

GOVERNMENT OF INDIA  
MINISTRY OF NEW AND RENEWABLE ENERGY  
**LOK SABHA**  
**UNSTARRED QUESTION NO. 4721**  
TO BE ANSWERED ON 15.12.2016

**Schemes/Programmes for providing Electricity through Renewable Energy Sources**

4721. SHRI NISHIKANT DUBEY:  
DR. SWAMI SAKSHIJI MAHARAJ:  
SHRI BADRUDDIN AJMAL:

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

- (a) the quantum of power generated through renewable energy sources in the country during the last three years and the current year separately for urban and rural areas, State-wise;
- (b) the details of the schemes/ programmes being implemented by the Government for providing electricity using renewable energy sources including solar energy in remote and rural areas in the country;
- (c) the target set and achievements made under these schemes/programmes during each of the last three years and the current year, State/UT-wise;
- (d) the funds sanctioned and utilised by various State Governments for the purpose during the said period, State/UT-wise;
- (e) the total number of villages identified for electrification during the current year in the country including Jharkhand, State/UTwise;
- (f) whether incentives are being provided for the development of local manufacturing facilities for the renewable energy equipment, if so, the details thereof; and
- (g) the steps taken by the Government to explore the potential for power generation through renewable energy sources particularly in rural areas of the country and the time by which all villages in the country are likely to be electrified?

ANSWER

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

(a): The quantum of renewable power generated in the country including rural and urban areas, through various renewable energy sources, during the last three years and the current year is given below:

<b>Year</b>	<b>Generation from Renewables</b>
2013-14	53.22 BU
2014-15	61.78 BU
2015-16	65.78 BU
2016-17 (April to Sept)	47.62 BU

Source : Central Electricity Authority(CEA)

State-wise details are also given in **Annexure-I**

**(b):** The Government is implementing Decentralized Distributed Generation (DDG) under Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) scheme for providing electricity access to the un-electrified villages/habitations, where grid connectivity is either not feasible or not cost effective. DDG can be from conventional or renewable sources such as biomass, biofuels, biogas, Mini hydro, solar etc. As on 30.11.2016, 4604 DDG projects for a total project cost of Rs.1470.64 crore, covering 4745 villages/hamlets (3,586 UEVs) have been sanctioned in various states across the country. Almost all the sanctioned DDG projects are based on Solar PV technology. Out of 4,604 DDG projects, 2,224 projects are based on standalone systems and balance are mini/micro grids. 518 DDG projects have already been commissioned in Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Kerala, Uttar Pradesh, Karnataka and Uttarakhand

**(c):** The details of state-wise and year-wise targets and achievements under DDG of DDUGJY during the last three years and the current year are given in Annexure-II

**(d):** The State/UT wise details of funds sanctioned and disbursement made under DDG of DDUGJY, during the last three years and the current year are given in Annexure.-III

**(e):** All the 3352 un-electrified villages (UEVs) sanctioned under DDG scheme of DDUGJY, including Jharkhand have been targeted to electrify in the current year. State-wise detail is given in Annexure IV.

**(f):** The details of incentives being provided by the Government for the development of local manufacturing facilities for renewable energy equipments are attractive mix of fiscal and financial incentives. This includes capital subsidy through Modified Special Incentive Package Scheme (M-SIPS) and excise and custom duty exemption. The Government is encouraging participation from other countries by allowing 100% Foreign Direct Investment (FDI) in Renewable Energy.

**(g):** The steps taken by the Government to explore the potential for power generation through renewable energy sources, including rural areas, are given below:

- Up-scaling of the target of renewable energy capacity to 175 GW by the year 2022 which includes 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from small hydro-power
- 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;
- identification of large Government complexes/ buildings for rooftop projects;
- provision of roof top solar and 10 percent renewable energy as mandatory under Mission Statement and Guidelines for development of smart cities;
- amendments in building bye-laws for mandatory provision of roof top solar for new construction or higher Floor Area Ratio (FAR);
- infrastructure status for solar projects;
- raising tax free solar bonds;
- making roof top solar a part of housing loan by banks/NHB;
- incorporating measures in Integrated Power Development Scheme (IPDS) for encouraging distribution companies and making net-metering compulsory
- raising funds from bilateral and international donors as also from the Green Climate Fund to achieve the target. and
- creation of Surya Mitras for installation and maintenance of the Solar Projects.

As per REC, it has been targeted to electrify all the remaining UEVs (including off-grid UEVs) in the country by the year 2018-19.

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**Annexure-I referred to in reply to part (a) of Lok Sabha Unstarred Question No. 4721 for 15/12/2016 regarding 'Schemes/Programmes for providing Electricity through Renewable Energy Sources'**

**State-wise and Source-wise power generation from various renewable energy sources during the last three years (2013-14 to 2015-16) and current year.**

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
<b>2013-14</b>						
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
	<b>Total</b>	<b>31264.797</b>	<b>3353.335</b>	<b>6064.676</b>	<b>12539.233</b>	<b>53224.496</b>
<b>2014-15</b>						
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.	ODISHA	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	
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
	<b>TOTAL</b>	<b>33768.3</b>	<b>4599.02</b>	<b>8059.5</b>	<b>15358.11</b>	<b>61784.93</b>

**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/ UNCHAHR)	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

(Million Units)

S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
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
	<b>Total</b>	<b>33029.4</b>	<b>7447.92</b>	<b>8354.51</b>	16949.03	<b>65780.9</b>
<b>2016-17 (April to September)</b>						
1	CHANDIGARH	0.00	2.11	0.00	0	<b>2.11</b>
2	DELHI	0.00	1.52	0.00	69.11	<b>70.63</b>
3	HARYANA	0.00	34.17	193.28	87.96	<b>315.41</b>
4	HP	0.00	0.00	1620.11	0	<b>1620.11</b>
5	J & K	0.00	0.39	232.35	0	<b>232.73</b>
6	PUNJAB	0.00	411.34	257.66	325.89	<b>994.89</b>
7	RAJASTHAN	3801.39	1084.86	0.37	145.03	<b>5031.64</b>
8	UTTAR PRADESH	0.00	72.24	14.48	490.33	<b>577.05</b>
9	UTTARAKHAND	0.00	14.92	576.80	7.27	<b>598.98</b>
10	NTPC DADRI+FBD+ UNCHAHAAR+SINGRULI	0.00	23.91	0.00	0	<b>23.91</b>
11	OIL INDIA LTD	139.30	13.31	0.00	0	<b>152.61</b>
12	CHHATTISGARH	9.97	44.93	27.43	591.43	<b>673.77</b>
13	NTPC RAJGARH	0.00	39.33	0.00	0	<b>39.33</b>
14	GUJARAT	5098.45	814.57	6.01	0.33	<b>5919.36</b>
15	MADHYA PRADESH	2456.14	606.10	83.20	53.36	<b>3198.80</b>
16	MAHARASHTRA	5858.51	258.68	229.28	759.07	<b>7105.53</b>
17	DADRA AND NAGAR HAVELI	0.00	0.72	0.00	0	<b>0.72</b>
18	DAMAN & DIU	0.00	4.86	0.00	0	<b>4.86</b>
19	ANDHRA PRADESH	2035.23	626.79	64.19	234.88	<b>2961.09</b>
20	TELANGANA	120.31	458.76	20.61	160.75	<b>760.43</b>
21	KARNATAKA	4083.41	142.52	980.53	488.17	<b>5694.63</b>
22	KERALA	51.71	12.08	285.82	44.43	<b>394.03</b>
23	NTPC RAMAGUNDAM+ ANANTAPURAM	0.00	120.00	0.00	0	<b>120.00</b>
24	TAMIL NADU	7955.47	785.29	71.48	782.09	<b>9594.32</b>

(Million Units)						
S. No	State	Wind	Solar	Small Hydel	Bio-Power	Total
25	LAKSHADWEEP	0.00	0.41	0.00	0	<b>0.41</b>
26	ANDAMAN & NICOBAR	0.00	3.30	6.12	0	<b>9.42</b>
27	BIHAR	0.00	17.42	7.24	15.27	<b>39.93</b>
28	JHARKHAND	0.00	20.42	0.00	0	<b>20.42</b>
29	ODISHA	0.00	92.28	161.39	35.65	<b>289.31</b>
30	SIKKIM	0.00	0.00	20.90	0	<b>20.90</b>
31	WEST BENGAL	0.00	4.83	68.90	710.1	<b>783.83</b>
32	DVC	0.00	0.00	74.44	0	<b>74.44</b>
33	NTPC ANDAMAN+TALCHER	0.00	9.74	0.00	0	<b>9.74</b>
34	ARUNACHAL PRADESH	0.00	0.08	11.19	0	<b>11.28</b>
35	ASSAM	0.00	66.64	66.12	0	<b>132.77</b>
36	MANIPUR	0.00	0.00	0.00	0	<b>0.00</b>
37	MEGHALAYA	0.00	0.00	41.72	0	<b>41.72</b>
38	MIZORAM	0.00	0.00	29.81	0	<b>29.81</b>
39	NAGALAND	0.00	0.00	55.92	0	<b>55.92</b>
40	TRIPURA	0.00	0.00	17.41	0	<b>17.41</b>
41	NEEPCO	0.00	3.04	0.00	0	<b>3.04</b>
	<b>Total</b>	<b>31609.89</b>	<b>5791.54</b>	<b>5224.76</b>	<b>5001.1</b>	<b>47627.29</b>

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 part (c) of Lok Sabha Unstarred Question No. 4721 for 15/12/2016 regarding 'Schemes/Programmes for providing Electricity through Renewable Energy Sources'**

**Details of state-wise and year-wise MOU under DDUGJY during last three years and current year**

<b>Year</b>	<b>Targets (for) Excellent category</b>	<b>Achievements by REC</b>	<b>State-wise</b>
2013-14	(i) Award of 100 DDG projects  (ii) Commissioning of 100 DDG projects	(i) Achieved  (ii) 92 projects commissioned	State-wise award of projects : Andhra Pr. = 57 projects Madhya Pradesh = 44 projects  State-wise commissioning of projects Andhra Pradesh = 35 projects Chhattisgarh = 57 projects
2014-15	No MOU target was assigned to REC w.r.t. DDG for FY 2014-15		
2015-16	Commissioning of 150 DDG projects	Achieved	Kerala = 4 projects Uttarakhand = 1 project Chhattisgarh = 130 Andhra Pradesh = 58 projects Madhya Pradesh = 5 projects
2016-17	Commissioning of 150 DDG projects	58 commissioned	Uttar Pradesh = 7 projects Karnataka = 4 projects Andhra Pradesh = 30 projects Chhattisgarh = 15 projects Madhya Pradesh = 2 projects

**Annexure-III**

**Annexure-III referred to in reply to part (d) of Lok Sabha Unstarred Question No. 4721 for 15/12/2016 regarding 'Schemes/Programmes for providing Electricity through Renewable Energy Sources'**

**State-wise and year-wise details of funds sanctioned and disbursement made during the last three years (2013-14 to 2015-16) and the current year under DDUGJY.**

Name of State	FY 2013-14		FY 2014-15		FY 2015-16		FY 2016-17	
	Sanctioned Cost(In Lakh)	Disbursement(In Lakh)	Sanctioned Cost(In Lakh)	Disbursement(In Lakh)	Sanctioned Cost(In Lakh)	Disbursement(In Lakh)	Sanctioned Cost(In Lakh)	Disbursement(In Lakh)
Andhra Pradesh & Telangana	4918.13	852.67		125.24	2209.39	1102.5		
Bihar		985.43						
Chhattisgarh	2431	935.65		1312.6	17795	3201	9590	5098.03
Uttarakhand		127.14		148.34			330.5	
Madhya Pradesh				493.3	7787.55	392.4		
Uttar Pradesh						1131.3		
Karnataka	4322.62				61.5	529	413.5	
Kerala	531.83							124.39
Assam					26670.8			914.68
Rajasthan	1891.11							2468.35
Jharkhand	2090.91				14719		4183	
Meghalaya	389.4				823		3066	
Odisha	197				9504.69			
Arunachal Pradesh					11189		3984	
<b>Total</b>	<b>16772</b>	<b>2900.89</b>		<b>2079.48</b>	<b>90759.9</b>	<b>6356.20</b>	<b>21567</b>	<b>8605.45</b>

**Annexure-IV**

**Annexure-IV referred to in reply to part (e) of Lok Sabha Unstarred Question No. 4721 for 15/12/2016 regarding 'Schemes/Programmes for providing Electricity through Renewable Energy Sources'**

State-wise details of OFF-GRID UEVs sanctioned under DDG scheme of DDUGJY		
S.No.	State	No. Of UEVs
1	Assam	521
2	Arunachal Pradesh	1176
3	Chhattisgarh	544
4	Jharkhand	433
5	Karnataka	33
6	Madhya Pradesh	154
7	Meghalaya	209
8	Odisha	269
9	Uttarakhand	13
<b>Total</b>		<b>3352</b>