

**GOVERNMENT OF INDIA
MINISTRY OF POWER**

**LOK SABHA
UNSTARRED QUESTION NO.266
TO BE ANSWERED ON 17.11.2016**

HYDRO POWER PROJECTS

266. SHRI B. SRIRAMULU:

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

- (a) the details of hydro power projects constructed/under construction and their installed capacities, State-wise;**
- (b) the power being generated by each of the hydel power projects along with the reasons for under utilisation of the installed capacity and the steps being taken by the Government to improve the efficiency of hydro power projects for generation of power as per their installed capacity;**
- (c) the total expenditure incurred on setting up of each of the power projects of the National Hydro Power Corporation Limited (NHPC) including in Karnataka and the depreciated book value of each of these power projects as on date, project-wise;**
- (d) whether various hydro power projects with a combined capacity of 40,000 Mega Watt. allotted to the private sector in various States are yet to take off;**
- (e) if so, the details thereof along with the reasons for delay project-wise; and**
- (f) the steps taken/being taken by the Government in this regard?**

A N S W E R

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

(SHRI PIYUSH GOYAL)

(a) & (b) : A total of 197 Hydro Power projects with an aggregate installed capacity of 43112.42 MW (including Pumped Storage Scheme) are presently under operation in the country. The state-wise details of Hydro Electric Stations under operation along with energy generated by each of the hydel power projects is given at Annex-I. In addition, 44 Hydro Electric Projects (above 25 MW) totalling to 13182 MW are under construction in the country. Details are given at Annex-II.

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Majority of the hydro power projects in the country are generating power as per their installed capacity. The major reason for some of the hydro power projects not operating at their full capacity is availability of lesser water flows especially in the Southern states of Karnataka, Tamil Nadu, Telangana, Kerala, Andhra Pradesh. In addition, generation is affected in some of the stations like Rihand, Bhadra, Hirakud etc. due to ongoing renovation and modernization activities.

(c) : The project-wise expenditure incurred on setting up of each of the power projects of the National Hydro Power Corporation limited (NHPC) including in Karnataka and the depreciated book value of each of these power projects, as on date, as received from NHPC, is given at Annex – III.

(d) : As per information available in CEA, the status of various Hydro Projects in Private sector in the country is as under:

Sl. No.	Status	No of Projects	Total Capacity (MW)
1	In operation*	26	3269
2	Under construction	19	4555
3	DPR concurred by CEA	22	15058
4	DPR under Examination in CEA	6	3317
5	DPR returned for resubmission	16	5338
6	DPR under Preparation	31	6502
	Total	120	38039

* Note: Having installed capacity above 3 MW

(e) : The reasons for delay in respect of hydro projects under construction in private sector mainly include Law and order issues, Rehabilitation and resettlement, natural calamities, geological surprises, Environmental Clearances, financial constraints etc.

(f) : Regular review meetings are held at various levels including CEA, MoP with developers, States and other concerned agencies for resolution of the issues.

**ANNEX REFERRED TO IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 266
TO BE ANSWERED IN THE LOK SABHA ON 17.11.2016.**

(As on 31.10.2016)

STATE/STATION/ UTILITY	INSTALLED CAPACITY AS ON 31.10.2016	2016-17 (Upto 31.10.2016)* Energy Generated
	(MW)	(MU)
NORTHERN REGION		
HIMACHAL PRADESH		
Bhakra L&R	1325.00	3576.02
Dehar	990.00	2626.67
Ganguwal	77.65	240.89
Kotla	77.65	256.06
Pong	396.00	726.15
Baira Siul	180.00	492.15
Chamera-I	540.00	1802.01
Chamera-II	300.00	1217.46
Chamera-III	231.00	856.45
Nathpa Jhakri	1500.00	5980.38
Rampur	412.02	1666.22
Kol Dam	800.00	2805.48
Kashang I	65.00	35.79
Kashang II & III	65.00	
Bassi	60.00	244.62
Giri Bata	60.00	105.09
Larji	126.00	510.43
Sanjay	120.00	96.68
Shanan	110.00	387.35
Allain Duhagan (Pvt.)	192.00	607.85
Malana - II (Pvt.)	100.00	336.57
Baspa-II	300.00	1181.39
Karcham Wangtoo	1000.00	3795.87
Budhil (Pvt.)	70.00	237.66
Malana	86.00	314.45
Total H.P.	9183.32	30099.69
JAMMU & KASHMIR		
Chutak	44.00	22.98
Dhauliganga	280.00	803.75
Dulhasti	390.00	1788.11
Nimoo Bazgo	45.00	44.23
Parbati III	520.00	610.18
Salal-I	345.00	2781.56
Salal-II	345.00	
Sewa-II	120.00	286.62
Tanakpur	94.20	328.68
Uri	480.00	1965.52
Uri-II	240.00	1013.06
Baglihar	450.00	1611.05
Baglihar	450.00	1714.39
Lower Jhelum	105.00	311.69
Upper Sindh II	105.00	311.45
Total J&K	4013.20	13593.27
PUNJAB		
A.P.Sahib I&II	134.00	511.54
Mukerian I-IV	207.00	534.18
Ranjit Sagar	600.00	963.27
Total Punjab	941.00	2008.99
RAJASTHAN		
Jawahar Sagar	99.00	95.48
Mahi Bajaj I&II	140.00	109.36
R.P. Sagar	172.00	114.93
Total Rajasthan	411.00	319.77

UTTAR PRADESH		
Khara	72.00	208.39
Matatilla	30.60	59.92
Obra	99.00	124.18
Rihand	300.00	315.03
Total UP	501.60	707.52
UTTARAKHAND		
Chibro (Y.St.II)	240.00	567.63
Chilla	144.00	488.40
Dhakrani (Y.St.I)	33.75	94.57
Dhalipur (Y.St.I)	51.00	142.67
Khatima	41.40	117.97
Khodri (Y.St.II)	120.00	260.80
Kulhal (Y.St.IV)	30.00	92.79
Maneri Bhali-I	90.00	223.63
Maneri Bhali-II	304.00	1066.94
Ram Ganga	198.00	26.21
Tehri	1000.00	1996.83
Koteshwar	400.00	791.83
Srinagar	330.00	1095.85
Vishnu Prayag	400.00	1733.44
Total Uttarakhand	3382.15	8699.56
Total N. REGION	18432.27	55428.80
WESTERN REGION		
CHHATTISGARH		
Hasdeo Bango	120.00	141.68
Total Chhattisgarh	120.00	141.68
GUJARAT		
Kadana PSS	240.00	257.21
Ukai	300.00	203.90
Sardar Sarovar CHPH	250.00	453.57
Sardar Sarovar RBPH	1200.00	2244.51
Total Gujarat	1990.00	3159.19
MADHYA PRADESH		
Bansagar Tons-I	315.00	652.15
Bansagar Tons-II	30.00	47.59
Bansagar Tons-III	60.00	49.13
Bargi	90.00	282.66
Gandhi Sagar	115.00	89.78
Madhikhera	60.00	95.86
Rajghat	45.00	23.66
Indira Sagar	1000.00	2208.08
Omkareshwar	520.00	959.98
Total M.P.	2235.00	4408.89
MAHARASHTRA		
Bhira Tail Race	80.00	67.49
Ghatghar PSS	250.00	164.36
Koyna DPH	36.00	68.72
Koyna St.I& II	600.00	660.63
Koyna St.III	320.00	307.23
Koyna IV	1000.00	451.69
Tillari	60.00	56.30
Vaitarna	60.00	58.95
Pench	160.00	232.21
Bhandardhara - II	34.00	15.23
Bhira	150.00	605.41
Bhira PSS	150.00	
Bhivpuri	75.00	61.63
Khopoli	72.00	164.79
Total Maharashtra	3047	2915
Total Western	7392.00	10624.40

SOUTHERN REGION		
ANDHRA PRADESH		
Lower Sileru	460.00	367.61
N.J.Sagar RBC	90.00	1.18
N.J.Sagar TPD		0.00
Srisaillam RB	770.00	422.76
Upper sileru I&II	240.00	133.30
Total AP	1560.00	924.85
TELANGANA		
Lower Jurala	240.00	175.24
N.J.Sagar PSS	815.60	118.53
N.J.Sagar LBC	60.00	0.00
Pochampad	27.00	31.63
Srisaillam LB	900.00	373.81
Priyadarshni	234.00	211.99
Pulinchinthala	30.00	7.41
Total Telangana	2306.60	918.61
KARNATAKA		
Amatti Dam	290.00	321.34
Bhadra	39.20	15.87
Gerusoppa	240.00	135.22
Ghatprabha	32.00	8.97
Jog	139.20	211.87
Kadra	150.00	127.69
Kalinadi	855.00	682.83
Supa DPH	100.00	104.40
Kodasali	120.00	94.01
Lingnamakki	55.00	36.59
Munirabad	28.00	30.43
Sharavathy	1035.00	1151.35
Shivasamudram	42.00	125.18
Varahi	460.00	485.14
T.B.Dam & Hampi	72.00	64.74
Total Karnataka	3657.40	3595.63
KERALA		
Idamalayar	75.00	93.68
Idukki	780.00	911.76
Kakkad	50.00	87.40
Kuttiadi	125.00	310.99
Kuttiadi Addn. Extn.	100.00	
Lower Periyar	180.00	270.68
Neriamangalam	70.00	166.74
Pallivasal	37.50	121.35
Panniar	30.00	52.12
Poringalkuthu	32.00	74.76
Sabarigiri	300.00	499.31
Sengulam	48.00	91.74
Sholayar	54.00	94.45
Total Kerala	1881.50	2774.98
TAMIL NADU		
Aliyar	60.00	42.79
Bhawani Kattalai Barrage-III	30.00	16.57
Bhawani Kattalai Barrage-II	30.00	17.86
Bhawani Kattalai Barrage-I	30.00	18.71
Kadamparai PSS	400.00	145.78
Kodayar I&II	100.00	97.91
Kundah I-V	555.00	555.18
Lower Mettur I-IV	120.00	82.63
Mettur Dam & Tunnel	250.00	114.75
Moyar	36.00	46.18
Papansam	32.00	54.34
Parson's Valley	30.00	11.50

Periyar	140.00	93.94
Pykara	59.20	12.70
Pykara Ultimate	150.00	139.73
Sarkarpathy	30.00	41.01
Sholayar I&II	95.00	214.76
Suruliyar	35.00	29.07
Total Tamilnadu	2182.20	1735.41
Total Southern	11587.70	9949.48
EASTERN REGION		
JHARKHAND		
Subernarekha I&II	130.00	30.23
Panchet	80.00	103.09
Total Jharkhand	210.00	133.32
ODISHA		
Balimela	510.00	533.67
Hirakud I	275.50	532.04
Hirakud II	72.00	
Rengali	250.00	479.79
Upper Indravati	600.00	973.45
Upper Kolab	320.00	387.17
Machkund	114.75	350.28
Total Odisha	2142.25	3256.40
SIKKIM		
Jorethang Loop	96.00	328.75
Chuzachen (Sikkim)	99.00	434.21
Teesta III		0.21
Rangit	60.00	255.56
Teesta-V	510.00	2219.21
Total Sikkim	765.00	3237.94
WEST BENGAL		
Jaldhaka - I	36.00	158.53
Purulia PSS	900.00	691.85
Ramman II	50.00	185.83
Maithon	63.20	98.09
Teesta Low Dam-III	132.00	462.10
Teesta Low Dam-IV	160.00	479.86
Total WB	1341.20	2076.26
Total Eastern	4458.45	8703.92
NORTH EASTERN REGION		
ASSAM		
Karbi Langpi	100.00	310.64
Khandong	75.00	146.59
Kopili	200.00	789.46
Total Assam	375.00	1246.69
MEGHALAYA		
Kyrdemkulai	60.00	39.76
Myntdu	126.00	348.35
Umium St.I	36.00	80.29
Umium St. IV	60.00	138.63
New Umtru		0.00
Total Meghalaya	282.00	607.03
NAGALAND		
Doyang	75.00	217.87
Total Nagaland	75.00	217.87
ARUNACHAL PRADESH		
Ranganadi	405.00	1049.06
Total Ar. Pradesh	405.00	1049.06
Manipur		
Loktak	105.00	479.52
Total Manipur	105.00	479.52
Total N.Eastern States	1242.00	3600.17
TOTAL ALL INDIA	43112.42	88306.77

**ANNEX REFERRED TO IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION NO. 266
TO BE ANSWERED IN THE LOK SABHA ON 17.11.2016.**

List of Under Construction Hydro Electric Projects (above 25 MW) in the country – State-wise

Sl. No.	Name of Scheme (Executing Agency)	Sector	(As on 31.10.2016)	
			Cap. Under Execution (MW)	Completion Period
	Andhra Pradesh			
1	Polavaram (PPA)	State	960.00	2021-22 ##
2	Nagarujana Sagar TR(APGENCO)	State	50.00	2016-17
	Sub-total: Andhra Pradesh		1010.00	
	Arunachal Pradesh			
3	Kameng (NEEPCO)	Central	600.00	2017-18 @
4	Pare (NEEPCO)	Central	110.00	2017-18 @
5	Subansiri Lower (NHPC)	Central	2000.00	2020-21 *
6	Gongri(Dirang Energy)	Private	144.00	2019-20 #
	Sub-total: Arunachal Pradesh		2854.00	
	Himachal Pradesh			
7	Parbati St. II (NHPC)	Central	800.00	2018-19
8	Uhl-III (BVPCL)	State	100.00	2017-18
9	Sawra Kuddu (HPPCL)	State	111.00	2018-19
10	Sainj (HPPCL)	State	100.00	2016-17
11	Shongtong Karcham (HPPCL)	State	450.00	2019-20
12	Kashang -II & III (HPPCL)	State	65.00	2019-20 *
13	Bajoli Holi (GMR)	Private	180.00	2019-20
14	Sorang (HSPCL)	Private	100.00	2017-18 *
15	Tangnu Romai (TRPG)	Private	44.00	2018-19 *
16	Tidong-I (NSL Tidong)	Private	100.00	2017-18
17	Chanju-I (IA Energy)	Private	36.00	2016-17
	Sub-total: Himachal Pradesh		2086.00	
	Jammu & Kashmir			
18	Kishanganga (NHPC)	Central	330.00	2017-18
19	Ratle (RHEPPL)	Private	850.00	2021-22 *
	Sub-total: Jammu & Kashmir		1180.00	
	Kerala			
20	Pallivasal (KSEB)	State	60.00	2019-20 *
21	Thottiyar (KSEB)	State	40.00	2019-20 *
	Sub-total: Kerala		100.00	
	Madhya Pradesh			
22	Maheshwar (SMHPCL)	Private	400.00	2017-19 *
	Sub-total: Madhya Pradesh		400.00	
	Maharashtra			
23	Koyna Left Bank (WRD,MAH)	State	80.00	2019-20 #
	Sub-total: Maharashtra		80.00	
	Meghalaya			
24	New Umtru (MePGCL)	State	40.00	2016-18 @
	Sub-total: Meghalaya		40.00	
	Mizoram			
25	Tuirial (NEEPCO)	Central	60.00	2017-18
	Sub-total: Mizoram		60.00	
	Punjab			
26	Shahpurkandi (PSPCL)	State	206.00	2019-20 *
	Sub-total: Punjab		206.00	
	Sikkim			
27	Bhasmey (Gati Infrastructure)	Private	51.00	2019-20
28	Dikchu (Sneha Knietic)	Private	96.00	2016-17
29	Rangit-IV (JAL Power)	Private	120.00	2019-20 *
30	Rangit-II (Sikkim Hydro)	Private	66.00	2019-20 #

31	Rongnichu (Madhya Bharat)	Private	96.00	2019-20
32	Tashiding (Shiga Energy)	Private	97.00	2016-17
33	Teesta St. III (Teesta Urja Ltd.)	State	1200.00	2016-17
34	Teesta St. VI (LANCO)	Private	500.00	2021-22 *
35	Panan (Himagiri)	Private	300.00	2020-21 ##
	Sub-total: Sikkim		2526.00	
	Telangana			
36	Pulichintala (TSGENCO)	State	90.00	2016-18
	Sub-total: Telangana		90.00	
	Uttarakhand			
37	Lata Tapovan (NTPC)	Central	171.00	2021-22 *
38	Tapovan Vishnugad (NTPC)	Central	520.00	2019-20
39	Tehri PSS (THDC)	Central	1000.00	2019-20
40	Vishnugad Pipalkoti (THDC)	Central	444.00	2019-20
41	Vyasi (UJVNL)	State	120.00	2018-19
42	Phata Byung (LANCO)	Private	76.00	2018-19 #
43	Singoli Bhatwari (L&T)	Private	99.00	2019-20 #
	Sub-total: Uttarakhand		2430.00	
	West Bengal			
44	Rammam-III (NTPC)	Central	120.00	2019-20
	Sub-total: West Bengal		120.00	
	Total:		13182.00	

* Subject to restart of works

Subject to active start of works

Subject to active start of works and award of E&M works

@ Projects in the programme of F.Y. 2016-17, however slipping over to F.Y. 2017-18.

ANNEX REFERRED TO IN REPLY TO PART (c) OF UNSTARRED QUESTION NO. 266 TO BE ANSWERED IN THE LOK SABHA ON 17.11.2016.

TOTAL EXPENDITURE INCURRED ON SETTING UP OF THE PROJECT AND DEPRECIATED BOOK VALUE OF THE PROJECTS AS ON 30TH JUNE 2016

(Amount Rupees in Crore)

NHPC LIMITED							
TOTAL EXPENDITURE INCURRED ON SETTING UP THE PROJECT AND DEPRECIATED BOOK VALUE OF THE PROJECTS AS ON 30TH JUNE 2016							
Sl. No	UNIT	STATE	GROSS BLOCK OF FIXED ASSETS	CAPITAL WORK IN PROGRESS	TOTAL EXPENDITURE INCURRED ON SETTING UP THE PROJECT	(AMOUNT IN CRORE)	
						DEPRECIATION	DEPRECIATED BOOK VALUE OF THE PROJECT
A	PROJECT UNDER OPERATION						
1	SALAL	JAMMU & KASHMIR	992.54	13.10	1,005.64	654.45	351.19
2	URI - I	JAMMU & KASHMIR	3,517.09	8.23	3,525.33	1,786.89	1,738.44
3	URI - II	JAMMU & KASHMIR	2,166.08	18.62	2,184.70	290.71	1,893.99
4	DULHASTI	JAMMU & KASHMIR	5,257.68	4.32	5,262.00	2,252.94	3,009.06
5	SEWA-II	JAMMU & KASHMIR	1,106.65	0.00	1,106.65	334.80	771.85
6	NIMMO BAZGO	JAMMU & KASHMIR	971.78	1.27	973.05	131.17	841.88
7	CHUTAK	JAMMU & KASHMIR	877.07	2.08	879.15	154.08	725.06
8	BAIRASIUL	HIMACHAL PRADESH	225.13	0.14	225.28	185.85	39.43
9	CHAMERA-I	HIMACHAL PRADESH	2,161.52	1.98	2,163.51	1,250.81	912.70
10	CHAMERA-II	HIMACHAL PRADESH	2,078.68	1.34	2,080.02	1,051.32	1,028.70
11	CHAMERA-III	HIMACHAL PRADESH	1,956.91	10.53	1,967.44	404.72	1,562.72
12	PARBATI-III	HIMACHAL PRADESH	2,466.75	21.38	2,488.13	273.49	2,214.64
13	TANAKPUR	UTTARAKHAND	420.33	1.80	422.14	229.36	192.78
14	DHAULIGANGA-I	UTTARAKHAND	1,759.31	1.12	1,760.42	792.12	968.30
15	LOKTAK	MANIPUR	195.30	0.64	195.93	148.53	47.41
16	RANGIT	SIKKIM	515.83	0.26	516.09	240.12	275.98
17	TEESTA-V	SIKKIM	2,911.38	1.83	2,913.21	1,143.28	1,769.93
18	TLDP-III	WEST BENGAL	1,880.56	10.14	1,890.70	306.99	1,583.71
19	TLDP-IV	WEST BENGAL	1,352.69	298.09	1,650.77	20.52	1,630.25
B	PROJECT UNDER CONSTRUCTION/ INVESTIGATION						
1	KISHANGANGA	JAMMU & KASHMIR	297.65	4,337.53	4,635.18	53.44	4,581.74
2	PARBATI -II	HIMACHAL PRADESH	217.89	5,701.27	5,919.15	81.93	5,837.22
3	SUBANSIRI LOWER	ASSAM/ ARUNACHAL PRADESH	151.44	5,702.73	5,854.17	76.15	5,778.02
4	BURSUR	JAMMU & KASHMIR	4.07	1.66	5.72	3.09	2.63
5	DIBANG	ARUNACHAL PRADESH	7.60	194.55	202.15	5.96	196.19
6	TAWANG	ARUNACHAL PRADESH	3.71	178.83	182.54	2.55	179.99
7	KOTLIBHEL 1A	UTTARAKHAND	23.73	0.95	24.67	10.73	13.95
8	DHAULIGANGA INTERMEDIATE	UTTARAKHAND	0.32	46.50	46.81	0.19	46.63
9	TEESTA-IV	SIKKIM	1.58	126.38	127.96	0.85	127.11
10	WIND POWER PROJECT JAISE LMER (WPPJ)	RAJASTHAN	1.04	319.68	320.72	0.01	320.72
	TOTAL		33,522.31	17,006.95	50,529.26	11,887.05	38,642.21
	NOTE:-Presently, NHPC Limited has no Power Project located in the state of Karnataka.						
