53	39729.42
Maharashtra	35251.78	1773.81	1893.79	4408.97	43328.35
Daman and Diu and Dadra and Nagar Haveli	0.00	0.00	0.00	7.28	7.28
Goa	0.00	0.00	0.00	15.91	15.91
Western Region	131652.70	2589.51	3095.74	19033.25	156371.20

Andhra Pradesh	18596.56	0.00	356.05	4526.48	23479.09
Telangana	13573.93	0.00	163.70	2036.53	15774.16
Karnataka	11520.17	1809.61	2595.39	7406.16	23331.33
Kerala	0.00	0.00	1681.64	469.26	2150.90
Tamil Nadu	19693.61	3121.68	757.10	7643.05	31215.44
Lakshadweep	16.86	0.00	0.00	0.02	16.88
Puducherry	62.03	0.00	0.00	3.06	65.09
Southern Region	63463.16	4931.29	5553.88	22084.57	96032.90
Andaman Nicobar	88.10	0.00	0.00	8.30	96.40
Bihar	14549.94	0.00	0.00	84.79	14634.73
Jharkhand	8662.96	0.00	17.21	4.41	8684.58
Orissa	16925.64	0.00	1194.25	279.16	18399.05
Sikkim	0.00	0.00	2875.80	3.09	2878.89
West Bengal	23305.07	0.00	704.80	497.01	24506.88
Eastern Region	63531.71	0.00	4792.06	876.76	69200.53
Arunachal Pradesh	0.00	0.00	945.83	0.76	946.59
Assam	2183.64	0.00	60.26	103.52	2347.42
Manipur	0.00	0.00	15.98	3.23	19.21
Meghalaya	0.00	0.00	165.53	11.41	176.94
Mizoram	0.00	0.00	16.60	24.78	41.38
Nagaland	0.00	0.00	8.22	16.05	24.27
Tripura	1650.55	0.00	0.00	1.48	1652.03
North Eastern Region	3834.19	0.00	1212.42	161.22	5207.83
All India Total	332308.80	10218.10	34521.90	59991.14	437039.94

ANNEXURE-II**ANNEXURE REFERRED TO IN REPLY TO PARTS (b) TO (d) OF UNSTARRED QUESTION NO. 2081 ANSWERED IN THE RAJYA SABHA ON 08.08.2023**

The details of power generation in the country from Renewable Energy Sources during the last three (3) years

Year	Power Generation from Renewable Energy Sources in the Country		
	Hydro (Large)	Other Renewable Energy Sources	TOTAL
	(MUs)	(MUs)	(MUs)
2020-21	150,299.52	147,247.51	297,547.03
2021-22	151,627.33	170,912.30	322,539.63
2022-23	162,098.77	203,552.17	365,650.94
