

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 3028
ANSWERED ON 21/12/2023

PRODUCTION OF RENEWABLE ENERGY

3028. SHRI JASWANT SINGH BHABHOR

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

- (a) whether the Government has set an ambitious target of producing 500 GW of green energy by 2030 and if so, the steps taken by the Government in this regard;
- (b) whether steps are being taken to reduce dependency on conventional energy and if so, the details thereof;
- (c) whether the specific measure are being taken by the Government to increase the production of solar energy, wind energy and Green Hydrogen and if so, the details thereof;
- (d) whether the Government has proposed in the Budget to set up Pumped Storage Projects (PSP) and if so, the steps being taken by the Government to set up PSP units in the country; and
- (e) the details of the number of PSPs sanctioned in each State and the funds allocated for the same?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER
(SHRI R.K. SINGH)

(a) to (c) In line with Hon'ble Prime Minister's announcement at COP26, Ministry of New and Renewable Energy is working towards the target of 500 GW of installed electricity generation capacity from non-fossil sources by 2030.

Further, in its Nationally Determined Contribution (NDC) submitted to the United Nations Framework Convention for Climate Change (UNFCCC), India has committed to achieving about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.

The Government of India has undertaken several specific measures to increase the production of solar energy, wind energy and Green Hydrogen, which inter alia include:

- i. Waiver of Inter State Transmission System (ISTS) charges for inter-State sale of solar and wind power for projects to be commissioned by 30th June 2025 and graded ISTS charges thereafter,
- ii. Declaration of trajectory for Renewable Purchase Obligation (RPO) up to the year 2030,
- iii. Launch of new schemes and programs, including Development of Solar Parks and Ultra Mega Solar Power Projects Scheme, Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan Yojana (PM-KUSUM), Grid Connected Solar Rooftop Programme, CPSU Scheme Phase-II (Government Producer Scheme), Production Linked Incentive Scheme under 'National Programme on High Efficiency Solar PV Modules, National Bioenergy Programme, Renewable Energy Research and Technology Development (RE-RTD) Programme, Schemes for incentives on electrolyser manufacturing and Green Hydrogen production under the National Green Hydrogen Mission.
- iv. Setting up of Ultra Mega Renewable Energy Parks to provide land and transmission to RE developers on a plug and play basis,
- v. Laying of new transmission lines and creating new sub-station capacity for evacuation of renewable power,
- vi. Setting up of Project Development Cell for attracting and facilitating investments,

- vii. Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Solar PV and Wind Projects,
- viii. Government has issued orders that power shall be dispatched against Letter of Credit (LC) or advance payment to ensure timely payment by distribution licensees to RE generators,
- ix. Notification of Promoting Renewable Energy through Green Energy Open Access Rules 2022,
- x. Notification of Late Payment Surcharge and related matters Rules 2022.
- xi. Notification of Electricity Amendment Rules 2022 with provision of Uniform Renewable Energy Tariff for Central Pool.
- xii. Launch of the National Green Hydrogen Mission with the objective to make India a hub for Green Hydrogen production and exports.

(d) The Government of India has taken number of policy measures to increase or expand hydro power generation capacity including Pumped Storage Projects in the country, details of which are enlisted below:

1. During March, 2019, the Government approved 'measures to promote hydro power which are detailed below:

- i. Declaring Large Hydro Power (LHPs) (> 25 MW projects) as Renewable Energy source.
- ii. Hydro Purchase Obligation (HPO)
- iii. Tariff rationalization measures for bringing down hydro power tariff.
- iv. Budgetary Support for Flood Moderation/Storage Hydro Electric Projects (HEPs).
- v. Budgetary Support to Cost of Enabling Infrastructure, i.e. roads/bridges. The guidelines for Budgetary Support towards Flood Moderation component as well as towards Cost of Enabling Infrastructure have also been notified by Govt. on 28.09.2021.

2. Waiver of Inter State Transmission System (ISTS) charges has been inter-alia extended to Pumped Storage Projects for which construction work is awarded up to 30.06.2025, subject to certain conditions. Subsequently, part waiver of ISTS charges, in steps of 25% from 01.07.2025 to 01.07.2028, have been extended for PSPs for which construction work is awarded up to 30.06.2028.

3. Ministry of Power has notified Guidelines to promote development of Pumped Storage Projects in the country on 10th April, 2023. Keeping in view the immense utility of the PSPs in grid stabilization as well as meeting the peaking power demand, guidelines have been formulated to promote PSPs and set the direction of its development. The Ministry seeks to promote the development of PSPs across the country with proactive support of the State Governments.

4. The Central Electricity Authority has also published revised Guidelines for Formulation and Concurrence of DPR of PSPs. Under the revised guidelines, the timeline for concurrence of DPR of following category of PSPs, has been reduced from 90 days to 50 days for:

- PSPs awarded under section 63 of Electricity Act, 2003 (determination of tariff by bidding process);
- PSPs which are part of Integrated Renewable Energy Projects that contain other RE sources such as wind energy, solar energy etc.;
- PSPs being developed as captive plants or merchant plants.

Timeline for concurrence of DPR of other PSPs has been reduced from 125 days to 90 days.

(e) Details of PSPs that are currently operational and under development in different states are provided at **Annexure**.

ANNEXURE REFERRED TO IN REPLY TO PART (e) OF LOK SABHA UNSTARRED**QUESTION NO. 3028 TO BE ANSWERED ON 21/12/2023****Details of PSPs currently operational and under development**

Four (4) no. of PSPs with aggregate installed capacity of 2780 MW are currently under construction in the country. The details are given as under:

S.No.	Name of Project	State	Sector	CCEA	IC (MW)	Tentative Year of Commissioning
1	Tehri PSS	Uttarakhand	Central	18.07.2006	1000	2024-25
2	Kundah PSP PhI,II & III	Tamilnadu	State	-	500	2024-25
3	Pinnapuram	Andhra Pradesh	Private	-	1200	2024-25
4	Koyna Left Bank [#]	Maharashtra	State	-	80	2027-28
	Total				2780	

#Construction activities at Koyna Left Bank are currently stalled.

As per Section 8 (1) of the Electricity Act, 2003, any generating company intending to set up a hydro generating station shall prepare and submit to the Authority for its concurrence, a scheme estimated to involve a capital expenditure exceeding such sum (presently, ₹1000 Crores), as may be fixed by the Central Government, from time to time, by notification. Accordingly, two (2) no. of PSPs with aggregate installed capacity of 2350 MW are Concurred by CEA and yet to be taken up for construction. The details are given as under:

Sl. No.	Name of the project	IC (MW)	Sector	Project developer/ State	Remarks
1	Turga	1000	State	WBSEDCL/ West Bengal	EC received on 02.07.2018. FC-I received on 12.04.2018. FC-II received on 13.10.2022 Likely to start construction in FY 2024-25 Likely Commissioning in FY 2029-30
2	Upper Sileru	1350	State	APGENCO/ Andhra Pradesh	Authority meeting for concurrence held on 06.06.2023 Likely to start construction in FY 2023-24 Likely Commissioning in FY 2028-29
	Total	2350			

Further, forty three (43) no. of PSPs with aggregate installed capacity of 55085 MW are currently under Survey and Investigation in the country. The details are as follows:

Sl. No.	Name of Scheme	District	Agency for DPR	Sector	I.C. (MW)
Jharkhand					
1	Lugu Pahar	Bokaro	DVC	Central	1500
	Sub total (Jharkhand)				1500
Odisha					
2	Upper Kolab	Koraput	OHPCL	State	320
3	Balimela PSP	Malkangiri	OHPCL	State	500
4	Upper Indravati	Kalahandi	OHPCL	State	600
	Sub total (Odisha)				1420
Rajasthan					
5	Shahpur	Baran	Greenko	Private	1800
6	Sukhpura Off-Stream	Chittorgarh	Greenko	Private	2560
7	Sirohi	Sirohi	JSW Energy	Private	1200
	Sub Total (Rajasthan)				5560
Uttar Pradesh					
8	Kandhaura	Sonbhadra	JSW Energy	Private	1680
9	Musakhand	Chandauli	ACME Urja Two Private Limited	Private	600
10	UP01	Sonbhadra	Greenko	Private	3660
	Sub Total (Uttar Pradesh)				5940
Madhya Pradesh					
11	Indira Sagar	Khandwa	NHDC	Central	525
12	Tekwa-2	Khargone	NHDC	Central	800
13	MP 30 Gandhi Sagar	Neemach	Greenko	Private	1920
	Sub total (Madhya Pradesh)				3245
Maharashtra					
14	Warasagaon	Pune/ Raigad	WRD, Maharashtra	State	1200
15	Bhavali	Nashik/ Thane	JSW Energy	Private	1500
16	Pane	Raigad	JSW Energy	Private	1500
17	Tarali	Satara	Adani Green Energy Ltd.	Private	1500
18	Malshej Ghat Bhorande	Pune & Thane	Adani Green Energy Ltd.	Private	1500
19	Patgaon	Sindhudurg and Kolhapur	Adani Green Energy Ltd.	Private	2100
20	Shirwata	Pune	Tata Power	Private	1800
21	Bhivpuri	Raigad	Tata Power	Private	1000
22	Savitri	Raigad and Satara	NHPC	Central	1800
23	Warasgaon Warangi	Pune-Raigad	Adani Green Energy Ltd.	Private	1500
	Sub total (Maharashtra)				15400

Andhra Pradesh					
24	Gandikota	Kadapa	Adani Green Energy Ltd.	Private	1000
25	OWK	Kurnool	Aurobindo Realty & Infrastructure Pvt. Ltd.	Private	800
26	Somasila	Kadapa	Shirdi Sai Electricals Ltd.	Private	900
27	Chitravathi	Ananthapuramu	Adani Green Energy Ltd.	Private	500
28	Yerravaram	Vishakhapatnam	Shirdi Sai Electricals Ltd.	Private	1200
29	Paidipalem North	YSR	Indosol Solar Power Pvt. Ltd.	Private	1000
30	Paidipalem East	YSR	Indosol Solar Power Pvt. Ltd.	Private	1200
31	Singanamala	Ananthapuramu	Aurobindo Realty & Infrastructure Pvt. Ltd.	Private	800
32	Veeraballi Off-Stream	Annamayya	Astha Green Energy Ventures India PVT. LTD.	Private	1800
33	Vempalli	YSR Kadapa	JSW Energy	Private	1500
34	Gujjili	Alluri Sitharama Raju	NREDCAP		1500
35	Chittamvalasa	Alluri Sitarama Raju	NREDCAP		800
36	Yaganti	Nandyal	APGENCO	State	1000
37	Kamalapadu	Ananthapuramu	APGENCO	State	950
38	Raiwada	Anakapalle	Adani Green Energy Ltd.	Private	850
39	Aravetipalli	YSR	APSPCL	State	1320
	Sub total (Andhra Pradesh)				17120
Karnataka					
40	Saundatti	Belgavi	Greenko	Private	1600
41	Sharavathy PSP	Shimoga & Uttara Kannada	KPCL	State	2000
42	Narihalla	Bellary	JSW Energy	Private	300
	Sub total (Karnataka)				3900
Tamil Nadu					
43	Sillahalla St-I PSP	Nilgiris	TANGEDCO	State	1000
	Sub total (Tamil Nadu)				1000
	Total PSP				55085