

GOVERNMENT OF INDIA  
MINISTRY OF NEW AND RENEWABLE ENERGY  
**LOK SABHA**  
**UNSTARRED QUESTION NO. 3028**  
ANSWERED ON 16.12.2021

**SOLAR PROJECTS**

3028. DR. SHASHI THAROOR

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

- (a) whether the Ministry maintains any data of the installed and operating solar projects in the country and if so, the details thereof;
- (b) the details of capacity installed and operating along with optimal potential units generated thereof, State-wise;
- (c) whether the Ministry has recorded the efficiency of power generation of the operating solar projects;
- (d) if so, the details about actual power generated and performance efficiency thereof;
- (e) whether the operating solar plants have accrued any financial loss due to operational inefficiencies;
- (f) if so, the details thereof in terms of rupees;
- (g) whether the Ministry has implemented automated solar cleaning systems to improve the efficiency of operating solar plants in the country; and
- (h) if so, the details thereof along with the steps taken by the Ministry to improve efficiency and retrospective cost-benefit analysis thereon?

**ANSWER**

**THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER**

**(SHRI R.K. SINGH)**

(a) & (b) A grid connected solar power capacity of 47112.51 MW has been installed in the country, as on 30.11.2021. State-wise details are given in **Annexure-I**. The Central Electricity Authority have reported that solar energy of 60402.26 Million Units was generated during 2020-21. State-wise details are given in **Annexure-II**.

(c) & (d) The generation data for solar power projects is maintained by Central Electricity Authority. The Capacity Utilization Factor (CUF) for solar projects has been achieved upto 25%. It varies from project to project and inter-alia depends upon solar irradiation, type of solar modules used etc.

(e) & (f) No such case has been reported to this Ministry.

(g) & (h) Most of the solar power projects in the country have been installed by private developers. Periodic cleaning of solar modules is a requirement to maximise power generation. In places of more dust, cleaning of modules is carried out more frequently. The Government has issued advisory to all States and Solar Associations to initiate steps for optimal utilization of water for cleaning of Solar Panels and to preferably use Robotic Technology for cleaning of modules.

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**ANNEXURE-I REFERRED TO IN REPLY TO PARTS (a) AND (b) of LOK SABHA UNSTARRED  
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**(I) COMMISSIONING STATUS OF GRID CONNECTED SOLAR PROJECTS AS ON 30-11-2021**

<b>Sr. No.</b>	<b>State/UT</b>	<b>Cumulative Capacity till 30-11-2021 (MW)</b>
1	Andaman & Nicobar	29.22
2	Andhra Pradesh	4292.37
3	Arunachal Pradesh	5.61
4	Assam	59.15
5	Bihar	169.48
6	Chandigarh	52.64
7	Chhattisgarh	308.83
8	Dadar & Nagar	5.46
9	Daman & Diu	40.72
10	Delhi	209.66
11	Goa	18.37
12	Gujarat	6116.85
13	Haryana	593.20
14	Himachal Pradesh	45.04
15	Jammu & Kashmir	24.49
16	Jharkhand	53.56
17	Karnataka	7483.39
18	Kerala	306.30
19	Ladakh	7.80
20	Lakshadweep	0.75
21	Madhya Pradesh	2592.01
22	Maharashtra	2506.81
23	Manipur	6.36
24	Meghalaya	0.19
25	Mizoram	1.53
26	Nagaland	1.00
27	Odisha	405.22
28	Pondicherry	11.87
29	Punjab	1051.09
30	Rajasthan	9229.80
31	Sikkim	2.76
32	Tamil Nadu	4757.76
33	Telangana	4032.06
34	Tripura	9.41
35	Uttar Pradesh	1990.28
36	Uttarakhand	540.49
37	West Bengal	151.00

<b>Total</b>	<b>47112.51</b>
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**ANNEXURE-II REFERRED TO IN REPLY TO PARTS (a) AND (b) of LOK SABHA UNSTARRED  
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<b>Name of State/UT</b>	<b>Solar Energy generation in 2020-21 (In MU)</b>
Chandigarh	10.16
Delhi	189.99
Haryana	162.95
HP	36.52
J & K	9.42
Ladkh	0.00
Punjab	1356.48
Rajasthan	10384.24
Uttar Pradesh	1856.19
Uttarakhand	329.64
<b>Northern Region</b>	<b>14335.59</b>
Chhattisgarh	370.80
Gujarat	4633.81
Madhya Pradesh	4202.03
Maharashtra	3089.46
Dadra and Nagar Haveli	11.96
Daman & Diu	29.52
Goa	1.46
<b>Western Region</b>	<b>12339.03</b>
Andhra Pradesh	6956.10
Telangana	6351.04
Karnataka	13238.86
Kerala	275.44
Tamil Nadu	6115.48
Lakshadweep	0.45
Puducherry	6.39
<b>Southern Region</b>	<b>32943.75</b>
Andaman Nicobar	24.82
Bihar	160.63
Jharkhand	17.16
Orissa	476.26
Sikkim	0.00
West Bengal	73.92
<b>Eastern Region</b>	<b>752.78</b>
Arunachal Pradesh	1.54
Assam	13.37
Manipur	7.71
Meghalaya	0.00
Mizoram	2.45

Nagaland	0.00
Tripura	6.04
<b>North Eastern Region</b>	<b>31.11</b>
<b>All India Total</b>	<b>60402.26</b>