

**Office of the  
National Green Tribunal - SLC**  
(Constituted as per Hon'ble NGT,  
Principal Bench, New Delhi, Order O.A.  
No. 606/2018, Dated 16-01-2019)



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No. PCB/WMC/3142/MSW/NGT(2021)/2022-23/2896 Date: 28 JUL 2022

To

1. The Commissioner  
Bruhat Bengaluru Mahanagara Palike  
NR Square, Hudson Circle  
Bengaluru- 560 002
2. The Commissioner  
Bangalore Development Authority  
Kumara Park West,  
T. Chowdaiah Road, Bengaluru-560020

Sir,

**Sub:-** Evaluated Technologies for processing of Wet Waste.  
**Ref :-** SLC-BGT letter No. NGT-SLC/08/2019-2020/05 Dt.:  
04.11.2019.

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With reference to above subject, this office had addressed letter under ref. to publish list of "Evaluated Technology for On-site Processing of Wet Waste" Enclosed herewith. Same may be withdrawn as this office is not concerned to recommend or approve any technology or company involved in the matter of waste management. Hence the letter under ref. was issued without any discussion. Accordingly same stands withdrawn. It is also informed that this committee is only for monitoring the SWM in state of Karnataka and not for recommendation or approval of any technology related to waste management.

Yours faithfully,

  
**MEMBER CONVENOR**

**Copy submitted to:**

1. The Chief Secretary, Government of Karnataka, Room No. 320, 3rd Floor  
Vidhana Soudha, Bengaluru.
2. Additional Chief Secretary to Government, Urban Development  
Department, Room No.436, Vikasa Soudha, Bengaluru -560001.



3. The Principal Secretary to Government of Karnataka, Health and Family Welfare Department, #105, I Floor, Vikasa Soudha, Bangalore - 560 001.
4. The Additional Chief Secretary, Rural Development and Panchayat Raj Dept., 3rd Gate, 3rd Floor, MS Building, Bengaluru-560001
5. The Principal Secretary (Ecology and Environment), Department of Forest Ecology and Environment, Room No. 704, 7<sup>th</sup> Floor, Gate No. 4, M. S. Building, Bangalore-560001.



Ref. No.: NGT-SLC/08/2019-2020/05

To,

1. The Commissioner,  
Bruhat Bengaluru Mahanagar Palike,  
Corporation Circle,  
Bangalore
2. The Commissioner,  
Bangalore Development Authority,  
Kumarpark West,  
Bangalore.

Dear Sir,

Sub: Request to Publish the list of "Evaluated Technologies for Processing of Wet Waste" approved by Committee constituted as per the directions of Hon'ble NGT-SLC-reg.

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The Hon'ble National Green Tribunal-SLC, upon hearing the misuse of terminology of organic waste converter by the manufacturers, has directed the KSPCB on 15.02.2019 to constitute a Committee for "Evaluation of In-Situ Technologies for Processing of Wet Waste" which could be published on website for guidance of stakeholders (the households & bulk waste generators) and they may contact the service provider for In-Situ processing of wet waste.

Accordingly, the Karnataka State Pollution Control Board has constituted a Committee of seven members vide OM. No. PCB/WMC/3142/MSW/NGT/2019/1075, Bangalore, dated: 14.05.2019 under the Chairmanship of Dr. G Selvakumar, Principal Scientist (Agricultural Microbiology), ICAR, Bangalore including officials & stakeholders as members.

Thereafter the said Committee held several meetings on 20.06.2019, 06.07.2019 & 17.10.2019 to discuss & suggest the ideal technologies for processing of wet waste. Based on the purpose of constitution of the Committee, an advertisement was published in newspapers for wide publicity amongst the agencies involved in wet waste management to receive more number of proposals.



The paper notifications were published on 17.07.2019, 15.08.2019 & 25.09.2019 to receive the proposals. There were 39 proposals received from the agencies which were scrutinized by the Committee on 17.10.2019 and a presentation template was approved in order to have uniformity in presentation which was circulated amongst the agencies who have submitted the proposals. The final presentations were scheduled on 31.10.2019 at 11.00 a.m in meeting hall, 3<sup>rd</sup> floor, KSPCB, Bangalore. The Committee evaluated 34 proposals presented by different agencies.

The Committee submitted a report to NGT-SLC on 28.11.2019 with the following opinion.

*“The Committee is of the opinion that on-site wet waste processing by bulk waste generators and individual households is to be viewed as a social responsibility of every citizen and not as money - making / saving venture. The intangible benefits of such a management strategy in terms of soil/human health and environmental benefits far outweigh the costs involved in wet waste processing”.*

In view of all the above, I am directed by the Hon'ble Chairperson, NGT-SLC, Karnataka to request your kindness to publish the list of “Evaluated Technologies for On-Site Processing of Wet Waste” enclosed herewith this letter, on your website for the guidance of stakeholders (Households as well as Bulk Waste Generators) to adopt the feasible technology to be adhered to SWM Rules-2016.

Thanking You,

  
Member Secretary

Copy To:

1. The Chief Secretary, Government of Karnataka, Vikas Soudha, Bangalore.
2. Additional Chief Secretary to Government, Urban Development Department, Bangalore.
3. The Additional Chief Secretary to Government, Health & Family Welfare Department, Bangalore.
4. The Principal Secretary, Urban Development Department, Bangalore.
5. The Principal Secretary, Rural Development & Panchayath Raj Department, Bangalore.
6. The Principal Secretary (E&E), Forest, Ecology & Environment Department, Bangalore.
7. Sri. Thirumurthy, Additional Director, Regional Office CPCB, Bangalore.

**Table 1: Technological Options Presented for Bulk Generators**

Sl. No.	Name of Agency	Composting Method	Duration of the composting Process	Capacity	Capital Expenditure	Operational Expenditure
1.	Hasiru Dala Innovations	Distributed biomethanization model for <i>in-situ</i> wet waste pre-processing	-	250 ltrs/hour	Rs.4,50,000 for infrastructure,	Rs.50,000/-per year.
2.	Riteways Enviro Pvt Ltd, Bengaluru	Aerobic Bin made of HDPE	Daily compost generation	5 to 10,000 kg/day	Not mentioned	Requires electricity and an unskilled labour for operation
3.	E Save Promoters, Bengaluru	Aerobic Bin	45 days	0.5Kg to 1MT/day	Rs. 22564 + GST + Transport	No power requirement but labour required
4.	g-Zone Bio-composters, Bengaluru	Aerobic Bin	7 days	50 kg to 1250 kg per day.	Rs. 6.5 L for a 100 kg model to about Rs. 30.0 L for a 1000 kg model.	For a 100 kg model – Rs. 30,000/- pm approx. For a 1000 kg model – Rs. 80,000/- pm approx.
5.	Metsi Enviro Tech, Pvt. Limited, Bengaluru	Aerobic composting followed by an optional vermicomposting	30- 45 days.	100 to 5000 kgs per day	Rs.7.9 lakhs to 149 lakhs per months	Rs.8304 to Rs.64,290 per day
6.	Shree Skanda Solar Composter, Bengaluru	Aerobic Bin	14 days	1 kg/day	Not mentioned	Zero Maintenance
7.	Prudent Ecosystems Pvt Ltd, Bengaluru	Aerobic Bin	36 days	1 to 30 kgs per day	Rs 3,53,920 for 200 kg per day	Rs 22,000 / month + 18% GST Consumables:Rs 9000/month





								Electricity about 10 units/month or Rs 1200 – Rs 1500
8.	Soil & Health Solutions, Bengaluru	Aerobic Bin	6 weeks	10-50 kg/day	Not mentioned	Not mentioned		
9.	Daily Dump, Bengaluru	Aerobic Bin made of HDPE	30-40 days	Individual units of 550 kg per unit multiple units are possible	Rs.85,466 per day	Rs. 50 to 100 per household per month		
10.	Ellenvipro Enviro Equipments Pvt Ltd, Bengaluru	In vessel Aerobic composting	18 days	50Kgs/day – 1 ton/day	Rs. 9.3 Lakhs + applicable taxes @ 12% GST	Rs. 40,100/month		
11.	Bioen	Biomethanization	30days (Solid retention time)	2kg/day to 5tpd modules	Rs. 11 lakhs for 250kg capacity	Rs.93 per day		
12.	Orbin Composting Products & Solutions, One Hop Organics Pvt Ltd	Aerobic Bin	35 days	40kg/day	Rs. 1.57 lacs+ GST	Rs. 60/household/month		
13.	Aaditi Stonesoup Solutions Pvt Ltd	Aerobic Bin	40-45 days	600 kg/batch	Rs. 42250	1 man-hour/day		
14.	M/s Sadhana Enviro Engineering Services	Anaerobic Rotary Drum	16 hours	01 to 10 tons per day	Rs.1.3 crore	Rs.1,25,000 per month		
15.	Pragathi Tech Services	Aerobic Bin made of GI	30-45 days	25-30kgs min	Rs.1,35,000+GST	Rs. 4000+labour per month		
16.	Chakraakaar Lifestyle Solutions Pvt. Ltd., Pune	Biomethanization	2.5 to 3.0 hours of gas can be generated per day	Up to 50 kg/day	Rs. 330120 + Transportation and Installation	Rs. 35,400/year		
17.	Praanapoorma Collective LLP, Bengaluru	Aerobic productn of citric acid based cleaning solutions	4 weeks	450 kg Citrus peels per batch /per month	Rs. 9000	Zero maintenance		
18.	Greenon, Innovative Landscape Technologies Pvt Ltd, bengaluru	Aerobic Bin	45-60 days	100 kg/day	2.6 lakh	Rs. 5,000/month		



19.	SHUDH-LABH SOLUTIONS PVT LTD, Bengaluru	Aerobic Bin	60 days	5 to 50 kg/day	Rs. 69000 for a 50 kgs per day unit	Rs. 600/day
20.	Bio Shakti- Technology license from CSR-IICT	Biomethanization		15 kg to 50 Tons / day.	1000 kg/day – Rs. 57 laks	Not provided
21.	Aquadion- CTWI	Aerobic waste water treatment	Not mentioned	1 KLD to 1.5 MLD	1 KLD- Rs, 3,50,000+ GST	Not provided
22.	Carbon Masters	Biomethanization	30 days of anaerobic digestion followed by 45 days of aerobic composting of slurry	500 kgs- 50 tonnes/ day for onsite processing and decentralized processing from 10 TPD to 200 TPD	1 ton/day- 42 lakhs, 4 ton/day- 90 lakhs	Rs. 20 lakhs to 18.1 crores for plants ranging from 1 TPD to 50 TPD
23.	Orgreen Waste2Water Technology Private Limited, Bengaluru	Aerobic conversion of food wastes to water, carbon di oxide and heat with zero solid residues	24 hours	30 kg to 10 tonnes	Not available	Not available
24.	Waste is Gold, Bengaluru	Aerobic	6-8 hours	Not available	Not available	Not available



25.	Aquaduct Clean Technologies, Bengaluru	Aerobic	15 days	250 kg/day	Not available	Not available	
26.	Bioman, Bengaluru	Aerobic	Not clear	160 kg/day	Rs. 1,76,500 for 100 homes	Rs.150/home/mo	
27.	GPS Renewables Pvt Ltd, Bengaluru	Biomethanization	2 Stage Dry Anaerobic Digestion for Bulk Waste Generators	100 KPPD - 30 TPD	1 tpd- Rs.35 lakhs	Not provided	
28.	Nisarga Consultants, Belagavi.	Aerobic	35 days	10-700 kg/day	Rs.135000- 500000	Rs.2000/month	
29.	Eco Positive Solutions (India) Private Limited, Bengaluru	Biomethanization	-	10 kgs/day to 1000 kgs/day	Rs.5 L to 65 Lakhs for 50 kgs/day to 1000 kgs/day	Not provided	
30.	Quantum Green, Bengaluru	Biomethanization	-	2 kgs/day to 50 MT per day	Rs 28,000 for 2kgs	Not provided	
31.	H. K. Global Enterprises, Bengaluru	Windrow method is not suitable for urban bulk generators					



**Table 2: Technological Options Presented for Individual House Holds**

Sl. No.	Name of Agency	Composting Method	Duration of the composting Process	Capacity	Capital Expenditure	Operational Expenditure
1.	Hasiru Dala Innovations	Aerobic Bin	Not mentioned	25 litres	Rs. 1000 per units	May not be required
2.	Riteways, Bengaluru	Aerobic Bin	Daily compost generation	5 kg/day	Not mentioned	May not be required
3.	E-save Promoters, Bengaluru	Aerobic Bin and Anaerobic Biogas plants	45 days	0.5 kg/day onwards	Rs. 1950+GST +Transport	Rs. 160/month/family
4.	Shree Skanda Solar Composter, Bengaluru	Aerobic Bin	14 days	1 kg / day	Rs. 19,000	May not be required
5.	Prudent Ecosystems Pvt Ltd, Bengaluru	Aerobic Bin	36 days	1 – 2 kg/day	Not mentioned	May not be required
6.	Soil & Health Solutions, Bengaluru	Aerobic Bin	30-45 days	2-3 kg/day	Rs. 8000+GST	Rs. 100 per month
7.	Daily Dump, Bengaluru	Terracota and Plastic Aerobic Composters	30 days	1 to 1.5 kg per day	Rs. 950 to Rs. 2200 per day	Around Rs. 140 per month s



8.	Bioen, Bengauru	Biomethanation	Solid retention time of 30 days	Starts from 2 kg per day	Not mentioned for the lower version	Not mentioned for the lower version
9.	Orbin Composting Products & Solutions, Bengaluru	Aerobic Bin	35 days	2 kg/day	Rs. 12, 500+GST	Rs. 300/month
10.	Aaditi Stonesoup Solutions Pvt Ltd, Bengaluru	Aerobic Stackable Home Composter	30 days	Can be customised	Rs. 999 per unit	Rs. 250/batch
11.	Chakradhar Lifestyle Solutions Pvt. Ltd., Pune	Biomethanazation	30-40 minutes per day of gas generation	2-5 kg/day modules	2 kg- Rs, 24000, 5kg- rs.60000	Nil
12.	Pranapooma Collective LLP, Bengaluru	Aerobic product of citric acid based cleaning solutions	4 weeks	450 kg Citrus peels per batch /per month	Rs. 9000	zero maintenance
13.	Quantum Leap Guru, Bengaluru	Anaerobic- Bokashi composting	6 weeks	9 litres to 15 litres	Rs.2,770/- to Rs. 3,950/-	300/- per kg of Bokashi bran & 8/- kg of layering medium (recyclable 3-4 times)
14.	Nisaruga Consultants	Aerobic	35 days	2-5 kg/day	Rs. 15000	Not mentioned

