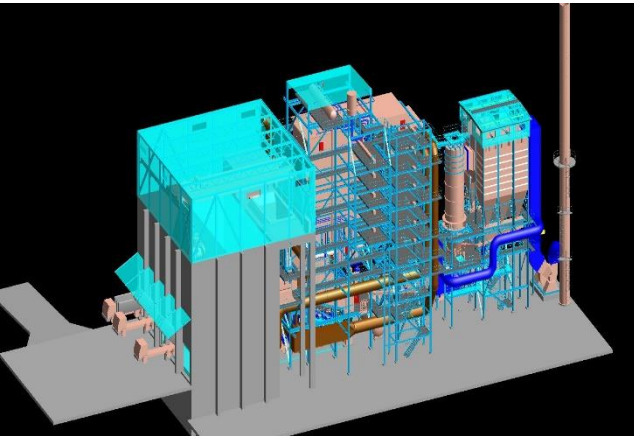


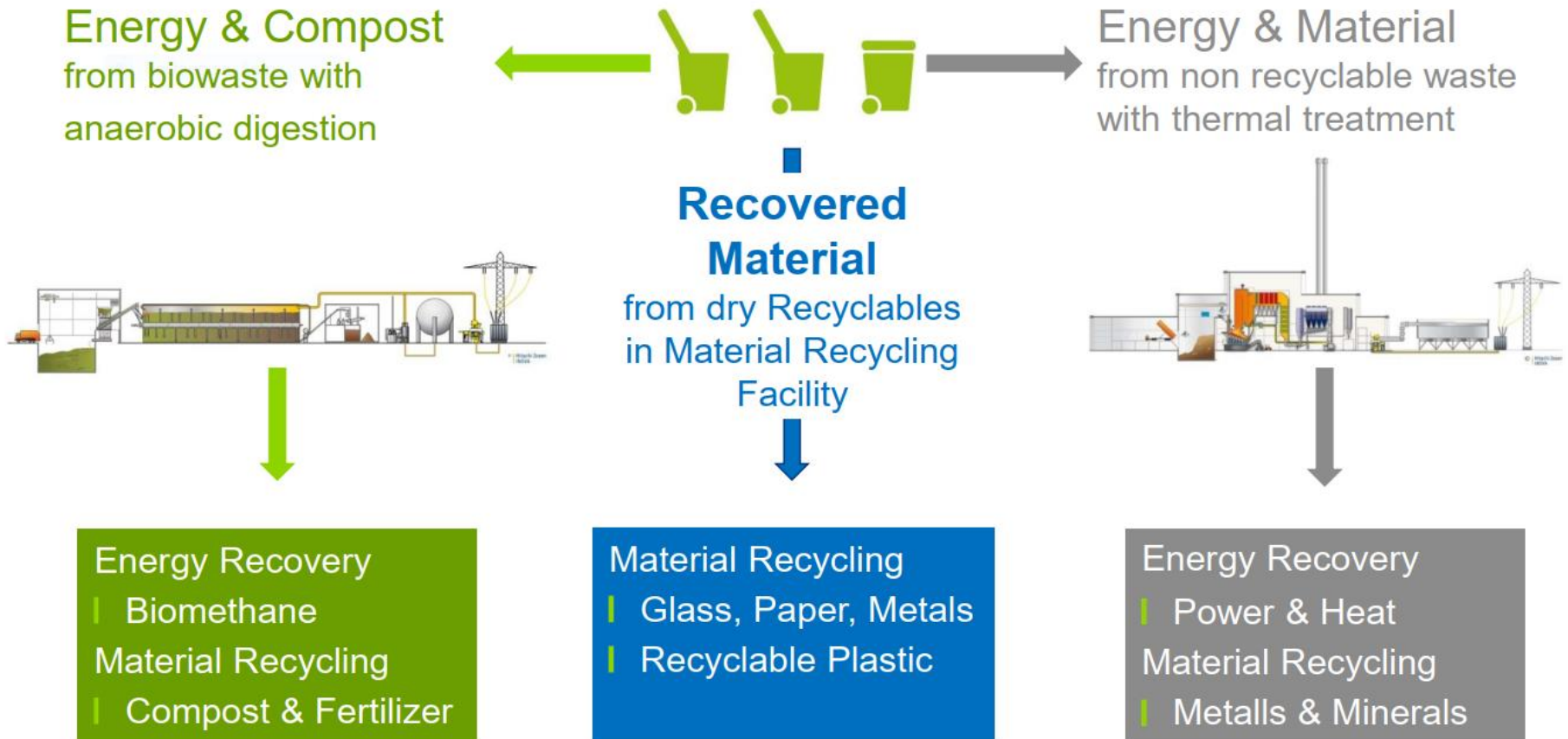
# HITACHI ZOSEN INDIA PVT. LTD

(A 100% SUBSIDIARY TO HITACHI ZOSEN CORPORATION, JAPAN)

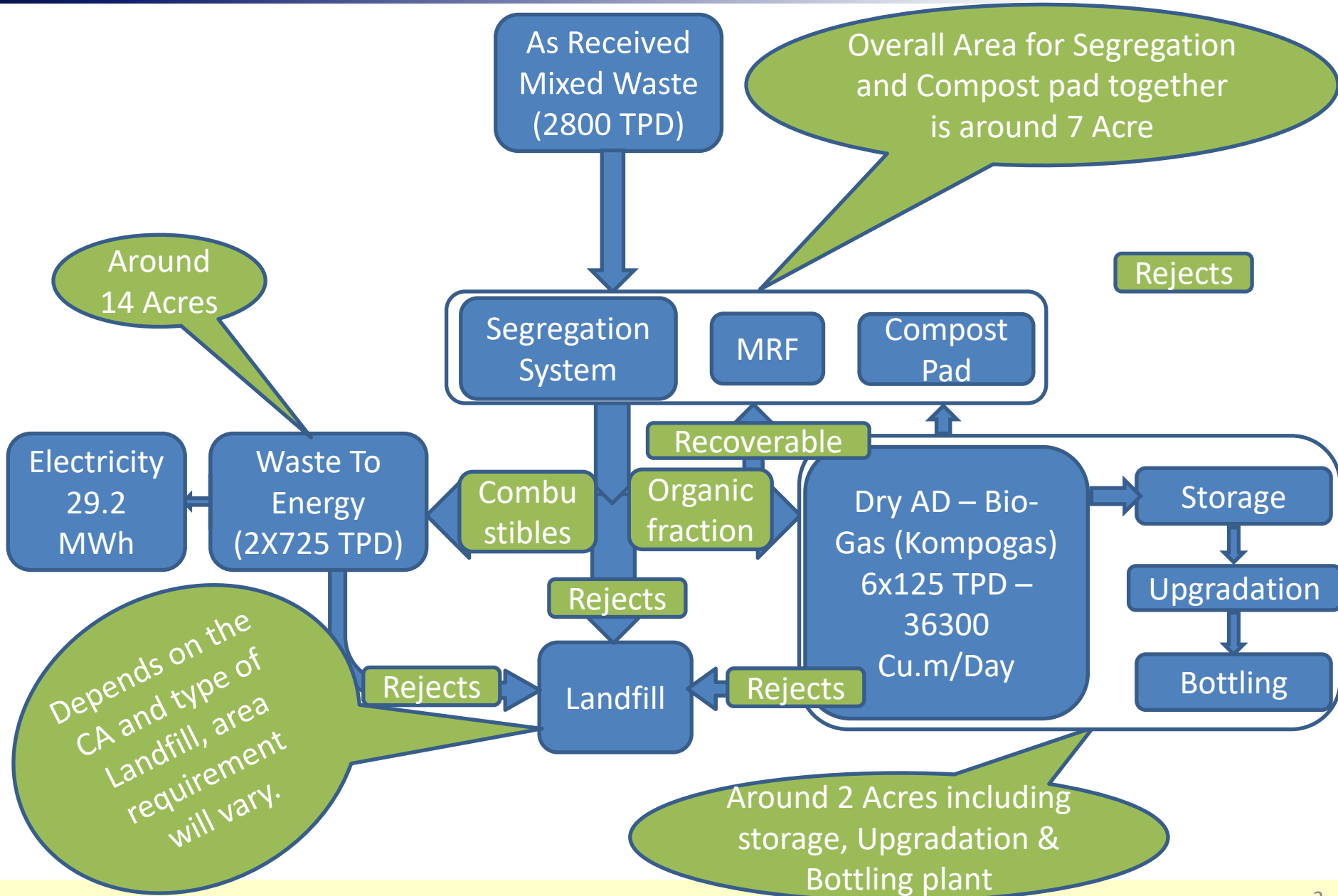


**PRESENTATION ON WASTE TO ENERGY  
(INCINERATION + BIO-GAS) CONCEPT**

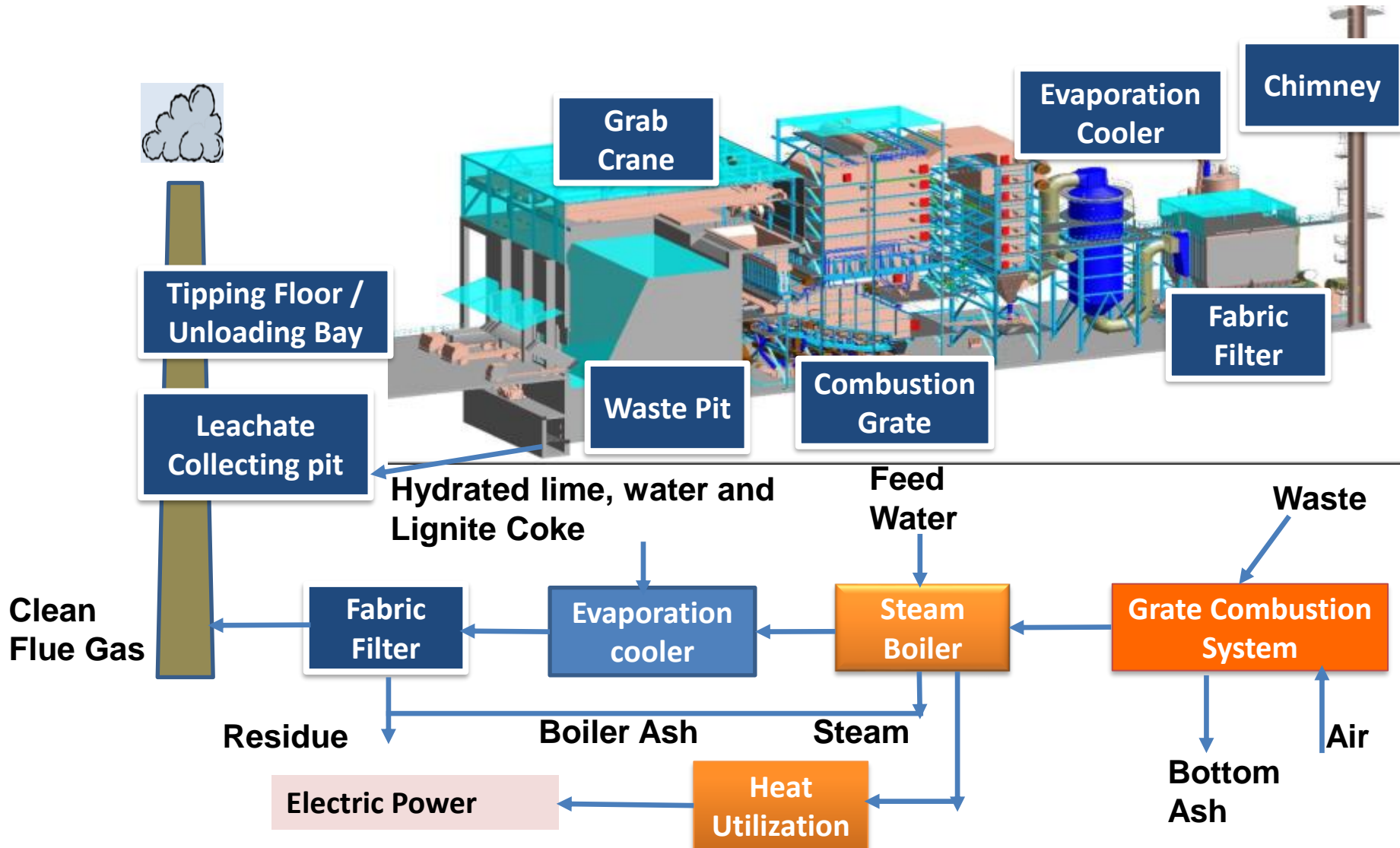
## Circular Economy Concept – Effective Processing Technologies



# Overall area requirement 2800TPD – Segregation, MRF, WTE & Bio-GAS



# Concept of WTE Technology



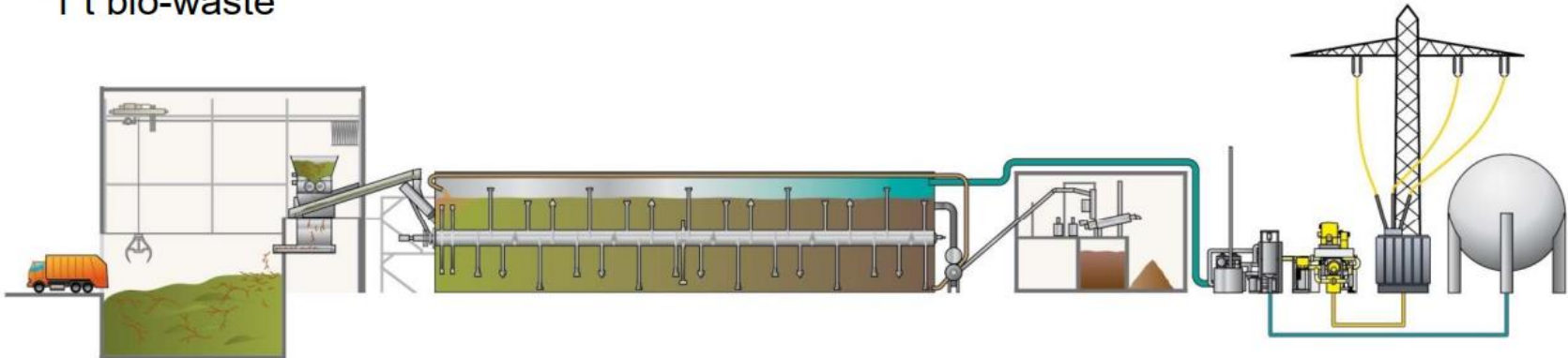
# Concept of Dry AD – Kompogas Technology

Food Waste

Green Waste



1 t bio-waste



Compost

Soil conditioner / Fertilizer



60 Nm<sup>3</sup> Bio-Methane  
replaces 60 l Petrol



or



250 kWh electricity

- Hitachi Zosen Corporation has been established on **May 29, 1934**, having head office at Osaka, Japan. Originally founded by **Mr. EH Hunter** in the year **1981 on 1<sup>st</sup> April**.
- Hitachi Zosen Corporation is having the capital of **332 million USD** as of March, 2022 and net sales of **3,225 million USD** as of FY2021 with an employee strength of 11,540 as of March, 2022.
- **Composite solution of WTE and Bio-gas**, adopting the best technologies adhering to the stringent EUROPEAN norms and also **Latest SWM Rules 2016** to generate **maximum energy** and minimal landfill.
- Installed more than **1350 WTE plants** across the Globe, with **130 Years** of WTE experience.
- Largest **WTE plant of 5000 TPD** is under construction at Dubai
- Our unique KOMPOGAS plug flow system is superior to all other technologies accepting higher **impurity content of 20%** and very less **recoculation rate of 5%**. Kompogas Technology can be operated with different types of organic waste.
- Around **100 Bio-gas** installations across the Globe.
- Largest Dry-AD Kompogas (Bio-Gas) plant constructed in **Doha with 825 TPD**.
- Strong, well committed and easily accessible engineering, SCM, QM, Project management and Site management set-up to execute the projects within the stipulated time frame with widest range of reputed suppliers.
- Hitachi Zosen as a Group is spread across **10 Domestic offices & 7 works in Japan and 60 Overseas offices & group companies**.
- Established office set-up in Hyderabad with **end to end** solutions in catering the **WTE and Bio-gas** requirements to India and Indian Sub-continent with **90% of Plant** and machinery are being **sourced in India**, to encourage the **“MAKE IN INDIA”** concept.

- The major Industry problems are highlighted as below
  1. Dedicated funding mechanism
  2. Things to be addressed under PPP model
  3. Effective Segregation system
- **Dedicated funding mechanism:**
  - There should be a separate funding wing specially to cater the financing needs of WTE under the central ministry. Through the central ministry the fund flow to the respective municipal corporation at a cheaper interest rate for ensuring the effective implementation of the ISWM (Integrated Solid Waste Management) projects. Municipal corporation should come forward and act as the developer with the direct funding from the central ministry; this will avoid the third party entry and their profit, which may become burden for the project implementation.
- **Things to be addressed under PPP model:**
  - There should be a fixed revenue stream for viability of the project. As the waste is heterogeneous in nature with variation in calorific value, often resulting into the variation in the power output. Hence, all the WTE plants are to be awarded on the basis of Tipping fee with year on year escalation along with reasonable PPA rate for the power produced.
  - WTE industry to be brought under GST free category. IDC waive off or reduced interest rate to be considered for achieving the commercial viability. Early realisation of power sale from Discom.
  - A special single window approval mechanism to be developed to avoid the delay in the statutory approvals. It is highly recommended to take care of all the statutory approvals by the municipal corporations. This will reduce, the pre-operative cost and its interest.
- **Effective Segregation system:**
  - This is to be mandatorily implemented and audited in integrated waste management. This will ensure the effective utilisation of different waste by adopting best technologies: Incineration for combustibles, Bio-Gas for Biodegradables and MRF for material recovery to promote the circular economy, enhance the maximum energy generation and minimise the landfill.