

GOVERNMENT OF INDIA  
MINISTRY OF NEW AND RENEWABLE ENERGY

**LOK SABHA**  
**STARRED QUESTION NO. 905**  
TO BE ANSWERED ON 21.07.2016

**Potential for Power Generation**

905. SHRI RAVNEET SINGH, M.P.  
SHRI NISHIKANT DUBEY, M.P.

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

- a. The estimated potential for power generation from small/micro hydel projects in the country, State/UT-wise;
- b. whether the Government has implemented any scheme/taken any steps to tap the potential of small/micro hydel power potential in the country, if so, the details thereof;
- c. the estimated potential for power generation from small/micro hydel projects in the country, State/UT-wise;
- d. the quantum of power generated in the country including Punjab during each of the last three years and the current year, State-wise;
- e. the financial assistance and other subsidy provided/incentives given to set up these projects during the said period, State/UT-wise; and
- f. the names of the States which are implementing the small/micro hydel power projects in their States?

**ANSWER**

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

- a. Madam so far, 6474 number of sites has been identified for generation from Small/Micro hydel projects aggregating to 19749.44MW. State wise details are given in Annexure-1.
- b. Ministry has announced scheme for development of Small Hydro Power Projects upto 25 MW station capacity. Allotment of SHP projects is under the purview of State Governments. 24 States have announced policies to invite private sector to set up SHP's in their respective States. Ministry has been providing financial support/subsidy to both Government and Private Sectors for the following activities to develop SHP sector:-
  - Research and development, capacity building
  - Resource Assessment, Detailed Survey and Investigation, DPR Preparation and Perspective Plans by State Government Agencies
  - Capital Subsidy to State Sector Project
  - Subsidy for Commercial Projects
  - Renovation and Modernisation of Old SHP Projects (State sector)
  - Water Mills/Micro-hydel projects.

- c. Sir, So far, 6474 number of sites has been identified for generation from Small/Micro hydel projects aggregating to 19749.44MW. State wise details are given in Annexure-I.
- d. State-wise and year-wise quantum of power generated from small/micro hydel power projects (up to 25 MW ) set up during last three years are given in Annexure – II.
- e. Ministry has announced scheme for implementation of SHP projects in the country. Details of financial assistance and other subsidy are provided in Annexure–III.
- f. The names of the States which are implementing small/micro hydel power projects in their States are - Andhra Pradesh & Telangana, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram Nagaland, Odisha, Punjab, Sikkim, Uttar Pradesh, Uttarakhand and West Bengal.

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Annexure referred to in reply to part (a) of the Lok Sabha Unstarred Question Admitted No. 905 to be answered on 21.07.2016 regarding 'Potential for Power Generation' by SHRI RAVNEET SINGH,M.P., SHRI NISHIKANT DUBEY,M.P.

STATE WISE NUMBERS AND AGGREGATE CAPACITY OF SHP PROJECTS (UPTO 25 MW)			
Sl. No.	State	Potential	
		Nos.	Total Capacity (MW)
1	Andhra Pradesh & Telengana	387	978.4
2	Arunachal Pradesh	677	1341.38
3	Assam	119	238.69
4	Bihar	93	223.05
5	Chattisgarh	200	1107.15
6	Goa	6	6.5
7	Gujarat	292	201.97
8	Haryana	33	110.05
9	Himachal Pradesh	531	2397.91
10	J&K	245	1430.67
11	Jharkhand	103	208.95
12	Karnataka	834	4141.12
13	Kerala	245	704.1
14	Madhya Pradesh	299	820.44
15	Maharashtra	274	794.33
16	Manipur	114	109.13
17	Meghalaya	97	230.05
18	Mizoram	72	168.9
19	Nagaland	99	196.98
20	Orissa	222	295.47
21	Punjab	259	441.38
22	Rajasthan	66	57.17
23	Sikkim	88	266.64
24	Tamil Nadu	197	659.51
25	Tripura	13	46.86
26	Uttar Pradesh	251	460.75
27	Uttarakhand	448	1707.87
28	West Bengal	203	396.11
29	A&N Islands	7	7.91
<b>Total</b>		<b>6474</b>	<b>19749.44</b>

**Annexure referred to in reply to part (c) of the Lok Sabha Unstarred Question Admitted No. 905 to be answered on 21.07.2016 regarding 'Potential for Power Generation' by SHRI RAVNEET SINGH,M.P., SHRI NISHIKANT DUBEY,M.P.**

State-wise and year-wise quantum of estimated\* power generated from small/micro hydel power projects(up to 25 MW) in each states including Punjab during last three years and the current year(as on 30.06.2016) are given below:

Sl. No	State	2013-14		2014-15		2015-16		2016-17 (as on 30.06.2016)	
		Installed capacity (MW)	Estimated Energy Generation (MU)	Installed capacity (MW)	Estimated Energy Generation (MU)	Installed capacity (MW)	Estimated Energy Generation (MU)	Installed capacity (MW)	Estimated Energy Generation (MU)
1	Andhra Pradesh	221.03	442.06	223.23	446.46	232.98	465.96	232.98	116.49
2	Arunachal Pradesh	103.91	207.81	104.61	209.21	104.61	209.21	104.61	52.30
3	Assam	34.11	68.22	34.11	68.22	34.11	68.22	34.11	17.06
4	Bihar	70.70	141.40	70.70	141.40	70.70	141.40	70.70	35.35
5	Chattisgarh	52.00	104.00	52.00	104.00	52.00	104.00	76.00	38.00
6	Goa	0.05	0.10	0.05	0.10	0.05	0.10	0.05	0.03
7	Gujarat	15.60	31.20	16.60	33.20	16.60	33.20	16.60	8.30
8	Haryana	70.10	140.20	71.50	143.00	73.50	147.00	73.50	36.75
9	Himachal Pradesh	638.91	1277.81	723.91	1447.82	793.31	1586.62	793.81	396.91
10	J&K	147.53	295.06	156.53	313.06	156.53	313.06	156.53	78.27
11	Jharkhand	4.05	8.10	4.05	8.10	4.05	8.10	4.05	2.03
12	Karnataka	1031.66	2063.32	1129.73	2259.46	1217.73	2435.46	1217.73	608.87
13	Kerala	158.42	316.84	168.92	337.84	198.92	397.84	198.92	99.46
14	Madhya Pradesh	86.16	172.32	86.16	172.32	86.16	172.32	86.16	43.08
15	Maharashtra	327.43	654.85	335.43	670.85	339.88	679.75	346.18	173.09
16	Manipur	5.45	10.90	5.45	10.90	5.45	10.90	5.45	2.73
17	Meghalaya	31.03	62.06	31.03	62.06	31.03	62.06	31.03	15.52
18	Mizoram	36.47	72.94	36.47	72.94	36.47	72.94	36.47	18.24
19	Nagaland	29.67	59.34	29.67	59.34	30.67	61.34	30.67	15.34
20	Orissa	64.63	129.25	64.63	129.25	64.63	129.25	64.63	32.31
21	Punjab	156.20	312.40	157.40	314.80	170.90	341.80	170.90	85.45
22	Rajasthan	23.85	47.70	23.85	47.70	23.85	47.70	23.85	11.93
23	Sikkim	52.11	104.22	52.11	104.22	52.11	104.22	52.11	26.06
24	Tamil Nadu	123.05	246.10	123.05	246.10	123.05	246.10	123.05	61.53
25	Tripura	16.01	32.02	16.01	32.02	16.01	32.02	16.01	8.01
26	Uttar Pradesh	25.10	50.20	25.10	50.20	25.10	50.20	25.10	12.55
27	Uttarakhand	174.82	349.64	209.32	418.64	209.32	418.64	209.32	104.66
28	West Bengal	98.40	196.80	98.50	197.00	98.50	197.00	98.50	49.25
29	A&N Islands	5.25	10.50	5.25	10.50	5.25	10.50	5.25	2.63
<b>Total</b>		<b>3803.68</b>	<b>7607.36</b>	<b>4055.36</b>	<b>8110.71</b>	<b>4273.46</b>	<b>8546.91</b>	<b>4304.26</b>	<b>2152.13</b>

\*Based on the norm of 2 MU/MW per year.

**Annexure referred to in reply to part (d) of the Lok Sabha Unstarred Question Admitted No. 905 to be answered on 21.07.2016 regarding 'Potential for Power Generation' by SHRI RAVNEET SINGH, M.P., SHRI NISHIKANT DUBEY, M.P.**

Central Financial Assistance to State Governments and private developers to set up Small / Micro Hydel Power Projects

**During year 2013-14:**

**I. Support for Survey, Investigation and Preparation of DPRs for identification of new potential sites**

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

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

Category	upto1000 kW	Above 1 MW & upto 25MW
N E Region, J & K, H.P. & Uttarakhand (Special Category States)	Rs. 20,000 per KW	Rs. 2.00crores for 1 <sup>st</sup> MW + Rs.30 lakhs for each additional MW
Other States	Rs. 12,000 per KW	Rs. 1.20crores for 1 <sup>st</sup> MW + Rs.20 lakhs for each additional MW

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

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

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

<b>Areas</b>	<b>upto 1000 KW</b>	<b>Above 1 MW &amp; upto 25 MW</b>
N.E. States, J & K, H.P. & Uttarakhand (Special Category States)	Rs. 25,000 per KW	Rs. 2.50crores for 1 <sup>st</sup> MW + Rs.50 lakhs for each additional MW
Other States	Rs. 15,000 per KW	Rs. 1.5 crores for 1 <sup>st</sup> MW + Rs.35.00 lakhs for each additional MW

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

### **I. Watermills:**

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

### **II. Micro Hydel Projects up to 100 kW Capacity:**

<b>S No.</b>	<b>Areas</b>	<b>Up to 100 KW &amp; upto 1000 KW</b>
1.	International Boarder Districts( Excluding Arunachal Pradesh as it is already covered under the PM package)	Rs. 1,00,000/- per KW
2.	N.E. States, and Special Category States(other than 1 above)	Rs. 80,000/- per KW
3.	Other States(other than 1 above)	Rs. 40,000/- per KW

**During year 2014-15, 2015-16 and 2016-17:**

### **I. Support for Survey, Investigation and Preparation of DPRs for identification of new potential sites**

- Rs. 6.00 lakhs for project upto 1.00 MW capacity and
- Rs. 10.00 lakhs for project with more than 1.00 MW & 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 & K, H.P. & Uttarakhand  (Special Category States)	Rs. 1.5 Crore/MW limited to Rs.5.00 Crore per project
Other States	Rs. 1.00 Crore/MW limited to Rs.5.00 Crore per project

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

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

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

Category	Up to 1000 KW	Above 1 MW & upto 25 MW
All States & UTs	Rs.10,000 per KW	Rs. 1.00 crore / MW limited to Rs. 10.00 crores per project

**V Central Financial Assistance for Watermills and Micro Hydel Projects**

**I. Watermills:**

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

**II. Micro Hydel Projects up to 100 kW Capacity:**

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



Annexure referred to in reply of part (b) of the Lok Sabha Unstarred Question No. 1943 to be answered on 05.05.2016 regarding On-going Small Hydro Power Projects by SHRI B S YEDIYURAPPA, M.P.

Present status of SHP projects in the country, State-wise are given below:

Sl. No.	State	Projects under Implementation	
		Nos.	Capacity (MW)
1	Andhra Pradesh & Telengana	14	40.94
2	Arunachal Pradesh	13	10.45
3	Assam	3	12
4	Bihar	13	26.9
5	Chattisgarh	5	115.25
6	Gujarat	9	57
7	Himachal Pradesh	22	38.5
8	J&K	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
<b>Total</b>		<b>238</b>	<b>831.63</b>