

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 2593
ANSWERED ON 11/12/2024

GREEN ENERGY CORRIDORS

2593. DR. K SUDHAKAR

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

- (a) the total renewable energy produced in India during the past decade when compared to the previous decade;
- (b) the measures taken/ proposed to be taken and schemes introduced to promote renewable energy sources;
- (c) the steps taken/ being taken by the Government to implement green energy corridors;
- (d) the amount of subsidy allocated and disbursed during the last five years and the current year for adopting renewable energy sources, State/UT-wise especially for Karnataka;
- (e) the details of international commitments in renewable energy production and the targets achieved so far; and
- (f) the extent to which Karnataka has added to the country's renewable energy production capacity?

ANSWER

THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER
(SHRI SHRIPAD YESSO NAIK)

(a) In March 2014, the total installed renewable energy capacity was 76.38 GW. This has increased to 203.22 GW in October 2024.

(b) Government of India has taken several steps and initiatives, including launch of various schemes, to promote and accelerate renewable energy capacity in the country. Details are given at **Annexure-I**.

(c) For setting up of transmission infrastructure for evacuation of RE in the country, Ministry of New and Renewable Energy(MNRE) is implementing Green Energy Corridor scheme in 10 States namely Andhra Pradesh, Gujarat, Rajasthan, Himachal Pradesh, Karnataka, Maharashtra, Madhya Pradesh, Tamil Nadu, Kerala and Uttar Pradesh. There is a provision of Central Grant Assistance of upto 40% of project cost in the Intra State transmission scheme (InSTS). Further, a project for setting up Inter State Transmission System (ISTS) for power evacuation and grid integration of the 13 GW RE projects in Ladakh and dispatch of power from the U.T. of Ladakh to other parts of the country, is also being implemented. Under this project, the Central Grant Assistance is 40%.

(d) No State-wise allocation of funds is made by the Ministry. The Central Financial Assistance (CFA) is released in accordance with the respective scheme guidelines. State-wise details of CFA released during the last five year and the current year i.e. 2019-20 to 2024-25 (upto 31.10.2024), including for the State of Karnataka, under major renewable energy schemes/programmes being implemented by the Ministry are given at **Annexure-II**.

(e) As a part of the Nationally Determined Contribution (NDC) submitted by India to the Secretariat of United Nations Framework Convention on Climate Change (UNFCCC), India has committed to achieve 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.

As of 31.10.2024, the non-fossil fuel based installed capacity has a share of about 46.5% in the total installed generation capacity of the country.

(f) The total renewable energy installed capacity in the State of Karnataka is 22538.34 MW as on 31.10.2024.

**Annexure-I referred to in reply of part (b) of the Lok Sabha Unstarred Question
No. 2593 to be answered on 11.12.2024**

The Government of India has taken several steps and initiatives to promote and accelerate renewable energy capacity in the country to realize the commitment of 500 GW non-fossil energy capacity by 2030. These include, inter-alia, the following:

- Ministry of New & Renewable Energy (MNRE) has issued Bidding Trajectory for issuance of RE power procurement bids of 50 GW/annum by Renewable Energy Implementing Agencies(REIAs) [REIAs: Solar Energy Corporation of India Limited (SECI), NTPC Limited, NHPC Limited, SJVN Limited] from FY 2023-24 to FY 2027-28.
- Foreign Direct Investment (FDI) has been permitted up to 100 percent under the automatic route.
- Inter State Transmission System (ISTS) charges have been waived for inter-state sale of solar and wind power for projects to be commissioned by 30th June 2025, for Green Hydrogen Projects till December 2030 and for offshore wind projects till December 2032.
- To boost RE consumption, Renewable Purchase Obligation (RPO) followed by Renewable Consumption Obligation (RCO) trajectory has been notified till 2029-30. The RCO which is applicable to all designated consumers under the Energy Conservation Act 2001 will attract penalties on non-compliance. RCO also includes specified quantum of consumption from Decentralized Renewable Energy sources.
- Project Development Cell for attracting and facilitating investments has been set up.
- Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Solar, Wind, Wind-Solar Hybrid and Firm & Dispatchable RE (FDRE) projects have been issued.
- Schemes such as Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), PM Surya Ghar Muft Bijli Yojana, National Programme on High Efficiency Solar PV Modules, National Green Hydrogen Mission, Viability Gap Funding (VGF) Scheme for Offshore Wind Energy Projects have been launched.
- Scheme for setting up of Ultra Mega Renewable Energy Parks is being implemented to provide land and transmission to RE developers for installation of RE projects at large scale.
- Laying of new transmission lines and creating new sub-station capacity has been funded under the Green Energy Corridor Scheme for evacuation of renewable power.
- Electricity (Rights of Consumers) Rules, 2020 has been issued for net-metering up to five hundred Kilowatt or up to the electrical sanctioned load, whichever is lower.
- “National Repowering and Life Extension Policy for Wind Power Projects, 2023” has been issued.

- “Strategy for Establishments of Offshore Wind Energy Projects” has been issued indicating a bidding trajectory of 37 GW by 2030 and various business models for project development.
- The Offshore Wind Energy Lease Rules, 2023 have been notified vide Ministry of External Affairs notification dated 19th December 2023, to regulate the grant of lease of offshore areas for development of offshore wind energy projects.
- Standard & Labelling (S&L) programs for Solar Photovoltaic modules and Grid-connected Solar Inverters have been launched.
- To augment transmission infrastructure needed for steep RE trajectory, transmission plan has been prepared till 2030.
- “The Electricity (Late Payment Surcharge and related matters) Rules (LPS rules) have been notified.
- Electricity (Promoting Renewable Energy Through Green Energy Open Access) Rules, 2022, has been notified on 06th June 2022 with objective of ensuring access to affordable, reliable, and sustainable green energy for all. Green Energy Open Access is allowed to any consumer with contract demand of 100 kW or above through single or multiple single connection aggregating Hundred kW or more located in same electricity division of a distribution licensee.
- Green Term Ahead Market (GTAM) has been launched to facilitate sale of Renewable Energy Power through exchanges.
- 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.
- For Electrolyser Manufacturing, contracts have been awarded / are under process for a capacity of 3,000 MW per annum.
- For Green Hydrogen production, capacity has been awarded for 4,12,000 tons per annum.

**Annexure-II referred to in reply of part (d) of the Lok Sabha Unstarred Question
No. 2593 to be answered on 11.12.2024**

**State-wise details of CFA released under major schemes/programmes being implementing by
MNRE during the last five years and the current year**

State-wise details of CFA released during 2019-20										
(Rs. in Crore)										
States/UTs	Solar Parks	Rooftop Solar	PM-KUSUM	CPSU	Solar Off-grid	Small Hydro Power	Green Energy Corridor	Biomass	Waste to Energy	Biogas
A&N Islands										
Andhra Pradesh	94.58	2.1			0.52		24.34			3.73
Arunachal Pradesh					17.01	7.06				
Assam		17.3			15.75					0.41
Bihar		1			0.37					
Chandigarh		5.1								
Chhattisgarh		2.7								2.49
Dadra & Nagar Haveli and Daman & Diu										
Delhi		0.6								0.23
Goa				0.50						
Gujarat		77.5		2.50		46.43				
Haryana		13.1								
Himachal Pradesh					8.09	2.55	22.16			
Jammu & Kashmir		6.7			10.00					
Jharkhand		2.3			8.55					
Karnataka	45.45				10.06	2.39				3.68
Kerala						2.10				1.46
Ladakh						0.58				
Lakshadweep										
Madhya Pradesh	30.00		71.07		18.75					5.21
Maharashtra					34.77		6.11			10.87
Manipur		4.1			12.61	0.10				
Meghalaya		3.5				0.68				
Mizoram	0.10				15.23	0.88				
Nagaland					13.45	3.11				
Odisha					10.29					0.74
Puducherry		0.8								
Punjab		5.5			12.23					3.55
Rajasthan	57.20		68.98		19.14					0.10
Sikkim						0.05				
Tamil Nadu			11.21		7.98			4.50		
Telangana		20.2								
Tripura					12.65					0.33
Uttar Pradesh					57.05				0.83	
Uttarakhand		7.7			10.87	11.40				1.82
West Bengal		13.4								
Others*		107.1			8.50					
Total	227.34	290.7	151.26	3.00	303.87	77.33	52.61	4.50	0.83	34.62

*SECI/REC/PSUs/Govt Deptts

State-wise details of CFA released during 2020-21

(Rs. in Crore)

States/UTs	Solar Parks	Rooftop Solar	PM-KUSUM	CPSU	Solar Off-grid	Small Hydro Power	Green Energy Corridor	Biomass	Waste to Energy	Biogas
A&N Islands		0.4								0.06
Andhra Pradesh		33.1			0.10	8.00	23.53			5.50
Arunachal Pradesh					19.76	5.66				
Assam										3.10
Bihar		1.5								
Chandigarh		0.8								
Chhattisgarh						2.50				
Dadra & Nagar Haveli and Daman & Diu										
Delhi		22.2		1.05						
Goa										0.05
Gujarat		52.3	3.95	26.60			24.57		4.72	0.17
Haryana		4.1	51.33							
Himachal Pradesh		20.6	2.80			2.00	48.54			
Jammu & Kashmir		4.9				9.31				
Jharkhand			16.05							
Karnataka			1.26		5.03		57.35	2.25		4.63
Kerala	6.74	11.7								0.65
Ladakh										
Lakshadweep										
Madhya Pradesh		31.3			12.94					5.03
Maharashtra		58.3			17.85	5.00		3.97	2.53	3.73
Manipur		4	0.34		18.67					
Meghalaya			0.28		0.85					0.10
Mizoram					19.73	0.60				
Nagaland					10.69					
Odisha			0.77			4.75				0.35
Puducherry										
Punjab		6.9	8.28		0.41					3.08
Rajasthan	61.44	22	52.06	485.10			5.53			0.22
Sikkim										
Tamil Nadu		4.4		80.50						2.56
Telangana		20.7		27.00	2.13				0.32	
Tripura		0.5	3.96		14.07					
Uttar Pradesh		19.9	15.34		18.30	0.05				0.35
Uttarakhand		4.6			2.94	2.91				0.46
West Bengal										
Others*		142.2			3.75					
Total	68.18	466.4	156.44	620.25	147.22	40.78	159.52	6.22	7.57	30.04

*SECI/REC/PSUs/Govt Deptts

State-wise details of CFA released during 2021-22

(Rs. in Crore)

State	Solar Parks	Rooftop Solar	PM-KUSUM	CPSU	Solar Off-grid	Small Hydro Power	Green Energy Corridor	Biomass	Waste to Energy	Biogas
A&N Islands					37.97					
Andhra Pradesh		2.1			0.87			0.99	50.55	0.88
Arunachal Pradesh					10.54	0.82				
Assam		0.4			8.76					0.31
Bihar								1.75		0.15
Chandigarh										
Chhattisgarh		1.2								1.97
Dadra & Nagar Haveli and Daman & Diu										
Delhi		26.2								
Goa		3.6								
Gujarat	28.00	1214.7				6.65			13.96	1.29
Haryana		7.7	161.12					1.05	5.05	
Himachal Pradesh		13.8			19.68					
Jammu & Kashmir		20.2			22.08	9.50				
Jharkhand		6.6								
Karnataka	40.00							2.70	0.93	0.34
Kerala		36.3				0.35		0.79		0.45
Ladakh					12.41	6.00				
Lakshadweep										
Madhya Pradesh	50.84						73.16	1.27		1.66
Maharashtra		63.1	9.60			3.00		0.75	2.47	0.18
Manipur		4.7			10.22					
Meghalaya										
Mizoram	0.48				1.82	1.41				
Nagaland					5.86					
Odisha					5.13			0.13		
Puducherry										
Punjab		16.6	23.70							
Rajasthan	87.16	10.4	153.49				2.25			
Sikkim					0.03					
Tamil Nadu			20.30				59.26	0.02		
Telangana		16.1		27.37	2.28			1.20	2.02	
Tripura			7.36		9.52					
Uttar Pradesh	0.85	5.9	13.73		0.56			3.83	0.04	
Uttarakhand		10.6			11.66	0.28				
West Bengal									0.02	
Others*		22.1	16.75		0.10					
Total	207.33	1482.3	406.05	27.37	159.49	28.01	134.67	14.48	75.04	7.23

*SECI/REC/PSUs/Govt Deptts

State-wise details of CFA released during 2022-23

(Rs. in Crore)

State	Solar Parks	Rooftop Solar	PM KUSUM	CPSU	Solar Off-grid	Small Hydro Power	Green Energy Corridor	Biomass	Waste to Energy	Biogas
A&N Islands										
Andhra Pradesh		5.6							50.47	
Arunachal Pradesh			0.82		8.49	1.83				
Assam		4.9			10.86					0.11
Bihar				1.75						
Chandigarh		2								
Chhattisgarh		3.3			1.12					3.70
Dadra & Nagar Haveli and Daman & Diu				1.5						
Delhi		10.8								
Goa										
Gujarat	522.17	1040.2	7.83			3.19	27.97		1.38	
Haryana		14.7	137.95						3.53	
Himachal Pradesh		11.7	5.85			0.41	4.02			
Jammu & Kashmir		1.2	15.69		11.04	1.50				
Jharkhand		3	20.04							
Karnataka		9.9					17.50			0.12
Kerala	2.52	102.5				1.63				
Ladakh						8.80				
Lakshadweep										
Madhya Pradesh	109.36	35		32.25			96.77			0.29
Maharashtra	12	55.7	247.60				5.08	1.75		3.04
Manipur			0.23		5.86					
Meghalaya										
Mizoram	1.28	0.8			6.37					
Nagaland			0.20		0.67					
Odisha		0.6			8.57			0.40		0.47
Puducherry										
Punjab		45.8	31.11					1.73		2.11
Rajasthan		96.3	247.63				10.85			0.10
Sikkim					0.77	0.60				
Tamil Nadu		20.5					87.81	1.03		0.34
Telangana		43.9							0.33	
Tripura			0.12		2.60					
Uttar Pradesh	28.78	2.4	82.30						1.82	
Uttarakhand		1.7	4.00							
West Bengal		10.2							0.07	
Others*		35.9								
Total	676.11	1558.6	801.37	35.5	56.35	17.96	250.00	4.91	57.60	10.28

*SECI/REC/PSUs/Govt Deptts

State-wise details of CFA released during 2023-24										
										(Rs. in Crore)
State	Solar Parks	Rooftop Solar	PM KUSUM	CPSU	Solar Off-grid	Small Hydro Power	Green Energy Corridor	Biomass	Waste to Energy	Biogas
A&N Islands					1.75					
Andhra Pradesh		3.0		22.45			47.54		2.74	
Arunachal Pradesh			2.12							0.39
Assam		2.0		6.80						1.26
Bihar		9.3								
Chandigarh		3.3								
Chhattisgarh	14.30	1.2			6.23					0.95
Dadra & Nagar Haveli and Daman & Diu										0.11
Delhi		4.5								0.23
Goa									3.00	
Gujarat	505.13	639.1	28.72	145.91		1.58	23.85			8.14
Haryana		13.5	429.78			0.70				
Himachal Pradesh		2.4			5.00	0.60	40.50			
Jammu & Kashmir										
Jharkhand			2.36							
Karnataka		7.9	2.38	112.35			147.12		6.61	6.77
Kerala		104.2	28.53		0.74	0.45				
Ladakh						6.57				
Lakshadweep										
Madhya Pradesh	59.26	3.8	0.80				22.26		0.84	6.97
Maharashtra		182.0	330.21			1.00		0.07	0.56	13.02
Manipur		0.9	0.17							0.22
Meghalaya			0.31		1.20	0.47				0.22
Mizoram					6.90	2.09				
Nagaland			0.18							0.18
Odisha		2.8	7.69							0.32
Puducherry										
Punjab		12.2	5.41							2.34
Rajasthan	97.51	83.0	49.41	692.07			53.73	1.97		0.35
Sikkim										
Tamil Nadu		9.6	2.59	80.97	3.63				2.36	0.47
Telangana		23.2		27.39	1.03					0.29
Tripura			17.81		0.17					0.70
Uttar Pradesh	39.30	7.2	92.13				78.15		4.71	1.84
Uttarakhand					7.67					0.77
West Bengal								2.14		
Others*		443.5								
Total	715.50	1558.6	1000.60	1087.94	34.32	13.46	413.14	4.18	20.82	45.54

*SECI/REC/PSUs/Govt Deptts

State-wise details of CFA released during 2024-25 (till 31.10.2024)

(Rs. in Crore)

State	Solar Parks	PM Surya Ghar	PM KUSUM	CPSU	Solar Off-grid	Small Hydro Power	Green Energy Corridor	Biomass	Waste to Energy	Biogas
A&N Islands		0								
Andhra Pradesh		16.20								
Arunachal Pradesh		0								
Assam		8.19								
Bihar		6.75								
Chandigarh		3.89								
Chhattisgarh	2.80	1.57								
Dadra & Nagar Haveli and Daman & Diu		0.13								
Delhi		1.86								
Goa		1.02								
Gujarat		1493.37	5.14	342.20					1.02	
Haryana		36.34	103.34					2.04		
Himachal Pradesh		2.17	3.13							
Jammu & Kashmir		36.98			1.83					
Jharkhand		0.08	49.62		3.57					
Karnataka		16.34	81.25						6.41	4.56
Kerala		232.99	0.07			18.71				
Ladakh		0.26								
Lakshadweep		0.11								
Madhya Pradesh	16.03	88.19								1.98
Maharashtra		369.26	741.81						10.20	11.90
Manipur		0.11								
Meghalaya		0.04								0.15
Mizoram	2.24	0.04				0.16				
Nagaland		0.01	0.16							
Odisha		3.13								0.22
Puducherry		1.83								
Punjab		21.36	13.08					7.60		1.45
Rajasthan	48.28	83.66	280.01	211.30						
Sikkim		0								
Tamil Nadu		57.33	0.12	1.76						0.25
Telangana		10.70		1.30	0.44				5.37	0.85
Tripura		0.24								0.91
Uttar Pradesh	94.28	223.17	35.46				171.29	0.51	21.69	0.58
Uttarakhand		35.68	12.55						0.20	1.07
West Bengal		0								
Others*		311.99								2.25
Total	163.63	3064.99	1325.74	556.56	5.84	18.87	171.29	10.15	44.89	26.17

*SECI/REC/PSUs/Govt Deptts