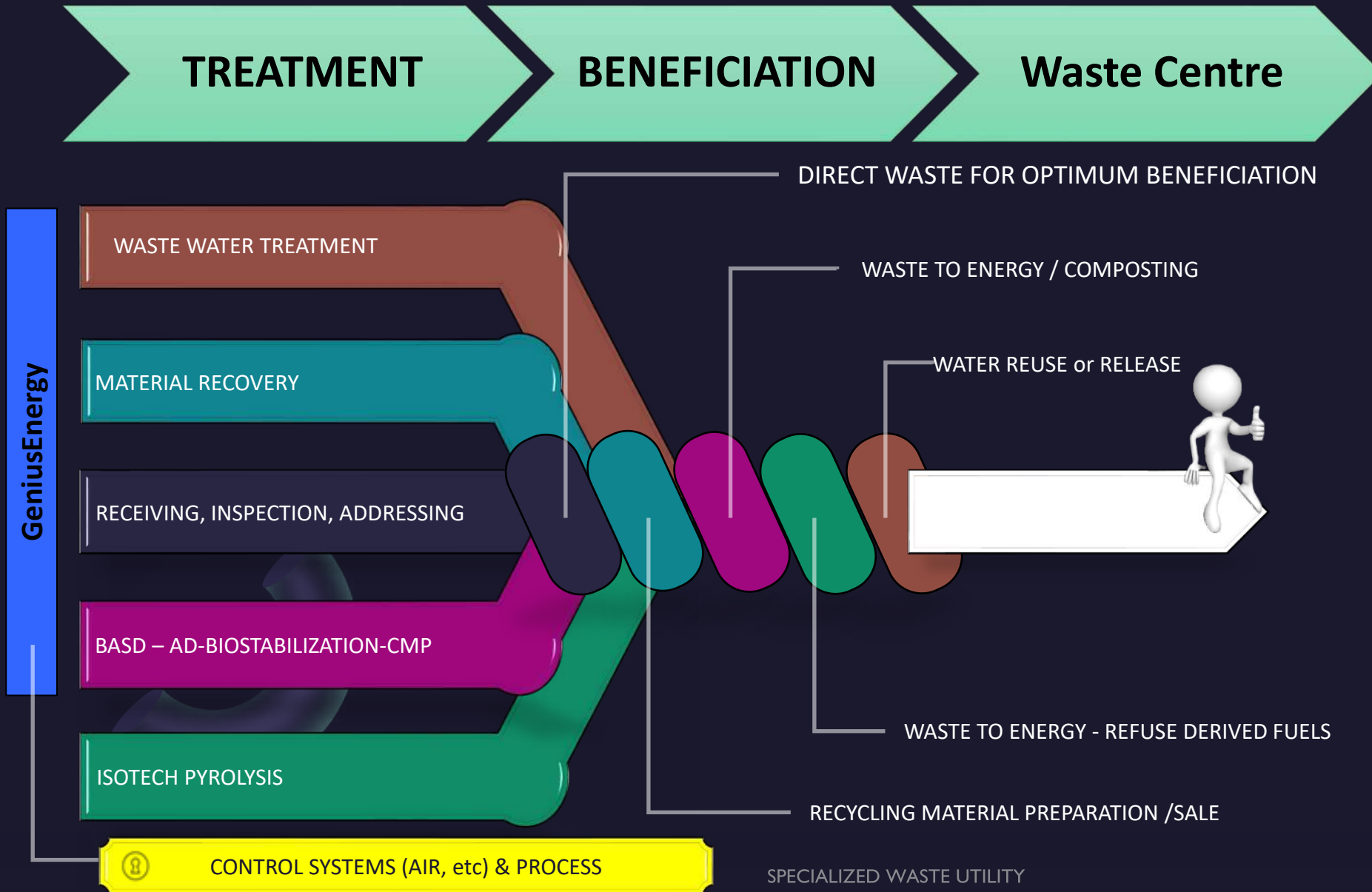


Integrated Infrastructure Management



What we Offer

- Green and Integrated solutions to Infrastructure Issues
- Full Turnkey Solutions
- Operations & Maintenance Service
- Tailor made equipment – integrated with OEM suppliers
- Integrated Infrastructure Optimization solutions
- PPA, Partnerships and Funding Opportunities
- Assistance with Regulatory Requirements (EIAs, MHIs, etc)



Sectors

- Waste Sub-sectors
 - Solid waste processing / beneficiation
 - Wastewater treatment / beneficiation
 - Air purification
 - eWaste treatment/benefication
 - Tyres treatment/benefication
- Green Power Generation
- Green Technology – Incubation / R&D / Implementation
- Operate & Maintain



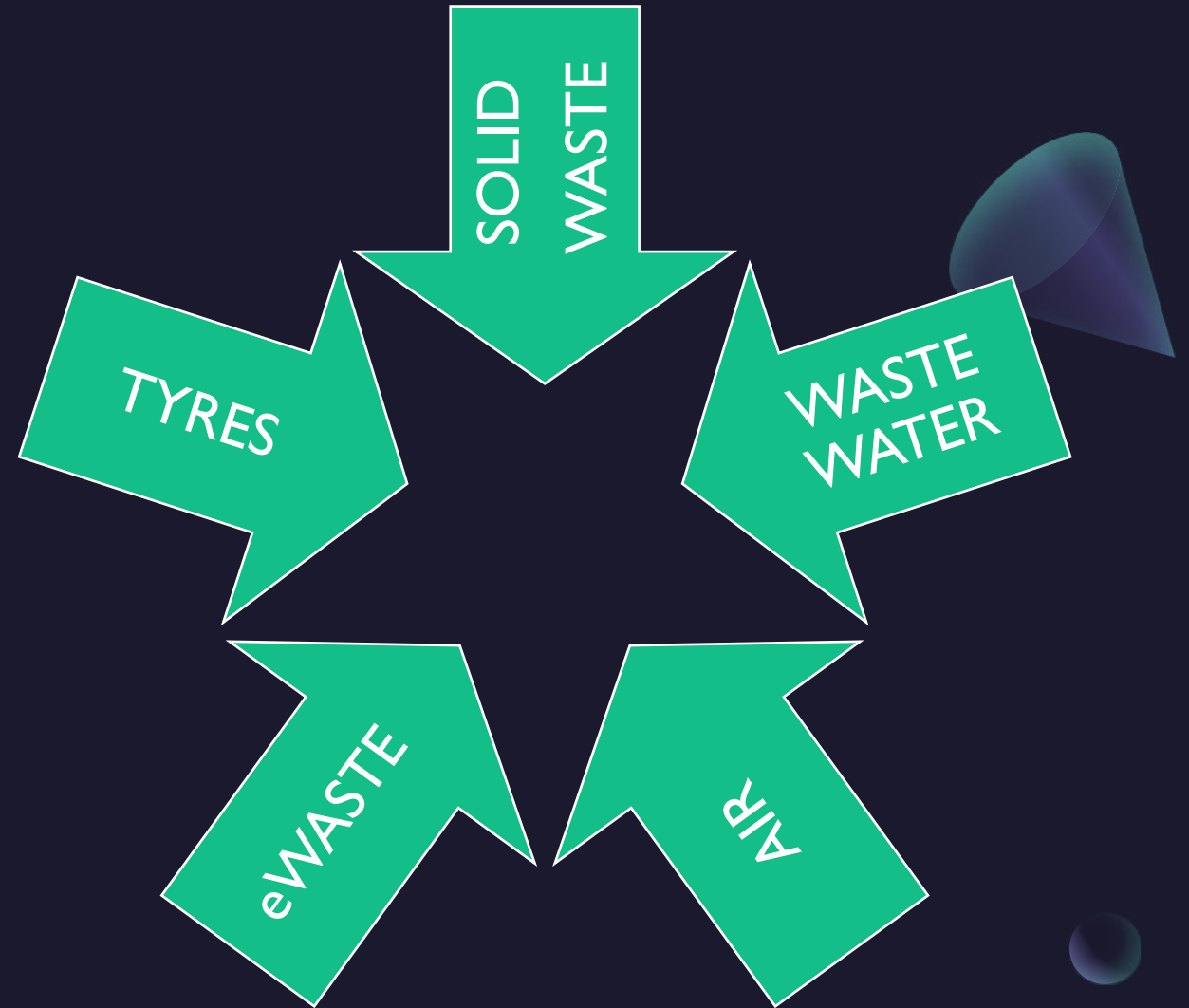


Driving Capacity Building & Carbon Reduction

- Developing an enabling environment in the industrial and public sectors for **Diversion of waste away from landfill, Wastewater Treatment/recovery, Environmental Protection and Beneficiation (Power, Heating, Composting)**
- Creating synergies with **technology, solution providers, investors and funders**
- **Sustainability and Feasible**

The Need

- Industry saddled with poor technology
- Lack Operations & Maintenance skills
- Opportunity for Integration of common products
- Convert WASTE as a resource
- No compliance penalties
- Costly Waste Centres and Logistics
- Environmentally positive



WHY OUR SOLUTION?

COMPACT & MOBILE



“Make the **water drinkable**, **reusable** and **accessible** for everyone”

SYSTEM DESIGNED TO MANAGE VARIATION
IN FEED

LITTLE TO NO DOWNTIME FOR LARGE
SYSTEMS

✓ MAJOR EQUIPMENT
ALWAYS AVAILABLE INSTANTLY

ADAPT TO EMERGENCY SITUATION

FLOODS OR DROUGHS, EARTHQUAKE, IN REFUGEE CAMPS, OR AS EQUIPMENT IN
MOBILE OR TEMPORARY PROJECTS OR AS STABLE INSTALLATIONS FOR VILLAGES,
COMMUNITIES OR MISSIONS.



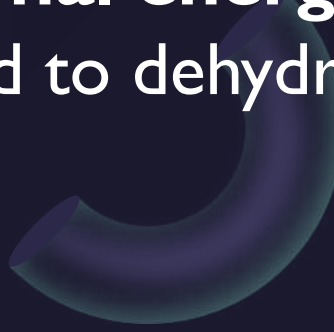
MODULAR APPROACH

- Ease of expansion of capacity
- Adaptable to various types of feedwater
- Adaptable to varying level of filtration requirements
- Time to deploy
- Minimal civil works requirements
- Ability to collocate to other waste activities – achieve economies of scale
- Locate closer to source of feedwater, distribution network or residential mass
- Lower risk of failure of spillage
- Self sustainable – power
- Reduced energy demands compared with large scale WWTW



Integrated Waste Management - Energy

A large, semi-transparent sphere with a blue-to-purple gradient is positioned in the upper right corner of the slide.

- **The Anaerobic Digestion (AD)** platform - hydro-soluble organic matter producing methane CH_4 used in energy generation
 - The **Pyrolysis** platform - is feed with a hydraulic polyp/ dehydrated MSW/waste tyres/ producing syngas used in energy generation
 - **Landfill gas** extracted from existing landfill blended with gas produced
 - **Thermal energy** produced from waste heat recovery – portion applied to dehydration process for wastewater solids and MSW
- 
- A large, semi-transparent ring with a blue-to-purple gradient is positioned in the lower left corner of the slide.

Renewable & Transition Power Solutions



The capacity of design, procure and install PV Solar and other renewables.

Ability to procure, install and operate LNG/Gas Pipeline/Dual Fuel Solutions

Project Funding Models

Option 1 – Fully Funded

- Project 100% Funded for Execution Phase.
- Company de-risks project (FEED up to bankability)
- Can Includes Grants

NB. Conditions not limited to feed and offtake agreements from (Municipality and/or partners)

Option 2 – Shareholding Structure (Invested Returns)

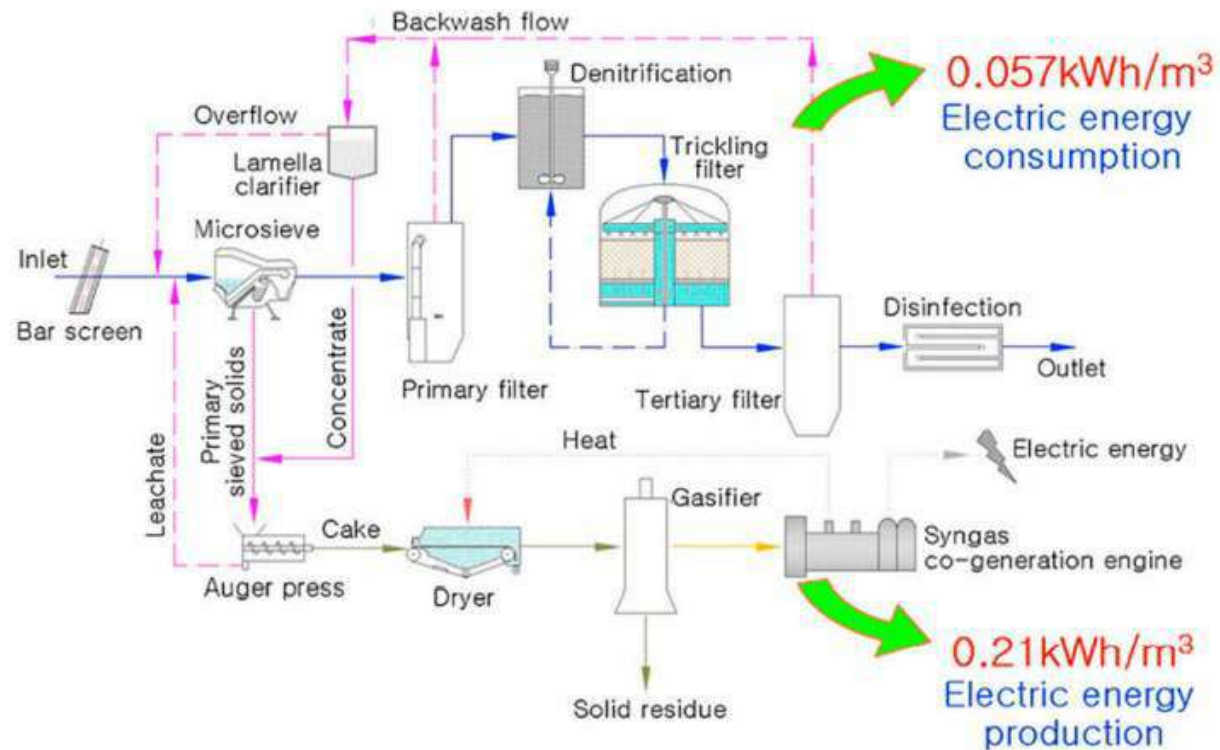
- Funding % by Company (or eg. Operating Company or Municipality's Partner).
- Company de-risks project (FEED up to bankability), Project shareholding structures established and pay for project according to ownership.

NB. Conditions not limited to feed and offtake agreements from (Municipality and/or partners)

Wastewater Treatment Plant, Germany



Figure Energy-autonomous WWTP in Gera, Germany



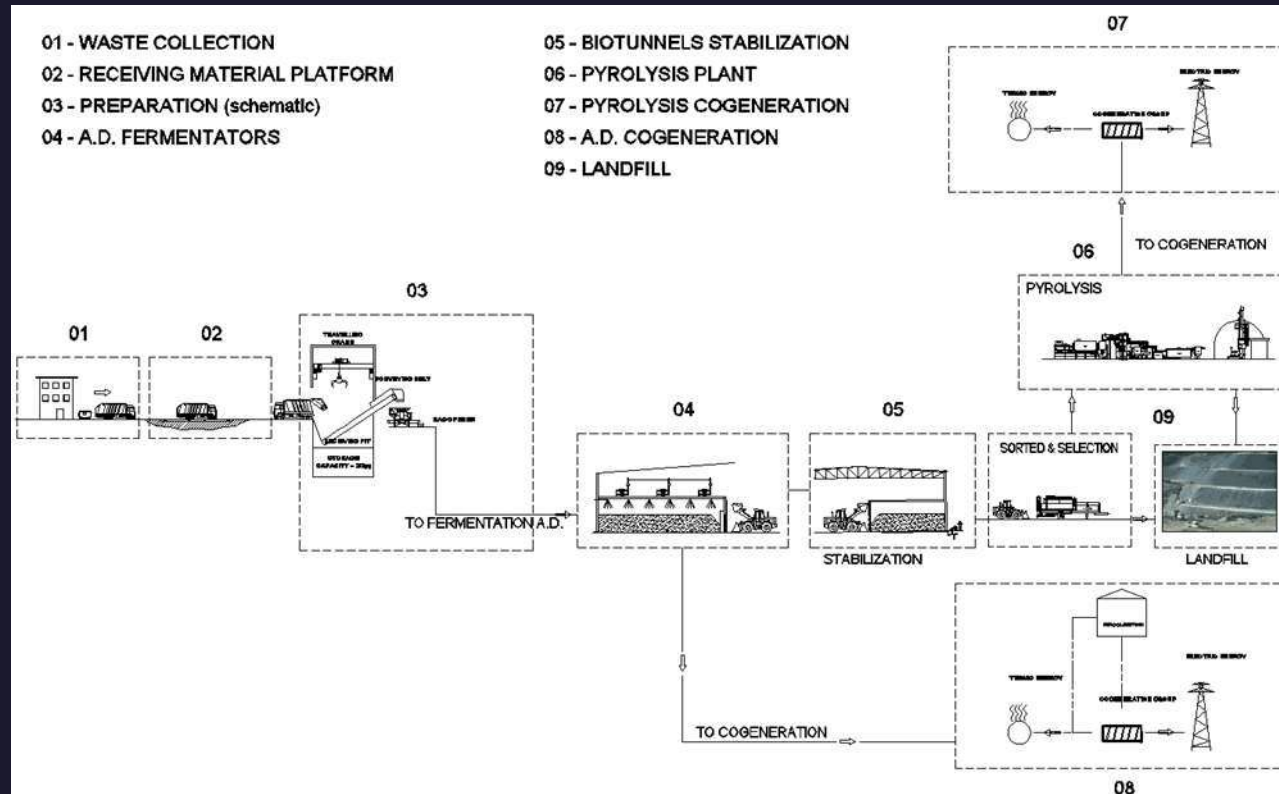
One third for own used – two thirds exported to grid



SOLID WASTE SOLUTIONS



Integrated Waste Management

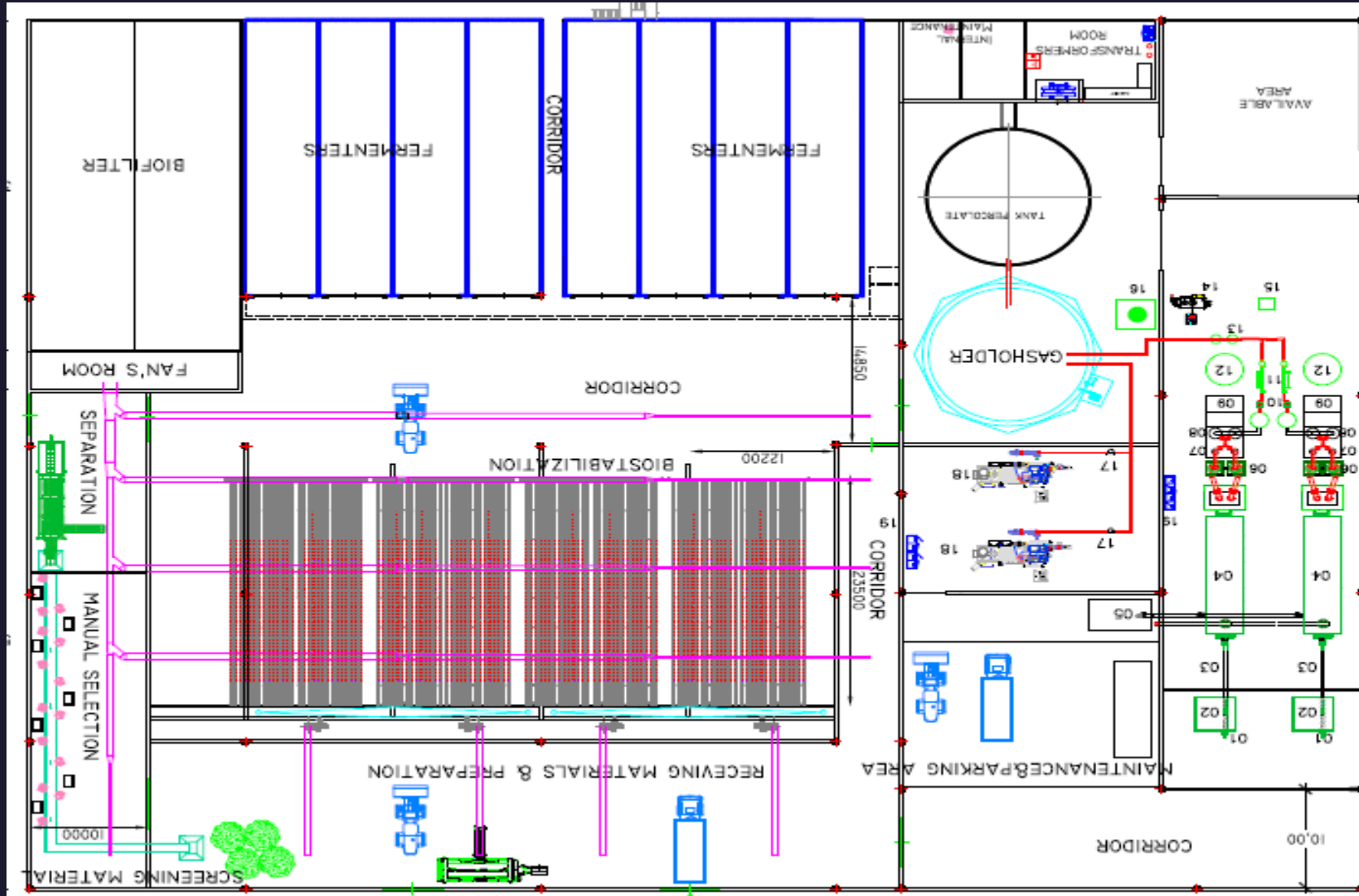


a. Materials Receiving – Mechanical and automated separation.

b. Waste Treatment- Waste streams intended for disposal would be subjected to specialized treatment namely anaerobic digestion, hygienisation, bio-stabilisation and pyrolysis which will reduce the effected waste streams by 90% thereby creating lesser demand of landfill sites. This process produces gas (biogas and syngas) that will be used in electricity generation. This process reduces waste volumes by up to 90%, thereby reducing utilization of the landfill sites., thereby reducing the need to utilize electricity from the grid

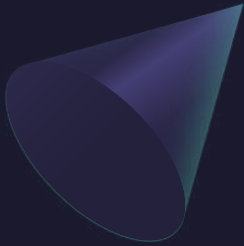
c. Waste to Energy - The gas produced in the waste treatment cycle is used as a fuel source for a Combined Heat and Power (CHP) Generator with a capacity of 2MW.

Integrated Waste Plant



SPECIALIZED WASTE SOLUTIONS





Waste Tyres

Medical Waste

eWaste

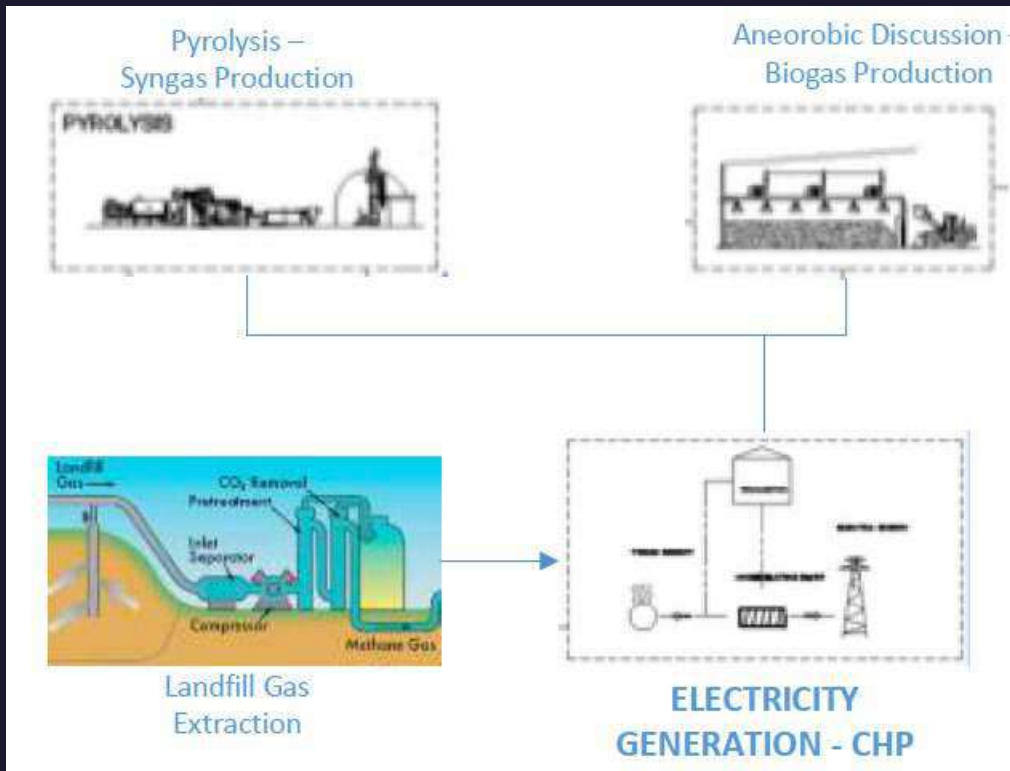
Biomass

Aggregate

POWER GENERATION SOLUTIONS



Integrated Waste Management - Energy



- **The Anaerobic Digestion (AD)** platform - hydro-soluble organic matter producing methane CH_4 used in energy generation
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MSW to Energy – Oslo, Norway



The capacity of the new unit is 160,000 t/year, producing 55.4 MW heat (heat demand of 40,000 households) and 10.5 MW electricity (electricity consumption of 20,000 households).

Fortum Oslo Varme is jointly owned (50/50) by Fortum and the City of Oslo, and it is the largest supplier of district heating in Norway supplying 36 percent of district heating generated in Norway in 2021. It sold 1.8 TWh of district heating and generated 0.1 TWh of electricity in 2021.

Renewable & Transition Power Solutions



The capacity of design, procure and install PV Solar and other renewables.

Ability to procure, install and operate LNG/Gas Pipeline/Dual Fuel Solutions

SOCIO ECONOMIC IMPACT

- Responsiveness to Emergencies
- Capacity building – Water / WWT/ MSW
- Service Delivery
- Growth Opportunities for municipal employees
- Investment and Public Private Partnership
- Improved environmental, health & safety conditions
- Contribute to resolving energy crisis

Municipality

Enterprise Development

- Partnership with local business
- Encourage investment in public infrastructure
- Create opportunities for new industries
- Waste as a resource

Job Creation

Technology

- New Jobs Created
- New Job profiles
- Opportunities for Woman and Youth in Water & Waste Management

- Adaptability to latest technology
- Implement energy efficiency