



W O I M A

CORPORATION

BROCHURE



*waste*WOIMA15



## **wasteWOIMA15**

### THE MODULAR WASTE-TO-ENERGY POWER PLANT

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Municipal Solid Waste (MSW), the more refined refuse-derived fuels (RDF, REF, SRF) and other waste fractions are available in abundance everywhere in the world. They offer interesting business opportunities in reuse, recycling and incineration for energy. Yet, waste remains an under-utilized resource, especially in the emerging countries, which would benefit the most of a local energy source. Simultaneously, the solutions help reduce the waste quantity waste arriving at landfills and improve people's health and living conditions.

The on-going green transition away from fossil fuels and towards renewable and sustainable power generation is changing the whole global energy market. Waste fuels can play a key role in decarbonizing the energy sector. Every year, close to 70 billion tons of waste is generated, and wasted. The energy contained in the waste could fulfill up to 10% of the global annual power demand.

The *wasteWOIMA15* plant using MSW, relying on a collection area of -100,000 inhabitants, generates

- steam
- electricity
- thermal energy

The plant can power a city of -10,000 people, provide superheated / saturated steam for local industries or thermal energy for the local district heating network.

The *wasteWOIMA15* power plant is a robust and modular small-to-medium-scale power plant using 20,000 to 200,000 tons of waste annually, depending on the quality of the waste and the number of *WOIMALines*. It is designed for a 25-year lifespan in the harshest of conditions. The design is based on 20' and 40' modules, which simultaneously act as

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

The *WOIMA* business model relies on high level of pre-engineering and pre-fabrication work, short construction and installation time on site, simple maintenance and advanced automation requiring very little manpower to operate the plant.

The *wasteWOIMA15* power plant's modularity is based on a *WOIMAline* (boiler island) ideology. The plant consists of one to four *WOIMAlines* each capable of producing

- 3.7 MW (gross) or 3.2 MW (net) of electricity or
- 2.4 MW<sub>e</sub> (gross) and 10 MW of thermal power or
- 18 t/h of steam (400°C @ 40 bar(g))

Naturally, a combination of the different energy commodities is also possible.

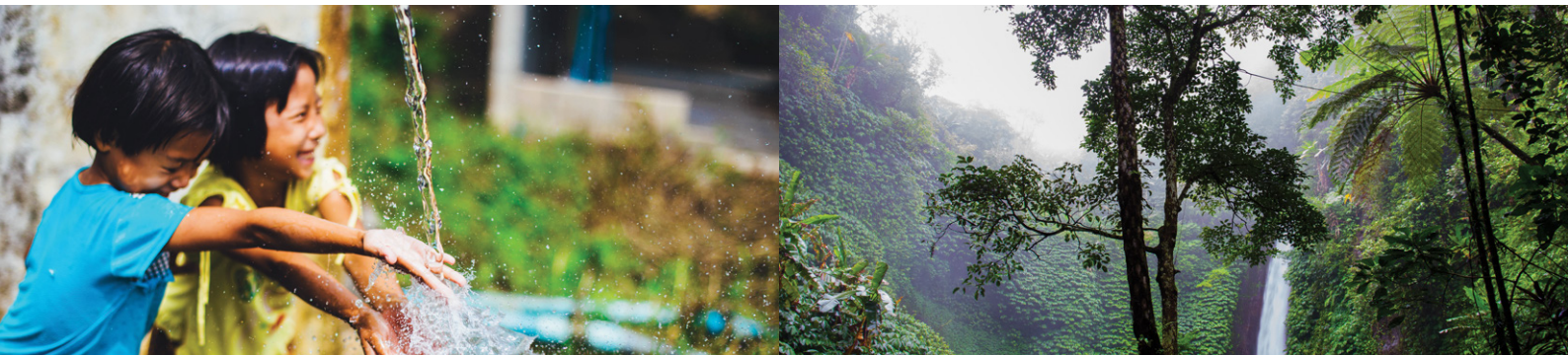
The *wasteWOIMA15* is capable of handling a wide range of non-toxic solid waste fuels, such as

- 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 *wasteWOIMA15* plant equipped with an air-cooled grate can handle fuels with calorific value between 7 and 16 MJ/kg. The optional water-cooled grate expands the range to 24 MJ/kg. In both cases the maximum fuel moisture is 55%. The plant adjusts itself automatically to the variations in fuel quality and quantity to deliver a constant stream of energy.

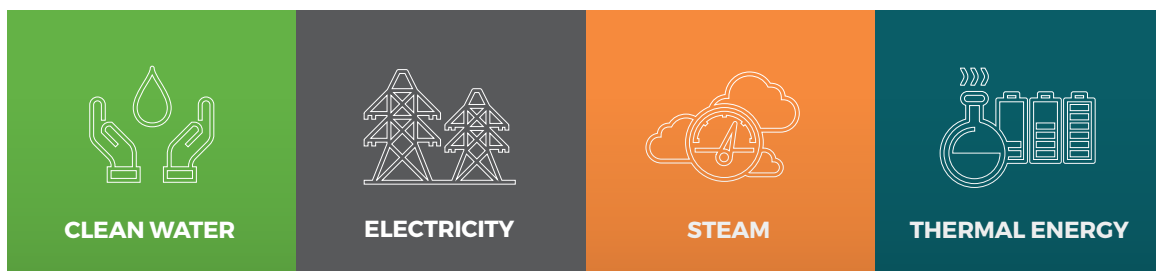
The plant can be complemented with several modular standardized auxiliary systems, such as

- a waste pre-sorting solution enabling efficient waste recycling
- a *ccWOIMA* carbon capture solution enabling carbon-neutral or even carbon-negative power generation
- a reverse osmosis water plant for demineralized and/or potable water production
- a flue gas scrubber to utilize the latent heat otherwise lost through the stack



## KEY FACTS

- Easy to build; established on a concrete slab of 1,000 - 4,000 m<sup>2</sup>
- Erection and commissioning within four 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 and thermal energy for heating or cooling
- Complies with the EU Emission Standards
- Fulfills EU Power Plant Efficiency Requirements (R1)





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