Heat from thermal treatment of waste (Waste-to-Energy): source of decarbonised district heating supply

All heat recovered from the thermal treatment of waste (Waste-to-Energy - WtE) should be considered as waste heat in the framework of the Renewable Energy Directive (RED) and the Energy Efficiency Directive (EED). If this will be denied, a huge potential for WtE to recover heat and to substitute the combustion of fossil fuels (gas, coal or peat) for efficient district heating will be lost. Waste not suitable for recycling is thermally treated in order to reduce volume, destroy pollutants and avoid landfilling. Excess heat created in this process is used to produce electricity and supply heat to district heating.

The current regulatory framework, particularly the Renewable Energy Directive (RED II and III) and the Energy Efficiency Directive (EED), acknowledges the importance of waste heat and set ambitious targets. However, it is essential to ensure that heat recovered from WtE processes is fully recognised within these directives, in particular in the Guidance Documents for RED and EED that are currently under preparation.

The rationale for this recognition is twofold. Firstly, unlike conventional power plants, WtE facilities have the hygienic task of treating the waste. This exothermal process unavoidably generates excess heat (waste heat). If this is not used, the waste still needs to be thermally treated for sanitary reasons. Hence, waste is not a conventional fuel! Waste is not produced on purpose. It is the leftover of our society that must be reliably treated in an environmentally sound manner, with complex flue gas cleaning. To do so, WtE plant operators must comply with the strict rules set in the Industrial Emissions Directive, under the waste incineration chapter.

Secondly, the heat generated from the treatment of non-recyclable waste, which would otherwise be lost, can significantly contribute to our heating needs and facilitate the MS to reach the targets. In some regions the heat supply from WtE covers more than 50% of the local heat demand.

WtE offers a strategic advantage by transforming non-recyclable waste into valuable energy for district heating systems, enhancing our energy security and supporting the transition to a circular economy. This process not only aligns with our waste management principles but also provides a competitive and secure energy alternative.

Excluding the full heat production from WtE plants from the waste heat definition could lead to the underutilization or even elimination of an important energy resource. If these plants are not integrated into efficient district heating and cooling systems, the energy they recover would be wasted, despite its availability.

Acknowledging the heat generated by WtE plants as waste heat under RED and EED is vital for maximising the use of local, sustainable excess energy sources. This approach is not just about energy efficiency; it is about recognising the valuable role WtE plays in managing waste and recovering energy. Such recognition aligns with the goals of environmental sustainability and efficient resource use.

In conclusion, recognising waste heat from WtE under relevant EU directives is imperative for enhancing our energy efficiency and sustainability efforts. It supports broader environmental objectives and contributes to a more resilient and self-sufficient Europe.

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CEWEP, Confederation of European Waste-to-Energy Plants, is the umbrella association of the operators of Waste-to-Energy (incineration with energy recovery) plants, representing about 410 plants from 23 countries. They make up more than 80% of the Waste-to-Energy capacity in Europe. Our members are committed to ensuring high environmental standards and achieving low emissions for treatment of remaining waste that cannot be recycled in a sustainable way.
Contact: info@cewep.eu

FEAD is the European Waste Management Association, representing the private waste and resource management industry across Europe, including 19 national waste management federations and 3,000 waste management companies. Private waste management companies operate in 60% of municipal waste markets in Europe and in 75% of industrial and commercial waste. This means more than 320,000 local jobs, fuelling €5 billion of investments into the economy every year.
Contact: info@fead.be

Municipal Waste Europe represents European public responsibility for municipal waste management. Our members are municipalities and public waste management companies that play a crucial role in providing this Service of General Interest and in delivering a circular economy in Europe. We support the waste hierarchy, resource efficiency and the exchange of good practices to develop environmentally sound and efficient waste management systems in Europe.
Contact: info@municipalwasteeurope.eu

SGI Europe is one of the cross-industry EU Social Partners. It represents providers of services of general interest - public and private - from across Europe, which are active in a broad range of sectors, including energy, waste management, water or public transport. SGI Europe members contribute to more than 26% of EU GDP and employ 30% of the EU workforce.
Contact: info@sgieurope.org