

GOVERNMENT OF INDIA

MINISTRY OF NEW AND RENEWABLE ENERGY

LOK SABHA

UNSTARRED QUESTION NO. 3808

TO BE ANSWERED ON 08.12.2016

UTILISATION OF WASTE

3808. DR. SUNIL BALIRAM GAIKWAD :

KUNWAR HARIBANSH SINGH:

SHRI B. V. NAIK :

SHRI P. KUMAR:

SHRI DEVJI M. PATEL

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

- (a) whether the Union Government has taken any steps to utilize the municipal waste and other wastes including industrial waste and the waste generated at the time of construction activities for producing energy, if so, the details thereof and the steps being taken by the Government in this regard;
- (b) the details of waste-to-energy plants which are under various stages of construction in the country, State -wise;
- (c) the expenditure likely to be involved in this regard;
- (d) whether the Government has carried out any study to assess the cost-effectiveness of these plants, if so, the details and the outcome thereof and if not, the reasons therefor along with the steps taken by the Government in this regard;
- (e) the subsidy and other concessions granted, the number of units set up and power generated from such plants during the last three years and the current year, State-wise;
- (f) whether the Government is considering any long-term plan/programme to generate more energy from the municipal and industrial wastes in the country, if so, the details thereof; and
- (g) the steps taken/being taken by the Government to promote green energy in the country?

ANSWER

THE MINISTER OF STATE FOR POWER, COAL, NEW AND RENEWABLE ENERGY & MINES (INDEPENDENT CHARGE) (SHRI PIYUSH GOYAL)

(a): Ministry of New and Renewable Energy (MNRE) is currently implementing a *Programme on Energy from Urban, Industrial and Agricultural Wastes/Residues*. The programme supports setting up of 5 pilot projects based on Municipal Solid Wastes (MSW), besides projects based on urban, industrial and agricultural wastes/residues including the organic waste generated during construction activities. The programme provides for Central Financial Assistance (CFA) for projects of different categories as per details given at **Annexure - I**.

In addition to the above, Ministry of Urban Development (MoUD) has also launched Swachh Bharat Mission (SBM) and one of the admissible components under this is Solid Waste Management including establishment of Waste to Energy (WtE) plants with Central support up to 35% of the project cost in the form of Viability Gap Funding (VGF)/Grant.

(b)&(c): 28 plants in 10 states for generation of electricity/production of Bio-CNG/thermal applications from urban, industrial and agricultural wastes with cumulative capacity of about 23.02 MW and a likely expenditure of Rs. 24.36 crore are under various stages of construction under the Ministry of New & Renewable Energy (MNRE)'s Programme. In addition, 52 WtE plants based on MSW in 22 states with a potential to generate 405.3 MW of electricity under SBM are being developed and their cost will be known once the tendering process is completed by the states. Details of these plants are given at **Annexure –II**.

(d): The WtE plants are cost effective with the Generic Tariff as given at **Annexure – III** for MSW, Refuse Derived Fuel (RDF) and Biogas based WtE projects determined on cost plus basis which was notified by the Central Electricity Regulatory Commission (CERC) on 7th October 2015 and 31st March 2013 respectively.

(e): 33 WtE Plants in 13 states with a cumulative installed capacity of over 45.34 MW were provided subsidy/grant of Rs. 31.54 crore during the last 3 years and the current year as per State-wise details given at **Annexure - IV**, besides other fiscal incentives in the form concessional customs duty and excise duty exemption for initial setting up of grid connected projects for power generation and/or production of Bio-CNG from waste.

(f)&(g): In order to encourage faster development of WtE plants in the country, Ministry of Power (MoP), in compliance with Section (3) of the Electricity Act, 2003, has notified the revised Tariff Policy on 28th January 2016 which mandates the State Distribution Licensee to procure power from all the WtE plants in the State, depending upon the resources available, at the tariff determined by the Appropriate Commission. The potential to generate power from MSW, as estimated by MoUD, is about 500 MW which would be increased to 1075 MW by the year 2031.

Annexure I - Referred in reply to part (a) of the Lok Sabha Unstarred Question No. 3808 for answer on 08.12.2016

CENTRAL FINANCIAL ASSISTANCE UNDER THE PROGRAMME ON ENERGY FROM URBAN, INDUSTRIAL AND AGRICULTURAL WASTES/RESIDUES

Wastes/Processes/Technologies	Central Financial Assistance
1. Power generation from Municipal Solid Waste	Rs.2.00 crore/MW (Max. Rs.10.00 crore/Project)
2. Power generation or production of bio-CNG from biogas at Sewage Treatment Plant or through biomethanation of Urban and Agricultural Waste/Residues including cattle dung	Rs.2.00 crore/MW or bio-CNG from 12000 m ³ biogas/day (Max. Rs.5.00 crore/project)
3. Biogas generation from Urban, Industrial and Agricultural Wastes/Residues	Rs.0.50 crore/MW eq.(12000 m ³ biogas/day with maximum of Rs.5.00 crore/project)
4. Power Generation from Biogas (Engine/gas turbine route) and/or production of bio-CNG	Rs.1.00 crore/MW or bio-CNG from 12000 m ³ biogas (Max. Rs.5.00 crore/project)
5. Power Generation from Biogas, solid Industrial, Agricultural Waste/residues excluding bagasse through Boiler + Steam turbine Configuration	Rs.0.20 crore/MW (Max. Rs.1.00 crore / project)

Other incentives and support measures

- i) Incentives to State Nodal Agencies: service charge @ Rs.1% of the subsidy restricted to Rs.5.00 lakh per project,
- ii) Financial Assistance for promotional activities: for organizing training courses, business meets, seminars/workshops and publicity/awareness, subject to a maximum of Rs. 3.00 lakh per activity.
- iii) In addition, concessional customs duty and excise duty exemption are also provided for initial setting up of grid connected projects for power generation and/or production of Bio-CNG from waste.

Annexure –II: Referred in reply to part (b&c) of the Lok Sabha Unstarred Question No. 3808 for answer on 08.12.2016

WASTE TO ENERGY (WtE) PLANTS UNDER CONSTRUCTION OR DEVELOPMENT/TENDERING

S. No.	State	Plants under Waste to Energy Programme			Plants under Swacch Bharat Mission		
		No. of Plants	Proposed Capacity in MW	Likely Involved Expenditure Rs. in crore	No. of Plants	Proposed Capacity in MW	Likely Involved Expenditure Rs. in Crore
1	Andhra Pradesh	-	-	-	11	85	Under various stages of development/tendering and their cost will be known once tendering process is completed by the states /UTs
2	Assam		-	-	1	5	
3	Bihar	-	-	-	1	12	
4	Chhattisgarh	-	-	-	2	10	
5	Delhi	-	-	-	1	1.6	
6	Gujarat	4	3.10	6.18	3	30.5	
7	Haryana	5	1.33	2.38	3	18.5	
8	Himachal Pradesh	-	-	-	1	1.7	
9	J&K	-	-	-	1	6.5	
10	Jharkhand	-	-	-	2	23	
11	Karnataka	1	0.66	1.33	2	20	

12	Kerala	-	-	-	1	10	
13	Madhya Pradesh	2	1.91	1.33	5	32	
14	Maharashtra	4	4.49	3.94	3	28.5	
15	Manipur	-	-	-	1	1	
16	Odisha	-	-	-	1	11.5	
17	Punjab	2	1.42	2.83	2	16	
18	Rajasthan	1	0.21	0.42	3	26	
19	Tamil Nadu	1	0.6	0.3	1	8	
20	Telangana	-	-	-	1	11	
21	Uttar Pradesh	5	6.3	2.95	5	25	
22	Uttarakhand	3	3.0	2.7	-		
23	West Bengal	-	-	-	1	22.5	
Total		28	23.02	24.36	52	405.3	

Annexure III : Referred in reply to part (d) of the Lok Sabha Unstarred Question No. 3808 for answer on 08.12.2016

GENERIC TARIFF FOR WASTE TO ENERGY PROJECTS FOR THE YEAR 2015-16 AS NOTIFIED IN CENTRAL ELECTRICITY REGULATORY COMMISSION (CERC)

Technology	Variable Cost (Rs/kWh)	Levelised Fixed Cost (Rs /kWh)	Applicable Tariff (Rs/kWh)	Benefit of Accelerated Depreciation (if availed) (Rs/kWh)	Net Levelised Tariff (Rs/kWh)
MSW	0.00	7.04	7.04	0.54	6.50
RDF based MSW	3.56	4.34	7.90	0.31	7.59
Biogas	3.57	4.29	7.86	0.26	7.60

Annexure IV : Referred in reply to part (e) of the Lok Sabha Unstarred Question No.3808 for answer on 08.12.2016

State-Wise No. of Projects, Cumulative Capacity and Subsidy Released for Grid Connected and Decentralized Projects installed under Waste to Energy Programme during last 3 years (2013-14, 2014-15 & 2015-16) and in the current year 2016-17 (as on 30.11.2016)

Sl. No.	Name of State	No. of Projects	Installed Capacity, in MW	Subsidy Released, in Crore
1.	U.P.	4	8.03	6.62
2.	Punjab	4	5.17	2.78
3.	Maharashtra	5	5.26	5.51
4.	Rajasthan	1	0.70	1.40
5.	Uttarakhand	1	0.50	0.30
6.	Tamil Nadu	1	1.68	0.83
7.	Gujarat	1	1.17	2.32
8.	A P.	8	14.83	6.59
9.	M.P.	1	0.37	0.18
10.	Karnataka	3	5.24	3.82
11.	West Bengal	2	1.17	0.58
12.	Himachal Pradesh	1	1.00	0.50
13.	Kerala	1	0.23	0.11
	Total	33	45.34	31.54