

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 3214
TO BE ANSWERED ON 03.08.2017

ACHIEVEMENTS IN NEW AND RENEWABLE ENERGY SECTOR

3214. SHRI RAJENDRA AGRAWAL:
SHRI BHAIRON PRASAD MISHRA:
SHRI C.S. PUTTA RAJU:
ADV. CHINTAMAN NAVASHA WANAGA:

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

- (a) the initiatives taken by the Government to explore new and renewable energy sources and the outcome thereof during the last three years in the country;
- (b) the action taken plan for the generation of new and renewable energy sources during the next two years in the country;
- (c) the targets fixed and achievements made 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;
- (d) whether the schemes/programmes being implemented in different States to develop renewable sources of energy have been successful and if so, the details thereof and if not, the reasons therefor, State/UT-wise;
- (e) the details of incentives being provided to State Governments by the Union Government for implementation of these schemes; and
- (f) 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): The details of new initiatives undertaken by the Government to explore new and renewable energy sources in the country include:

- incentives in the form of generation based incentives/subsidies, fiscal incentives such as accelerated depreciation, goods and service tax (GST) at low rates, concessional custom duty, income tax holiday for 10 years and viability gap funding;
- amendments in the Tariff Policy for strong enforcement of Renewable Purchase Obligation (RPO) and for providing Renewable Generation Obligation (RGO);
- setting up of exclusive solar parks;
- development of power transmission network through Green Energy Corridor project;
- repowering policy in order to optimally utilize the wind energy resources;
- identification of large government complexes/ buildings for rooftop projects;
- infrastructure status for solar projects;
- raising tax free solar bonds;
- making roof top solar a part of housing loan by banks;
- raising funds from bilateral and multilateral finance and development institutions;
- training of Surya Mitras for installation and maintenance of the Solar Projects;
- mechanism for scheduling and forecasting in case of inter-state transmission of solar and wind power;
- approval & notification of National Offshore Wind Energy Policy for the development of offshore wind energy in the Indian Exclusive Economic Zone (EEZ).

A total of 22.3 GW of cumulative capacity has been added during last three years in the country from all renewable energy sources.

(b): Schemes of the Ministry of New and Renewable Energy (MNRE) are being implemented with the objective to achieve 175 GW of Renewable Energy capacity by 2022 as per scheme-wise annual budgetary allocations.

(c): State-wise targets for the generation of electricity from renewables are not fixed. Source-wise, year-wise and state-wise generation of electricity from renewable energy sources during the last three years and current year are given at **Annexure-I**.

(d): 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/UTs, inter-alia, include servicing and maintenance of renewable energy systems in remote areas; delay in submission of Utilization Certificates of grants released earlier; non-compliance of Renewable Purchase Obligations (RPO); and non-revision of tariffs regularly as per CERC guidelines, etc.

(e): The Government is providing various incentives for the development of grid connected renewable energy projects in the States/ UTs of the country. These include incentives in the form of generation based incentives/subsidies, fiscal incentives such as accelerated depreciation, goods and service tax (GST) at low rates, concessional custom duty, income tax holiday for 10 years and viability gap funding.

(f): All the major programmes being promoted by MNRE have 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 Ministry of New and Renewable Energy (MNRE).
- Third party evaluation.

ANNEXURE-I REFERRED TO IN REPLY TO LOK SABHA UNSTARRED QUESTION NO. 3214

Part (c) TO BE ANSWERED ON 03/08/2017

State-wise and Source-wise power generation from various renewable energy sources during the last three years (2014-15 to 2016-17) and current year.

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
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
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.	ORISSA	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 ANDMAN+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

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
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/U NCHAHAR)	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
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	ORISSA	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						
1.	CHANDIGARH	0	13.16	0	0	13.16
2.	DELHI	0	5.68	0	139.05	144.73
3.	HARYANA	0	19.7	238.8	191.04	449.54
4.	HP	0	0	2015.58	0	2015.58
5.	J & K	0	0.77	325.36	0	326.12
6.	PUNJAB	0	909.2	497.99	742.31	2149.49
7.	RAJASTHAN	5562.52	2131.61	6.76	272.97	7973.85
8.	UTTAR PRADESH	0	230.95	27.83	3456.88	3715.66
9.	UTTARAKHAND	0	37.77	850.5	110.92	999.19

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
10.	NTPC DADRI/FBD/ UNCHAHAR/SINGRAULI	0	74.9	0	0	74.9
11.	OIL INDIA LTD	201.61	25.59	0	0	227.2
12.	CHHATTISGARH	0	120.91	44.21	1281.1	1446.22
13.	NTPC RAJGARH	0	82.21	0	0	82.21
14.	GUJARAT	7720.01	1738.28	27.54	12.16	9497.99
15.	MADHYA PRADESH	3563.17	1366.1	224.46	114.94	5268.67
16.	MAHARASHTRA	7490.75	577.83	609.58	2614.54	11292.7
17.	DADRA AND NAGAR HAVELI	0	1.31	0	0	1.31
18.	DAMAN & DIU	0	14.43	0	0	14.43
19.	ANDHRA PRADESH	3187.85	1599.78	168.75	526.88	5483.26
20.	TELANGANA	211.93	1337.9	52.62	397.42	1999.89
21.	KARNATAKA	6058.65	524.67	1294.25	1708.11	9585.68
22.	KERALA	72.59	26.52	462.38	1.23	562.72
23.	NTPC RAMAGUNDAM	0	350.53	0	0	350.53
24.	TAMIL NADU	11935.26	1898.34	93.79	1226.48	15153.87
25.	LAKSHADWEEP	0	1.59	0	0	1.59
26.	PUNDUCHERRY	0	0.34	0	0	0.34
27.	ANDAMAN & NICOBAR	0	6.17	13.86	0	20.03
28.	BIHAR	0	109.18	21.96	161.38	292.53
29.	JHARKHAND	0	38.47	0	0	38.47
30.	ORISSA	0	210.81	239.05	57.85	507.71
31.	SIKKIM	0	0	35.78	0	35.78
32.	WEST BENGAL	0	14.96	120.86	1433.95	1569.77
33.	DVC	0	0.01	136.1	0	136.11
34.	NTPC ANDAMAN/ TALCHER	0	20	0	0	20
35.	ARUNACHAL PRADESH	0	0.14	13.46	0	13.6
36.	ASSAM	0	2.69	79.52	0	82.21
37.	MANIPUR	0	0.01	0	0	0.01
38.	MEGHALAYA	0	0	59.1	0	59.1
39.	MIZORAM	0	0	49.62	0	49.62
40.	NAGALAND	0	0	92.73	0	92.73
41.	TRIPURA	0	0	46.47	0	46.47
42.	NEEPCO	0	6.89	0	0	6.89
	TOTAL	46004.34	13499.4	7848.91	14449.2	81801.85
2017-18 (APRIL 2017- MAY 2017)						
1.	CHANDIGARH	0	2.2	0	0	2.2
2.	DELHI	0	2.44	0	41.23	43.67
3.	HARYANA	0	64	223.95	225.37	513.31
4.	HP	0	0	521.22	0	521.22
5.	J & K	0	0	85.42	0	85.42
6.	PUNJAB	0	247.7	30.19	143.11	421
7.	RAJASTHAN	1343.9	503.88	0.13	62.83	1910.75
8.	UTTAR PRADESH	0	80.36	7.42	569.87	657.64
9.	UTTARAKHAND	0	7	119.7	25.7	152.4
10.	NTPC DADRI/FBD/UNCHAHA R/SINGRAULI	0	78.95	0	#REF!	78.95
11.	OIL INDIA LTD	56.61	4.3	0	0	60.91
12.	CHHATTISGARH	0	22.11	6.19	177.75	206.05
13.	NTPC RAJGARH	0.66	16.3	0	0	16.96
14.	GUJARAT	2188.86	373.05	6.23	4.65	2572.79
15.	MADHYA PRADESH	1052.31	296.51	12.84	14.11	1375.76

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
16.	MAHARASHTRA	1200.72	132.72	119.29	168.61	1621.34
17.	DADRA AND NAGAR HAVELI	0	0.9	0	0	0.9
18.	DAMAN & DIU	0	3.72	0	0	3.72
19.	ANDHRA PRADESH	775.45	523.4	15.69	62.09	1376.61
20.	TELANGANA	29.46	416.01	1.34	54.27	501.08
21.	KARNATAKA	1147.92	274.11	34.82	33.2	1490.05
22.	KERALA	14.06	4.99	59	0	78.05
23.	NTPC RAMAGUNDAM	0	78.42	0	0	78.42
24.	TAMIL NADU	762.98	471.6	1.7	142.11	1378.39
25.	LAKSHADWEEP	0	0.39	0	0	0.39
26.	PUNDUCHERRY	0	0.07	0	0	0.07
27.	ANDAMAN & NICOBAR	0	1.03	0.95	0	1.98
28.	BIHAR	0	24.42	0	6.36	30.78
29.	JHARKHAND	0	3.7	0	0	3.7
30.	ORISSA	0	43.34	36.62	0.07	80.03
31.	SIKKIM	0	0	3.95	0	3.95
32.	WEST BENGAL	0	3.51	35.49	232.63	271.64
33.	DVC	0	0.01	24.63	0	24.64
34.	NTPC ANDAMAN/ TALCHER	0	3.86	0	0	3.86
35.	ARUNACHAL PRADESH	0	0.02	0.11	0	0.12
36.	ASSAM	0	0.98	2.24	0	3.22
37.	MANIPUR	0	0.01	1.1	0	1.11
38.	MEGHALAYA	0	0	4.48	0	4.48
39.	MIZORAM	0	0	6.36	0	6.36
40.	NAGALAND	0	0	6.57	0	6.57
41.	TRIPURA	0	0	6.31	0	6.31
42.	NEEPCO	0	1.17	0	0	1.17
	TOTAL	8572.94	3687.15	1373.92	1963.96	15597.97

Source: Central Electricity Authority (CEA)

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

ANNEXURE-II REFERRED TO IN REPLY TO LOK SABHA UNSTARRED QUESTION NO. 3214

Part (d) TO BE ANSWERED ON 03/08/2017.

State-wise installed capacity of Grid Interactive Renewable Power as on 30.06.2017.							
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	3721.25	378.20	58.16	2011.10	6410.69
2	Arunachal Pradesh	104.605				0.27	104.87
3	Assam	34.11				11.78	45.89
4	Bihar	70.70		113.00		111.52	295.22
5	Chhatisgarh	76.00		228.00		128.86	432.86
6	Goa	0.05				0.71	0.76
7	Gujarat	16.60	5434.37	65.30		1262.1	6778.37
8	Haryana	73.50		96.40		81.40	251.30
9	Himachal Pradesh	835.31				0.73	836.04
10	Jammu & Kashmir	158.03				1.36	159.39
11	Jharkhand	4.05				23.27	27.32
12	Karnataka	1225.73	3774.70	1452.00	1.00	1180.38	7633.81
13	Kerala	213.02	51.50			74.2	338.72
14	Madhya Pradesh	86.16	2497.790	93.00	3.90	857.04	3537.89
15	Maharashtra	347.37	4771.33	2065.00	12.72	452.37	7648.79
16	Manipur	5.45				0.03	5.48
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		50.40		79.42	194.45
21	Punjab	170.90		179.00	9.25	809.45	1168.60
22	Rajasthan	23.85	4281.72	119.30		1961.22	6386.09
23	Sikkim	52.11				0.00	52.11
24	Tamil Nadu	123.05	7870.41	878.00	8.05	1697.32	10576.83
25	Telangana		100.80	158.10		1609.27	1868.17
26	Tripura	16.01				5.09	21.10
27	Uttar Pradesh	25.10		1933.00	5.00	359.00	2322.10
28	Uttarakhand	209.320		73.00		233.49	515.81
29	West Bengal	98.50		300.00		26.14	424.64
30	Andaman & Nicobar	5.25				6.56	11.81
31	Chandigarh					17.32	17.32
32	Dadar & Nagar Haveli					2.97	2.97
33	Daman & Diu					10.46	10.46
34	Delhi				16.00	40.27	56.27
35	Lakshwadeep					0.75	0.75
36	Pondicherry					0.08	0.08
37	Others		4.30			58.31	62.61
	Total (MW)	4384.550	32508.170	8181.70	114.08	13114.85	58303.35
MW = Megawatt							