



EUROPEAN SUPPLIERS  
OF WASTE-TO-ENERGY  
TECHNOLOGY

# ESWET'S COMMENTS ON THE REVIEW OF THE RENEWABLE ENERGY DIRECTIVE



## **ESWET'S COMMENTS ON THE REVIEW OF THE RENEWABLE ENERGY DIRECTIVE**

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ESWET welcomes the European Commission's public consultation on the review of the Renewable Energy Directive (Directive (EU) 2018/2001).

ESWET would like to highlight the role that Waste-to-Energy can play in the transition to a carbon-free society, in particular with regards to the provision of reliable renewable energy and the prevention of greenhouse gas (GHG) emissions.

### **Waste-to-Energy – A stable source of renewable energy**

Under the current Renewable Energy Directive, at least half of the energy recovered in Waste-to-Energy plants is renewable, as it comes from waste of biogenic origin. Moreover, contrary to intermittent renewable sources (such as wind or solar energy), renewable energy from Waste-to-Energy can be provided 24/7, and is thus plannable and reliable.

Waste-to-Energy participates to the European Green Deal objective of securing affordable renewable energy in Europe and it has potential to further substitute fossil fuels while reducing related GHG emissions.

### **Waste-to-Energy – A key actor in energy and material recovery**

Waste-to-Energy is the link between circular economy and renewable energy: it ensures that the residue of recycling processes and non-recyclable waste is used as a resource by recovering energy and material from it. This recovered energy is turned into electricity, heat, steam or low-carbon fuels, to the benefit of communities and industries.

In 2018 in Europe, Waste-to-Energy plants exported around 40 billion kWh electricity and 90 billion kWh heat, which provided 18 million citizens with electricity and 15.2 million citizens with heat. For instance, Waste-to-Energy plants provide more than 30% of the overall heat production in the district heating networks supplying Copenhagen and 16 neighbouring municipalities.

As for material recovery performed in many Waste-to-Energy plants, it is a source of metals and aggregates sent back into the European economy and consequently does not need to be exploited from virgin raw materials or imported from outside Europe. In the EU, Waste-to-Energy plants save 3.8 million tonnes of CO<sub>2</sub> equivalent every year through metal recovery<sup>1</sup>.

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<sup>1</sup> CEWEP's Bottom Ash Factsheet. <https://www.cewep.eu/bottom-ash-factsheet/>

## Waste-to-Energy – Essential in avoiding methane release from landfills

Waste-to-Energy also prevents non-recyclable waste from ending up in landfills, which are a toxic legacy for generations to come. There, this waste is not only lost as a resource but its organic fraction will decompose and emit methane, a greenhouse gas 84 times more potent than CO<sub>2</sub> over a 20-year period<sup>2</sup>.

Almost half of the European Member States still send to landfills more than 40% of their municipal waste<sup>3</sup>. In 2018 only, methane emissions from landfills in the EU27 Member States plus UK generated around 100 million tonnes CO<sub>2</sub> equivalent, and they counted for more than 20% of the total European methane emissions<sup>4</sup>.

The landfill issue is not likely to disappear, as conservative estimates still foresee a gap in non-recyclable waste treatment capacity in the coming decades<sup>5</sup>. Even today, instead of treating our waste in Europe, a significant fraction is shipped abroad where it is not always treated under EU standards and thus contributes to GHG emissions and other pollutions.

## Waste-to-Energy – A solution for reliable low-carbon fuel

Waste-to-Energy covers a wide range of different technologies, including the production of biogas from biogenic waste. But it also has potential with regards to hydrogen production, as combustion of municipal solid waste can provide the electrical power required for the generation of hydrogen through electrolysis.

Several hundreds of refurbished or new plants treating municipal waste throughout Europe would thus have potential to become as many local sources of green hydrogen. Already, in the modern Waste-to-Energy plant of Wuppertal (Germany) the electricity generated during the thermal treatment of residual waste is used for the production of hydrogen which supplies the city buses with zero-carbon fuel.

## ESWET's recommendations

In conclusion, Waste-to-Energy is not just a key actor in the treatment of non-recyclable waste. It also constitutes a reliable source of continuous energy, partially renewable, as a complement to intermittent renewable energy sources. It relies on waste directly available in Europe which participates to the European Green Deal objective of securing affordable renewable energy within the European Union.

### In that sense, ESWET calls the Commission to:

- Consider the positive role of Waste-to-Energy in GHG reduction and the

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<sup>2</sup> IPCC, 2014: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp. [https://www.ipcc.ch/site/assets/uploads/2018/02/SYR\\_AR5\\_FINAL\\_full.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf)

<sup>3</sup> Eurostat: [https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste\\_statistics#Waste\\_treatment](https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_statistics#Waste_treatment)

<sup>4</sup> EEA's GHG viewer : <https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>

<sup>5</sup> Circular Economy Calculation Tool : <https://www.cewep.eu/circular-economy-calculations-2/>

provision of reliable energy;

- Consolidate the recognition of biomass from waste as a source of renewable energy;
- Ensure the revision of the Directive is coherent with waste-related legislation and is technology-neutral;
- Support the efficient integration of Waste-to-Energy plants into local heat and power grids;
- Support the implementation of CCUS technology in Waste-to-Energy plants. Bioenergy with CCUS (BECCUS) offers potential for negative emissions in the Waste-to-Energy sector but needs financial and legislative support to make it become economically viable.
- Keep the exception for biofuels, bioliquids and biomass fuels produced from waste and residues, as granted by Article 29 paragraph 1. Moreover, amending the sustainability criteria for bioenergy could prove counter-productive as it is still under implementation by the Member States.



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*ESWET is a European association representing the European suppliers of Waste-to-Energy technologies, committed to foster the development and dissemination of Waste-to-Energy at the European level. ESWET also seeks to raise the awareness of the positive implications of the technology in terms of better waste management, energy and for the environment.*