



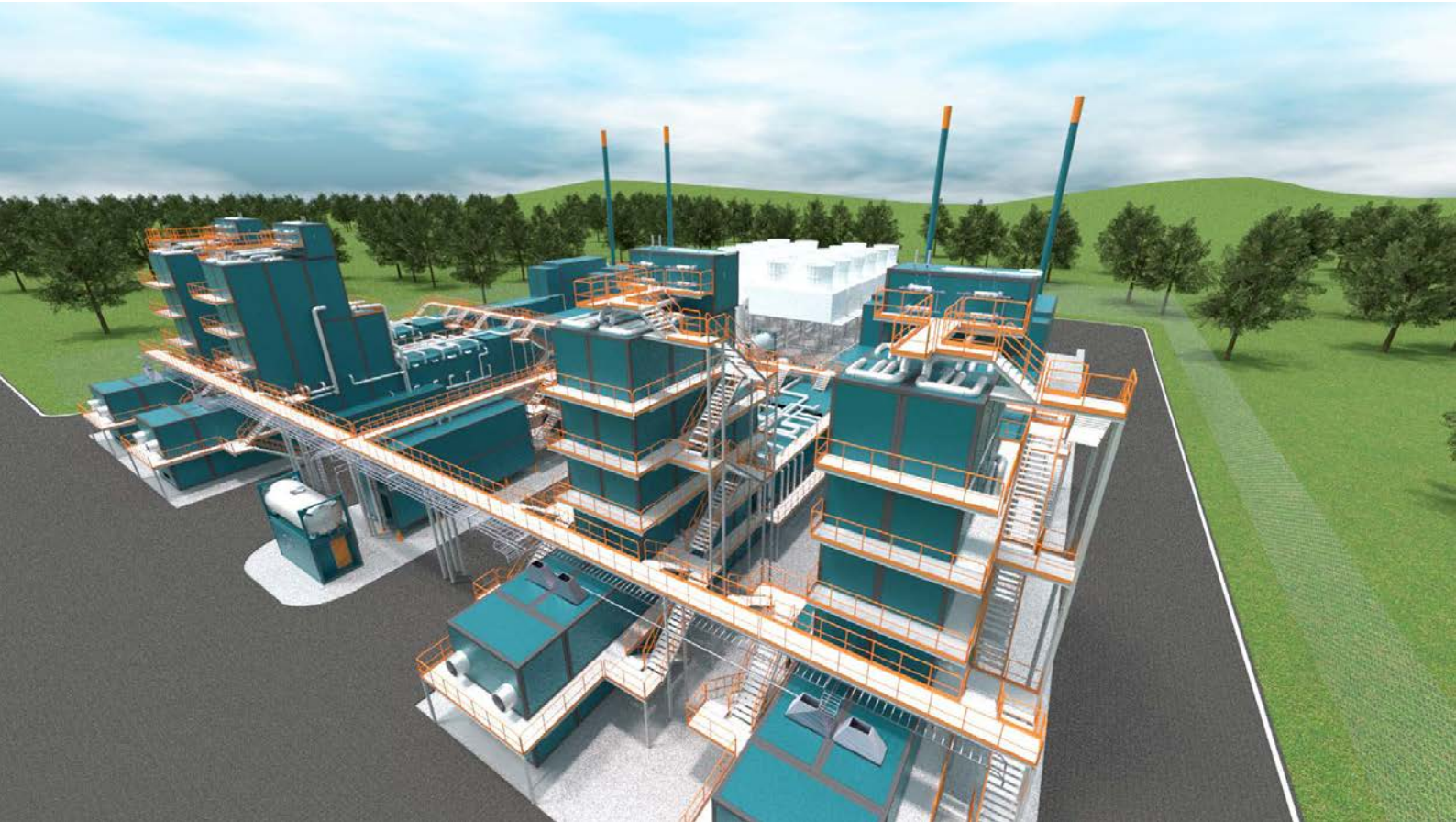
W O I M A

CORPORATION

BROCHURE



wasteWOIMA®



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THE MODULAR WASTE-TO-ENERGY POWER PLANT

Municipal Solid Waste (MSW), more refined Refuse Derived Fuel (RDF) and other waste fractions are available in abundance everywhere in the world. They offers several business opportunities in reuse, recycling and incineration for energy. Yet, it remains an under-utilized resource, especially in the developing countries, which would benefit the most of a local energy source. Similarly, the solution reduces the quantity of waste placed in landfills and improves people's health and general living conditions.

Power grids are failing or non-existent in the developing countries. Waste collection is a challenge and scarce foreign currency is wasted on fuel imports. Therefore, solutions supporting micro-grids and local SMEs, while improving both the state of the environment and the national balance of payments, are highly sought after.

The *wasteWOIMA®* relies on a collection area of 100,000 - 500,000 inhabitants, while generating

- electricity
- thermal energy
- potable water

enough for a city of ~20,000 people. Naturally, the energy is also available in the form of steam (400°C / 40 bar) for e.g. industrial processes.

The *wasteWOIMA®* power plant is a robust and modular medium-scale power plant using 30,000 to 200,000 tons of waste annually, depending on the quality of the waste. It is designed for a 30-year lifespan in the harshest of conditions. The design is based on 20' and 40' sea containers, which simultaneously act as

- easily transportable units
- secure enclosures
- installation platform for technical solutions
- protective housing on-site

The business model relies on high level of pre-fabrication, locally sourcing the unsophisticated components, short construction and installation time on site, simple maintenance and advanced automation requiring very little manpower.

The *wasteWOIMA*® power plant's modularity is based on a *WOIMAline* (powerline) ideology. The plant consists of one to four *WOIMAlines* each capable of producing

- 3.4 MW (gross) or 2.7 MW (net) of electricity or
- 2 MW_e (gross) and 10 MW of thermal power or
- 17 t/h of steam (@400°C / 40 bar)

Additionally, there is capacity to produce 200 m³ of potable water daily, provided a raw water source is available.

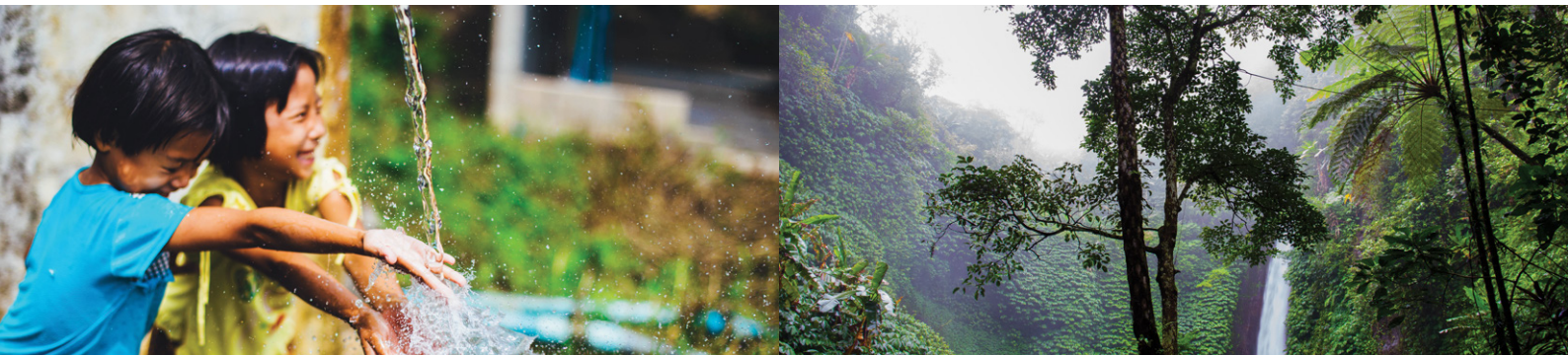
The *wasteWOIMA*® is capable of handling a wide range of non-toxic solid waste fuels, such as

- municipal solid waste (MSW)
- refined waste fuels (REF, RDF or SRF)
- industry, commerce and institution waste (ICI)
- construction and demolition waste (CDW)
- agricultural waste (AW) and
- different biomasses, such as EFB, rice husk...

The fuel calorific value range is 7 – 16 MJ/kg with moisture up to 55%. The plant automatically adjusts itself to the variations in fuel quality and quantity to deliver a constant stream of energy.

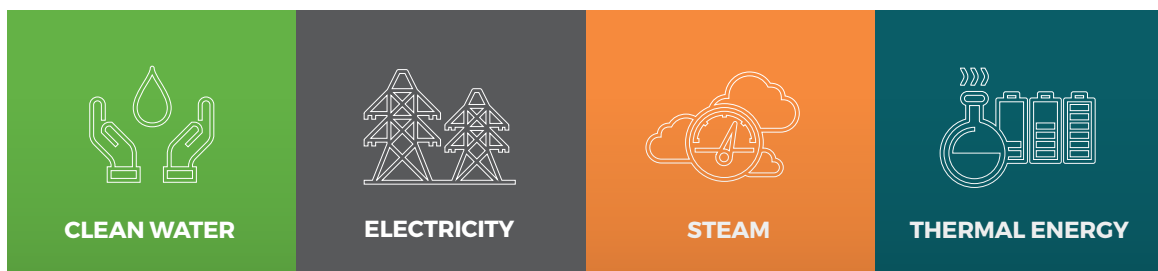
The basic plant design can be complemented with several different standardized auxiliary systems. They are also designed to fit into the modular plant approach. An additional system could be

- an evaporator to produce boiler water and/or safe potable water
- a reverse osmosis installation for demineralized water
- a landfill leachate treatment system
- a flue gas scrubber to utilize the latent heat otherwise lost through the stack
- an Organic Rankine Cycle (ORC) electricity generation module instead of the steam turbine



KEY FACTS

- Easy to build; established on a concrete slab of 1,500 - 5,000 m²
- Erection and commissioning within 4 months of delivery
- Simple operation; robust and proven technology
- Safe operation under any conditions
- Easy exchange of broken or worn-out plant components
- Remote monitoring of plant performance
- Capable of producing electricity, thermal energy and potable water
- Complies with the EU Emission Standards





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