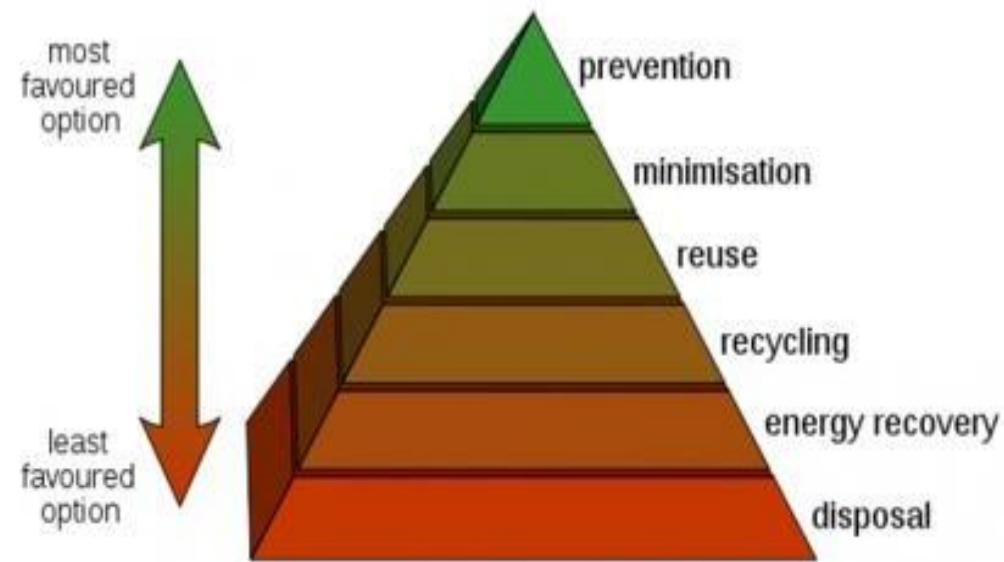


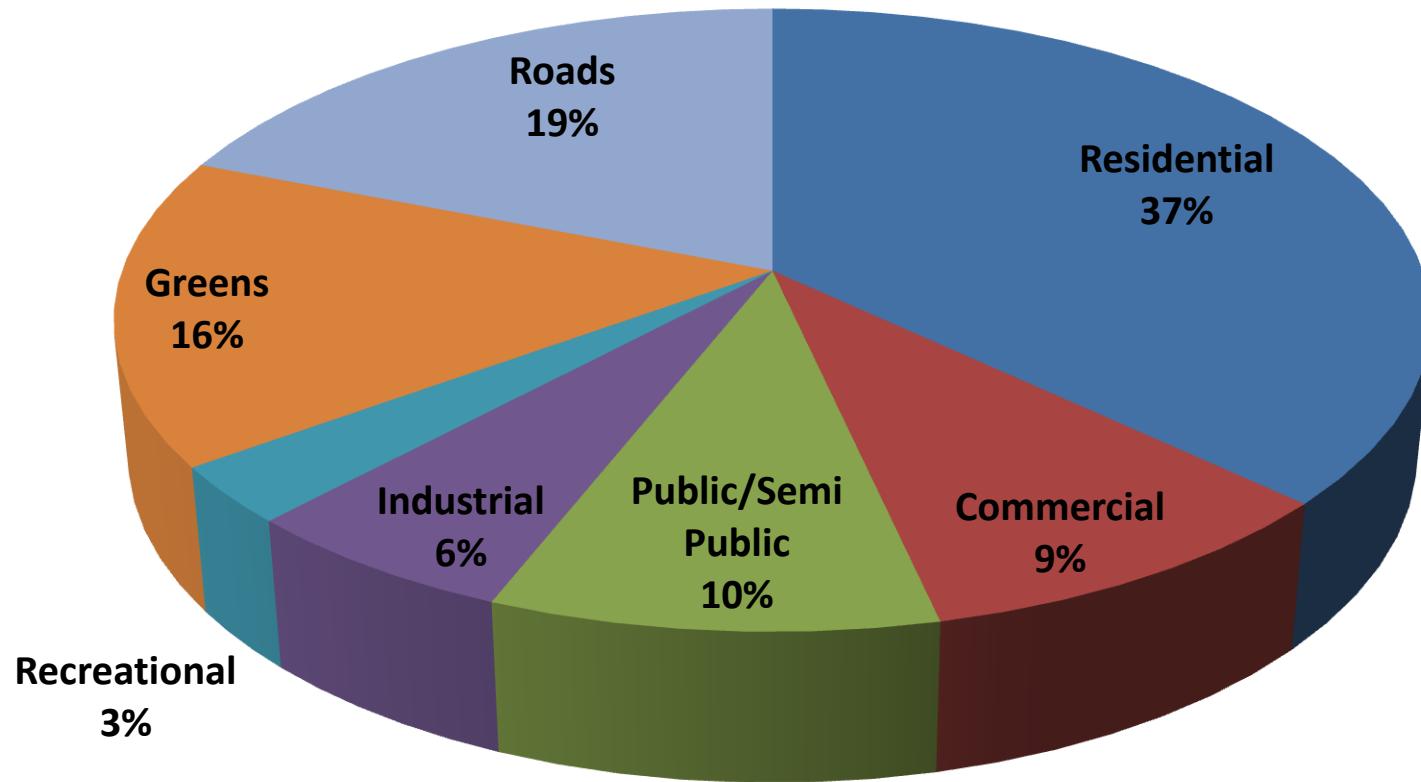
Sustainable Waste Management Strategies to be Adopted

Key Performance Indicators (KPIs) identified for the project

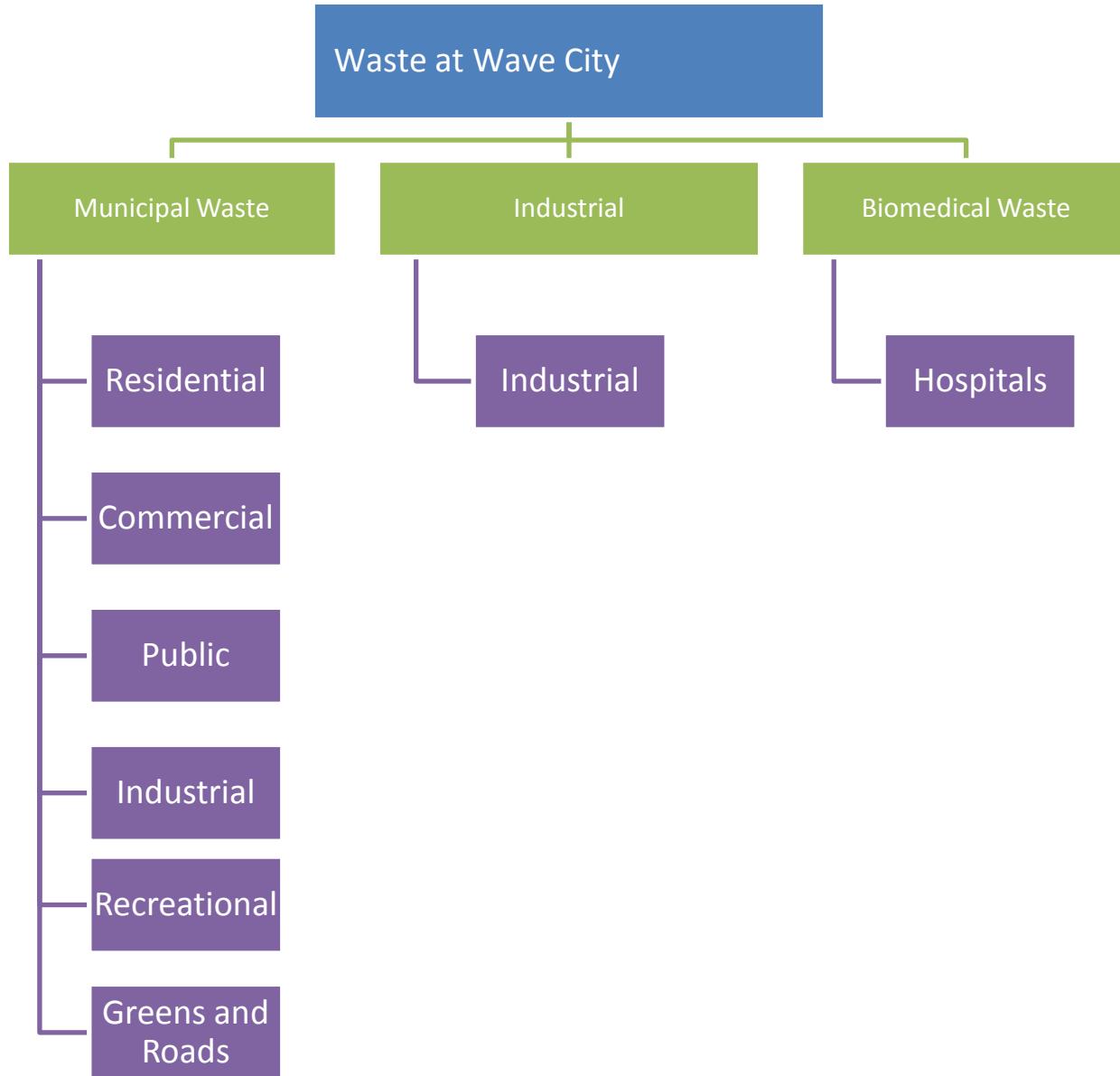
- Minimize waste generation
- Segregation of waste at source
- Clean roads/ parks/ open spaces with no sights of solid waste dumping and foul odour.
- In situ treatment of waste wherever possible
- LEED points from waste segregation and reduction in construction waste
- At least 50% recycle and reuse of Construction
- Zero incident-accident reported due to waste mismanagement



Land Use Distribution – Wave City



Category of Waste Generated

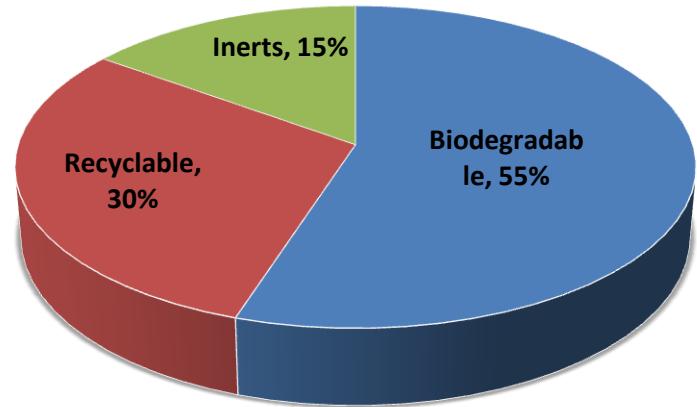


Total Waste Generation

Total Waste Generation from Wave City

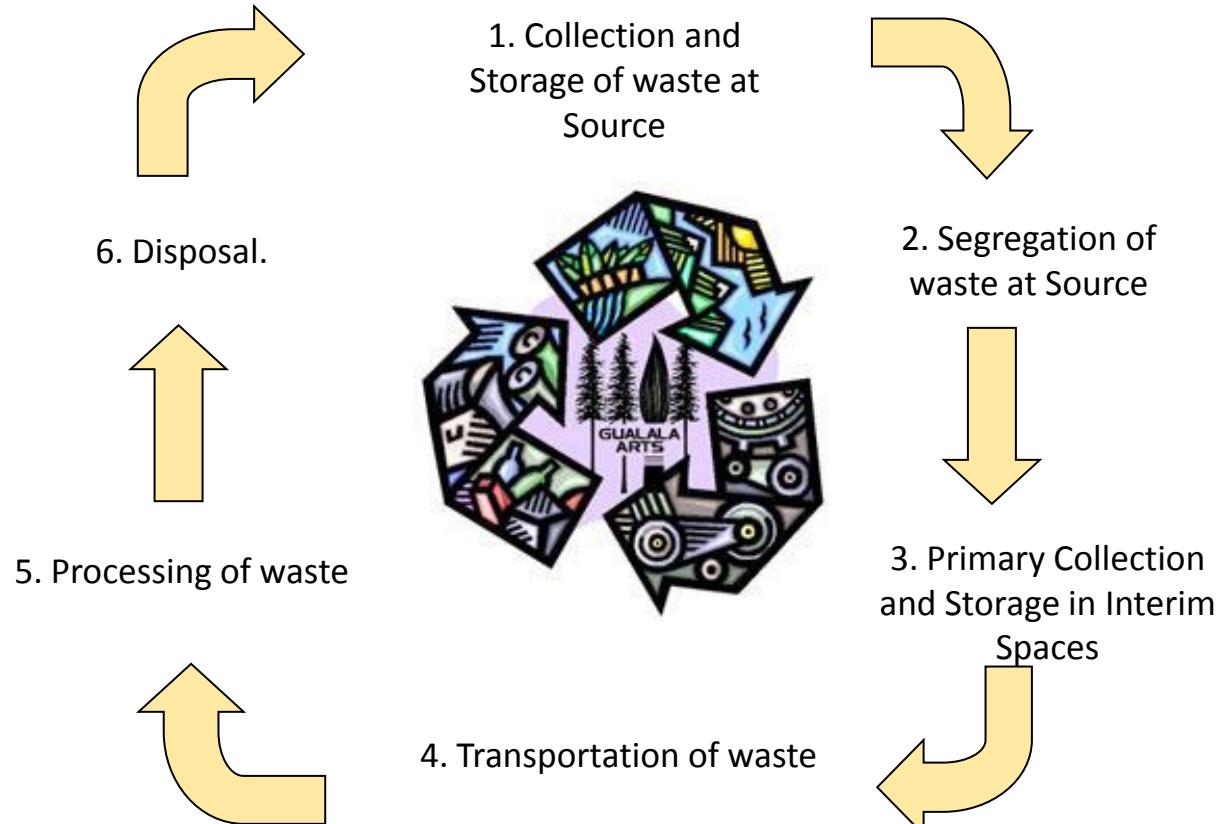
Service Area	Waste Generated (TPD)
HiTech	
Residential	303
Commercial	59
Public	17
Industrial	196+9 (205)
Recreational	1
Greens	8.5
Roads	7
TOTAL	601 TPD

Out of the total municipal waste generated, % fractions of waste streams



Industrial Waste will be stored, collected and treated separately and not to be mixed with MSW

Functional Elements of Municipal Solid Waste Management



Municipal Solid Waste Management

Source Segregation and Storage

- Residents dispose their household waste in two colored bins
 - **Blue colour** bin for recyclables
 - **Green colour** bin for biodegradable/ wet waste



Primary Collection

- Door to door collection through motorized vehicles
- Vehicles will have separate compartment for biodegradable and recyclable waste stream



Municipal Solid Waste Management

Secondary Storage

- Secondary storage will be through the use of Refuse Collector Bins(Twin), where the auto tippers unload the waste
- These bins will be placed at strategic locations in the residential blocks, commercial spaces etc



Transportation of Waste

- The refuse collector bins will be hydraulically lifted for emptying into the refuse collector truck
- Bins will be compartmentalized vehicles with an arrangement for compaction; this will reduce the volume of waste transported.
- GPS enabled vehicles for monitoring the status of bins



Municipal Solid Waste Management

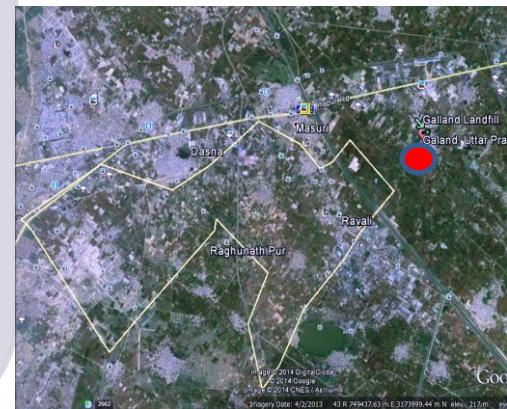
Sorting at Waste Storage Depot

- Waste will be unloaded from refuse collector trucks
- Containers of 5-20 cu.m would be kept at transfer station to receive waste from small vehicles
- Mechanical Sorting will take place and recyclables will be separated



Processing & Disposal of Waste

- Feasibility study is recommended to decide whether it should be set up within the proposed City limits.
- IWMF planned by GDC/GMC at Village Galland may be considered
- Inerts and Ash from WTE process will be sent to landfill site in Galand.
- Organic Waste Composter machines recommended for decentralised treatment of organic waste



Waste Processing Technique- Controlled Composting

Organic Waste Converter Machine 3.0 TPD

Ideal for:

- Segregated Organic Waste ; ideal quantities (1-3 TPD) generated in commercial units, Group Housings, garden waste
- Equipment cost : 20- 30 lakhs
- Area Requirement: <500 sq.m
- Estimated Compost Generation: ~ 1.0 TPD

Such localised processing of waste will reduce the quantity of waste reaching the IWMF site, also saving transportation cost.



Waste Processing/ Treatment Options

Technique/ technology	Type of waste	System requirement	Benefit	Recommendation
Waste to Energy/ RDF and associated Power Plant	Mixed waste	<ul style="list-style-type: none"> • Good calorific value of mixed waste • Shredding • homogenization • High maintenance • Pollution control devices 	<ul style="list-style-type: none"> • Electricity •Waste to landfill reduced 	Techno-Financial Feasibility to be checked
Composting (Controlled, small scale)	Garden waste/ trimmings/ Kitchen waste	<ul style="list-style-type: none"> • Organic Waste Convertors (OWC) units suggested 	<ul style="list-style-type: none"> •Sale of compost 	Recommended for garden trimmings/ kitchen waste
Biomethanation	Kitchen waste/ biodegradable waste	<ul style="list-style-type: none"> • High level sorting • High maintenance • Huge Area requirement 	<ul style="list-style-type: none"> • Cooking fuel to villagers • Electricity • Heat Energy 	Feasibility to be checked

Overall Waste Management Strategy

