Dioxins and Waste-to-Energy Plants: The State of the Art

Historically the Waste-to-Energy (WtE) sector has been associated with dioxin emissions. However, contemporary WtE plants are equipped with complex and extremely efficient flue gas cleaning systems rendering their emissions negligible*.

*[A link to the full Dioxin Report here]

Data collected by the E-PRTR* shows that dioxin emissions from WtE account for less than 0.2% of the total industrial dioxin emissions in the EU

It should be noted that the register does not include transport emissions; if that was to be the case, the contribution of WtE sector would be even lower.

*European Pollutant Release and Transfer Register, https://industry.eea.europa.eu/

EU WtE plants comply with one of the most stringent regulations for pollution prevention and control

Since 2019 an even more ambitious set of limits for dioxins and furans has been put in place with the publication of Waste Incineration BAT Conclusions*

*Commission implementing decision (EU) 2019/2010 of 12 November 2019

Krakow WtE plant, Poland

Monitoring of dioxins is performed during extended periods: plant start-up, operation and shutdown

The results show that EU WtE plants emit very low concentration values, sometimes below the limit of detection of the monitoring instruments.

Indaver WtE plant, Belgium

A well-managed EU WtE plant emits extremely low concentrations of dioxins and furans regardless of the specific measuring system

Data assessments, comparisons and long-term experience of operators have shown similar emission patterns between periodic measurements* and continuous sampling**.

* Sampling of dioxin emissions for monitoring occurs at specified time intervals using either manual or automated methods

** Dioxin emissions are permanently sampled for monitoring using an automated measuring system on site throughout all different operating stages of the Waste-to-Energy plant, including start-up and shut-down.

SIDOR WtE plant, Luxembourg

In cases where dioxins are found in the surroundings of the plant, comparisons need to be done with the emissions at the stack of the plant

These assessments have shown that there is NO correlation with the emissions of a given WtE plant.

Brista WtE plant, Sweden