GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO. 2069
ANSWERED ON 18/03/2025

HIGH COST OF SOLAR ENERGY PRODUCING EQUIPMENT

2069. SHRI ASHOKRAO SHANKARRAO CHAVAN

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether India is one of the richest countries in terms of potential solar energy and if so, the details thereof;
(b) whether high cost of solar energy producing equipment is hindering the rapid growth of solar energy in the country;
(c) if so, the details thereof and steps taken/being taken by Government to make these equipment available at cheaper price to common public; and
(d) whether the Government has identified the potential wind power, solar power and hydro power sites that have not been exploited so far in the country and if so, the details thereof, location-wise?

ANSWER

THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER (SHRI SHRIPAD YESSO NAIK)

(a) Yes, India is among the countries with the highest potential for solar energy. The most part of the country receives 4-7 kWh per square meter per day of solar energy. The total solar potential of about 748 GW has been estimated by National Institute of Solar Energy (NISE) in the country.

(b) The cost of solar energy producing equipment, i.e. solar PV modules, has reduced significantly in the country over the past few years and currently is in the range of Rs. 15-25/Wp, which makes it a cheaper source of energy compared to other fossil fuel-based energy sources. The installed solar energy capacity in the country is also increasing rapidly. During the year 2023-24, ~15 GW of solar energy capacity was installed, while during the year 2024-25, ~18.5 GW has already been installed till 31.01.2025.

(c) To incentivize domestic manufacturing in solar PV manufacturing sector, the Government of India is implementing the Production Linked Incentive (PLI) Scheme for High Efficiency Solar PV Modules, for achieving domestic manufacturing capacity of Giga Watt (GW) scale in High Efficiency Solar PV modules, with an outlay of Rs. 24,000 crore.

Presently, the installed solar PV module manufacturing capacity in the country, as per the Approved List of Models and Manufacturers, issued on 17.02.2025 is around 67 GW.

(d) The estimated potential of wind power, solar power and small hydro power in the country is around 1932 GW. The Details are as tabulated below:

Sl. No.	Resource	Estimated Potential (In GW)
1	Solar Power	748[a]
2	Wind Power	1163[b]

		[at 150 m. height]
3	Small Hydro Power (up to 25 MW)	21[c]
	Total	1932

Data Sources:

(a) NISE Solar Potential Map of India, 2014

(b) NIWE Wind Potential Map at 150 m height, 2023

(c) Small Hydro Database, 2016, Hydro and Renewable Energy Department, IIT Roorkee

The source-wise and state-wise details of estimated Potential are given at **Annexure-I.** The adoption of Renewable Energy has been increasing in the country. The details of installed capacity of wind power, solar power and small hydro power, state-wise, are given at **Annexure-II.**

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ANNEXURE-I REFFERED IN REPLY TO PART (d) OF RAJYA SABHA UNSTARRED QUESTION NO. 2069 FOR 18.03.2025

State-wise estimated potential of wind power, solar power and small hydro power

(in MW)

Sl. No.	STATES / UTs	Wind Power @ 150m	Solar power	Small Hydro Power
1	Andhra Pradesh	123336	38440	409.32
2	Arunachal Pradesh	246	8650	2064.92
3	Assam	459	13760	201.99
4	Bihar	4023	11200	526.98
5	Chhattisgarh	2749	18270	1098.2
6	Goa	14	880	4.7
7	Gujarat	180790	35770	201.97
8	Haryana	593	4560	107.4
9	Himachal Pradesh	239	33840	3460.34
10	Jammu & Kashmir (including Ladakh)	1 (Ladakh)	111050	1707.45
11	Jharkhand	16	18180	227.96
12	Karnataka	169251	24700	3726.49
13	Kerala	2621	6110	647.15
14	Madhya Pradesh	55423	61660	820.44
15	Maharashtra	173868	64320	786.46
16	Manipur	0	10630	99.95
17	Meghalaya	55	5860	230.05
18	Mizoram	0	9090	168.9
19	Nagaland	0	7290	182.18
20	Orissa	12129	25780	286.22
21	Punjab	428	2810	578.28
22	Rajasthan	284250	142310	51.67
23	Sikkim	0	4940	266.64
24	Tamil Nadu	95107	17670	604.46
25	Telangana	54717	20410	102.25
26	Tripura	0	2080	46.86
27	Uttar Pradesh	510	22830	460.75
28	Uttarakhand	49	16800	1664.31
29	West Bengal	1281	6260	392.06
30	Andaman & Nicobar	1245	0	7.27
31	Chandigarh	0	0	0
32	Dadar & Nagar Haveli & Daman and Diu	17	0	0
33	Delhi	0	2050	0
34	Lakshadweep	31	0	0

Sl. No.	STATES / UTs	Wind Power @ 150m	Solar power	Small Hydro Power
35	Pondicherry	408	0	0
36	Others	0	790	0
	Total	**11,63,856**	**7,48,990**	**21,133.62**

ANNEXURE-II REFFERED IN REPLY TO PART (d) OF RAJYA SABHA UNSTARRED QUESTION NO. 2069 FOR 18.03.2025

State-wise installed capacity of wind power, solar power and small hydro power as on 28.02.2025

(in MW)

S. No.	STATES / UTs	Wind Power	Solar Power	Small Hydro Power
1	Andhra Pradesh	4096.65	5179.23	163.31
2	Arunachal Pradesh		14.85	140.61
3	Assam		192.34	34.11
4	Bihar		319.44	70.70
5	Chhattisgarh		1340.54	76.00
6	Goa		55.44	0.05
7	Gujarat	12583.88	18125.41	106.64
8	Haryana		2025.18	73.50
9	Himachal Pradesh		170.26	1000.71
10	Jammu & Kashmir		74.49	189.93
11	Jharkhand		199.87	4.05
12	Karnataka	6878.30	9312.71	1284.73
13	Kerala	63.50	1482.14	276.52
14	Ladakh		7.80	45.79
15	Madhya Pradesh	2844.29	5012.88	123.71
16	Maharashtra	5279.08	9881.37	384.28
17	Manipur		13.79	5.45
18	Meghalaya		4.28	55.03
19	Mizoram		30.39	45.47
20	Nagaland		3.17	32.67
21	Odisha		621.84	115.63
22	Punjab		1421.43	176.10
23	Rajasthan	5195.82	27636.75	23.85
24	Sikkim		7.56	55.11
25	Tamil Nadu	11514.64	9723.95	123.05
26	Telangana	128.10	4842.10	90.87
27	Tripura		21.24	16.01
28	Uttar Pradesh		3357.51	49.10
29	Uttarakhand		593.07	233.82
30	West Bengal		320.62	98.50
31	Andaman & Nicobar Islands		29.91	5.25
32	Chandigarh		78.85	
33	Dadra & Nagar Haveli and Daman & Diu		48.12	
34	Delhi		313.40	
35	Lakshadweep		4.97	
36	Puducherry		54.11	

S. No.	STATES / UTs	Wind Power	Solar Power	Small Hydro Power
37	Others	4.30	45.01	
	Total (MW)	**48588.56**	**102566.02**	**5100.55**