

Position paper

Mandatory additional sorting of municipal mixed waste prior to landfill or incineration to meet recycling and carbon reduction targets

Although the recycling rates for plastic waste are steadily increasing and landfilling keeps decreasing, around 65% of the post-consumer plastic waste collected in Europe is still sent to landfill or incineration¹. To support the transition of the European plastics systems towards higher circularity and to deliver higher quantities and qualities of recycled plastics, more plastic waste needs to be recovered from waste streams so that it can be recycled.

As shown in the Early Warning Report recently published by the European Commission, while the majority of the Member States have carried out or are implementing measures aimed at increasing recycling rates, many of them are not on track to meet the recycling targets by 2025, established in the Waste Framework Directive and Packaging and Packaging Waste Directive².

Alongside improvements in design for recycling, and a ban on the landfill and incineration of recyclable³ plastic materials, additional measures in the municipal waste management system are needed to help return valuable resources into the circular economy.

- **Mixed waste sorting (MWS)⁴ to complement separate collection systems**

Plastics Europe supports mandatory measures to incentivise mixed waste sorting (MWS) as a complementary solution to separate collection of plastics waste. MWS should always complement and not replace the adoption of separate collection schemes which should be prioritised compared to mixed collection. Separate collection helps to pre-sort waste and to ensure that other

¹ [The Circular Economy for Plastics, a European Overview](#). Plastics Europe 2022.

² [Early Warning Report](#), the European Commission, in cooperation with the EEA, June 2023

³ The recyclability assessment of a product should consider the compatibility of its design with the management and processing of waste at the end of its life. Important factors: collection, sorting and recycling infrastructure, food safety and hygiene requirements and demand of secondary materials. In particular cases in which plastic waste cannot be recycled by any technology due to high levels of contamination and/or the presence of different components which would make the process technically or economically impracticable, incineration shall remain a viable end-of-life option.

⁴ Mixed waste sorting (MWS) of residual municipal waste, aka “post-sorting”, is defined as the sorting system to recover recyclable materials that would otherwise be sent to landfill or incineration.

types of waste are not hindering the process. When the waste is separately collected, the plastics waste recycling rates are 13 times higher compared to mixed collection schemes⁵.

In addition to separate collection and sorting of municipal waste, MWS technologies prior to landfill or incineration have been proven to help achieve higher levels of recycling and improve climate change performance⁶. The most important contribution from MWS would be the reduction in GHG emissions associated with waste as materials would be recycled instead of landfilled or incinerated, and therefore able to replace the need for virgin fossil-based materials in new products. MWS could contribute to a saving between 10.2 and 23.2 Mt CO₂e/annum, with the range dependent on the success of separate collection improvements⁷.

MWS would enable to capture the high fraction of plastic waste still lost within the residual municipal waste and to send it to the appropriate recycling technologies based on the quality of the plastic waste (input to recycling) and on the expected product quality (output). While separate collection of organic household waste could solve the problem of mixed waste contaminated with organic waste, waste with mixed components and containing different thermoplastics polymers difficult to sort, waste with high level of impurities, thermosets or waste containing legacy substances which need to be extracted from the recycled plastics could be suitable streams for chemical recycling.

- **Legal and economic instruments**

Plastics Europe supports legal and economic instruments to be adopted by Member States, including a ban on the landfill and the waste incineration of recyclable materials, to secure this essential feedstock for driving the Circular Economy.

Member States and municipalities are required to develop a roadmap for the remaining service life of waste incineration capacity to ensure that recyclable plastic waste is directed to recycling processes and not committed to waste to energy facilities.

Although some Member States have introduced restrictions and taxes on landfilling of all waste that is suitable for recycling (following the EU's waste hierarchy and the Landfill of Waste Directive), energy recovery is still an economically attractive option for many countries. For instance, when looking at the post-consumer plastics waste treatment evolution from 2006 to 2020, some countries increased their energy recovery levels at a higher rate compared to the growth in recycling⁸. In addition, investments in additional waste-to-energy or co-incineration capacities are foreseen which may increase the demand for plastics as a calorific component of waste.

⁵ The Circular Economy for Plastics, a European Overview, p. 21, Plastics Europe 2022.

⁶ [Mixed Waste Sorting to meet the EU's Circular Economy Objectives](#), Eunomia, February 2023

⁷ Idem, p. 43

⁸ [The Circular Economy for Plastics, a European Overview](#). Plastics Europe 2022

Nevertheless, Plastics Europe's members understand that incineration with energy recovery shall remain a viable end-of-life option in some instances in which plastic waste cannot be recycled by any technology due to high levels of contamination and/or the presence of different components which would make the process technically or economically impracticable.

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