DOMESTIC WASTE MANAGEMENT SYSTEM AT ANUSHAKTI NAGAR



FOREWARD

Dear residents,

Greetings

I am extremely happy to inform that Anushaktinagar is one of the most clean & green colony in Mumbai and fast developing as “Smart City”.

One of the key features of evolving smart city is good Solid Waste Management System. Anushaktinagar is a large township generating more than 10 Tons solid waste per day.

Prior to implementation of Solid Waste Management Rule 2016 (effective from 01.01.2018), all wastes generated in Anushaktinagar used to be totally handled & processed by MCGM.

Being a bulk generator various types of domestic waste generated in our township is now being collected & processed in Anushaktinagar and we are now self reliant.

I am thankful to all residents of Anushaktingar for extending co-operation in segregating & disposing solid waste in most appropriate manner.

A need for creating a booklet to serve as a ready reference guide was long felt. This booklet outlines waste management system in Anushaktinagar along with guidelines to handle different types of wastes by residents / individuals.

I am sure that all of us together, will be able to make Anushaktinagar more clean and green in near future.

My sincere and best wishes to you all.

Bharat Kumar Jain,

Director DCSEM

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■ INTRODUCTION ■

It is endeavour of DCSEM to make Anushaktinagar more Clean, Green and develop it as a “Smart City”. Many development works have already been taken by DCSEM. Most of the features of Smart City are available in Colony. Zero discharge is one of the important aspect for any Smart City. Now DCSEM has Achieved ‘Zero Discharge’ status in Solid Waste Management.

Anushaktinagar is large township having 280 residential and other buildings. Prior to 2018, DCSEM used to collect waste at designated locations and transported by MCGM for further processing.(before implementation of SWM rules 2016, by ministry of Environment Forest and climate change Government of India).

Since the colony is the bulk generator of waste (producing more than 100 Kg. waste per day), as per the rules effective from 1st Jan.2018, all type of domestic waste like dry waste, wet waste, domestic bio-hazardous waste etc. generated in Anushaktinagar have to be collected and processed in Anushaktinagar itself.

The disposal of waste in landfills is also not advisable, since it releases toxins in the atmosphere which contaminate soil, ground water, air.

In view of above DCSEM has developed in house facility for proper management of waste generated in Anushaktinagar, which will help to develop a clean and green environment in Anushaktinagar.

■ **Waste generated in Anushaktinagar per day**

1) Total solid Waste : - 10 MT. (approx.)

2) Wet Waste :- 6.0 MT . (approx.)

3) Dry waste :- 4.0 MT

■ Initiation by DCSEM for processing the waste.

- Segregation of waste by the resident at source only.
- Door to door collection of segregated waste.
- Transportation of segregated waste to processing at the centres located near Tapti, Brindavan & Rajanigandha Buildings.
- Further fine segregation of dry waste & wet waste in processing centres.
- Dry waste is separated into recyclable and non-recyclable waste.
- Wet waste is treated by two processes.
    a) Composting
    b) Bio-gas process

■ Methods of processing

A) Dry waste processing: -

Out of 4.0 MT of Dry waste generated per day, 3.0 MT approx. is recyclable and about 1.0 MT approx. is non-recyclable. Recyclable dry waste (Metal, Card board, Paper, Plastic, etc.) is handed over to authorised recyclers through agency engaged by DCSEM. Non-recyclable waste is treated in Plasma based Incinerator located near Brindavan building.

B) Wet waste processing: -

i) Composting

In this method wet waste is deposited in specially created pits for making compost with the help of suitable Culture & Coco peat. 65 nos. of such pits have been constructed in (50 nos. near Brindavan and 15 nos. near Tapti building) Anushaktinagar, in which around 4200 kg wet waste is processed per day. However, the composting is also being done in drums at Old Mandala.

ii) Biogas

Bio gasification of wet waste is carried out in two Nisargaruna type Bio gas plants of 1000 Kg capacity each (Located near Training School Hostel and BARC Hospital canteen) in Anushaktinagar. Plants are mainly intended for the treatment of the wet waste generated from hospital, Training School Hostel and Nigiri canteen, Hospital canteen. In addition 6 nos. x 500 kg of capacity each modular new bio gas plants have been installed in the Tapti waste processing centre by DCSEM. This plant works on the Bio gas technology developed by BARC, which generates Methane gas & manure. The Methane gas generated from plant will be utilised in future for generating electricity.

Know Your Dry waste and How to handle it

SI NO	Example of Dry waste	How to handle it
1	Pizza and cake boxes	Clean the pizza or cake boxes of all food residue with a wet kitchen cloth, or rinse in water and let them dry out before putting those in the dry waste container
2	Pickle, sauce bottles	Sauce bottles should be rinsed thoroughly with water. Pickle bottles can be cleaned with soap water, since it contain oil. Basically, no food residue must be left in the bottles. Clean them as you would to reuse them. (You can use wipe with a newspaper piece to remove the oil)
3	Milk packets, oil packets/cans and yoghurt containers	Clean those thoroughly. Open out the packets completely at one end, and wash out all the residue (hot water helps clean milk packets better). Those can be put to wash with the dishes in the sink, then dried on a line, and put into the dry waste bag.

Know Your Dry waste and How to handle it

SI NO	Example of Dry waste	How to handle it
4	Eatable delivered in Containers/plastic bags	Containers / plastic bags should be rinsed, or washed with soap and water and dried before being put into the dry waste bag.
5	Biscuit/bread packets	Clean it, Dry it & put in dry waste bin.
6	Paper napkins	Put in dry waste bin.
7	Old clothes/shoes/hand bags/belts/toys /Cushions	If usable condition hand over to some organisation which collects it. If those are not usable than put in dry waste bin.
8	Old furniture/broken glass table	Old furniture can be recycled, if not than hand over separately

Know Your Dry waste and How to handle it

SI NO	Example of Dry waste	How to handle it
9	Old crockery / non-stick pans	Hand over separately
10	Old brooms / floor cleaning cloths/ dry mops/ bathroom cleaning brush	If it is clean and dry, plastic portions can be recycled and the rest can be considered as inert waste.
11	Used and dirty Foot mats or door mats	Hand over separately. DO NOT Use Plastic Cover to hand over
12	Used Tooth Brush, Shaving Brush	Clean it, dry it & put in dry waste bin.
13	Soap Covers	Clean it, dry it & put in dry waste bin.
14	Chocolate wrappers (Small Toffees or Candy's)	Clean it, dry it & put in dry waste bin.

Know Your Dry waste and How to handle it

SI NO	Example of Dry waste	How to handle it
15	Butter Papers used to wrap butter	Clean it, dry it & put in dry waste bin.
16	News papers	Store it and Hand over separately
17	Broken Stationers' like pen, pencil eraser etc.	Clean it, dry it & put in dry waste bin.
18	Empty shampoo, water & Perfume bottle and Broken house hold Plastic items	Clean it, dry it & put in dry waste bin.
19	Aluminium Foil used to pack Food, cover Ghee, Jam etc. Covers with silver lining inside (e.g. Lays , kurkure packets etc.)	Clean it, dry it & put in dry waste bin.

Know Your Dry waste and How to handle it

SI NO	Example of Dry waste	How to handle it
20	Coconut shells	Hand over separately. Do NOT Use plastic cover
21	Small cartoon Boxed like in Corn Flakes etc.	Clean it, Dry it & put in dry waste bin.
22	Stapler Pins, broken pins	Please store them in a small box separately and hand over, Make sure it does not get mixed with wet
23	Thermocoal and Thermocaol Balls from bean bags	Wrap and pack well in newspaper. Mark a RED Cross on newspaper pack. Hand over separately. DO NOT Use Plastic Cover to hand over
24	Tin Bottles, like Pepsi cans Tubes of Shaving Cream, Hair Cream, Tooth Paste Tubes etc.	Clean it, Dry it & put in dry waste bin.

Know Your Dry waste and How to handle it

SI NO	Example of Dry waste	How to handle it
25	Used Hair Bands, Hair Clips, Combs, Hair Brushes	Clean it, Dry it & put in dry waste bin.
26	Used Sachets of Shampoo, Tooth paste, Horlicks/Bournvita etc.	Clean it, Dry it & put in dry waste bin.

WET WASTE

What is wet waste?

Wet waste consists of kitchen waste – including vegetable and fruit peels and pieces, tea leaves, coffee grounds, eggshells, bones and fish scales, as well as cooked food (both veg and non-veg).

Know Your Wet waste and How to handle it

SI NO	Example of Wet Waste	How to handle it
1	Vegetable and Fruit Peels	To be handed over directly to cosmetic staff. DO not put it in plastic cover. This can be composted
2	Rotten Vegetables / Rotten fruits	To be handed over directly to cosmetic staff. DO not put it in plastic cover. This can be composted

Know Your Wet waste and How to handle it

SI NO	Example of Wet Waste	How to handle it
3	Left over food	Please drain all liquid and hand over cosmetic staff. DO not put it in plastic cover. This can be composted
4	Used Coffee powder from Filter	Please drain all liquid and hand over to cosmetic staff. DO not put it in plastic cover. This can be composted
5	Tender coconut shell	Hand over separately. DO NOT Use Plastic Cover
6	Spoiled spices	Please drain all liquid and hand over to cosmetic staff. DO not put it in plastic cover. This can be Composted
7	Remain Pet Food	Wrap it in newspaper
8	Rotten Eggs	Please drain all liquid and hand over to cosmetic staff. DO not put it in plastic cover. This can be composted

Know Your Wet waste and How to handle it

SI NO	Example of Wet Waste	How to handle it
9	Meat and Non Veg Food Remains	Please drain all liquid, pack it in newspaper and hand over to cosmetic staff. DO not put it in plastic cover.
10	Coconut Fibre	Put it in wet waste bin
11	Bones	Put in dry waste bin.
12	Egg Shells	Put it in wet waste bin
13	Expired food items packets (like bread, biscuits, ready to food)	Remove the items from their package. Drain liquid and then put it in wet waste bin
14	Mango Seeds	Put it in wet waste bin
15	Used Tea Bags	Put it in wet waste bin

Know Your Wet waste and How to handle it

SI NO	Example of Wet Waste	How to handle it
16	Garden leaves, Weeds, Dried Flowers	Hand over separately
17	Hair	Wrap it in newspaper & put it in wet waste bin
18	Finger or toe nails	Wrap it in newspaper & put it in wet waste bin
19	Chewing Gum	Wrap it in newspaper & put it in wet waste bin
20	Floor Sweeping Dust	Hand over along with Wet waste
21	Used Rangoli Powder	Wrap it in newspaper & put it in wet waste bin

E - WASTE

What is e-waste?

E-waste or electronic waste consists of batteries, computer parts, wires, electrical equipment of any kind, electrical and electronic toys, remotes, watches, cell phones, as well as bulbs, tube lights and CFLs.

How do I store e-waste?

Store them in separate container which is kept closed, away from moisture and in which nothing else is kept.

Know Your E -waste and How to handle it

SI NO	Example of E -Waste	How to handle it
1	Batteries	Store it separately & put in E – waste bin at designated locations
2	Broken clock watch electronics	Store it separately & put in E – waste bin at designated locations

Know Your E -waste and How to handle it

SI NO	Example of E -Waste	How to handle it
3	Button cells	Store it separately & put in E – waste bin at designated locations
4	CD's and old Cassettes	Store it separately & put in E – waste bin at designated locations
5	CFL, Tube light	Store it separately & put in E – waste bin at designated locations
6	Expired Credit/Debit/loyalty Cards with Chip	Store it separately & put in E – waste bin at designated locations
7	Fluorescents lamps	Store it separately & put in E – waste bin at designated locations
8	Old electronic parts, old phones, adapters, chargers, blue tooth etc.	Store it separately & put in E – waste bin at designated locations
9	Printer Cartridges	Store it separately & put in E – waste bin at designated locations



E-Waste Bin near Rajanigandha building



E-Waste Bin near New Mandala Market

Locations of E- waste bins in Anushaktinagar

- Hastinapur Market
- Brindavan Market
- Sector Market
- Western sector Market
- New Mandala Market
- Raganigandha Processing Center

BIOMEDICAL WASTE

What is biomedical waste?

This includes used menstrual clothes, sanitary napkins, disposable diapers, bandages and any material that is contaminated with blood or other body fluids.

Know Your Biomedical Waste and How to handle it

SI NO	Example of Biomedical Waste	How to handle it
1	Used sanitary napkins, Panty Liners, sanitary Cloths	Wrap and pack well in newspaper, mark a RED Cross on newspaper pack. Hand over separately. DO NOT use Plastic Cover to hand over.
2	Diapers	
3	Tissue paper used for sanitary/medical	

Know Your Biomedical Waste and How to handle it

SI NO	Example of Biomedical Waste	How to handle it
4	Used condoms	Wrap and pack well in newspaper, mark a RED Cross on newspaper pack. Hand over separately. DO NOT use Plastic Cover to hand over.
5	Used cotton and bandage	
6	Used Ear Buds	
7	Waxing Strips	
8	Any piece of cloth, paper stained with blood or any other medical or sanitary waste	
9	Used syringes, injection bottle	

Know Your Biomedical Waste and How to handle it

SI NO	Example of Biomedical Waste	How to handle it
10	Boxes, bottles or tubes of Hair Colour, Facial Bleach, Hair remover Products.	Wrap and pack well in newspaper, mark a RED Cross on newspaper pack. Hand over separately. DO NOT use Plastic Cover to hand over.
11	Used Odonil	
12	Dead Cockroaches, rats, Lizards etc.	
13	Dental Floss	
14	Expired cosmetics like lipsticks, nail polish etc.	

Know Your Biomedical Waste and How to handle it

SI NO	Example of Biomedical Waste	How to handle it
15	Expired medicines	Hand over separately to dispensary
16	Bottles and container of pesticide	Hand over separately. DO NOT use Plastic Cover to hand over.
17	Other medicinal discards	Drain all liquids. Handed over separately to collectors with utmost care
18	Used Razor / Razor Blades	Clean it dry it and wrap in paper & Hand over separately

My Waste is My Responsibility :

- **Why should we avoid sending waste in mixed form?**
- Mixed waste leads to an increase in diseases and pollution.
- Mixed waste requires a lot of time and energy for proper treatment.

- **How we can help for better waste Management in Anushaktinagar.**
- Separate containers for wet & dry waste
- Dry waste to keep clean
- Ensure that dry waste is not damp
- Wash out the food content in plastic / glass containers before disposing.
- Keep bag for Hazardous waste (Brocken bulb, tube lights, use medical etc.)
- Give E- waste separately for recovery
- Wrap sanitary napkins / diapers in paper & mark with a red cross
- Keep a piece of paper at the bottom of the wet waste bin

Contact us :

In case of Function / events , You can also handover Segregated Dry & Wet Waste directly to the following Processing centres.

Dry Waste :

- Near Brindavan building
- Near Rajanigandha Building

Wet Waste :

- Near Brindavan building
- Near Tapti Building

Timings :- 10.00 am To 5.00 pm

Contact nos. 02225486652 / 6774

email :- cms@dcsem.gov.in





Tapti Waste Processing Centre





Brindavan Wet Waste Processing Centre



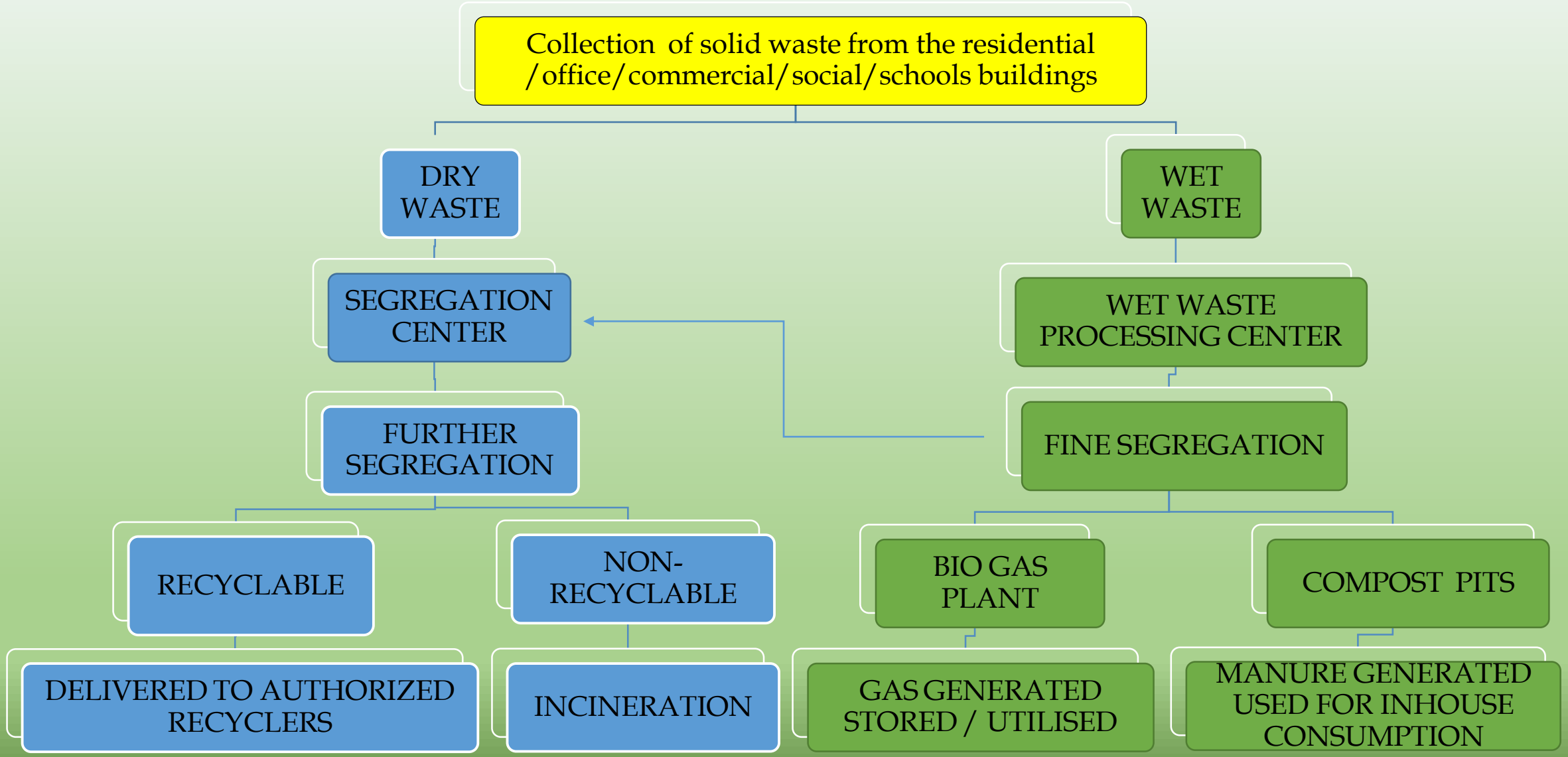


Rajanigandha Dry Waste Processing Centre

TYPES OF WASTE & COLOUR CODE

Black bag	Yellow bag	Red bag	Blue bag	White carboy waste puncture proof
1. Kitchen waste 2. office waste 3. plastic waste	1. Human anatomical waste (body parts, organs, tissues) 2. Items contaminate with blood body. 3. Fluids like dressings 4. Cotton, swabs 5. Discarded blood 6. Blood bags 7. Laboratory discarded linens 8. Mattress, bedding contaminated with blood (No plastic)	1. Contaminated waste 2. Recyclable waste generated from disposable items such as tubing, bottles, catheters, 3. Urine bags 4. Syringes (without needles) 5. Rubber gloves (rubber & plastic)	1. Broken or discarded and contaminated glass 2. Metallic body implants	1. Metals 2. Needles 3. Syringes with fixed needles needle tips from cutter or burner 4. Scalpel 5. Blades or any other contaminated sharp objects

WASTE MANAGEMENT SYSTEM IN ANUSHAKTI NAGAR



- Door to door collection on daily basis
- Segregation at source itself
- Collection from Offices/Commercial buildings/ Markets etc.



DOOR TO DOOR COLLECTION

Segregated waste in bags for Transportation







TRANSPORTATION OF RECYCLABLE DRY WASTE

Working Principle :

- Plasma magnetic field

Decomposition

- Under Pyrolysis Process



TREATMENT OF NON RECYCLEBLE DRY WASTE IN INCINERATOR



FINE SEGREGATION OF WET WASTE





DECOMPOSION PROCESS OF WET WASTE

ADVANTAGES :

- Very convenient way to treat biodegradable waste
- Clean hygienic and pollution free environment
- Methane gas and manure for in house uses.



BIO GAS PLANT

Let us make
"BEST FROM WASTE"
for
Clean & Green Anushaktinagar



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