

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO. 296
ANSWERED ON 19.07.2022

ENERGY GENERATION THROUGH NEW AND RENEWABLE ENERGY SOURCES

296. DR. KANIMOZHI NVN SOMU

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

- (a) whether Government has chalked out any comprehensive schemes to increase the energy generation through the new and renewable energy sources, like wind, solar and biomass;
- (b) if so, the current capacity generation in various States in the country; and
- (c) the effective measures taken by Government to increase the new and renewable energy generation in the country and the subsidy schemes and support provided to various public and private power production companies in the country, especially in Tamil Nadu?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER

(SHRI R.K. SINGH)

(a) & (b) The details of major renewable energy schemes/ programmes being implemented by the Ministry in the country to increase the energy generation through renewable energy sources are given in **Annexure-I**.

The source-wise and state-wise details of the renewable energy capacity (including large hydro) installed in the country as on 30.06.2022 are given in **Annexure-II**.

(c) The Government has taken several steps to increase renewable energy generation in the country including the state of Tamil Nadu. These include :

- Permitting Foreign Direct Investment (FDI) up to 100 percent under the automatic route,
- 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,
- Declaration of trajectory for Renewable Purchase Obligation (RPO) up to the year 2022,
- Setting up of Ultra Mega Renewable Energy Parks to provide land and transmission to RE developers on a plug and play basis,
- Schemes such as Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), Solar Rooftop Phase II, 12000 MW CPSU Scheme Phase II, etc,
- Laying of new transmission lines and creating new sub-station capacity under the Green Energy Corridor Scheme for evacuation of renewable power,
- Setting up of Project Development Cell for attracting and facilitating investments,
- Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Solar PV and Wind Projects.
- 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.

The details of incentives being provided as Central Financial Assistance (CFA) for the implementation of major renewable energy schemes / programmes by the Ministry are given in **Annexure-III**.

Annexure-I referred to in reply to part (a) & (b) of Rajya Sabha Unstarred Question No. 296 for 19/07/2022 regarding 'Energy generation through new and renewable energy sources'

Details of the major Renewable Energy Schemes / Programmes

- Scheme for Development of solar parks and Ultra-mega Solar Power Projects with a target of setting up 40,000 MW capacity. Under the scheme, the infrastructure such as land, roads, transmission system (internal and external), pooling stations, water feasibility is developed with all statutory clearances/ approvals. Thus the solar project developers have plug and play benefit.
- Central Public Sector Undertaking (CPSU) Scheme Phase-II (Government Producer Scheme) for setting up 12,000 MW grid-connected Solar Photovoltaic (PV) Power Projects by Government Producers with Viability Gap Funding (VGF) support, for self-use or use by Government/ Government entities, either directly or through Distribution Companies (DISCOMS).
- Production Linked Incentive scheme 'National Programme on High Efficiency Solar PV Modules' for achieving manufacturing capacity of Giga Watt (GW) scale in High Efficiency Solar PV modules.
- PM-KUSUM Scheme to promote small Grid Connected Solar Energy Power Plants, stand-alone solar powered agricultural pumps and solarisation of existing grid connected agricultural pumps. The scheme is not only beneficial to the farmers but also States and DISCOMs. States will save on subsidy being provided for electricity to agriculture consumers and DISCOMs get cheaper solar power at tail end saving transmission and distribution losses.
- Rooftop Solar Programme Phase II for grid connected solar rooftop power plants. Under this Programme, subsidy is provided for residential sector and performance linked incentives to DISCOMs for achieving capacity addition in rooftop solar above baseline.
- Green Energy Corridors (GEC): to create intra-state transmission system for renewable energy projects. Central Financial Assistance (CFA) is provided to set up transmission infrastructure for evacuation of Power from Renewable Energy projects in total ten States (considering both the phases of GEC).

Annexure-II

Annexure-II referred to in reply to part (a) & (b) of Rajya Sabha Unstarred Question No. 296 for 19/07/2022 regarding 'Energy generation through new and renewable energy sources'

Source-wise and State-wise details of the renewable energy capacity (including large hydro) installed in the country as on 30.06.2022

State-wise installed capacity of Renewable Power (including Large Hydro) as on 30.06.2022							
S. No.	STATES / Uts	Small Hydro Power	Wind Power	Bio Power	Solar Power	Large Hydro	Total Capacity
		(MW)	(MW)	(MW)	(MW)	(MW)	(MW)
1	Andhra Pradesh	162.11	4096.65	566.04	4390.48	1610.00	10825.28
2	Arunachal Pradesh	133.11		0.00	11.23	1115.00	1259.34
3	Assam	34.11		2.00	142.94	350.00	529.05
4	Bihar	70.70		126.02	190.69		387.41
5	Chhatisgarh	76.00		275.00	529.32	120.00	1000.32
6	Goa	0.05		0.34	21.54		21.93
7	Gujarat	89.39	9419.42	109.26	7806.80	1990.00	19414.87
8	Haryana	73.50		258.00	943.61		1275.11
9	Himachal Pradesh	954.11		10.20	80.56	10263.02	11307.89
10	Jammu & Kashmir*	144.68		0.00	47.90	3449.00	3641.58
11	Jharkhand	4.05		4.30	88.79	210.00	307.14
12	Karnataka	1280.73	5182.15	1902.15	7597.92	3689.20	19652.15
13	Kerala	266.52	62.50	2.50	539.60	1864.15	2735.27
14	Ladakh	39.64		0.00	7.80	0.00	47.44
15	Madhya Pradesh	99.71	2519.89	131.33	2746.27	2235.00	7732.20
16	Maharashtra	381.08	5012.83	2632.15	2753.30	3047.00	13826.36
17	Manipur	5.45		0.00	12.26	105.00	122.71
18	Meghalaya	32.53		13.80	4.16	322.00	372.49
19	Mizoram	36.47		0.00	8.01	60.00	104.48
20	Nagaland	31.67		0.00	3.04	75.00	109.71
21	Odisha	115.63		59.22	452.13	2154.55	2781.53
22	Punjab	176.10		491.65	1117.99	1096.30	2882.04
23	Rajasthan	23.85	4495.82	125.08	14454.70	411.00	19510.45
24	Sikkim	55.11		0.00	4.69	2282.00	2341.80
25	Tamil Nadu	123.05	9866.37	1042.70	5690.79	2178.20	18901.11
26	Telangana	90.87	128.10	219.74	4621.07	2405.60	7465.38
27	Tripura	16.01		0.00	15.87		31.88
28	Uttar Pradesh	49.10		2189.99	2244.56	501.60	4985.25
29	Uttarakhand	218.82		139.44	573.54	3975.35	4907.15
30	West Bengal	98.50		322.45	176.00	1341.20	1938.15
31	Andaman & Nicobar	5.25		0.00	29.91		35.16
32	Chandigarh			0.00	56.85		56.85
33	Dadar & Nagar Haveli			0.00	5.46		5.46
34	Daman & Diu			0.00	41.01		41.01
35	Delhi			59.00	211.12		270.12
36	Lakshwadeep			0.00	3.27		3.27
37	Pondicherry			0.00	35.53		35.53
38	Others		4.30	0.00	45.01		49.31
	Total (MW)	4887.90	40788.03	10682.36	57705.72	46850.17	160914.18
* includes Ladakh for Large Hydro							

Annexure-III referred to in reply to part (c) of Rajya Sabha Unstarred Question No. 296 for 19/07/2022 regarding 'Energy generation through new and renewable energy sources'

Incentives being provided as Central Financial Assistance (CFA) for the implementation of major renewable energy schemes/ programmes.

Scheme/ Programmes	Incentive presently eligible as per the Scheme
a) Grid Connected Rooftop Solar PV Power Projects	<p>(i) For Residential Sector</p> <ul style="list-style-type: none"> Central Financial Assistance (CFA) up to 40% for capacity up to 3 kWp CFA up to 20% for capacity beyond 3 kWp and up to 10 kWp CFA up to 20% for GHS/RWA capacity up to 500 kWp (limited to 10 kWp per house and total upto 500 kWp) <p>(ii) For Discoms Incentives up to 10% of project cost depending upon achievements in capacity addition above baseline.</p>
b) Central Public Sector Undertaking (CPSU) Scheme Phase-II (Government Producer Scheme) for grid-connected Solar Photovoltaic (PV) Power Projects by the Government Producers	Viability Gap Funding (VGF) support up to Rs 55 lakhs per MW to the CPSUs/Govt. Organizations entities selected through competitive bidding process.
c) PLI Scheme 'National Programme on High Efficiency Solar PV Modules'	The beneficiaries are eligible for Production Linked Incentive (PLI) on production and sale of solar PV modules. The quantum of PLI eligible for disbursal depends upon: (i) quantum of sales of solar PV modules; (ii) performance parameters (efficiency and temperature coefficient of maximum power) of solar PV modules sold; and (iii) percentage of local value addition in modules sold.
d) Solar Park Scheme	Up to 25 lakhs per Solar park, for preparation of Detailed Project Report (DPR). 20 Lakh per MW or 30% of the project cost, whichever is lower, for development of infrastructure.
e) PM-KUSUM scheme	<p>Component A: Setting up of 10,000 MW of Decentralized Ground/Stilt Mounted Solar Power Plants Benefit available: Procurement Based Incentive (PBI) to the DISCOMs @ 40 paise/kWh or Rs.6.60 lakhs/MW/year, whichever is lower, for buying solar power under this scheme. The PBI is given to the DISCOMs for a period of five years from the Commercial Operation Date of the plant. Therefore, the total PBI that payable to DISCOMs is upto Rs. 33 Lakh per MW.</p> <p>Component B: Installation of 20.00 Lakh Stand-alone Solar Pumps Benefit available: CFA of 30% of the benchmark cost or the tender cost, whichever is lower, of the stand-alone solar agriculture pump is provided. However, in North Eastern States, Sikkim, Jammu & Kashmir, Ladakh, Himachal Pradesh and Uttarakhand, Lakshadweep and A&N Islands, CFA of 50% of the benchmark cost or the tender cost, whichever is lower, of the stand-alone solar pump is provided.</p> <p>Component C: Solarisation of 15 Lakh Grid Connected Agriculture Pumps including through feeder level solarisation Benefit available: (a) Individual Pump Solarization: CFA of 30% of the benchmark cost or the tender cost, whichever is lower, of the solar PV component will be provided. However, in North Eastern States, Sikkim, Jammu & Kashmir, Ladakh, Himachal Pradesh and Uttarakhand, Lakshadweep and A&N Islands, CFA of 50% of the benchmark cost or the tender cost, whichever is lower, of the solar PV component is provided. (b) Feeder Level Solarization: Agriculture feeders can be solarized by the State Government in CAPEX or RESCO mode with CFA of Rs. 1.05 Crore per MW available from MNRE.</p>
f) Green Energy Corridor Scheme (for development of intra-state transmission system for RE projects)	<p>GEC Phase-I: CFA of 40 % of DPR cost or awarded cost whichever is lower.</p> <p>GEC Phase-II: CFA of 33 % of DPR cost or awarded cost whichever is lower.</p>