

Sl. No.	State	2013-14	2014-15	2015-16	Total
25.	Tripura	0	0	0	0
26.	Uttarakhand	36	0	0	36
27.	Uttar Pradesh	0	513.18	0	513.18
28.	West Bengal	0	0	0	0
29.	Telangana	0	0	0	0
TOTAL		1791.74	995.33	817.8	3604.87

#### **Initiative for implementation of wind resource assessment**

850. SHRI AJAY SANCHETI: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether Government has taken up a new initiative for implementation of wind resource assessment in uncovered/new areas under the National Clean Energy Fund;

(b) if so, the details in this regard with identification of uncovered/new areas, State-wise; and

(c) what are the prospects for development of offshore wind energy along the coast line especially in Maharashtra?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI PIYUSH GOYAL): (a) and (b) No Sir. However, wind resource assessment in uncovered/new areas is undertaken through National Institute of Wind Energy (NIWE), Chennai, an autonomous organization under this Ministry of New and Renewable Energy MNRE).

(c) The preliminary analysis of data available with some organizations like Indian National Centre for Ocean Information Services including NIWE suggests that there could be offshore wind energy potential in coastal area of Tamil Nadu, Gujarat and Maharashtra.

#### **Setting up of small/micro hydel power projects**

851. SHRI AAYANUR MANJUNATHA: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether the small/micro hydel power projects have been set up and are proposed to be set up in the country and if so, the details thereof during the last three years and the current year;

(b) the quantum of power generated during the above period, year-wise and State-wise;

(c) the financial assistance and other subsidy/incentives given to set up these projects during that period, State/UT-wise; and

(d) the names of the States which are implementing small/micro hydel power projects in their States?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI PIYUSH GOYAL): (a) Yes, Sir. So far, 1066 small/micro hydel power projects aggregating to 4273 MW capacity have been set up and 238 projects of 831 MW are under implementation in the country. State wise details are given in Statement-I and II (*See below*).

(b) The quantum of power generated from small/micro hydel projects during last three years and the current year is estimated at 44.40 billion units. State-wise, year-wise details are given in Statement-III (*See below*).

(c) Financial Assistance and other subsidy/ incentives provided by the Ministry of New and Renewable Energy (MNRE) to State Governments and private developers during 2013-14, 2014-15 and 2015-16 is given at Statement-IV (*See below*).

(d) The States which are implementing small/micro hydel power projects are - Andhra Pradesh and Telangana, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Sikkim, Uttar Pradesh, Uttarakhand and West Bengal.

***Statement-I***

*State-wise numbers and aggregate capacity of small/micro hydel power projects (up to 25 MW) set up during last three years and the current year*

Sl. No.	State	Small/Micro hydel projects set up during							
		2013-14		2014-15		2015-16		2016-17	
		Nos.	Capacity (MW)	Nos.	Capacity (MW)	Nos.	Capacity (MW)	Nos.	Capacity (MW)
1	2	3	4	5	6	7	8	9	10
1.	Andhra Pradesh and Telangana	1	2.0	1	2.2	2	9.75	0	0

1	2	3	4	5	6	7	8	9	10
2.	Arunachal Pradesh	0	0	3	0.70	0	0	0	0
3.	Assam	1	3.0	0	0	0	0	0	0
4.	Gujarat	0	0	1	1	0	0	0	0
5.	Haryana	0	0	1	1.40	1	2	0	0
6.	Himachal Pradesh	9	51.0	12	85.005	9	69.90	0	0
7.	Jammu and Kashmir	2	17.0	2	9.00	0	0	0	0
8.	Karnataka	7	67.9	8	98.00	10	88.00	0	0
9.	Kerala	0	0	2	10.50	2	30.00	0	0
10.	Maharashtra	7	27.5	1	8	3	4.45	0	0
11.	Nagaland	1	1.0	0	0	1	1.00	0	0
12.	Odisha	1	0.32	0	0	0	0	0	0
13.	Punjab	1	1.7	1	1.20	6	13.50	0	0
14.	Uttarakhand	0	0	2	34.50	0	0	0	0
15.	West Bengal	0	0	1	0.10	0	0	0	0
TOTAL		30	171.42	35	251.60	34	218.60	0	0

**Statement-II**

*State where Small/Micro hydel projects (up to 25 MW) are under implementation*

Sl. No	State	Projects under implementation	
		Nos.	Capacity (MW)
1	2	3	4
1.	Andhra Pradesh and Telengana	14	40.94
2.	Arunachal Pradesh	13	10.45
3.	Assam	3	12
4.	Bihar	13	26.9
5.	Chhattisgarh	5	115.25
6.	Gujarat	9	57

1	2	3	4
7.	Himachal Pradesh	22	38.5
8.	Jammu and Kashmir	33	36.8
9.	Jharkhand	8	34.85
10.	Karnataka	14	73.75
11.	Kerala	14	78.85
12.	Madhya Pradesh	3	4.9
13.	Maharashtra	7	36.65
14.	Manipur	3	2.75
15.	Meghalaya	3	24.2
16.	Mizoram	1	0.5
17.	Nagaland	2	2.2
18.	Odisha	4	3.6
19.	Punjab	4	4.75
20.	Sikkim	1	1.5
21.	Uttar Pradesh	1	1.5
22.	Uttarakhand	44	139.54
23.	West Bengal	17	84.25
TOTAL		238	831.63

***Statement-III***

*State-wise and year-wise power generated from small/micro hydel projects (up to 25 MW) set up during last two years and the current year*

Sl. No.	State	Quantum of estimated power generation (Million Units)*				
		2013-14	2014-15	2015-16	2016-17 (Till April 2016)	Total
1	2	3	4	5	6	7
1.	Andhra Pradesh and Telangana	442.06	446.46	465.96	38.83	1393.31

1	2	3	4	5	6	7
2.	Arunachal Pradesh	207.81	209.21	209.21	17.43	643.66
3.	Assam	68.22	68.22	68.22	5.68	210.34
4.	Bihar	141.4	141.4	141.4	11.78	435.98
5.	Chhattisgarh	104	104	104	8.66	320.66
6.	Goa	0.1	0.1	0.1	0.0083	0.30
7.	Gujarat	31.2	33.2	33.2	2.76	100.36
8.	Haryana	140.2	143	U7	12.25	442.45
9.	Himachal Pradesh	1277.82	1447.83	1586.62	132.21	4444.48
10.	Jammu and Kashmir	295.06	313.06	313.06	26.088	947.26
11.	Jharkhand	8.1	8.1	8.1	0.675	24.97
12.	Karnataka	2063.32	2259.32	2435.46	202.95	6961.055
13.	Kerala	316.84	337.84	397.84	33.15	1085.67
14.	Madhya Pradesh	172.32	172.32	172.32	14.36	531.32
15.	Maharashtra	654.86	670.86	679.75	56.64	2062.11
16.	Manipur	10.9	10.9	10.9	0.908	33.60
17.	Meghalaya	62.06	62.06	62.06	5.17	191.35
18.	Mizoram	72.94	72.94	72.94	6.078	224.89
19.	Nagaland	59.34	59.34	61.34	5.11	185.13
20.	Odisha	129.25	129.25	129.25	10.77	398.52
21.	Punjab	312.4	314.8	341.8	28.48	997.48
22.	Rajasthan	47.7	47.7	47.7	3.975	147.075
23.	Sikkim	104.22	104.22	104.22	8.68	321.345
24.	Tamil Nadu	246.1	246.1	246.1	20.50	758.80
25.	Tripura	32.02	32.02	32.02	2.66	98.728
26.	Uttar Pradesh	50.2	50.2	50.2	4.18	154.78
27.	Uttarakhand	349.64	418.64	418.64	34.88	1221.80
28.	West Bengal	196.8	197	197	16.41	607.21
29.	Andaman and Nicobar Islands	10.5	10.5	10.5	0.875	32.375
TOTAL		7607.38	8110.59	8546.91	712.24	24977.12

\* @ 2million per MW

**Statement-IV**

*Details of Central Financial Assistance to State Governments and private developers to set up Small/Micro Hydel Power Projects from 2013-2016*

**(a) During year 2013-14:****I Support for Survey, Investigation and Preparation of DPRs for identification of new potential sites**

- ₹ 2.00 lakhs for project upto 1.00 MW capacity and
- ₹ 5.00 lakhs for project with more than 1.00 MW and upto 25 MW capacity to the Govt. dept./agencies

**II Support to new SHP projects in the Private, Co-operative, Joint sector:**

Category	upto 1000 kW	Above 1 MW and upto 25MW
N E Region, J and K, H.P. and Uttarakhand (Special Category States)	₹ 20,000 per KW	₹ 2.00crores for 1st MW + ₹ 30 lakhs for each additional MW
Other States	₹ 12,000 perKW	₹ 1.20 crores for 1st MW + ₹ 20 lakhs for each additional MW

**III Support to new SHP project in the Government/State Sector:**

Areas	Up to 100 KW and upto 1000 KW	Above 1 MW and upto 25 MW
N.E. States, J and K, H.P. and Uttarakhand (Special Category States)	₹ 50,000 per KW	₹ 5.00crores for 1st MW + ₹ 50 lakhs for each additional MW
Other States	₹ 25,000 per KW	₹ 2.5 crores for 1st MW + ₹ 40.00 lakhs for each additional MW

**IV. Scheme to support Renovation and Modernization of old SHP projects in Government/State sector:**

Areas	upto 1000 KW	Above 1 MW & upto 25 MW
N.E. States, J and K, H.P. and Uttarakhand (Special Category States)	₹ 25,000 per KW	₹ 2.50 crores for 1st MW + ₹ 50 lakhs for each additional MW
Other States	₹ 15,000 per KW	₹ 1.5 crores for 1st MW + ₹ 35.00 lakhs for each additional MW

**V. Central Financial Assistance for Watermills and Micro Hydel Projects:-**

**(i) Watermills:**

Sl. No.	Category of Watermill	Amount of CFA
1.	Mechanical output only	₹ 35,000/- per Watermill
2.	(a) Electrical output (up to 5 kW) or (b) Both mechanical and electrical output (up to 5 kW)	₹ 1,10,000/- per Watermill

**(ii) Micro Hydel Projects up to 100 kW Capacity:**

Sl. No.	Areas	Upto 100 KW and upto 1000 KW
1.	International Boarder Districts (Excluding Arunachal Pradesh as it is already covered under the PM package)	₹ 1,00,000/- perKW
2.	N.E. States, and Special Category States(other than 1 above)	₹ 80,000/- per KW
3.	Other States (other than 1 above)	₹ 40,000/- perKW

**(b) During year 2014-15, 2015-16 and 2016-17:****I Support for Survey, Investigation and Preparation of DPRs for identification of new potential sites**

- ₹ 6.00 lakhs for project upto 1.00 MW capacity and
- ₹ 10.00 lakhs for project with more than 1.00 MW and upto 25 MW capacity to the Govt. dept./agencies

**II Support to new SHP projects in the Private, Co-operative, Joint sector:**

Category	Above 0.1 MW - 25 MW
N E Region, J and K, H.P. and Uttarakhand (Special Category States)	₹ 1.5 crore/MW limited to ₹ 5.00 crore per project
Other States	₹ 1.00 crore/MW limited to ₹ 5.00 crore per project

**III Support to new SHP project in the Government/State Sector:**

Areas	Up to 100 KW and upto 1000 KW	Above 1 MW and upto 25 MW
N.E. States, J and K, H.P. and Uttarakhand (Special Category States)	₹ 75,000 per KW	₹ 7.5crores / MW Limited to ₹ 20 crore per project
Other States	₹ 35,000 per KW	₹ 3.5 crores / MW limited to ₹ 20 crore per project.

**IV Scheme to support Renovation and Modernization of old SHP projects in Government/State sector:**

Category	Upto 1000 KW	Above 1 MW and upto 25 MW
All States and UTs	₹ 10,000 per KW	₹ 1.00 crore / MW limited to ₹ 10.00 crores per project



**V. Central Financial Assistance for Watermills and Micro Hydel Projects****(i) Watermills:**

Sl. No.	Category of Watermill	Amount of CFA
1.	Mechanical output only	₹ 50,000/- per Watermill
2.	(a) Electrical output (up to 5 kW) or (b) Both mechanical and electrical output (up to 5 kW)	₹ 1,50,000/- per Watermill

**(ii) Micro Hydel Projects up to 100 kW Capacity:**

Areas	Amount of CFA
All States	₹ 1,25,000/- per kW

**Programmes for wind energy**

852. DR. KANWAR DEEP SINGH: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

- whether the areas having potential to exploit wind energy has been identified in the country;
- if so the details thereof;
- whether there are any programmes to generate energy from wind; and
- if so the details thereof?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI PIYUSH GOYAL): (a) and (b) The National Institute of Wind Energy (NIWE), Chennai in September 2015, has launched Wind Energy Resources Map of India at 100 metre above ground level on online Geographic Information System platform. This Wind Atlas is available online in the NIWE website [www.niwe.res.in](http://www.niwe.res.in). The State-wise wind energy potential is given below:

Sl. No.	State/UT	Potential (MW@ 100m)
1.	Andaman and Nicobar	8
2.	Andhra Pradesh	44229