

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 1542
ANSWERED ON 15.12.2022

INVESTMENT IN NON-CONVENTIONAL ENERGY SECTOR

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

- (a) the details of investment in private and public arena in non-conventional energy sector during the last three years and the current year, State/UT-wise;
- (b) whether the Government has given any subsidy/incentive to the sector;
- (c) if so, the details thereof; and
- (d) the details of power generated in the country through non-conventional energy sources during the said period, State/UT-wise?

ANSWER

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

- (a) As per information provided by Indian Renewable Energy Development Agency (IREDA), the Investment trends in Indian Renewable Energy Sector during the last four calendar years are as follows:

Year	Amount (Billion US\$)
2021	11.3
2020	6.6
2019	9.6
2018	10.6

(Source: as per Global Status Report – Renewable 2022 published by REN21)

- (b)&(c) 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-I**.

- (d) The state-wise & source-wise details of power generation from various renewable energy sources (including large hydro) during last three years & current year i.e. 2019-20 & 2022-23 (upto October 2022) are given in **Annexure-II**.

Annexure-I referred to in reply to part (b) & (c) of Lok Sabha Unstarred Question No. 1542 for 15/12/2022 regarding 'Investment in Non-Conventional Energy Sector'

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	(i) For Residential Sector <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) (ii) For Discoms Incentives up to 10% of project cost depending upon achievements in capacity addition above baseline.
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 disbursement 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:</p> <p>(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.</p> <p>(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>

Scheme/ Programmes	Incentive presently eligible as per the Scheme
f) Green Energy Corridor Scheme (for development of intra-state transmission system for RE projects)	GEC Phase-I: CFA of 40 % of DPR cost or awarded cost whichever is lower. GEC Phase-II: CFA of 33 % of DPR cost or awarded cost whichever is lower.
g) Biomass Programme	(a) For Briquette/Pellet manufacturing plants: Rs. 9.00 Lakhs/ TPH (Maximum CFA- Rs. 45.00 Lakh per project) (b) For Non-Bagasse Cogeneration Projects: Rs. 40 Lakhs/ Megawatt (Maximum CFA- Rs. 5.00 Crore per project)
h) Waste to Energy Programme	<p>(a) for Biogas generation: Rs 0.25 crore per 12000 cum/day (Maximum CFA- Rs.5.00 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 4.0 Crore per 4800 Kg/day;</p> <p>(ii) BioCNG generation from existing Biogas plant- Rs 3.0 Crore per 4800 Kg/day;</p> <p>(c) for Power generation based on Biogas (Maximum CFA- Rs. 5.00 crore/project):-</p> <p>(i) Power generation from new biogas plant: Rs 0.75 Crore per MW</p> <p>(ii) Power generation from existing biogas plant: Rs 0.5 crore / MW</p> <p>(d) for Power generation based on bio & agro-industrial waste (other than 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	<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>

Annexure-II referred to in reply to part (d) of Lok Sabha Unstarred Question No. 1542 for 15/12/2022 regarding 'Investment in Non-Conventional Energy Sector'

State-wise details of power generation from various renewable energy sources (including large hydro) during last three year & current year i.e. 2019-20 & 2022-23 (upto October 2022)

All India RE Generation (Including Large Hydro) Units(MUs)]				[in Million
Name of State/UT	2019-20	2020-21	2021-22	2022-23 (upto Oct. 2022)
Chandigarh	13.33	10.16	14.19	7.83
Delhi	423.67	426.70	458.73	309.67
Haryana	733.50	760.75	1135.42	941.73
HP	43002.12	39633.77	38503.40	33000.92
J & K	18537.25	17441.97	17489.83	13558.10
Ladakh	270.28	376.21	405.98	322.92
Punjab	7862.91	7611.50	6951.88	4871.00
Rajasthan	14938.24	16986.01	24581.15	24615.47
Uttar Pradesh	6216.68	7320.13	7731.62	3479.16
Uttarakhand	15748.48	14829.34	15204.45	11991.42
Chhattisgarh	1344.66	2053.08	2342.34	1224.59
Gujarat	23131.61	22210.75	27461.04	22932.34
Madhya Pradesh	14579.62	14995.19	13403.45	10850.35
Maharashtra	19866.37	19781.13	21853.02	13341.01
Dadra and Nagar Haveli	6.19	11.96	49.16	
Daman & Diu	21.83	40.04	47.67	23.78
Goa	0.82	1.46	16.82	10.28
Andhra Pradesh	17006.63	17413.95	18776.44	13334.46
Telangana	11301.27	10578.75	12972.52	8879.42
Karnataka	39662.69	40437.68	42570.74	25163.96
Kerala	6258.78	7720.51	10932.06	6693.80
Tamil Nadu	24529.13	26871.76	29273.35	23617.87
Lakshadweep	0.66	0.45	0.30	0.06
Puducherry	4.14	6.39	12.24	7.14
Andaman Nicobar	17.30	39.51	34.77	23.44
Bihar	358.68	226.61	239.83	111.51
Jharkhand	175.13	249.56	576.67	283.43
Orissa	7511.97	7737.74	6311.73	4540.58
Sikkim	11087.98	10935.46	11506.25	9890.13
West Bengal	4391.42	4742.98	5034.93	3574.19
Arunachal Pradesh	1788.70	3453.44	4163.41	3731.63
Assam	1350.45	322.38	798.34	517.15
Manipur	370.79	629.33	462.20	399.58
Meghalaya	1081.02	1208.78	886.50	858.12
Mizoram	227.02	192.37	165.53	161.81
Nagaland	256.72	273.63	164.02	223.73
Tripura	28.10	15.62	7.62	3.75
All India Total	294106.14	297547.05	322539.6	243496.33

(Source : CEA)