



W O I M A

CORPORATION

USE CASE



DECENTRALIZED
WASTE-TO-ENERGY
SOLUTION



DECENTRALIZED WASTE-TO-ENERGY SOLUTION

Waste is typically available in abundance everywhere. Urbanization, growing middle class, industrialization and economic growth are the main drivers behind accelerated waste generation. Waste can act as a raw material for manufacturing industries or as fuel for power production. But, the challenge lies in the collection, transportation and sorting of the waste for further utilization. Decentralizing power generation simplifies the waste logistics and offers significant savings.

One of the key barriers to economic development in many countries is the lack of energy. It is a vicious circle really; lack of energy means lower manufacturing rate, which translates to weak exports and shortage of foreign currency for fuel import purposes. And building power generation facilities alone is not enough. There must be a simultaneous power distribution network development plan as well.

A combination of locally available fuels, decentralized power production and electrical micro grids is the right solution for the problem. Waste can be the local fuel available for power production. However, its low density and caloric value mean that the power plant has to be 'the right size' for operations to be economically viable. This supports the distributed power production scenario. Local low voltage micro grids already exist in cities and, in any case, upgrading them is much simpler and more cost-efficient than building long-distance high-voltage networks.

The modular *wasteWOIMA*® waste-to-energy power plant has the right characteristics to solve both the energy shortage and waste management challenges. It offers local communities electricity and thermal power for household use as well as for small and medium-size enterprise development. The modular nature of the plant ensures that exactly the right size plant will be built in each location. The size can be chosen based on easily available waste fuel quantities or local energy demands.

Waste to fuel the plant is collected locally in an area of 100,000 to 500,000 people, the waste pre-sorting solution separates usable materials like glass and metals for recycling and the generated energy is fed directly to local grids. Thus, there is no need for excessive infrastructure investments. And as communities evolve over time, the *wasteWOIMA*® power plant can be easily and quickly dismantled and moved to a new location.

The modular *wasteWOIMA*® power plant uses non-toxic municipal, institutional, commercial and/or industrial waste to generate super-heated steam, electricity, thermal energy and/or potable water. The required waste quantity is roughly 170 tons per day, which translates to 3.7 MW_e of electrical power or 2.0 MW_e / 10 MW_{th} in co-generation. The plant is easily delivered, quick to install, cost-efficient to run and simple to maintain offering all stakeholders significant benefits.

BENEFITS:

WASTE MANAGEMENT

- Creating new business potential
- Simplifying waste logistics
- Reducing environmental impacts
- Matching future regulations
- Postponing landfill investments
- Green image benefits



POWER & UTILITY

- Decentralizing power generation
- Enabling off-grid solutions
- Offering fuel & production flexibility
- Harnessing endless fuel source
- Utilizing carbon credit schemes
- Fast plant delivery

INVESTORS

- Excellent return on investment (ROI)
- Scalable business model
- Diversified investment portfolio
- Vendor arranged funding
- Fast project roll-out
- Plant relocation option



OTHER STAKEHOLDERS

- Turning waste into local welfare
- Health & environmental benefits
- Local reliable energy supply
- Educational & job opportunities
- Improving living conditions
- Implementing development funding



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