



Confederation of European
Waste-to-Energy Plants

How will European Waste-to-Energy Sector Help to Achieve EU Net Zero?



Waste to Energy

Waste incineration with energy recovery treats 100 million tonnes of European residual waste every year that cannot be prevented or recycled.

WtE also complements intermittent renewable energy sources.

It makes Europe less dependent on fossil fuel imports.

Energy generated by WtE equals to around 9 % of the EU natural gas imports from Russia.

The climate balance of the WtE sector

STATUS QUO

WtE is a climate neutral sector:

It compensates its direct CO₂ emissions by fossil fuel substitution and material recovery from incineration bottom ash.



BUILDING ON THE STATUS QUO

Carbon Capture and Use or Storage (CCUS) integration:

an extra but effective tool to reach a negative CO₂ emission balance.





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LANDFILL DIVERSION



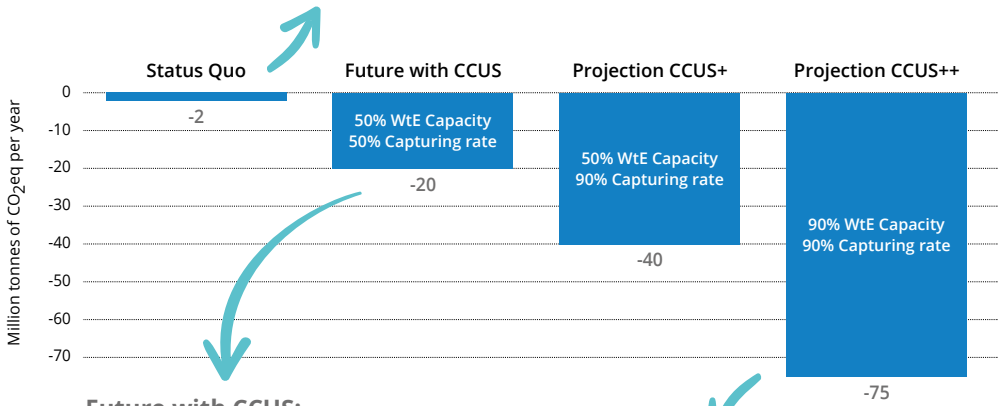
BOTTOM ASH RECOVERY



CARBON CAPTURE USE & STORAGE

From Carbon Neutral to Carbon Negative

Every year WtE saves around **2 million tonnes of CO₂eq** emissions, even without considering the climate benefits associated with landfill diversion!



Future with CCUS:

By applying CCUS technologies to at least 50 % of the European WtE capacity capturing at least 50 % of the total CO₂ emissions, **20 million tonnes of CO₂eq** could be saved every year.

Increasing ambition:

With a broader integration of carbon capture equipment, greater reduction potentials can be foreseen as CCUS technologies will reach full commercial maturity.



If residual waste diversion from landfills was considered, the WtE climate savings contribution would be much larger!

Adequate **political** and **financial** support are the **necessary conditions** for WtE's substantial contributions to the EU's carbon neutrality.

Call to policy makers for enabling conditions:

- 🗑️ **Application of Life Cycle Assessment**
- 🗑️ **Strengthening of Waste Hierarchy**
- 🗑️ **Minimising methane emissions from landfills**
- 🗑️ **Restricting landfills to waste not suitable for material and energy recovery**
- 🗑️ **Recognition of the role of WtE in sustainable waste management**
- 🗑️ **Market mechanism and certification system for negative emissions**
- 🗑️ **CO₂ transport infrastructure**
- 🗑️ **CO₂ market development**
- 🗑️ **CCUS technology support**

For more information on assumptions and calculations used in this flyer, please see CEWEP Climate Roadmap and its Technical Annex.

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