

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO. 2694
ANSWERED ON 12/08/2025

WASTE-TO-ENERGY PLANTS OPERATIONAL IN THE COUNTRY

2694. SHRI A.D. SINGH

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

- (a) the number of Waste-to-Energy (WtE) plants currently operational in the country and their combined energy generation capacity;
- (b) the total quantity of municipal solid waste processed annually through these WtE plants;
- (c) the financial and policy incentives provided by Government to promote the establishment and operation of WtE facilities;
- (d) the measures undertaken to address environmental and health concerns associated with WtE plants, including emission controls and community engagement;
- (e) the operational WtE projects and their performance metrics, State-wise?

ANSWER

THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER

(SHRI SHRIPAD YESSO NAIK)

(a) & (b) As per the information provided by Central Pollution Control Board (CPCB), 21 Municipal Solid Waste (MSW)-based Waste-to-Energy (WtE) plants are operational in the country, having a cumulative installed capacity of 248.8 MW and a total waste processing capacity of 12,727 TPD of MSW.

(c) The details of financial and policy incentives provided by the government for setting up of MSW based power projects are given below:

- i. Under the Waste-to-Energy Programme of MNRE, Biogas-to-Power projects utilizing the organic fraction of MSW are eligible for Central Financial Assistance (CFA) of ₹0.75 crore per MW, subject to a maximum of ₹5.0 crore per project.
- ii. Under SBM-U 2.0 being implemented by the Ministry of Housing and Urban Affairs (MoHUA), Additional Central Assistance (ACA) is available to ULBs at the rate of Rs.18 crore/100 tonne per day for setting up of waste to energy. Viability Gap Funding (VGF) (25-50%) is allowed as per the operational guidelines of SBM-U 2.0.

(d) Ministry of Environment Forest and Climate Change has notified the Solid Waste Management Rules, 2016 vide notification dated 8th April, 2016 under E(P) Act, 1986. Duties and responsibility of various agencies have been stipulated in the said rules for proper and scientific management of Solid Waste. The provisions made in SWM Rules, 2016 to control the pollution generated from Waste to Energy plants are given at **Annexure-I**.

(e) The State-wise details are given at **Annexure-II**.

Annexure-I

Annexure referred to in reply to part (d) of the Rajya Sabha Unstarred Question No. 2964 to be answered on 12.08.2025 regarding “Waste-to-Energy Plants Operational in the Country”:

The provisions made in SWM Rules, 2016 to control the pollution generated from Waste to Energy plants:

- Clause 21 of SWM Rules, 2016 stipulates the following criteria for waste to energy processes:
 - (1) Non-recyclable waste having calorific value of 1500 K/cal/kg or more shall not be disposed of on landfills and shall only be utilised for generating energy either or through refuse derived fuel or by giving away as feed stock for preparing refuse derived fuel.
 - (2) High calorific wastes shall be used for co-processing in cement or thermal power plants.
 - (3) The local body or an operator of facility or an agency designated by them proposing to set up waste to energy plant of more than five tonnes per day processing capacity shall submit an application in Form-I to the State Pollution Control Board or Pollution Control Committee, as the case may be, for authorization.
 - (4) The State Pollution Control Board or Pollution Control Committee, on receiving such application for setting up waste to energy facility, shall examine the same and grant permission within sixty days.

- As per para B & C of Schedule-II of SWM Rules-2016, Standard for treated leachate & incineration are given below:

Standards for treated leachates. -The disposal of treated leachates shall meet the following standards, namely

S. No	Parameter	Standards		
		(Mode of Disposal)		
		Inland surface water	Public sewers	Land disposal
1	Suspended solids, mg/l, max	100	600	200
2	Dissolved solids (inorganic) mg/l, max.	2100	2100	2100
3	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
4	Ammonical nitrogen (as N), mg/l, max.	50	50	-
5	Total Kjeldahl nitrogen (as N), mg/l, max.	100	-	-

6	Biochemical oxygen demand (3 days at 27 ⁰ C) max.(mg/l)	30	350	100
7	Chemical oxygen demand, mg/l, max.	250	-	-
8	Arsenic (as As), mg/l, max	0.2	0.2	0.2
9	Mercury (as Hg), mg/l, max	0.01	0.01	-
10	Lead (as Pb), mg/l, max	0.1	1	-
11	Cadmium (as Cd), mg/l, max	2	1	-
12	Total Chromium (as Cr), mg/l, max.	2	2	-
13	Copper (as Cu), mg/l, max.	3	3	-
14	Zinc (as Zn), mg/l, max.	5	15	-
15	Nickel (as Ni), mg/l, max	3	3	-
16	Cyanide (as CN), mg/l, max.	0.2	2	0.2
17	Chloride (as Cl), mg/l, max.	1000	1000	600
18	Fluoride (as F), mg/l, max	2	1.5	-
19	Phenolic compounds (as C ₆ H ₅ OH) mg/l, max.	1	5	-

- As per para C of Schedule-II of SWM Rules-2016, Standard for Incineration is given below:

Standard for incineration as per Schedule-II of SWM Rules, 2016

Parameter	Emission standard	
Particulates	50 mg/Nm ³	Standard refers to half hourly average value
HCl	50 mg/Nm ³	Standard refers to half hourly average value
SO₂	200 mg/Nm ³	Standard refers to half hourly average value
CO	100 mg/Nm ³	Standard refers to half hourly average value
	50 mg/Nm ³	Standard refers to daily average value
Total Organic Carbon	20 mg/Nm ³	Standard refers to half hourly average value
HF	4 mg/Nm ³	Standard refers to half hourly average value

NO_x (NO and NO₂ expressed as NO₂)	400 mg/Nm ³	Standard refers to half hourly average value
Total dioxins and furans	0.1 ng TEQ/Nm ³	Standard refers to 6-8 hours sampling. Please refer guidelines for 17 concerned congeners for toxic equivalence values to arrive at total toxic equivalence.
Cd + Th + their compounds	0.05 mg/Nm ³	Standard refers to sampling time anywhere between 30 minutes and 8 hours.
Hg and its compounds	0.05 mg/Nm ³	Standard refers to sampling time anywhere between 30 minutes and 8 hours.

Note (g) below Clause C (Schedule-II) of SWM Rules, 2016

All the facilities in twin chamber incinerators shall be designed to achieve a minimum temperature of 950 °C in secondary combustion chamber and with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.

- As per clause 16 of SWM Rules, 2016, waste processing facilities are required authorization from concerned SPCB/PCC under the Rules:

Clause 16 (1): Duties of State Pollution Control Board or Pollution Control Committee.

(e) issue authorization within a period of sixty days in Form II to the local body or an operator of a facility or any other agency authorized by local body stipulating compliance criteria and environmental standards as specified in Schedules I and II including other conditions, as may be necessary;

(f) synchronise the validity of said authorisation with the validity of the consents;

(g) suspend or cancel the authorization issued under clause (a) any time, if the local body or operator of the facility fails to operate the facility as per the conditions stipulated provided that no such authorization shall be suspended or cancelled without giving notice to the local body or operator, as the case may be; and

(h) on receipt of application for renewal, renew the authorisation for next five years, after examining every application on merit and subject to the condition that the operator of the facility has fulfilled all the provisions of the rules, standards or conditions specified in the authorisation, consents or environment clearance.

Clause 16(4), The State Pollution Control Board or the Pollution Control Committee, as the case may be, shall monitor the compliance of the standards as prescribed or laid down and treatment technology as approved and the conditions stipulated in the authorisation and the standards specified in Schedules I and II under these rules as and when deemed appropriate but not less than once in a year.

Further Waste-to-electricity plants require to obtain consent under the **Air (Prevention and Control of Pollution) Act, 1981** and the **Water (Prevention and Control of Pollution) Act, 1974**. These consents ensure that the plant adheres to environmental standards for air and water quality. Authorization is issued by State Pollution Control Boards under SWM Rules, 2016. Regular monitoring by State PCBs & PCCs is ensured for compliance of the standards as prescribed or laid down.

Annexure-II

Annexure referred to in reply to part (e) of the Rajya Sabha Unstarred Question No. 2964 to be answered on 12.08.2025 regarding “Waste-to-Energy Plants Operational in the Country”:

The State-wise details of operational MSW based Waste to Energy plants:

S.No.	State /UT & No of WTEs	Name of WTE plant & Location	Capacity to Process MSW (TPD)	Power generation (MW)
1	Andhra Pradesh (02)	Jindal Urban Waste Management, Visakhapatnam, A.P	1372	15
2		Jindal Urban Waste Management, Limited Guntur , A.P	1620	20
3	Delhi (04)	East Delhi Waste Processing Company Ghazipur, Delhi	1300	12
4		Tehkhand Waste to Electricity Project Ltd. Delhi	2000	25
5		Timarpur Okhla, waste management Company Ltd. Delhi	1950	23
6		M/S Delhi MSW Solutions Ltd. Delhi	1300	24
7	Gujarat (02)	Goodwatts WtE Jamnagr Pvt Ltd., Gujarat	NA	7.5
8		Jindal WtE Pvt. Ltd .Ahmedabad., Gujarat	NA	15
9	Haryana (01)	Integrated Solid Waste Management Facility , Murthal , Sonapat , Haryana	NA	8
10	Karnataka (01)	Bidadi Waste to Energy Plant, Bidadi, Karnataka	600	11.5
11	Madhya Pradesh (02)	Rewa MSW Energy Solution Pvt Ltd ,M.P	500	6
12		Jabalpur MSW Pvt. Ltd Kathonda, Jabalpur , M.P	600	11.5
13	Maharashtra (02)	Anotny Lara Renewable Energy Private Limited, Waste to Energy, PimpriChinchwad, Maharashtra	700	14
14		Bhumi Green Energy Pvt. Ltd., Sangli, Maharashtra	NA	10
15	Telangana (02)	Hyderabad MSW Energy Solution Ltd, Telangana	NA	19.8
16		Dundigal WtE Pvt. Ltd , Telangana	NA	14.5
17	Uttarakhand (03)	Sidharth Papers Ltd., US Nagar, Uttarakhand	185	6
18		Siddheshwari Paper Udyog Pvt Ltd., Kashipur Uttarakhand	185	6
19		Bahl Paper Mills Ltd., Kashipur, Uttarakhand	NA	NA

20	Uttar Pradesh (02)	Rollz India Waste Management Pvt. Ltd., Deenanathpur, Ghaziabad	75	NA
21		Rollz India Waste Management Pvt. Ltd., Bahadarpur, Ghaziabad	340	NA
Total			12727	248.8