

Closing the door on waste incineration for district heating in central and eastern Europe



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If the EU's Modernisation Fund is any indicator, countries in central and eastern Europe are betting big on waste incineration, with the Fund having financed over EUR 2 billion worth of waste incineration projects in the Czech Republic and Poland to date. However, from January 2025, it will no longer be eligible for public financing if the authorities properly enforce the 'do no significant harm' (DNSH) principle.

Even under existing rules, incineration is only eligible for State aid if the waste hierarchy has been respected, which is rarely the case in central and eastern Europe. Further, given that the European Commission has clarified that waste incineration is not a form of waste heat in cases where heat is the primary purpose of the installation, it should not be given any special treatment that would allow it to be eligible for EU public funding.

EU fund fuelling the waste race

Waste incineration is being pursued by several countries in the region, especially those needing a quick fix to phase out their coal-based cogeneration plants. This is particularly the case in Poland and the Czech Republic. Both countries have

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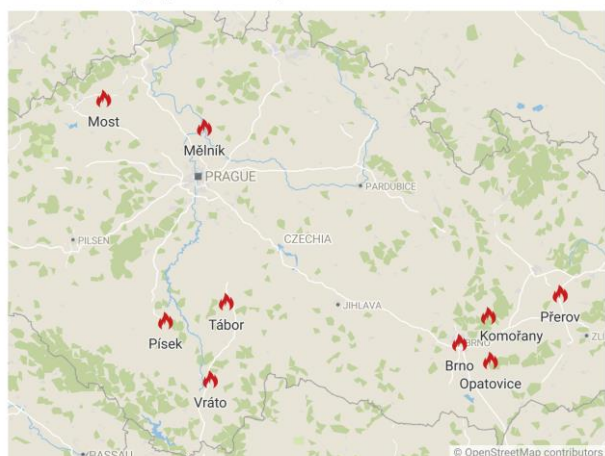
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received financing from the EU’s Modernisation Fund for 24 different sites planning to switch from coal-based cogeneration to waste incineration plants, as described in the two countries’ disbursement decisions.

Waste incineration projects financed by the Modernisation Fund



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The Modernisation Fund is set to mobilise EUR 57 billion over the 2021–2030 period from the EU’s Emissions Trading System revenues to help the 13 lowest-income Member States modernise their energy systems, including their heating infrastructure. Since 2022, the Czech Republic and Poland have together received over EUR 2.1 billion from the Modernisation Fund for waste incineration plants, with Poland receiving the most at EUR 1.6 billion. This is financing that could have been allocated to zero-regret options like energy efficiency measures or truly sustainable renewable heating technologies such as heat pumps, solar thermal, or deep geothermal.

The Modernisation Fund is the last EU fund that still allows waste incineration plants to be financed under certain circumstances, as other similar funds that can be used for energy infrastructure, such as the European Regional Development Fund, the Cohesion Fund, the Recovery and Resilience Facility, and the Just Transition Fund, have already excluded financing for waste incineration.¹

This is in part because waste incineration does not comply with the DNSH principle, an environmental safeguard aimed at insuring investments do not cause environmental damage.² From 1 January 2025, all investments under the Modernisation Fund must demonstrate that they comply with the DNSH principle, which should stop any financing of waste incineration.

However, the Directorate-General for Climate Action, the Commission’s body responsible for approving Modernisation Fund investments, has not issued guidance on how it will apply the DNSH principle, missing a valuable opportunity to clarify what is and what is not eligible for Member States.

In addition, the Commission’s State aid guidelines stipulate that public support, which includes the Modernisation Fund, can only support cogeneration and district heating installations using waste, including

¹ Kassandra Makavou, [The EU is clear: Waste-To-Energy incineration has no place in the sustainability agenda](#), *Zero Waste Europe*, 26 May 2021.

² European Commission, [Commission Notice: Technical guidance on the application of ‘do no significant harm’ under the Recovery and Resilience Facility Regulation](#), *EUR-Lex*, 18 February 2021.

waste heat, as input fuel, if they do not circumvent the waste hierarchy principle.³ Most central and eastern European countries are underperforming in this field, raising questions about the legality of even the funding already granted for incineration in these countries.

Waste incineration is not waste heat when avoidable and primarily aimed at heat or cooling generation

The European Green Deal's centrepiece on the EU's energy future, the Fit for 55 package, includes provisions on waste incineration, primarily in the Renewable Energy Directive. The latest revision of the Directive, adopted by the EU on 20 November 2023, continues to exclude waste incineration from being classified as a renewable energy source, except in cases where it involves only biodegradable waste.

The Directive also promotes the use of waste heat for heating and cooling, even though this is not a renewable energy source per se. The Directive defines waste heat and cold as 'unavoidable heat or cold generated as [a] by-product in industrial or power generation installations, or in the tertiary sector, which would be dissipated unused in air or water without access to a district heating or cooling system, where a cogeneration process has been used or will be used or where cogeneration is not feasible.'⁴ However, as incineration is almost always avoidable, it should not be considered as resulting in waste heat.

In fact, guidance issued by the European Commission on 2 September 2024 stipulates that only heat which is a by-product of waste incineration and not the primary aim of the incineration can be considered waste heat. The guidance states: 'When the production of energy (heat) is the primary purpose of the incineration or co-incineration process, it does not satisfy the by-product criterion'.⁵ Unfortunately, the guidelines for establishing this are not particularly clear.

However, it is evident that if an incineration plant is proposed for funding under the Modernisation Fund, its primary purpose must be heating and cooling. Otherwise it would not fall under the energy sector and, therefore, would not be eligible for financing from the Fund. Instead of waste incineration, waste heat should be sourced from alternatives such as excess heat generated from wastewater treatment, data centres, or heavy industries like steel, cement, chemical, or textile production.

Meeting the Energy Efficiency Directive targets for heating and cooling will be a significant challenge for many countries, especially in central and eastern Europe, where ageing district heating systems heavily rely on fossil fuels. Despite the difficulties involved, Member States should not be allowed to adopt an overly generous interpretation of how much waste incineration qualifies as waste heat, especially given the Commission's clear guidance that significantly limits its inclusion. In this context, further public funding from the EU should not be allocated to waste incineration plants, as they are neither a source of waste heat nor a form of renewable energy.

³ European Commission, [Communication from the Commission: Guidelines on State aid for climate, environmental protection and energy 2022](#), *EUR-Lex*, 18 February 2022.

⁴ European Commission, [Communication from the Commission: Guidance on heating and cooling aspects in Articles 15a, 22a, 23 and 24 of Directive \(EU\) 2018/2001 on the promotion of the use of energy from renewable sources as amended by Directive \(EU\) 2023/2413](#), *European Commission*, 4, 2 September 2024.

⁵ *Ibid.*, 4, 5.

Waste incineration remains a major emissions problem

The dangers of waste incineration are not to be underestimated. The process of burning waste generates vast amounts of carbon dioxide (CO₂) and other greenhouse gases. Even though modern incineration plants are equipped with filters to capture some pollutants, they are far from perfect. In some cases, waste incineration can produce more CO₂ per unit of electricity generated than coal, which makes it one of the least climate-friendly forms of energy production, directly undermining the EU's 2050 net-zero climate goal.⁶

Beyond CO₂, waste incineration emits other dangerous air pollutants such as dioxins, furans, and heavy metals like mercury and lead.⁷ These toxic substances can have severe consequences for local ecosystems, contaminating soil, water, and air, harming biodiversity and leading to long-term ecological damage.

The toxic emissions from waste incineration also pose significant public health risks. Dioxins and furans, for example, are known carcinogens and can lead to respiratory problems, cardiovascular diseases, and developmental issues in children. The health risks are particularly acute among communities living near incineration plants, who are exposed to higher concentrations of these pollutants. Even with advanced filtration systems, trace amounts of harmful substances still escape into the atmosphere.

Additionally, the ash residue left over from the incineration process amounts to around a third of the weight of the original waste, requiring additional disposal. The fly ash and filter residues are highly toxic and require careful handling and disposal. If not managed properly, this ash can contaminate water sources, leading to further health risks for the broader population.

Putting waste reduction targets at risk

In addition to the health issues, waste incineration puts the EU's ambitious targets of promoting the circular economy at risk. These targets prioritise waste reduction, reuse, and recycling by encouraging the continued generation of waste. Instead of burning valuable materials, the focus should be on designing products for durability, repairability, and recyclability. Incineration plants typically have lifespans of several decades, locking cities into outdated waste management practices that discourage innovation in waste reduction and recycling technologies.

Moreover, when these plants become the main source of heat for a community, it locks municipalities into long-term contracts to provide a steady supply of waste, which can be a significant barrier to reducing waste at source. Once an incinerator is built, there is a financial incentive to keep it running, even if it discourages more sustainable practices like recycling and composting, especially if the heat is sold at a guaranteed price.

The technologies and measures to replace fossil fuel-based district heating and reduce waste already exist, codified in EU legislation. Therefore, it is essential that Member States and public financing align with these principles and avoid investments that lock them into unsustainable practices like waste incineration. If not,

⁶ ClientEarth, [What are the environmental impacts of waste incineration?](#), ClientEarth, 9 March 2021.

⁷ Rossella Recupero, [The not-that-well hidden risks of incineration: the case of the Danish Norfors Plant](#), Zero Waste Europe, 24 July 2019.

further billions of euro will be squandered on creating outdated energy systems that fail to even comply with EU legislation, wasting precious time and capital.

Recommendations

- Waste incineration projects and schemes within the Modernisation Fund should no longer be approved.
- The Directorate-General for Climate Action should issue guidance on the application of the DNSH principle before Member States submit investments for approval before the June 2025 disbursement round.
- The Modernisation Fund should fund more innovative district heating projects such as industrial-sized heat pumps, deep geothermal, and solar thermal.
- Member States and local authorities should create waste reduction strategies that do not solely rely on waste incineration.
- Municipalities should identify other options to use waste heat for their district heating systems.
- Energy efficiency in buildings should be improved to reduce heat demand.

Waste incineration projects financed by the Modernisation Fund

Poland

1. Siedlce
2. Kraśnik
3. Suwałki
4. Koszalin
5. Tarnów
6. Krakow
7. Zamość
8. Radomsko
9. Synthos Dwory 7 Sp. z o.o. in Oświęcim
10. Radom
11. Toruń
12. Opole
13. Gorlice
14. Stalowa Wola

15. Lublin
16. Debica
17. Wysokie Mazowieckie
18. Gliwice

Czech Republic

1. Tábor
2. Brno
3. Mělník
4. Vráto
5. Opatovice
6. Písek
7. Komořany
8. Most
9. Přerov



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