

European Waste-to-Energy Sector will be fit for climate neutrality before 2050

In light of the EU's newly set goals of 55% greenhouse gas emission (GHG) reduction by 2030 and climate neutrality by 2050, the European Waste-to-Energy (WtE) sector is ready to make all the necessary contributions to help Europe achieve these targets.

The WtE sector is fully supportive of the GHG reduction targets. What has to be kept in mind, though, is that WtE (waste incineration with energy recovery), has a very specific role of providing a hygienic task to the society by treating the waste that cannot be prevented or recycled. WtE takes responsibility for these remaining residual waste streams and their pollutants, leftovers produced by citizens and businesses, making sure they do not contaminate the material cycle. Therefore, some additional aspects must be considered when discussing the sector's climate contribution.

First of all, the most efficient way to reduce CO₂ emissions from waste management is waste prevention, improving the quality of the products and their potential reuse. The next step is recycling. In order to achieve high-quality recycling we promote source separation. CEWEP advocates for efficient source separation which is also the prerequisite to avoid fossil CO₂ emissions in WtE plants, coming from the incineration of plastic waste. The fossil fraction of the waste that can be recycled should not enter WtE plants. This in turn would significantly reduce the CO₂ emissions from WtE.

Fossil CO₂ in WtE plants mainly comes from plastics, and the WtE plant operators do not have a choice on the composition of the unrecyclable waste they receive. They take it as a service to society providing reliable treatment of residues from sorting and recycling facilities, avoiding landfilling and pollution of recycling circles.

Waste-to-Energy working hard to reduce GHG emissions

The sector already makes multiple contributions to GHG mitigation: it acts as a CO₂ sink by diverting waste from landfills (avoiding methane), recovers metals from the bottom ash left after incineration and substitutes fossil fuels with the energy recovered from residual waste.

Numerous European WtE plants are also exploring carbon capture technologies that have the potential to significantly reduce the carbon footprint of the sector or even make it carbon negative. These technologies will need further investments to provide effective cost abatement at a wider scale. This will be further explored in the next years and has to come along with the development of a market and legislation for the removal and use of captured CO₂. However, until this becomes commercially viable, the WtE sector, local, national and European authorities, along with its citizens, need to work together to finance this necessary technological development to secure climate-neutral treatment of the residual waste produced by society.

The production of hydrogen from WtE via electrolyzers and its use in city buses and waste trucks, replacing diesel, is another innovative way to save GHG emissions via WtE.

Potential adverse impacts in waste management need to be avoided

Any forthcoming regulatory measures for WtE, such as Emissions Trading or taxes, have to be considered in the context of wider residual waste management, i.e. detrimental developments like increased landfilling or dumping of waste and shipments to countries with lower environmental and social standards have to be avoided. Landfills produce methane, a



very potent GHG (86 times more powerful than CO₂ over a 20-year period), and both landfills and waste exports contribute to marine litter as the wind blows microplastics, from (not sufficiently controlled) landfills to water bodies. Additionally, as [recently reported by Europol](#) (p.93), making legal waste management services more expensive is fuelling the growth of illicit waste management activities harming human health and the environment. We have to avoid carbon and waste leakage and deploy the full potential of carbon removal technologies such as BECCS (BioEnergy with Carbon Capture and Storage).

In some EU Member States, WtE plants pay an incineration and/or CO₂ tax, and only a few others have put the WtE plants under the EU ETS. This did not reduce CO₂ emissions, but only raised the costs for waste treatment in WtE plants – money that could be used instead for carbon capture and removal in order to make WtE carbon neutral or even negative. At the same time it makes landfilling, for which there is no carbon price in place, cheaper and therefore more attractive.

Any additional national or EU-wide climate measures for the WtE sector would need to take into account the complexities listed above and ensure the impact on the environment and human health is carefully evaluated. For any measures to be taken, the necessary transition period must be granted to make sure that *the polluter pays principle* is empowered to make those who are responsible for the waste generation to pay for its environmental and climate impact.

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CEWEP (Confederation of European Waste-to-Energy Plants) is the umbrella association of the operators of Waste-to-Energy plants across Europe. CEWEP's members are committed to ensuring high environmental standards, achieving low emissions and maintaining state of the art energy production from remaining waste that cannot be recycled in a sustainable way.