An EU-wide approach for the management of residual municipal waste to ensure its optimal treatment under a circular economy

The RDF Industry Group represents 33 organisations across Europe, all involved in the supply chain for the movement of waste-derived fuels[1] across national borders for safe and effective recovery in other countries. A significant amount of this recovery takes place in energy-from-waste (EfW) facilities, with waste-derived fuels being produced in countries with too little capacity for residual waste and moved into countries with excess EfW capacity.

Having previously raised concerns to the European Commission regarding the increasing number of policy decisions being taken by Member States in relation to EfW which appear to be contradictory to the aims and objectives of the European Commission, we were very pleased to read the recent European Parliament resolution on the Circular Economy Plan (CEAP). Paragraph 104 reads as follows:[2]

> *Recalls the EU waste targets and underlines that the EU and Member States must strengthen prevention and preparation for reuse, increase high-quality recycling and move away from landfilling waste, while minimising incineration, in line with the waste hierarchy;* ***calls on the Commission to define a common EU-wide approach for the management of residual municipal waste that is non-recyclable to ensure its optimal treatment*** *and to avoid building overcapacity of waste incineration at the EU level that could cause lock-in effects and hamper the development of the circular economy;* ***considers that where incineration is used this should take place in the most advanced waste-to-energy facilities with a high energy efficiency and low emissions within the EU;***

The RDF Industry Group wholeheartedly supports the European Parliament's call for the European Commission to develop an EU-wide strategy for the management of residual waste. This will be vital to ensuring that waste can be moved out of landfill and up the waste hierarchy to energy recovery, whilst ensuring sufficient (but not over-) capacity of EfW in Europe. This will reduce overall greenhouse gas (GHG) emissions of waste management, helping to achieve the ambition to achieve climate neutrality by 2050 and supporting the transition to a circular economy.

However, rather than increasing cooperation amongst Member States on this issue in recent years there has been a worrying increase in national policies which, although they are often aiming to reduce GHG emissions in the specific country, actually increase GHG emissions elsewhere by reducing access to existing EfW capacity. The Group believes that these policies are damaging to the environment and circular economy principles, and we are glad to see the European Parliament seek to further develop the European Commission's previously published position on EfW capacity-sharing[3] in this

[1] A fuel made from residual municipal/commercial & industrial wastes.

[2] European Parliament *European Parliament resolution of 10 February 2021 on the New Circular Economy Action Plan (2020/2077(INI))* https://www.europarl.europa.eu/doceo/document/TA-9-2021-0040_EN.pdf

[3] Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions: The role of waste-to-energy in the circular economy. European Commission, 26/01/2017 COM(2017) 34 final

resolution to the CEAP. The Group's arguments in favour of the resolution are outlined further below.

Moving Waste Out of Landfill, Up the Waste Hierarchy

There is an uneven amount of residual waste treatment capacity across the EU. Some Member States are heavily reliant on landfill; others have moved waste almost entirely out of landfill and also have excess EfW capacity; whilst some have a mixture of landfill and EfW capacity. The Landfill Directive stipulates that by 2035 no more than 10% of municipal waste should be landfilled. Although this target is set at Member State level, some Member States have a significant challenge ahead to meet it. There are already incentives in place in some European countries to prevent waste from being landfilled, for example landfill taxes that make landfill the most expensive waste management option, and more expensive than exporting waste to use EfW capacity in other countries.

As outlined in the 2017 Communication from the Commission[4], sharing of EfW capacity through cross-border waste shipments to make optimal use of total European EfW capacity is encouraged. For importing nations, it maintains the economic benefit of facilities already in operation, and for exporting nations it enables flexible access to capacity, without the need to over-commit to domestic EfW assets which might ultimately become stranded over time as recycling rates increase.[5] This waste is often shipped in the form of refuse derived fuel (RDF) produced from residual waste. RDF production therefore moves waste out of landfill, a disposal method, and into EfW, which is usually classed as energy recovery and can produce electricity and often heat as well. Moving waste up the waste hierarchy as far as possible is a key part of the circular economy.

The argument for the continued requirement for EfW capacity was highlighted in a 2019 report by CEWEP, who estimated that Europe will require 142 Mtpa of residual waste treatment capacity, but will still lack 41Mtpa by 2035.[6] These estimates include achievement of the Circular Economy Package (CEP) target of a 65% recycling rate, further demonstrating the need to share capacity across Europe well into the future and making joined-up decisions about how much additional capacity is needed and where to locate it.

EfW Supports High Recycling Rates

EfW plays an important role in overall waste management systems, helping to support ambitious recycling rates. RDF is produced from residual waste that has gone through

---

[4] Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions: The role of waste-to-energy in the circular economy. European Commission, 26/01/2017 COM(2017) 34 final

[5] Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions: The role of waste-to-energy in the circular economy. European Commission, 26/01/2017 COM(2017) 34 final

[6] CEWEP (2019) *CEWEP Calculation on Residual Waste in 2035*, July 2019, https://www.cewep.eu/wp-content/uploads/2019/07/CEWEP-residual-waste-calculation-explanations-final.pdf

pre-treatment to extract recyclable material in the producing country and divert it out of the residual waste stream. If this material were to be sent to landfill, it would undergo almost no sorting or separation of recyclate. Therefore, what remains is the residue of material that cannot be recycled, and this material often goes through a second sorting process at the front end of the EfW facility in the receiving country, where more specialist recycling technologies might enable further material to be extracted, for example plastic film.

Achieving Europe-wide Climate Goals

Not only does moving waste out of landfill have wider environmental benefits, but it also has better outcomes for GHG emissions. Landfills are a source of GHG emissions, producing methane which is a particularly potent GHG. The UNEP Global Methane Assessment[7] states that reducing anthropogenic methane emissions (of which landfills are one of the top three contributors) by 45% by 2030 would play a key role in keeping global warming below agreed thresholds and could save 255,000 lives annually. The assessment recognises that the management of waste away from landfill provides the largest opportunity for methane reduction in Europe, and advocates practices including energy recovery and source separation. The detrimental contribution of methane to GHG emissions is further acknowledged by the Commission in the EU Methane Strategy published in October 2020.[8] The Strategy aims to minimise the disposal of biodegradable waste in landfills to avoid methane formation. Moving this waste into EfW facilities with energy recovery, which provides electricity and heat, provides an energy source which often displaces much more carbon-intensive energy available on the energy grid. The introduction of taxes which restrict access to available EfW capacity in Europe hinders the opportunities for methane reduction set out in the UNEP's assessment as well as the aims of the EU's Methane Strategy. Studies have shown that exporting waste for energy recovery often results in much lower GHG emissions than sending the waste to landfill. For example, in January 2020, the Netherlands imposed a tax of €32 per tonne of waste that is imported for energy recovery. It has been shown that for every tonne of waste that is landfilled in the UK instead of being sent for efficient incineration for electricity and heat in the Netherlands, an additional 261kg CO_2e will be emitted.[9] In the case of the Netherlands, it was estimated by its national Government that restricting waste imports would save 0,2Mton CO_2e per year on a national level, whilst CE Delft and TNO's estimates were between 0.0 and 0.2Mton CO_2e. CE Delft and TNO also concluded that emissions on a

[7] United Nations Environment Programme and Climate and Clean Air Coalition (2021). Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions. Nairobi: United Nations Environment Programme

[8] European Commission, Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions On An EU Strategy To Reduce Methane Emissions, Brussels, 14.10.2020 COM(2020) 663 final

[9] RDF Industry Group (2019) *RDF Industry Group - Impacts of the Proposed Dutch Waste Import Tax*, August 2019, https://www.rdfindustrygroup.org.uk/resources/impacts-of-the-proposed-dutch-waste-import-tax/#

European level would increase. TNO calculated an extra 1Mton CO_2e per year as a result of the waste import tax being implemented.[10,11]

Supporting Waste Shipments to Achieve European Cooperation

This Dutch example shows the fundamental flaw in the increasing assumption of many Member States that reducing waste imports or restricting EfW capacity will lead to a reduction in GHG emissions – it simply pushes emissions up elsewhere. Other countries looking to bring in restrictions include Denmark, Norway, Ireland and Germany.

Policy changes at the national level that seek to discourage the movement of waste across borders for energy recovery are mainly being driven by a desire to achieve national carbon reduction targets. However, where this restricts waste imports from countries without sufficient domestic capacity, it has the perverse effect of forcing waste back down the hierarchy and increasing carbon emissions in those countries. This is therefore a protectionist view which does not take account of Europe-wide carbon reduction efforts to reach net zero emissions by 2050 and might also trigger protectionist views that could limit access to recycling capacity across borders in the future. Climate change is a global issue, and individual nations cannot look simply at their own actions, but how their policies can support the wider goal of achieving climate neutrality. This necessitates an internationally collaborative approach that must consider all the impacts of decision-making, not just the impacts on those nations that are making the decisions. This is stipulated within EU Climate Law[12], especially Article 2, which argues the need for collective efforts and solidarity between member states to meet climate neutrality objectives. Additionally, the European Green Deal envisions climate neutrality for the continent of Europe, not just for individual Member States, and stipulates that the economic value of waste must be recovered if it cannot be avoided.

Summary and Conclusions

It is the Group's view that the sharing of EfW capacity forms a fundamental part of a Europe-wide waste management system and has a vital role to play in the waste industry's progress towards climate neutrality. The RDF Industry Group supports the resolution to the CEAP that calls on the Commission to define a common EU-wide approach for the management of residual municipal waste that is non-recyclable to ensure its optimal treatment, and suggests the continued sharing of waste treatment capacity between Member States to achieve the collective goal of reducing harmful greenhouse gas emissions. Taxes that limit countries' access to available EfW capacity in other European countries should therefore be reconsidered.

---

[10] TNO (2020) *De bijdrage van verbranden van geimporteerd afval aan de Nederlandse en Europese CO2-emissies*, April 2020

[11] CE Delft (2020) *Klimaateffecten importheffing afval*, April 2020

[12] European Commission, Proposal for a Regulation of the European Parliament and of the Council, establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law) Brussels, 4.3.2020 COM(2020) 80 final 2020/0036 (COD)