

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 1579
ANSWERED ON 31/07/2024

NEW AND RENEWABLE ENERGY PROJECTS IN KARNATAKA

1579. SHRI KOTA SRINIVASA POOJARY

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

- (a) whether the Government proposes to set up power projects based on new and renewable energy sources in Karnataka;
- (b) if so, the details of the places where the said power projects including the wind power/solar power projects are being set up in Karnataka;
- (c) the details of Central financial assistance being provided for setting up of new power projects based on new and renewable energy sources in Karnataka; and
- (d) the number of operational/ongoing and pending projects related to new and renewable energy in Karnataka?

ANSWER

THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER

(SHRI SHRIPAD YESSO NAIK)

(a) to (d) Ministry of New and Renewable Energy (MNRE) has been implementing various schemes and programmes to set up renewable energy (RE) projects including the wind power/solar power projects in the entire country, including the State of Karnataka. The details of Central Finance Assistance being provided under the major ongoing schemes/ programmes of MNRE are given in **Annexure-I**.

As informed by Karnataka Renewable Energy Development Limited (KREDL), the details of Solar and Wind Projects being set up and operational in the State of Karnataka are given in **Annexure II & III**. KREDL has further intimated the following ongoing/New RE projects in the State:

- 2 MW Solar with 4.5 MWh Battery Storage Project.
- 100 MW Solar with 100 MWhr BESS in Kalaburgi District under Tariff Based Competitive Bidding (TBCB) process.
- Pavagada Solar Park Augmentation by 300 MW.
- Ryapte RE Park in two phases (1GW+1GW) Pavagada tq, Tumakuru District.
- Madhugiri 500 MW Solar Park in Madhugiri taluk, Tumakur District in Lieu of Bidar Park.

**Annexure-I referred to in reply of part (a) to (d) of the Lok Sabha Unstarred Question
No. 1579 to be answered on 31.07.2024**

**Incentives being provided as Central Financial Assistance (CFA) for the implementation of
major Renewable Energy Schemes/Programmes**

Scheme/Programmes	Incentives presently available as per the Scheme			
a) PM-Surya Ghar: Muft Bijli Yojana for installing rooftop solar for 1 Crore households.	The details of the CFA pattern for the component “CFA to Residential Consumers” under this scheme are as follows:			
	S. No.	Type of Residential Segment	CFA	CFA (Special Category States/UTs)
	1	Residential Sector (first 2 kWp of Rooftop Solar (RTS) capacity or part thereof)	Rs.30,000/kWp	Rs.33,000/kWp
	2	Residential Sector (with additional RTS capacity of 1 kWp or part thereof)	Rs.18,000/kWp	Rs.19,800/kWp
	3	Residential Sector (additional RTS capacity beyond 3 kWp)	No additional CFA	No additional CFA
	4	Group Housing Societies/ Residential Welfare Associations (GHS/RWA) etc. for common facilities including EV charging up to 500 kWp (@ 3 kWp per house)	Rs.18,000/kWp	Rs.19,800/kWp
b) Central Public Sector Undertaking (CPSU) Scheme Phase-II (Government Producer Scheme) for setting up grid-connected Solar Photovoltaic (PV) Power Projects by Government Producers, using domestically manufactured solar PV cells and modules, with Viability Gap Funding (VGF) support, for self-use or use by Government/ Government entities, either	Viability Gap Funding (VGF) support up to Rs. 55 lakhs per MW to the CPSUs/Govt. Organizations entities selected through competitive bidding process.			

Scheme/Programmes	Incentives presently available as per the Scheme
directly or through Distribution Companies	
c) 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 (Tranche - I & II)	<p>The beneficiaries are eligible for Production Linked Incentive (PLI) on production and sale of solar PV modules. The quantum of PLI eligible for disbursement depends upon:</p> <ul style="list-style-type: none"> (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) 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, power evacuation system water facilities are developed with all statutory clearances/approvals.	<p>(a) Up to Rs. 25 lakhs per Solar Park, for preparation of Detailed Project Report (DPR).</p> <p>(b) Rs. 20 lakh per MW or 30% of the project cost, whichever is lower, for development of infrastructure.</p>
e) PM-KUSUM Scheme to promote small Grid Connected Solar Energy Power Plants, stand-alone solar powered agricultural pumps and solarization of existing grid connected agricultural pumps.	<p>Component A: Setting up of 10,000 MW of Decentralized Ground/Stilt Mounted Solar Power Plants</p> <p>Benefits 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 payable to DISCOMs is up to Rs. 33 Lakh per MW.</p> <p>Component B: Installation of 14 Lakh Stand-alone Solar Pumps</p> <p>Benefits 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, 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. Component B can also be implemented without State share of 30%. The Central Financial Assistance will continue to remain 30% and rest 70% will be borne by the farmer.</p> <p>Component C: Solarisation of 35 Lakh Grid Connected Agriculture Pumps including through Feeder Level Solarisation</p> <p>Benefits available:</p> <p>(a) Individual Pump Solarization (IPS): CFA of 30% of the benchmark cost or the tender cost, whichever is lower, of the solar</p>

Scheme/Programmes	Incentives presently available as per the Scheme
	<p>PV component will be provided. However, in North Eastern States, Sikkim, Jammu & Kashmir, Ladakh, Himachal Pradesh, 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. Component C (IPS) can also be implemented without State share of 30%. The Central Financial Assistance will continue to remain 30% and rest 70% will be borne by the farmer.</p> <p>(b) Feeder Level Solarization (FLS): Agriculture feeders can be solarized by the State Government in CAPEX or RESCO mode with CFA of Rs. 1.05 Crore per MW as provided by MNRE. However, in North Eastern States, Sikkim, Jammu & Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Lakshadweep and Andaman & Nicobar Island, CFA of Rs. 1.75 crore per MW is provided.</p>
<p>f) Green Energy Corridor Scheme (for development of intra-State transmission system for RE projects)</p>	<p>(a) GEC Phase-I: CFA of 40% of DPR cost or awarded cost whichever is lower.</p> <p>(b) GEC Phase-II: CFA of 33% of DPR cost or awarded cost whichever is lower.</p>
<p>g) Biomass Programme: Scheme to Support Manufacturing of Briquettes & Pellets and Promotion of Biomass (non-bagasse) based cogeneration in Industries.</p>	<p>(a) For Briquette manufacturing plants: Rs. 9 Lakhs/MTPH (metric ton/hour) [Maximum CFA- Rs. 45 Lakh per project]</p> <p>(b) For Non-Torrefied Pellet manufacturing plant: Rs. 21 lakhs/MTPH production capacity or 30% of the capital cost considered for plant and machinery of 1 MTPH plant, whichever is lower (Maximum Rs. 105 lakhs per project)</p> <p>(c) For Torrefied Pellet manufacturing plant: Rs. 42 lakhs/MTPH production capacity or 30% of the capital cost considered for plant and machinery of 1 MTPH plant, whichever is lower (Maximum Rs. 210 lakhs per project)</p> <p>(d) For Non-Bagasse Cogeneration Projects: Rs. 40 Lakhs/MW (Maximum CFA- Rs. 5 Crore per project)</p>
<p>h) Waste to Energy Programme: Programme on Energy from Urban, industrial and Agricultural Wastes/Residues</p>	<p>(a) For Biogas generation: Rs. 0.25 crore per 12000 cum/day (Maximum CFA- Rs.5 crore/project)</p> <p>(b) For BioCNG/Enriched Biogas/Compressed Biogas generation: (Maximum CFA- Rs.10 crore/project)</p> <p>(i) BioCNG generation from new Biogas plant – Rs. 4 Crore per 4800 Kg/day;</p> <p>(ii) BioCNG generation from existing Biogas plant - Rs 3 Crore per 4800 Kg/day;</p> <p>(c) For Power generation based on Biogas (Maximum CFA - Rs. 5 crore/project):</p> <p>(i) Power generation from new biogas plant: Rs. 0.75 crore per MW</p>

Scheme/Programmes	Incentives presently available as per the Scheme
	<p>(ii) Power generation from existing biogas plant: Rs. 0.5 crore per MW</p> <p>(d) For Power generation based on bio & agro-industrial waste (other than Municipal Solid Waste (MSW) through incineration process): Rs.0.40 crore/MW (Maximum CFA - Rs.5.00 Crore/Project)</p> <p>(e) For Biomass Gasifier for electricity/ thermal applications:</p> <p>i) Rs. 2,500 per kW_e with dual fuel engines for electrical application</p> <p>ii) Rs. 15,000 per kW_e with 100% gas engines for electrical application</p> <p>iii) Rs. 2 lakh per 300 kW_{th} for thermal applications.</p> <p>Note:</p> <ul style="list-style-type: none"> • In case, the Waste to Energy plants are set up in Special Category States (NE Region, Sikkim, Himachal Pradesh and Uttarakhand), Jammu & Kashmir, Ladakh, Lakshadweep and Andaman & Nicobar Islands, the eligible CFA would be 20% higher than Standard CFA pattern given above. • Biogas/BioCNG/Power (biogas based) generation plants based on cattle dung as main feedstock set up by Gaushalas independently or through joint ventures/partnerships will be eligible for 20% higher CFA than Standard CFA pattern given above. These Gaushalas (Shelters) should be registered with the respective State Government.
i) Biogas Programme: for promotion of family type Biogas plants	<p>(a) Rs. 9800/- to Rs. 70,400/- per plant based on size of the plant in cubic meter for small biogas plants (1-25 cubic meter/day plant capacity)</p> <p>(b) Rs. 35,000/- to Rs. 45,000/- per kilowatt for power generation and Rs. 17,500 /- to Rs. 22,500/- per kilowatt equivalent for thermal applications (25 - 2500 cubic meter/day plant capacity)</p> <p>The eligible CFA would be 20% higher than Standard CFA in for North Eastern Region (NER), Island, Registered Gaushalas and SC/ST beneficiaries</p>
j) Renewable Energy Research and Technology Development (RE-RTD) Programme.	The Ministry encourages research and technology development proposals in collaboration with the industry and provides up to 100% financial support to Government/non-profit research organizations and up to 70% to Industry, Start-ups, Private Institutes, Entrepreneurs and Manufacturing units.
k) National Green Hydrogen Mission launched with aim to make India a Global Hub for production, utilization and export of Green	The Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme guidelines under the Mission have been notified for Electrolyser Manufacturing and Mode-1, Mode 2A and Mode 2B for Green Hydrogen Production.

Scheme/Programmes	Incentives presently available as per the Scheme
Hydrogen and its derivatives.	<p>(a) SIGHT programme for Electrolyser manufacturing has an allocation of Rs. 4440 crore by 2029-30. The incentives start from Rs. 4440 per kW in the first year and end at Rs. 1480 per kW in the fifth year.</p> <p>SIGHT programme for Green Hydrogen production (Mode-1) provides incentives for Green Hydrogen production, which are capped at Rs. 50/kg, Rs. 40/kg and Rs. 30/kg for the first, second and third year respectively.</p> <p>For Mode 2A and 2B, the incentives are fixed at Rs. 50/kg, Rs. 40/kg and Rs. 30/kg for the first, second and third year respectively</p> <p>(b) Pilot projects for projects in Mobility sector have an outlay of Rs. 496 crore.</p> <p>(c) Pilot projects in Shipping sector have an outlay of Rs. 115 crore.</p> <p>(d) Pilot projects in Steel sector have an outlay of Rs. 455 crore.</p> <p>(e) Hydrogen hubs have been allocated an outlay of Rs. 200 crore.</p> <p>(f) The R&D program of the Mission has a budget of Rs. 400 crore.</p> <p>(g) Skill Development component of the Mission has an outlay of Rs. 35 crore.</p> <p>(h) The Testing component of the Mission has an outlay of Rs. 200 crore.</p>

**Annexure-II referred to in reply of part (a) to (d) of the Lok Sabha Unstarred Question
No. 1579 to be answered on 31.07.2024**

District-wise Solar Power Projects Allotted and Commissioned under various Categories in Karnataka (as of 30.06.2024)					
S.No.	District	Allotted		Commissioned	
		Projects (in Nos.)	Capacity (in MW)	Projects (in Nos.)	Capacity (in MW)
1	Bagalkote	21	320.52	17	169.52
2	Bangalore Rural	6	35.39	5	35.00
3	Belagavi	41	649.96	30	335.60
4	Bellary	41	758.40	31	527.80
5	Bengaluru Urban	2	2.00	1	1.00
6	Bidar	30	546.20	26	440.00
7	Chamarajanagara	22	316.00	17	268.60
8	Chikkaballapura	13	128.00	10	112.00
9	Chikkamangaluru	0	0.00	0	0.00
10	Chitradurga	93	1328.00	74	809.00
11	Dakshina Kannada	2	5.00	0	0.00
12	Davanagere	19	218.00	13	196.00
13	Dharawada	7	155.50	4	58.00
14	Gadag	19	764.00	12	228.00
15	Hassan	4	56.50	4	50.70
16	Haveri	8	145.00	7	95.00
17	Kalaburgi	22	382.67	14	331.30
18	Kodagu	0	0.00	0	0.00
19	Kolar	11	121.00	11	121.00
20	Koppal	47	865.90	35	474.10
21	Mandya	8	63.00	7	59.00
22	Mysore	11	125.50	7	65.50
23	Raichur	28	500.92	23	408.18
24	Ramanagar	11	100.70	10	97.50
25	Shivamogga	4	24.90	2	4.50
26	Tumkur	111	3041.40	99	2682.78
27	Udupi	0	0.00	0	0.00
28	Uttara Kannada	0	0.00	0	0.00
29	Vijayanagar	4	110.50	1	47.00
30	Vijayapura	54	542.63	30	383.63
31	Yadgiri	19	494.00	10	192.50
	Total	658	11801.58	500	8193.20

**Annexure-III referred to in reply of part (a) to (d) of the Lok Sabha Unstarred Question
No. 1579 to be answered on 31.07.2024**

District-wise Commissioned and yet to be Commissioned Wind Power Projects in Karnataka (as of 30.06.2024)					
S.No.	District	Capacity Commissioned (in MW)		Yet to be Commissioned Capacity (in MW)	
		InSTS*	ISTS#	InSTS	ISTS
1	Bagalkote	98.70	0	48.05	183.00
2	Ballari	223.40	73.50	33.93	463.70
3	Bangalore Rural	0	0	0	0
4	Belagavi	674.60	0	210.26	0
5	Bengaluru	0	0	0.50	0
6	Bidar	0	0	33.20	715.30
7	Chamrajanagara	0	0	0	0
8	Chikkabalapura	0	0	0	0
9	Chikmagaluru	0	0	17.65	0
10	Chitradurga	681.31	84	89.47	319.40
11	Dakshina Kannada	0	0	0	0
12	Davanagere	551.70	105.00	350.43	122.90
13	Dharawada	87.20	41.58	0	573.90
14	Gadag	693.81	551.89	453.47	3543.31
15	Hassan	127.25	0	0	0
16	Haveri	153.10	0	0	0
17	Kalaburgi	60.00	0	625.50	0
18	Karwar (U.K)	0	0	0	0
19	Kolar	0	0	0	0
20	Koppal	356.57	266.81	83.58	3979.58
21	Madikere	0.55	0	0	0
22	Mandya	0	0	0	0
23	Mysore	0	0	0	0
24	Raichur	310.30	0	399.35	635.00
25	Ramnagar	0	0	0	0
26	Shimoga	88.60	0	70.60	0
27	Tumkur	56.00	0	37.7	25.00
28	Udupi	0	0	0	0
29	Vijayanagar	151.90	37.80	0	343.20
30	Vijayapura	1055.60	0	121.55	923.90
31	Yadgir	60.00	0	25.00	0
Total		5430.6	1160.6	2600.23	11828.18
Grand Total		6591.16		14428.41	

*InSTS – Intra State Transmission System

#ISTS – Inter State Transmission System