



High-tech combustion chambers using grate technology guarantee an optimum process with low emissions and high residue quality.



Highly sophisticated cleaning processes assure low emissions complying with the world's strictest standards.



Permanent control of the whole process ensures a safe operation with optimal energy recovery and flue gas cleaning.

Energy-from-Waste

is the ecologically and economically most appropriate solution for non-recyclable domestic, commercial and industrial waste, because:

- it reduces waste volumes by over 90 percent
- it eliminates toxic substances and pathogenic agents from the eco-cycle
- it utilises the energy contained in the waste and thus saves fossil fuels such as oil, gas and coal
- around 50% of waste is biomass, meaning that the energy recovered from this fraction is renewable
- it significantly contributes to the reduction of greenhouse gases by offsetting methane emissions from landfills
- it enables the recovery of metals such as iron and zinc and of flue gas cleaning products, such as gypsum, thereby reducing the strain on natural resources
- it produces residues that do not release pollutants to the environment

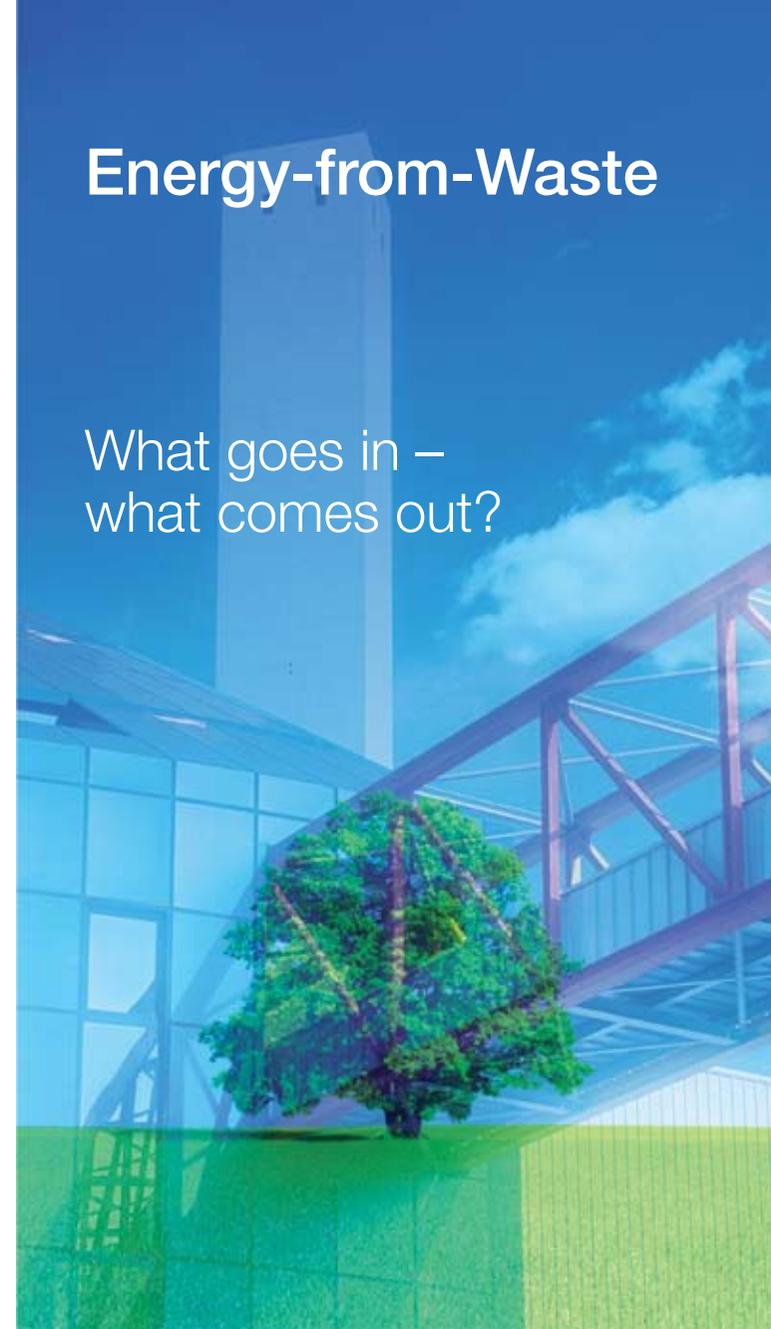


**European Suppliers
of Waste to Energy Technology**

Avenue Adolphe Lacombé 59 - 1030 Brussels
Tel.: +32 2 743 29 88 - Fax: +32 2 743 29 90
E-mail: info@eswet.eu

Energy-from-Waste

What goes in –
what comes out?



IN

The Energy-from-Waste Technology

OUT

Waste (municipal, commercial and industrial waste, after separation of recyclable materials)

Utilisation

Energy

energy content from waste

Energy

recovered energy as electricity and heat for households and industry

Mass

burnable and non-burnable substances

Inert Substances

bottom ash for construction industry
ferrous and non ferrous metals for recycling

Pollutants

toxic substances like heavy metals, chlorine and dioxin/furans; pathogenic agents

FGC Recyclables

e.g. gypsum, zinc, hydrochloric acid depending on cleaning concept

Process Additives

for Flue Gas Cleaning (FGC)

water, reagents

for Combustion

combustion air

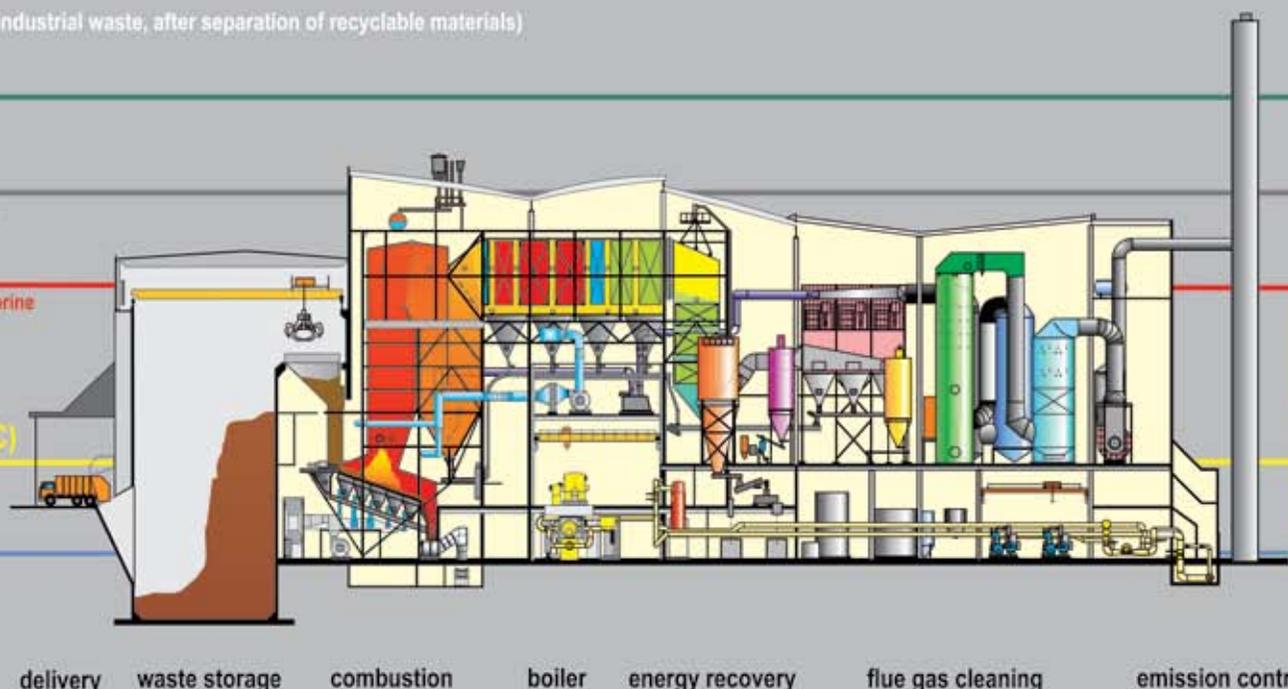
Environment

FGC Residues

safe disposal
safely removed from eco-cycle

Cleaned Gas

complies to the world's strictest emission standards



Waste Combustion

Maximum inertisation and reduction of pollutants and waste volume

For Energy-from-Waste, grate combustion is the most advanced technology in terms of environmental safety, reliability, flexibility and cost-effectiveness. All over the world more than 1,000 plants are successfully in operation.

Waste is conveyed by the grate through the combustion chamber, where it is burned, normally without any additional fuels. The necessary combustion air is injected below the grate directly into the fuel and into the combustion chamber above the grate. The burned-out bottom ash is discharged at the end of the grate. The whole process is under continuous control to ensure optimum combustion, low emissions and improved quality of the residual materials.

Metals in the bottom ash are generally recovered. The remaining material meets the highest quality standards and is used in the construction industry, thereby saving other raw materials.

Flue Gas Cleaning

Reliable pollution reduction, low emissions

Highly sophisticated processes assure that all pollutants contained in the waste and transferred into the flue gas through combustion are eliminated in an efficient, sustainable and reliable way. Different flue gas cleaning processes are combined to a customised solution in order to meet the strictest emission limits depending on the waste properties and the local residue disposal practices.

Therefore, pollutants remaining after the combustion processes (SO₂, HCl, HF, NO_x, heavy metals and dioxins/furans) are removed from the flue gas using special cleaning additives, such as ammonia, lime or activated carbon. Depending on the process concept, reusable substances are recovered. The cleaned gas coming out of the stack is permanently controlled through continuous monitoring. The data thereby collected are monitored and supervised by the appropriate authorities in real-time.

Energy Recovery

Maximum efficiency for a clean energy

Recovering the energy content from waste is a key aspect of thermal waste treatment. Energy-from-Waste is essential to any sustainable energy mix; it is low in emissions and renewable to a large extent, therefore contributing to the reduction of greenhouse gases.

The energy contained in the waste is converted to marketable energy following the demand. Cogeneration (CHP), the simultaneous production of electric power and heat, offers high efficiency and maximum energy yield.

One kilogram of waste contains some 10,000 kilojoules of energy, enough to turn on a 12 W energy-saving light bulb (~ 60 W conventional light) for 75 hours.

Due to the strict EU-regulations, an Energy-from-Waste plant produces up to 4 times less emissions than a conventional fossil-fired power plant for the same amount of energy.