

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 3769
ANSWERED ON 18/12/2024

NET ZERO EMISSION

3769. SHRI MUKESHKUMAR CHANDRAKAANT DALAL
SHRI OMPRAKASH BHUPALSINH ALIAS PAVAN RAJENIMBALKAR
SHRI DINESHBHAI MAKWANA
SHRI SANJAY HARIBHAU JADHAV
SHRI SHRIRANG APPA CHANDU BARNE

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

- (a) whether the Government has fixed the target of fifty percent cumulative electric power installed electricity capacity from non-fossil fuel-based energy resources by 2030 and achieving net zero emission by 2070;
- (b) if so, the details thereof along with the manner in which India's commitment to achieve net zero emission affect the investment in the renewable energy sector;
- (c) whether it is imperative that domestically available renewable energy alternatives are optimally utilised to attain the ambitious renewable energy targets;
- (d) if so, the action plan prepared or implemented by the Government in this regard;
- (e) whether the Government has provided any financial assistance under the National Bio-energy Programme to the States to achieve the renewable energy production target; and
- (f) if so, the details thereof, State-wise particularly in Maharashtra?

ANSWER

THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER

(SHRI SHRIPAD YESSO NAIK)

(a) & (b) As part of the Nationally Determined Contribution submitted by India to the United Nations Framework Convention on Climate Change (UNFCCC) secretariat, the Ministry of New and Renewable Energy (MNRE) is committed to achieving about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, as a significant step forward towards India's long-term goal of reaching net-zero by 2070.

MNRE is working towards achieving the Panchamrit goal, announced by Hon'ble Prime Minister at UNFCCC COP-26, of achieving 500 GW of non-fossil fuel based installed capacity by 2030.

Further, to support India's commitment to achieving net zero emissions by 2070, NITI Aayog has established 6 inter-ministerial working groups to develop energy transition Roadmap for net-zero covering key sectors such as power, transport, industry, agriculture, critical minerals, macroeconomic implications of the transition, climate finance, and the social aspects of energy transition.

It has been estimated that investment of approx. Rs. 30 lakh crore would be made in the Renewable Energy sector by 2030.

(c) & (d) India has abundant potential of domestically available renewable energy alternatives such as solar, wind, hydro and bio-energy.

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, as given at **Annexure-I**.

As on 30.11.2024, a total of 205.52 GW renewable energy capacity has been installed in the country, which includes 94.17 GW solar power, 47.96 GW wind power, 11.34 GW bio-power and 52.05 GW hydro power.

(e) & (f) Under National Bio-energy Programme, Government of India provides Central Financial Assistance (CFA) to the developers/State Implementing Agencies as given at **Annexure-II**.

State-wise details of the CFA released under the National Bio-energy Programme, including for the State of Maharashtra, are given at **Annexure-III**.

**Annexure-I referred to in reply of parts (c) & (d) of the Lok Sabha Unstarred Question
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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 parts (e) & (f) of the Lok Sabha Unstarred Question
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**Incentives being provided as Central Financial Assistance (CFA)
under National Bio-energy Programme**

Programme	Incentives presently available as per the Scheme
a) Biomass Programme	<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-Bagasse Cogeneration Projects: Rs. 40 Lakhs/MW (on installed capacity) (Maximum CFA- Rs. 5 Crore per project)</p> <p>(c) For pellet plants whose applications have been received before 16.07.2024: Rs. 9 Lakhs/MTPH (metric ton/hour) [Maximum CFA- Rs. 45 Lakh per project]</p> <p>(d) For pellet plants whose applications have been received on or after 16.07.2024 :</p> <p>i. 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>ii. 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>
b) Waste to Energy Programme	<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> <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>

Programme	Incentives presently available as per the Scheme
	<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.
c) 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> <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>

Annexure-III

**Annexure-III referred to in reply of parts (e) & (f) of the Lok Sabha Unstarred Question
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State-wise details of CFA released under the National Bio-energy Programme**(Rs. in Crore)**

S. No.	State/ UT	CFA Released
1	Andhra Pradesh	53.21
2	Arunachal Pradesh	0.39
3	Assam	1.79
4	Bihar	0.00
5	Chattisgarh	4.64
6	Gujarat	10.17
7	Goa	3.03
8	Haryana	5.54
9	Himachal Pradesh	0.00
10	Jammu & Kashmir	0.00
11	Jharkhand	0.00
12	Karnataka	24.82
13	Kerala	0.00
14	Ladakh	0.00
15	Madhya Pradesh	10.07
16	Maharashtra	44.66
17	Manipur	0.22
18	Meghalaya	0.37
19	Mizoram	0.00
20	Nagaland	0.18
21	Odisha	0.91
22	Punjab	15.10
23	Rajasthan	2.67
24	Sikkim	0.00
25	Tamil Nadu	3.42
26	Telangana	6.84
27	Tripura	1.61
28	Uttar Pradesh	31.24
29	Uttrakhand	2.03
30	West Bengal	2.17
31	Andaman & Nicobar	0.00
32	Chandigarh	0.00
33	Dadar & Nagar Haveli and Daman & Diu	0.11
34	Delhi	0.50
35	Lakshadweep	0.00
36	Puducherry	0.00
37	KVIC,Mumbai*	3.24
	Total	228.93

*KVIC Mumbai is the Central Agency which implements Biogas Programme in all the States.