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.

**wasteWOIMA15**

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

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 WOIMA lines. 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, (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 woima 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 m²
- 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)
CONTACT INFORMATION

Henri Kinnunen
Chief Executive Officer
henri.kinnunen@woimacorporation.com
+358 40 835 8974

Tapio Gylling
Chief Operations Officer
tapio.gylling@woimacorporation.com
+358 50 347 2799

Tapani Korhonen
Chief Technology Officer
tapani.korhonen@woimacorporation.com
+358 44 989 1513

Joona Piirto
Chief Project Officer
joona.piirto@woimacorporation.com
+358 50 387 9883

POSTAL / VISITING ADDRESS
Virtaviiva 8F
65320 Vaasa, FINLAND
www.woimacorporation.com
info@woimacorporation.com