

**GOVERNMENT OF INDIA  
MINISTRY OF POWER**

**LOK SABHA  
UNSTARRED QUESTION NO.3176  
TO BE ANSWERED ON 11.07.2019**

**ASSESSMENT OF HYDRO POWER PRODUCTION CAPACITY**

**†3176. SHRI RAMCHARAN BOHRA:**

**Will the Minister of POWER  
be pleased to state:**

- (a) the present capacity of hydropower production in the country, State/UT-wise;**
- (b) whether the Government has assigned responsibility to various agencies for conducting survey for assessment/study of the said capacity and if so, the details thereof;**
- (c) the quantum of hydro power being produced in the country presently by the States, State/UT-wise;**
- (d) the number of hydro power projects pending in the country for various reasons, State/UT-wise;**
- (e) the quantum of funds spent on these projects so far;**
- (f) whether the Government has conducted any loss assessment occurring due to the delay; and**
- (g) if so, the details thereof, State/UT-wise?**

**A N S W E R**

**THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR POWER, NEW & RENEWABLE ENERGY AND THE MINISTER OF STATE FOR SKILL DEVELOPMENT & ENTREPRENEURSHIP**

**( SHRI R.K. SINGH)**

**(a) to (c) : Presently, 204 hydroelectric power generating stations (above 25 MW capacity) having an aggregate installed capacity of 45399.22 MW are in operation in the country. State/UT-wise installed capacity and energy generated from these hydroelectric stations during last year and current year (upto 30<sup>th</sup> June, 2019) are given at Annexure-I.**

**.....2.**

**As per reassessment studies of hydroelectric potential carried out by the Central Electricity Authority (CEA) in the country during the year 1978-87, the assessed hydro power potential (above 25 MW) is 1,45,320 MW. The state-wise details of potential and its status of development are enclosed at Annexure-II.**

**The responsibility for conducting the basin-wise re-assessment / study of Hydro Electric Potential has been entrusted by CEA to WAPCOS Ltd. in March, 2017 for carrying out the assessment after taking into consideration the actual site constraint i.e. geology, submergence and other aspects including impact of these projects on the Environment and Forest etc. The progress of the reassessment / study is being reviewed by a Monitoring Committee of CEA, Central Water Commission (CWC), Ministry of Environment, Forests & Climate Change (MoEF&CC), Survey of India (Sol) & National Remote Sensing Centre (NRSC).**

**(d) & (e) : 36 hydro power projects (above 25 MW capacity) with an aggregate installed capacity of 12034.5 MW are presently under construction in the country and the fund spent so far on these projects is about Rupees 60,042 crores. Details of State-wise under construction hydro power projects are enclosed as Annexure-III.**

**(f) & (g) : Out of these 36 under construction H.E. Projects, 35 hydro power projects except Natwar Mori H.E. Project are delayed. The annual generation loss from the delayed 35 HEPs is estimated at about 41,018 MU. The details in this regards, are given in Annexure-IV.**

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**ANNEXURE REFERRED TO IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 3176 TO BE ANSWERED IN THE LOK SABHA ON 11.07.2019.**

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<b>STATE / UT-WISE GENERATION FROM H.E. STATIONS (ABOVE 25 MW CAPACITY) IN THE COUNTRY</b>			
<b>STATE / UT</b>	<b>Installed Capacity* (MW) (as on 30.06.2019)</b>	<b>Actual Generation (MU)</b>	
		<b>2018-19</b>	<b>2019-20 (tentative as on 30.06.2019)</b>
<b>NORTHERN REGION</b>			
<b>HIMACHAL PRADESH</b>	<b>9809.02</b>	<b>35908.57</b>	<b>12829.31</b>
<b>JAMMU &amp; KASHMIR</b>	<b>3449.00</b>	<b>16541.58</b>	<b>6002.22</b>
<b>PUNJAB</b>	<b>1096.30</b>	<b>4335.40</b>	<b>1426.09</b>
<b>RAJASTHAN</b>	<b>411.00</b>	<b>698.40</b>	<b>7.89</b>
<b>UTTAR PRADESH</b>	<b>501.60</b>	<b>1176.36</b>	<b>178.65</b>
<b>UTTRAKHAND</b>	<b>3756.35</b>	<b>13741.12</b>	<b>4090.09</b>
<b>TOTAL NORTHERN REGION</b>	<b>19023.27</b>	<b>72401.43</b>	<b>24534.25</b>
<b>WESTERN REGION</b>			
<b>CHHATISGARH</b>	<b>120.00</b>	<b>243.08</b>	<b>43.93</b>
<b>GUJRAT</b>	<b>1990.00</b>	<b>1042.81</b>	<b>138.76</b>
<b>MADHYA PRADESH</b>	<b>2235.00</b>	<b>3396.67</b>	<b>703.75</b>
<b>MAHARASTRA</b>	<b>3047.00</b>	<b>5076.86</b>	<b>1987.33</b>
<b>TOTAL WESTERN REGION</b>	<b>7392.00</b>	<b>9759.42</b>	<b>2873.77</b>
<b>SOUTHERN REGION</b>			
<b>ANDHRA PRADESH</b>	<b>1610.00</b>	<b>2272.94</b>	<b>457.11</b>
<b>KARNATAKA</b>	<b>3644.20</b>	<b>12187.69</b>	<b>2645.58</b>
<b>KERELA</b>	<b>1856.50</b>	<b>7320.21</b>	<b>1658.18</b>
<b>TAMIL NADU</b>	<b>2178.20</b>	<b>5281.59</b>	<b>479.35</b>
<b>TELENGANGA</b>	<b>2405.60</b>	<b>1744.61</b>	<b>38.80</b>
<b>TOTAL SOUTHERN REGION</b>	<b>11694.50</b>	<b>28807.04</b>	<b>5279.02</b>
<b>EASTERN REGION</b>			
<b>JHARKAND</b>	<b>210.00</b>	<b>180.98</b>	<b>8.30</b>
<b>ODISHA</b>	<b>2142.25</b>	<b>6777.45</b>	<b>1542.90</b>
<b>SIKKIM</b>	<b>2169.00</b>	<b>9022.07</b>	<b>3401.32</b>
<b>WEST BENGAL</b>	<b>1341.20</b>	<b>2919.81</b>	<b>738.17</b>
<b>TOTAL EASTERN REGION</b>	<b>5862.45</b>	<b>18900.31</b>	<b>5690.69</b>
<b>NORTH EASTERN REGION</b>			
<b>ARUNACHAL PRADESH</b>	<b>515.00</b>	<b>1399.01</b>	<b>405.71</b>
<b>ASSAM</b>	<b>350.00</b>	<b>1694.36</b>	<b>407.44</b>
<b>NAGALAND</b>	<b>75.00</b>	<b>231.47</b>	<b>14.99</b>
<b>MANIPUR</b>	<b>105.00</b>	<b>602.61</b>	<b>110.91</b>
<b>MEGHALAYA</b>	<b>322.00</b>	<b>929.53</b>	<b>218.20</b>
<b>MIZORAM</b>	<b>60.00</b>	<b>168.44</b>	<b>13.82</b>
<b>TOTAL NORTH EASTERN REGION</b>	<b>1427.00</b>	<b>5025.42</b>	<b>1171.07</b>
<b>TOTAL INDIA</b>	<b>45399.22</b>	<b>134893.62</b>	<b>39548.80</b>

\* Including Pumped Storage Projects

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**ANNEXURE REFERRED TO IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 3176 TO BE ANSWERED IN THE LOK SABHA ON 11.07.2019.**

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**STATUS OF HYDRO ELECTRIC POTENTIAL DEVELOPMENT\***  
(In terms of Installed Capacity – Above 25 MW)

(As on 31.05.2019)

Region/ State	Identified Capacity as per reassessment study		Capacity		Capacity Under Construction**	
	Total (MW)	Above 25 MW	In Operation**		(MW)	(%)
			(MW)	%		
<b>NORTHERN</b>						
Jammu & Kashmir	14146	13543	3449.0	25.47	1935.5	14.29
Himachal Pradesh	18820	18540	9809.0	52.91	1885.0	10.17
Punjab	971	971	1096.3	100	206.0	21.22
Haryana	64	64	0.0	0	0.0	0.00
Rajasthan	496	483	411.0	85.09	0.0	0.00
Uttarakhand	18175	17998	3756.4	20.87	1490.0	8.28
Uttar Pradesh	723	664	501.6	75.54	0.0	0.00
<b>Sub Total (NR)</b>	<b>53395</b>	<b>52263</b>	<b>19023.3</b>	<b>36.40</b>	<b>5516.5</b>	<b>10.56</b>
<b>WESTERN</b>						
Madhya Pradesh	2243	1970	2235.0	100	400.0	20.30
Chhattisgarh	2242	2202	120.0	5.45	0.0	0.00
Gujarat	619	590	550.0	100	0.0	0.00
Maharashtra	3769	3314	2647.0	79.87	0.0	0.00
Goa	55	55	0.0	0.00	0.0	0.00
<b>Sub-total (WR)</b>	<b>8928</b>	<b>8131</b>	<b>5552.0</b>	<b>68.28</b>	<b>400.0</b>	<b>4.92</b>
<b>SOUTHERN</b>						
Andhra Pradesh	2366	2341	1610.0	68.77	960.0	41.01
Telangana	2058	2019	800.0	39.62	0.0	0.00
Karnataka	6602	6459	3644.2	56.42	0.0	0.00
Kerala	3514	3378	1856.5	54.96	100.0	2.96
Tamil Nadu	1918	1693	1778.2	100	0.0	0.00
<b>Sub Total (SR)</b>	<b>16458</b>	<b>15890</b>	<b>9688.9</b>	<b>60.97</b>	<b>1060.0</b>	<b>6.67</b>
<b>EASTERN</b>						
Jharkhand	753	582	170.0	29.21	0.0	0.00
Bihar	70	40	0.0	0.00	0.0	0.00
Odisha	2999	2981	2142.3	71.86	0.0	0.00
West Bengal	2841	2829	441.2	15.60	120.0	4.24
Sikkim	4286	4248	2169.0	51.06	1133.0	26.67
<b>Sub Total (ER)</b>	<b>10949</b>	<b>10680</b>	<b>4922.5</b>	<b>46.09</b>	<b>1253.0</b>	<b>11.73</b>
<b>NORTH EASTERN</b>						
Meghalaya	2394	2298	322.0	14.01	0.0	0.00
Tripura	15	0	0.0	0.00	0.0	0.00
Manipur	1784	1761	105.0	5.96	0.0	0.00
Assam	680	650	350.0	53.85	0.0	0.00
Nagaland	1574	1452	75.0	5.17	0.0	0.00
Arunachal Pradesh	50328	50064	515.0	1.03	2600.0	5.19
Mizoram	2196	2131	60.0	2.82	0.0	0.00
<b>Sub Total (NER)</b>	<b>58971</b>	<b>58356</b>	<b>1427.0</b>	<b>2.45</b>	<b>2600.0</b>	<b>4.46</b>
<b>ALL INDIA</b>	<b>148701</b>	<b>145320</b>	<b>40613.6</b>	<b>27.95</b>	<b>10829.5</b>	<b>7.45</b>

\* Excluding Pumped Storage Hydro Plants

\*\* Capacity above 25 MW

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## ANNEXURE REFERRED TO IN REPLY TO PARTS (d) &amp; (e) OF UNSTARRED QUESTION NO. 3176 TO BE ANSWERED IN THE LOK SABHA ON 11.07.2019.

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## List of Under Construction Hydro Electric Projects in the Country (above 25 MW)

(As on 31.05.2019)

Sl. No.	Name of Scheme (Executing Agency)	Sector	Cap. Under Execution (MW)
<b>Andhra Pradesh</b>			
1	Polavaram (APGENCO/Irrigation Dept., A.P.)	State	960.00
Sub-total: Andhra Pradesh			960.00
<b>Arunachal Pradesh</b>			
2	Kameng (NEEPCO)	Central	600.00
3	Subansiri Lower (NHPC)	Central	2000.00
Sub-total: Arunachal Pradesh			2600.00
<b>Himachal Pradesh</b>			
4	Parbati St. II (NHPC)	Central	800.00
5	Uhl-III (BVPCL)	State	100.00
6	Sawra Kuddu (HPPCL)	State	111.00
7	Shongtong Karcham (HPPCL)	State	450.00
8	Bajoli Holi (GMR)	Private	180.00
9	Sorang (HSPCL)	Private	100.00
10	Tangnu Romai (TRPG)	Private	44.00
11	Tidong-I (Statkraft IPL)	Private	100.00
Sub-total: Himachal Pradesh			1885.00
<b>Jammu &amp; Kashmir</b>			
12	Pakal Dul (CVPPL)	Central	1000.00
13	Parnai (JKSPDC)	State	37.50
14	Lower Kalnai (JKSPDC)	State	48.00
15	# Ratle (RHEPPL)	Private	850.00
Sub-total: Jammu & Kashmir			1935.50
<b>Kerala</b>			
16	Pallivasal (KSEB)	State	60.00
17	Thottiyar (KSEB)	State	40.00
Sub-total: Kerala			100.00
<b>Madhya Pradesh</b>			
18	## Maheshwar (SMHPCL)	Private	400.00
Sub-total: Madhya Pradesh			400.00
<b>Maharashtra</b>			
19	Koyna Left Bank (WRD,MAH)	State	80.00
Sub-total: Maharashtra			80.00
<b>Punjab</b>			
20	Shahpurkandi (PSPCL/ Irrigation Deptt., Pb.)	State	206.00
Sub-total: Punjab			206.00
<b>Sikkim</b>			
21	Teesta St. VI (under NCLT)	-	500.00
22	Bhasmey (Gati Infrastructure)	Private	51.00
23	Rangit-IV (JAL Power)	Private	120.00
24	Rangit-II (Sikkim Hydro)	Private	66.00
25	Rongnichu (Madhya Bharat)	Private	96.00
26	Panan (Himagiri)	Private	300.00
Sub-total: Sikkim			1133.00
<b>Tamil Nadu</b>			
27	Kundah Pumped Storage	State	125.00
Sub-total: Tamil Nadu			125.00
<b>Uttarakhand</b>			
28	Lata Tapovan (NTPC)	Central	171.00
29	Tapovan Vishnugad (NTPC)	Central	520.00
30	Tehri PSS (THDC)	Central	1000.00
31	Vishnugad Pipalkoti (THDC)	Central	444.00
32	Naitwar Mori (SJVNL)	Central	60.00
33	Vyasi (UJVNL)	State	120.00
34	Phata Byung (LANCO)	Private	76.00
35	Singoli Bhatwari (L&T)	Private	99.00
Sub-total: Uttarakhand			2490.00
<b>West Bengal</b>			
36	Rammam-III (NTPC)	Central	120.00
Sub-total: West Bengal			120.00
Total:			12034.50

# Govt. of J&K, PDD have terminated PPA on 09.02.2017 and directed JKSPDC to take over the project. MoU between NHPC (51% share) & JKSPDC (49% share) signed on 03.02.2019 for implementation of project in JV mode.

## PFC as lead lender have acquired majority equity i.e. 51% in the SMHPCL w.e.f. 1st June, 2016. Matter Sub-judice.

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**ANNEXURE REFERRED TO IN REPLY TO PARTS (f) & (g) OF UNSTARRED QUESTION NO. 3176 TO BE ANSWERED IN THE LOK SABHA ON 11.07.2019.**

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**Annual Generation Loss of Delayed Under Construction Hydro Electric Projects (above 25 MW) in the Country – State-wise**

(As on 30.06.2019)

Sl. No.	Name of Scheme (Executing Agency)	Sector	Cap. Under Execution (MW)	Loss of Energy in MU / Year
<b>Andhra Pradesh</b>				
1	Polavaram (PPA)	State	960.00	2308.00
Sub-total: Andhra Pradesh			960.00	
<b>Arunachal Pradesh</b>				
2	Kameng (NEEPCO)	Central	600.00	3353.00
3	Subansiri Lower (NHPC)	Central	2000.00	7421.59
Sub-total: Arunachal Pradesh			2600.00	
<b>Himachal Pradesh</b>				
4	Parbati St. II (NHPC)	Central	800.00	3108.66
5	Uhi-III (BVPCL)	State	100.00	391.19
6	Sawra Kuddu (HPPCL)	State	111.00	386.00
7	Shongtong Karcham (HPPCL)	State	450.00	1578.95
8	Bajoli Holi (GMR)	Private	180.00	769.39
9	Sorang (HSPCL)	Private	100.00	524.00
10	Tangnu Romai (TRPG)	Private	44.00	185.92
11	Tidong-I (NSL Tidong)	Private	100.00	414.15
Sub-total: Himachal Pradesh			1885.00	
<b>Jammu &amp; Kashmir</b>				
12	Pakal Dul (CVPPL)	Central	1000.00	3330.18
13	Parnai (JKSPDC)	State	37.50	219.00
14	Lower Kainai (JKSPDC)	State	48.00	219.30
15	Ratle (RHEPPL)	Private	850.00	3136.76
Sub-total: Jammu & Kashmir			1935.50	
<b>Kerala</b>				
16	Pallivasal (KSEB)	State	60.00	153.90
17	Thottiyar (KSEB)	State	40.00	99.00
Sub-total: Kerala			100.00	
<b>Madhya Pradesh</b>				
18	Maheshwar (SMHPCL)	Private	400.00	823.00
Sub-total: Madhya Pradesh			400.00	
<b>Maharashtra</b>				
19	Koyna Left Bank (WRD,MAH)	State	80.00	0.00
Sub-total: Maharashtra			80.00	
<b>Punjab</b>				
20	Shahpurkandi (PSPCL)	State	206.00	815.12
Sub-total: Punjab			206.00	
<b>Sikkim</b>				
21	Bhasmey (Gati Infrastructure)	Private	51.00	244.10
22	Rangit-IV (JAL Power)	Private	120.00	513.00
23	Rangit-II (Sikkim Hydro)	Private	66.00	272.00
24	Rongnichu (Madhya Bharat)	Private	96.00	383.87
25	Teesta St. VI (LANCO)	Private	500.00	2441.00
26	Panan (Himagiri)	Private	300.00	1147.82
Sub-total: Sikkim			1133.00	
<b>Tamil Nadu</b>				
27	Kundah Pumped Storage	State	125.00	
Sub-total: Tamil Nadu			125.00	
<b>Uttarakhand</b>				
28	Lata Tapovan (NTPC)	Central	171.00	868.89
29	Tapovan Vishnugad (NTPC)	Central	520.00	2558.36
30	Tehri PSS (THDC)	Central	1000.00	0.00
31	Vishnugad Pipalkoti (THDC)	Central	444.00	1674.00
32	Vyasi (UJVNL)	State	120.00	375.24
33	Phata Byung (LANCO)	Private	76.00	340.00
34	Singoli Bhatwari (L&T)	Private	99.00	487.00
Sub-total: Uttarakhand			2430.00	
<b>West Bengal</b>				
35	Rammam-III (NTPC)	Central	120.00	476.00
Sub-total: West Bengal			120.00	
<b>Total:</b>			<b>11974.50</b>	<b>41018.39</b>

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