Fact sheet

Waste-to-Energy

Highlighting the key benefits of Waste-to-Energy (WtE) as a circular, low-carbon and low-polluting waste management option.

Waste-to-Energy for a clean circular economy

Waste-to-Energy treats residual waste: waste that cannot be recycled, ensuring a clean recycling stream and recovering energy for homes, offices and industry.

Together with waste prevention, reuse and recycling, Waste-to-Energy contributes towards the achievement of zero landfills in Europe.

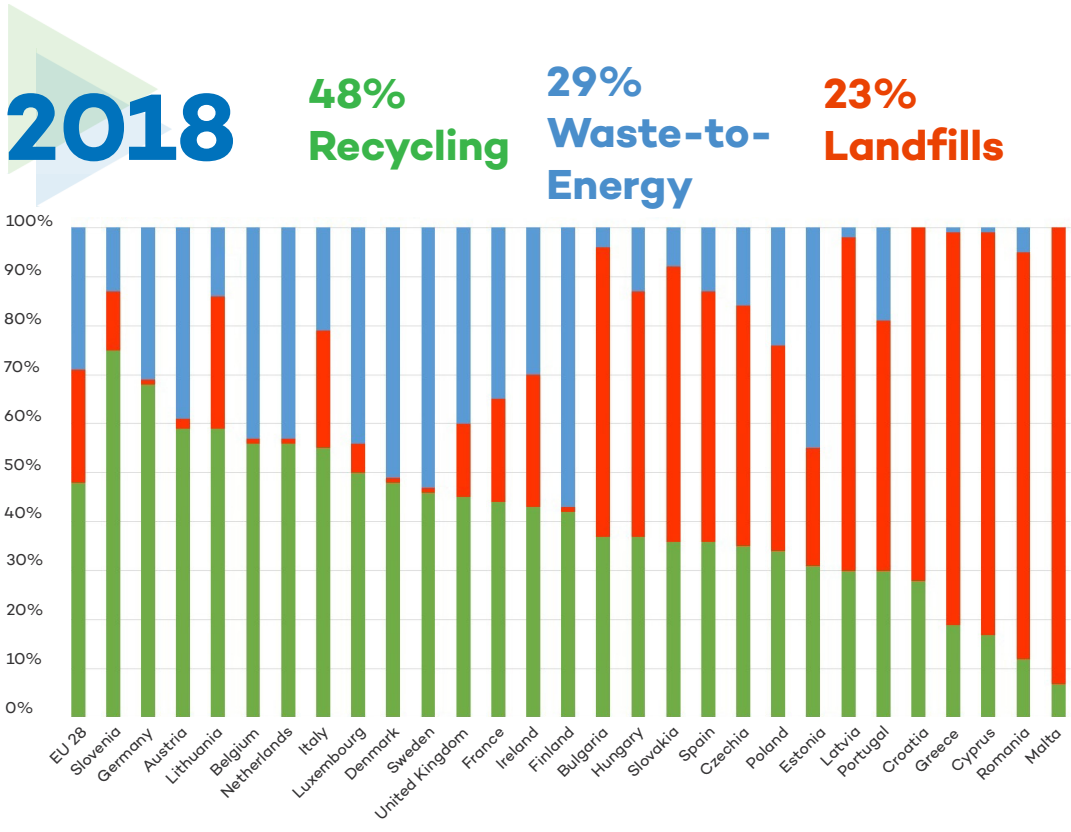
As recognised in the **Reflection Paper towards a Sustainable Europe by 2030**, published in 2019, Waste-to-Energy is part of the Circular Economy Action Plan set up by the European Commission.

Recycling and Waste-to-Energy lead EU municipal waste treatment

Municipal waste in Europe is increasingly diverted from landfilling (*red column*) to recycling (*green column*) and Waste-to-Energy technology (*blue column*).

Nevertheless, differences remain between member states. Some of them still relying heavily on landfills.

Figures confirm that countries with high recycling and Waste-to-Energy rates are those that meet the requirements of the waste legislation.

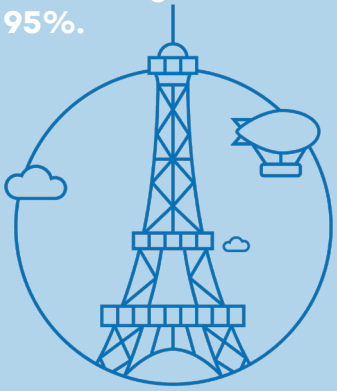


4 Reasons to Support Waste-to-Energy

Clean energy production

EU Waste-to-Energy plants recover the energy potential of waste generating electricity, heating and cooling with efficiencies of up to 95%.

For example, did you know that 50% of the district heating network in Paris is supplied by energy recovered from Waste-to-Energy plants?



In Sweden, Waste-to-Energy provides heat to 1.2 million Swedish households and electricity for another 800,000.

Low emissions

The emissions produced by Waste-to-Energy plants are among the lowest in the EU industry.

The UK's Environment Agency estimates that "in a year the whole Energy Recovery industry produces about one sixth of the dioxins produced by one 5th November Bonfire Night".

In 2015, researchers studied the presence of contaminants in vegetables and cow milk produced near three Waste-to-Energy plants in the Netherlands. The results did not show any difference compared to the average country levels.

In 2014, Waste-to-Energy plants produced 0.71% of NO_x emissions in the UK, compared to 31.7% of emissions emitted by vehicles.

Climate change mitigation

The diversion of waste from landfills to Waste-to-Energy plants prevents the production of methane (CH_4) emissions, which is up to 86 times more potent than carbon dioxide (CO_2) over a 20-year period.

Also, Waste-to-Energy produces about 39 TWh of electricity and 90 TWh of heat, thereby saving up to 50 million tonnes of emissions of CO_2 that would otherwise be emitted by extracted fossil fuels.

Finally, metals and minerals recycled from Waste-to-Energy processes prevent the unnecessary extraction of primary raw materials and the fuels needed for their extraction.

Recovery of materials

Ashes and residues resulting from the combustion process of Waste-to-Energy plants are more and more channelled into recycling processes.

The reycled metals and minerals can be used for several purposes, such as road construction materials, additives to cement raw materials, in concrete manufacturing, etc.

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