

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
STARRED QUESTION NO. 318
TO BE ANSWERED ON 23.03.2017

Renewable Energy Sources

*318. SHRIMATI REKHA VERMA:

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

- (a) the targets fixed and achievement realised in the generation of electricity through renewable sources of energy during each of the last three years and the current year, State and source-wise;
- (b) whether the schemes/programmes being implemented in different States to develop renewable sources of energy have been successful and if so, the details thereof, State-wise and if not, the reasons therefor;
- (c) the details of incentives being provided to State Governments by the Union Government for implementation of these schemes; and
- (d) whether the Union Government has set up any monitoring mechanism to ensure proper implementation of these schemes and if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR POWER, COAL, NEW & RENEWABLE ENERGY AND MINES
(INDEPENDENT CHARGE) (SHRI PIYUSH GOYAL)

(a) to (d): A Statement is laid on the Table of the Lok Sabha.

**STATEMENT REFERRED TO IN REPLY TO PARTS (a) to (d) OF LOK SABHA STARRED
QUESTION No. 318 for ANSWER ON 23/03/2017**

(a) : The details of generation of electricity through renewable energy sources (RES) during the last three years and the current year are as follows :

(in Billion units)

Year	Generation from renewable energy sources
2013-14	53.22
2014-15	61.78
2015-16	65.78
2016-17 (April 2016 to Jan 2017)	70.13

State-wise targets for the generation of electricity from renewables are not fixed. Source-wise, year-wise and state-wise generation of electricity from RES during the last three years and the current year are given at **Annexure-I**.

(b) Generally implementation of various renewable energy programmes is satisfactory. Statement showing cumulative achievements, reflecting the implementation of various grid operative schemes in different states is given in **Annexure-II**.

However, some of the challenges in the implementation of these programmes in states, *inter-alia*, include servicing and maintenance of renewable energy systems in remote areas; delay in submission of Utilization Certificates for grants released earlier; non-compliance of Renewable Purchase Obligations (RPO); and non-revision of tariffs regularly as per Central Electricity Regulatory Commission (CERC) guidelines, etc.

(c) Ministry of New and Renewable Energy (MNRE) is providing various incentives for the development of renewable energy projects in the States/ UTs of the country. These include generation based incentives/subsidies, viability gap funding from National Clean Energy Fund (NCEF), fiscal incentives such as accelerated depreciation, concessional customs duty, excise duty exemptions, income tax holiday for 10 years and preferential tariff for renewable energy power projects..

(d) All the major programmes being promoted by MNRE has an established mechanism to monitor the implementation of the schemes. The provision include:

- 100 percent physical verification by State implementing agency.
- Project developers to provide generation data on regular basis.
- Periodic inspection by the officials of MNRE and Indian Renewable Energy Development Agencies Limited.
- Third party evaluation.

**REFERRED TO IN REPLY TO LOK SABHA STARRED QUESTION NO. 318 Part (a) OF THE
STATEMENT FOR ANSWER ON 23.03.2017
State-wise and Source-wise power generation from various renewable energy sources during the
last three years (2013-14 to 2015-16) and the current year.**

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
2013-14						
1.	DELHI	0	3.285	0	100.426	103.711
2.	HARYANA	0	9.39	238.6	131.39	379.38
3.	HP	0	0	1181.01	0	1181.01
4.	PUNJAB	0	51.689	227.776	615.635	895.101
5.	RAJASTHAN	3695.666	1052.044	8.268	248.099	5004.076
6.	UTTAR PRADESH	0	14.962	25.918	2822.518	2863.398
7.	UTTARAKHAND	0	5.548	263.448	89.617	358.613
8.	NTPC DADRI	0	6.088	0	0	6.088
9.	NTPC FARIDABAD	0	0.006	0	0	0.006
10.	NTPC UNCHAHAR	0	0.002	0	0	0.002
11.	CHHATTISGARH	0	11.417	10.392	1207.362	1229.171
12.	GUJARAT	5288.557	1369.415	31.599	24.148	6713.719
13.	MADHYA PRADESH	477.4	247.05	290.3	36.73	1051.48
14.	MAHARASHTRA	5727.352	257.424	662.592	2121.57	8768.938
15.	NTPC RAJGARH	0	0.004	0	0	0.004
16.	ANDHRA PRADESH	817.85	207.11	161.98	595.92	1782.86
17.	KARNATAKA	4547.916	38.253	1808.975	2667.506	9062.65
18.	KERALA	68.071	0	554.609	34.886	657.566
19.	TAMIL NADU	10641.985	38.873	119.188	1843.426	12643.472
20.	NTPC RAMAGUNDAM	0	2.451	0	0	2.451
21.	ANDAMAN NICOBAR	0	0	0	0	0
22.	BIHAR	0	0	0	0	0
23.	JHARKHAND	0	0	0	0	0
24.	ODISHA	0	34.273	336.559	0	370.832
25.	DVC	0	0	101.985	0	101.985
26.	NTPC ANDAMAN	0	6.504	0	0	6.504
27.	NTPC TALCHER	0	0.001	0	0	0.001
28.	ARUNACHAL PRADESH	0	0	0	0	0
29.	MEGHALAYA	0	0	0	0	0
30.	MIZORAM	0	0	41.477	0	41.477
	Total	31264.797	3353.335	6064.676	12539.233	53224.496
2014-15						
1.	CHANDIGARH	0	2.23	0	0	2.23
2.	DELHI	0	3.18	0	113.44	116.63
3.	HARYANA	0	10.36	280.96	179.36	470.69
4.	HP	0	0	1685.08	0	1685.08
5.	J & K	0	0	313.23	0	313.23
6.	PUNJAB	0	129.89	543.53	485.87	1159.29
7.	RAJASTHAN	4053.85	1259.19	5.3	278.24	5596.57
8.	UTTAR PRADESH	0	20.13	30.3	3090.27	3140.7
9.	UTTARAKHAND	0	11.63	565.25	87.5	664.38
10.	NTPC	0	22.9	0	0	22.9
11.	OIL INDIA LTD	117.78	9.14	0	0	126.93
12.	CHHATTISGARH	0	13.54	8.4	1044.35	1066.29

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
13.	GOA/NTPC RAJGARH	0	62.94	0	0	62.94
14.	GUJARAT	5660.09	1474.56	47.13	40.48	7222.27
15.	MADHYA PRADESH	592.25	562.29	196.71	76.26	1427.51
16.	MAHARASHTRA	6804.8	349.32	275.82	2853.99	10283.93
17.	DADRA AND NAGAR HAVELI	0	0.03	0	0	0.03
18.	DAMAN & DIU	0	0.15	0	0	0.15
19.	ANDHRA PRADESH	1675.82	159.77	274.61	600.85	2711.06
20.	TELANGANA	0	138.12	60.43	604.31	802.86
21.	KARNATAKA	4658.1	100.39	1845.75	3090.66	9694.9
22.	KERALA	58.4	0	570.53	0.71	629.64
23.	PUDUCHERRY/NTPS RAMA	0	15.62	0	0	15.62
24.	TAMIL NADU	10147.06	158.75	226.81	1369.79	11902.39
25.	LAKSHADWEEP	0	5.13	0	40.96	46.09
26.	ANDAMAN NICOBAR	0	0	0.47	0	0.47
27.	BIHAR	0	0	29.01	180.11	209.13
28.	JHARKHAND	0	8.32	0	0	8.32
29.	ODIHA	0	44.94	284.88	0	329.82
30.	SIKKIM	0	0	20.88	0	20.88
31.	WEST BENGAL	0.16	7.07	325.43	1220.97	1553.63
32.	DAMODAR VALLEY CORPORATION	0	0	146.86	0	146.86
33.	NTPC ANDAMAN+TALCHAR	0	18.79	0	0	18.79
34.	ARUNACHAL PRADESH	0	0	51.94	0	51.94
35.	ASSAM	0	9.65	54.87	0	64.52
36.	MANIPUR	0	0	0	0	0
37.	MEGHALAYA	0	0	66.94	0	66.94
38.	MIZORAM	0	0	34.86	0	34.86
39.	NAGALAND	0	0	84.14	0	84.14
40.	TRIPURA	0	0	29.37	0	29.37
41.	NEEPCO	0	0.98	0	0	0.98
	TOTAL	33768.3	4599.02	8059.5	15358.11	61784.93

2015-16

1	CHANDIGARH	0	3.4	0	0	3.4
2	DELHI	0	4.11	0	124.87	128.97
3	HARYANA	0	114.96	992.65	235.55	1343.15
4	HP	0	0	1921.77	0	1921.77
5	J & K	0	0	304.79	0	304.79
6	PUNJAB	0	380.57	490.08	603.54	1474.2
7	RAJASTHAN	4583.59	1766.1	5.06	245.49	6600.24
8	UTTAR PRADESH	0	89.75	29.73	3082.01	3201.49
9	UTTARAKHAND	0	5.87	605.69	91.86	703.42
10	NTPC (DADRI/FARIDABAD/ UNCHAHAHAR)	0	42.41	0	0	42.41
11	OIL INDIA LTD	183.77	9.9	0	0	193.67
12	CHHATTISGARH	0	52.7	30.41	1119.32	1202.42
13	NTPC RAJGARH	0	81	0	0	81
14	GUJARAT	6446.58	1497.6	36.27	23.28	8003.73
15	MADHYA PRADESH	1558.43	1105.28	118.54	128.17	2910.42
16	MAHARASHTRA	6121.34	638.76	562.77	3433.71	10756.58

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
17	DADRA & NAGAR HAVELI	0	0.5	0	0	0.5
18	DAMAN & DIU	0	4.25	0	0	4.25
19	ANDHRA PRADESH	2013.04	282.67	103.1	707.8	3106.61
20	TELANGANA	0	402.51	48.69	576.7	1027.9
21	KARNATAKA	4797.95	187.69	1483.48	3591.92	10061.03
22	KERALA	51.45	7.38	486.99	72.96	618.78
23	PUDUCHERRY/ NTPC (RAMAGUNDEM)	0	16.02	0	0	16.02
24	TAMIL NADU	7273.23	507.18	214.02	1337.05	9331.47
25	LAKSHADWEEP	0	1.02	0	0	1.02
26	ANDAMAN & NICOBAR	0	6.26	12.46	0	18.72
27	BIHAR	0	6.39	48.69	110.02	165.11
28	JHARKHAND	0	19.77	0	0	19.77
29	ODISHA	0	150.73	263.24	20.48	434.45
30	SIKKIM	0	0	41.93	0	41.93
31	WEST BENGAL	0	6.28	157.57	1444.3	1608.15
32	DVC	0	0	118.26	0	118.26
33	NTPC ANDMAN/ TALCHER	0	18.91	0	0	18.91
34	ARUNACHAL PRADESH	0	0.22	18.22	0	18.44
35	ASSAM	0	31.6	59.34	0	90.94
36	MANIPUR	0	0	0	0	0
37	MEGHALAYA	0	0	65.96	0	65.96
38	MIZORAM	0	0	27.62	0	27.62
39	NAGALAND	0	0	88.73	0	88.73
40	TRIPURA	0	0	18.47	0	18.47
41	NEEPCO	0	6.15	0	0	6.15
	Total	33029.4	7447.92	8354.51	16949.03	65780.9
2016-17 (April 2016 to January 2017)						
1	CHANDIGARH	0.00	12.37	0.00	0.00	12.37
2	DELHI	0.00	4.00	0.00	106.85	110.84
3	HARYANA	0.00	38.74	267.49	87.96	394.20
4	HP	0.00	0.00	1885.33	0.00	1885.33
5	J & K	0.00	0.49	278.24	0.00	278.73
6	PUNJAB	0.00	676.06	372.73	632.44	1681.23
7	RAJASTHAN	4857.24	1740.36	3.83	224.46	6825.89
8	UTTAR PRADESH	0.00	165.56	22.07	2257.69	2445.31
9	UTTARAKHAND	0.00	25.09	726.65	45.57	797.30
10	NTPC DADRI+FBD+ UNCHAHAAR+SINGRULI	0.00	38.06	0.00	0.00	38.06
11	OIL INDIA LTD	173.57	19.09	0.00	0.00	192.67
12	CHHATTISGARH	0.00	97.66	39.65	1045.79	1183.10
13	NTPC RAJGARH	0.00	67.59	0.00	0.00	67.59
14	GUJARAT	6578.73	1409.65	20.26	8.16	8016.80
15	MADHYA PRADESH	3015.17	1090.63	189.76	98.80	4394.36
16	MAHARASHTRA	6950.36	464.55	444.34	2152.25	10011.49
17	DADRA AND NAGAR HAVELI	0.00	0.96	0.00	0.00	0.96

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
18	DAMAN & DIU	0.00	10.95	0.00	0.00	10.95
19	ANDHRA PRADESH	2769.94	1228.48	135.17	423.90	4557.49
20	TELANGANA	183.69	960.99	45.54	310.36	1500.59
21	KARNATAKA	5411.24	343.47	1491.55	1358.97	8605.23
22	KERALA	66.43	20.92	374.73	44.43	506.51
23	NTPC RAMAGUNDAM+ ANANTAPURAM	0.00	271.12	0.00	0.00	271.12
24	TAMIL NADU	11153.53	1477.88	89.80	1065.36	13786.57
25	LAKSHADWEEP	0.00	1.17	0.00	0.00	1.17
26	ANDAMAN & NICOBAR	0.00	5.26	12.17	0.00	17.43
27	BIHAR	0.00	83.01	20.05	0.00	190.52
28	JHARKHAND	0.00	31.63	0.00	87.46	31.63
29	ODISHA	0.00	166.37	218.15	0.00	442.36
30	SIKKIM	0.00	0.00	34.38	57.85	34.38
31	WEST BENGAL	0.00	11.71	92.84	0.00	1297.49
32	DVC	0.00	0.00	121.46	1192.94	121.46
33	NTPC ANDAMAN+TALCHER	0.00	16.48	0.00	0.00	16.48
34	ARUNACHAL PRADESH	0.00	0.13	13.40	0.00	13.53
35	ASSAM	0.00	79.85	78.73	0.00	158.58
36	MANIPUR	0.00	0.01	0.00	0.00	0.01
37	MEGHALAYA	0.00	0.00	54.75	0.00	54.75
38	MIZORAM	0.00	0.00	42.57	0.00	42.57
39	NAGALAND	0.00	0.00	86.41	0.00	86.41
40	TRIPURA	0.00	0.00	40.03	0.00	40.03
41	NEEPCO	0.00	5.65	0.00	0.00	5.65
	Total	41159.91	10565.90	7202.06	11201.23	70129.11

Source: Central Electricity Authority (CEA)

Note: Data as received from State Load Dispatch Centre (SLDC) of the respective states of the electricity department.

**REFERRED TO IN REPLY TO LOK SABHA STARRED QUESTION NO. 318 Part (b) OF THE
STATEMENT FOR ANSWER ON 23.03.2017**

State-wise installed capacity of Grid Interactive Renewable Power as on 31.12.2016.							
S. No.	STATES / Uts	Small Hydro Power	Wind Power	Bio-Power		Solar Power	Total Capacity
				BM Power/Cogen.	Waste to Energy		
		(MW)	(MW)	(MW)	(MW)	(MW)	(MW)
1	Andhra Pradesh	241.98	2092.50	378.20	58.16	979.65	3750.49
2	Arunachal Pradesh	104.605				0.27	104.87
3	Assam	34.11				11.18	45.29
4	Bihar	70.70		92.50		95.91	259.11
5	Chhattisgarh	76.00		228.50		135.19	439.69
6	Goa	0.05				0.05	0.10
7	Gujarat	16.60	4441.57	65.30		1158.5	5681.97
8	Haryana	73.50		96.40		53.27	223.17
9	Himachal Pradesh	798.81				0.33	799.14
10	Jammu & Kashmir	158.03				1.00	159.03
11	Jharkhand	4.05				17.51	21.56
12	Karnataka	1220.73	3154.20	1401.08	1.00	327.53	6104.54
13	Kerala	205.02	43.50			15.86	264.38
14	Madhya Pradesh	86.16	2288.590	92.53	3.90	840.35	3311.53
15	Maharashtra	346.175	4666.03	1967.85	12.72	430.46	7423.24
16	Manipur	5.45				0.01	5.46
17	Meghalaya	31.03				0.01	31.04
18	Mizoram	41.47				0.10	41.57
19	Nagaland	30.67				0.50	31.17
20	Odisha	64.625				77.64	142.27
21	Punjab	170.90		62.00	9.25	545.43	787.58
22	Rajasthan	23.85	4216.72	119.25		1317.64	5677.46
23	Sikkim	52.11				0.01	52.12
24	Tamil Nadu	123.05	7694.33	889.40	8.05	1590.97	10305.80
25	Telangana		98.70	158.10		973.41	1230.21
26	Tripura	16.01				5.02	21.03
27	Uttar Pradesh	25.10		1933.11	5.00	239.26	2202.47
28	Uttarakhand	209.320		72.72		45.10	327.14
29	West Bengal	98.50		300.00		23.07	421.57
30	Andaman & Nicobar	5.25				5.40	10.65
31	Chandigarh					16.20	16.20
32	Dadar & Nagar Haveli					0.60	0.60
33	Daman & Diu					4	4.00
34	Delhi				16.00	38.78	54.78
35	Lakshadweep					0.75	0.75
36	Puducherry					0.03	0.03
37	Others		4.30			61.70	66.00
	Total (MW)	4333.855	28700.440	7856.94	114.08	9012.69	50018.00

MW = Megawatt