ZERO WASTE EUROPE

ZWE's answer to the call for evidence on the Waste Framework Directive revision

Policy briefing

February 2022 – Zero Waste Europe

Introduction

Zero Waste Europe welcomes the European Commission's initiative to revise the Waste Framework Directive with the aim to improve the overall environmental impact of waste management in the EU. The focus on qualitatively improving the recycling system, as well as the focus on waste prevention, are of high importance as, so far, the EU efforts on the circular economy have only led to a quantitative increase in recycling. This approach has led to significant progress, but these remain insufficient with regard to the EU environmental ambitions.

Above all, the transition towards a circular economy should have resource use reduction as its key priority, as it is not about making a circle but also reducing the size of the circle. This requires completely reshaping our extraction, production, and consumption patterns.

"To achieve a more sustainable economy, it is insufficient to only increase recycling and focus on (partial) improvements in the degree of circularity, but it is essential to also achieve absolute reductions in resource extraction and consumption, that is, to downsize the socioeconomic metabolism."[1]

Therefore, through this revision process, we hope to see the EU complementing its existing legislation with an integrated waste prevention framework, enabling high-quality recycling and a set of concrete tools to reduce resource use and enable waste prevention on the ground. To achieve this, we believe the revision should follow the three following objectives:

1. Adopting binding waste prevention targets to start concrete implementation on the ground;
2. Raising the standards for waste collection and recycling in order to deliver safe and high-quality outputs;
3. Focus on reducing residual waste altogether, instead of prioritising disposal technologies over others.

In that sense, we recommend the following measures to be adopted:

1. Adopt binding waste prevention targets

Waste prevention has been established as a key priority by the European Commission within the European Green Deal (EGD) and the Circular Economy Action Plan (CEAP).[2] In this regard, it is important to remind ourselves that waste prevention is not only about minimising the quantity of waste produced, but goes beyond it as defined in the Waste Framework Directive (WFD). It is about:

- Reducing the quantity of waste, including through redesign of products for circularity, including for reuse and the extension of their life span;
- Minimising the adverse impacts of the generated waste on the environment and human health; and
- Eliminating the content of harmful substances in materials and products;[3]

In that sense, we recommend the adoption of the following measures:

- **Adopt overall binding waste prevention targets**: As stated in the call for evidence, very little has been made by Member States to adopt targets or indicators on waste prevention. This shows the need for binding EU waste prevention targets,

[1] Mayer, Andreas, Willi Haas, Dominik Wiedenhofer, Fridolin Krausmann, Philip Nuss, and Gian Andrea Blengini. *Measuring Progress towards a Circular Economy: A Monitoring Framework for Economy-Wide Material Loop Closing in the EU28*'. Journal of Industrial Ecology 23, no. 1 (2019): 62–76: onlinelibrary.wiley.com/doi/10.1111/jiec.12809

[2] Sinkevičius, Virginijus, 2019. '*Answers ot the European Parliament Questionnaire to the Commissioner-Designate, n.d., 13*': ec.europa.eu/commission/commissioners/sites/default/files/commissioner_ep_hearings/answers-ep-questionnaire-sinkevicius.pdf

[3] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance), Pub. L. No. 32008L0098, OJ L 312 (2008). Art.3: data.europa.eu/eli/dir/2008/98/oj/eng

similar to those adopted at the national or regional level across the EU.[4] In that sense, compared to the 2019 levels of waste generation, we recommend the adoption of the following targets:

- An overall 20% binding waste reduction target to be achieved by 2030 by all Member States;
- An overall 30% binding waste reduction target to be achieved by 2035 by all Member States.

- **Set waste prevention targets for individual product groups:**[5] In order to complement the overall waste prevention target, product-prevention measures including targets should be adopted. Those targets will allow for tailored indicators and targets to be implemented, and provide the most efficient tools to reduce the impact of one specific product category. In a study conducted by the Wuppertal Institute in 2019, Zero Waste Europe identified 9 product groups for which prevention has a high potential and will lead to great environmental benefits:
  - Food and beverages;
  - Large household appliances;
  - Small household appliances;
  - IT and telecommunications equipment;
  - Toys, leisure and sports equipment;
  - Electrical and electronic tools;
  - Textiles;
  - Motor vehicles;
  - Furniture and furnishing.

2. Improving recycling to enable safety and high-quality outputs

Although recycling rates are slowly increasing within the EU, several issues around the safety and quality of the recycled inputs and outputs are becoming increasingly apparent, even for the most easily recyclable products.[6] In order for recycling to step up while matching the safety and quality requirements for a well-functioning, non-toxic circular economy, we recommend that the following measures be adopted:

- **Amend the waste hierarchy to shift the focus from waste management to resource management:**[7] The waste hierarchy for a circular economy must be operationalised to favour reduction, reuse and, as a last resort, recycling. The rapidly expanding industry of waste chemical treatment needs to be regulated to ensure good management of current resources. In order to regulate it, technologies need to be differentiated based on their environmental impacts, yields, and outputs produced.[8,9] It is, thus, essential to distinguish recycling operations from recovery techniques. We recommend to only categorise as 'recycling' processes whose yield outputs are - or can be directly converted into - polymer materials. On the other hand, so-called 'feedstock recycling' technologies should be categorised as 'recovery', as their outputs result in simpler chemicals (e.g. hydrocarbons or syngas) that cannot be directly converted into plastics, but need to be further processed in several steps to yield a polymer again.
- **Introduce definitions of chemical recycling and recovery technologies:**[10] The term 'chemical recycling' has no formal definition and is currently used in different ways. We strongly recommend updating the Waste Framework Directive to introduce harmonised definitions of different chemical reprocessing technologies (e.g. chemical depolymerization and feedstock recycling) in order to provide clarity on the nature and output of different technologies covered by the term.

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[4] European Environmental Bureau, May 2020, Explained: Europe's New Waste Prevention and Reuse Laws: eeb.org/wp-content/uploads/2020/05/No-time-to-waste_Europes-new-waste-prevent_web.pdf

[5] Zero Waste Europe, 2019. *Research study on holistic indicators for waste prevention, Zero Waste Europe*: zerowasteeurope.eu/library/research-study-on-holistic-indicators-for-waste-prevention

[6] Zero Waste Europe and Eunomia, 2022. *How circular is PET?*: zerowasteeurope.eu/library/how-circular-is-pet

[7] Zero Waste Europe, May 2019. *A Zero Waste hierarchy for Europe*: zerowasteeurope.eu/2019/05/a-zero-waste-hierarchy-for-europe

[8] ZWE, EEB, DUH, ECOS, GAIA, Rethink Plastic, NABU, 2020. *Understanding the Environmental Impacts of Chemical Recycling*: zerowasteeurope.eu/wp-content/uploads/2020/12/zwe_jointpaper_UnderstandingEnvironmentalImpactsofCR_en.pdf

[9] Rollinson, A., Oladejo, J., Global Alliance for Incinerator Alternatives, 2020. *Chemical Recycling: Status, Sustainability, and Environmental Impacts.* DOI:10.46556/ONLS4535: www.no-burn.org/wp-content/uploads/CR-Technical-Assessment_June-2020.pdf

[10] Zero Waste Europe, ECOS, 2021. *Chemical recycling and recovery: recommendation to Categorise Thermal Decomposition of Plastic Waste to Molecular Level Feedstock as Chemical Recovery*: zerowasteeurope.eu/wp-content/uploads/2021/12/December2021_ZWE_Chemical_Recycling_position_paper.pdf

Chemical recycling technologies should exclude any operation, such as fuel production, that does not result in the direct production of new plastic.[11]

- **Define and distinguish recycling according to its quality, value and output**: Today upcycling, recycling, and downcycling are placed on an equal footing in the EU legislation, which is causing a downward spiral towards downcycling and doesn't allow the quality of the recycling process output to be taken into account.[12,13] Recycling and downcycling are important but they have different channels and values.[14,15] In order to ensure that what can be recycled is not downcycled (into lower grade manufacturing applications, which often causes a loss from the circular stream), it is necessary to define the different types of recycling and place them in different levels within the waste hierarchy. In that sense, we specifically ask for the following terms to be defined and distinguished: "Open-/closed-loop recycling", "High- and low-value recycling", and "High- and low-quality recycling".
- **Adopt a reduction target on the amount of bio-waste disposed in residual waste by 2030:** Although bio-waste separate collection will be made mandatory as of the 1st of January 2024, only 34% of the total bio-waste was collected in 2018 - well under the theoretical potential of 85%.[16] Additionally, it is estimated that ⅓ of biowaste is left in residual waste. Therefore, to further incentivise the proper collection and recycling of biowaste, we recommend adopting a binding reduction target on the amount of bio-waste disposed - expressed in kilograms per capita - in residual waste to be achieved by 2030.
- **Upgrade the Extended Producer Responsibility (EPR) systems and extend the concept to nappies, menstrual items, furniture, and textiles**: In order to act as incentive for better design, EPR has to go beyond cost coverage, and the fees should act as price signals that push producers to adopt systemic changes instead of optimising a bad design. EPR needs to start incorporating tools to promote prevention, repair, and reuse, with the allocation of a percentage of the fees collected to a "Fund for change" dedicated to finance the transition to real circularity.

3. Target residual waste reduction and climbing up the hierarchy

In 2020, 52% of the total EU municipal solid waste has been either incinerated or landfilled,[17] which means 262,6 kilograms of waste per capita. As the European Commission pledged to halve residual waste by 2030,[18] a lot of effort is needed to reach this goal as well as the right legislative framing:

- **Adopt a residual waste generation cap set in kilograms per capita[19] to be achieved on the same schedule as the existing WFD recycling targets**: This should be calculated prior to waste entering into the stabilisation process, or at the point it enters the incinerator's furnaces. Waste prevention targets set in percentage are blind to the overall quantity of residual waste produced and are unfair to countries with low waste generation.[20] In that sense, a target set in kilograms per capita constitutes both an incentive for improved recycling and waste prevention. Based on the results that can be achieved by the best performing cities[21] across the EU and the ambition to "halve the amount of residual household waste by 2030",[22] we recommend the following targets to be adopted:
    - 120 kgs/cap/year by 2030;
    - 100 kgs/cap/year by 2035.

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[11] Rethink Plastic alliance, July 2020. *Chemical recycling: 7 steps to effectively legislate on chemical recycling*: zerowasteeurope.eu/wp-content/uploads/2020/07/rpa_chemical_recycling_statement.pdf
[12] Zero Waste Europe, Eunomia, 2020. *Recycling of multilayer composite packaging: the beverage carton*: zerowasteeurope.eu/wp-content/uploads/2020/12/zero_waste_europe_report_-beverage-carton_en.pdf
[13] Zero Waste Europe, Eunomia, 2022. *How circular is PET?*: zerowasteeurope.eu/library/how-circular-is-pet
[14] H2020 Collectors project, 2019. *Analysis of boundary conditions for waste collection systems:* www.collectors2020.eu/wp-content/uploads/2019/09/COLLECTORS_D2.2.pdf
[15] H2020 Collectors project, 2021. *Report on solutions for tackling systemic and technical boundary conditions,*: www.collectors2020.eu/wp-content/uploads/2021/02/D2.4_COLLECTORS-project_Analysis-case-studies_CE-perspective.pdf
[16] Zero Waste Europe, Bio-based Industry Consortium, 2020. *Bio-waste generation in the EU: Current capture levels and future potential:* zerowasteeurope.eu/wp-content/uploads/2020/07/2020_07_06_bic_zwe_report_bio_waste.pdf
[17] EUROSTAT: ec.europa.eu/eurostat/statistics-explained/index.php?title=Municipal_waste_statistics
[18] European Commission, 2020. *A new Circular Economy Action Plan For a cleaner and more competitive Europe COM/2020/98 final, Pub. L. No. COM(2020) 98 f*inal: eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2020:98:FIN&WT.mc_id=Twitter
[19] Zero Waste Europe, June 2020. *The case for an integrated Waste Prevention Framework*: zerowasteeurope.eu/wp-content/uploads/2020/06/zero_waste_europe_policy-briefing_waste_prevention_framework_en.pdf
[20] In 2017, for instance, Germany produced 208 kilograms of waste per capita going to disposal (D1-D7, D10 & D12) and recovery (R1) while Romania only generated 204 kilograms overall.
[21] Zero Waste Europe, 2021. *The State of Zero Waste Municipalities Report 2021*: zerowastecities.eu/learn/reports
[22] According to the 2018 recent European waste statistics, halving the 259 kilograms of residual waste by 2030 means lowering this number to 129,5kgs/capita/year.

- **Mandate the use of mixed waste sorting systems of a defined quality at the front of all new incineration plants, and those which have been operational for less than ten years[23] prior to biological stabilisation at landfills**: Whilst the priority should be on separate collection, the transition to a circular economy also requires proper consideration for the management of residual waste. The compositional analysis of residual waste indicates that even at the highest separate collection rates there is still a lot of potentially recyclable materials in residual waste. Thus, separate collection needs to be accompanied by the sorting of residual waste before incineration and landfilling to capture what would be lost otherwise. Through Article 27 of the Waste Framework Directive, a 'treatment of waste prior to incineration' should be made mandatory in order to enable the recovery of dry recyclables left in the residuals. As a result, material recovery processes that used mixed waste as a feedstock not only increase the availability of secondary raw materials,[24] but also minimise the number of recyclable materials that are either incinerated or landfilled, thus reducing GHG emissions and making a substantial contribution to the Circular Economy objective.[25] For possible structure and operational goals, see ZWE's report on *Building a bridge strategy for residual waste*.[26]
- **Revise the EU Landfill 10% landfilling target:**[27] Amend the Article 5(5) target in the Landfill Directive to read as follows: *Member States shall take the necessary measures to ensure that, by 2030, the amount of municipal waste landfilled without pre-treatment prior to landfilling is reduced to zero.*
- **Remove the R1 formula in Annex II of the Waste Framework Directive so that municipal waste incineration is no longer able to be classified as 'recovery':** Incineration above a certain level of energy recovery is classified as a recovery operation (R1 - Use principally as a fuel or other means to generate energy) and not under disposal, allowing for preferential treatment. However, R1 incineration causes multiple environmental issues while its greenhouse gas (GHG) emission intensity is above the average EU energy grid.[28,29,30]

Conclusion

Although the European Union is still far from being circular, it is consistently transitioning in that direction. If the previous mandate allowed the EU to step up and boost the quantity of recycled materials, the present mandate has to be to reduce waste generation and boost qualitative recycling. Only by adopting ambitious measures will the EU be able to maintain its exemplary position regarding the circular economy. In that sense, Zero Waste Europe urges the Commission to go for the most ambitious option - *considering regulatory measures* - when revising the Waste Framework Directive. This might come at extra costs when being implemented; however, in the long-term, those regulatory measures are needed to achieve a safe and qualitative circular economy - bringing economical benefits by creating jobs, rendering the secondary materials market functional, and bringing about several health benefits.

[23] Zero Waste Europe, Equanimator Ltd, 2021. *Rethinking the EU LandfillTarget:* zerowasteeurope.eu/wp-content/uploads/2021/10/Rethinking-the-Landfill-Target_OCT2021.pdf
[24] See for example: Tomra, 2002. *The ultimate guide to mixed waste sorting: prioritize plastic recovery and recyclability*: solutions.tomra.com/mws-white-paper
[25] Eunomia 2021. *Waste in the Net-Zero Century: Greenhouse Gas Impacts of Mixed Waste Sorting*: www.eunomia.co.uk/reports-tools/waste-in-the-net-zero-century-greenhouse-gas-impacts-of-mixed-waste-sorting
[26] Zero Waste Europe, 2020. *A Zero Waste hierarchy for Europe*: zerowasteeurope.eu/2019/05/a-zero-waste-hierarchy-for-europe
[27] Zero Waste Europe, Equanimator Ltd, 2021. *Rethinking the EU Landfill Target:* zerowasteeurope.eu/wp-content/uploads/2021/10/Rethinking-the-Landfill-Target_OCT2021.pdf
[28] Eunomia 2021. *Greenhouse Gas and Air Quality Impacts of Incineration and Landfill*: www.eunomia.co.uk/reports-tools/greenhouse-gas-and-air-quality-impacts-of-incineration-and-landfill
[29] Zero Waste Europe, ToxicoWatch, 2022. *The True Toxic Toll: Biomonitoring of incineration emission*: zerowasteeurope.eu/library/the-true-toxic-toll-biomonitoring-of-incineration-emissions
[30] Zero Waste Scotland, 2021. *The climate change impacts of burning municipal waste in Scotland*: www.zerowastescotland.org.uk/sites/default/files/The%20climate%20change%20impact%20of%20burning%20municipal%20waste%20in%20Scotland%20Technical%20Report%20July%202021.pdf

Zero Waste Europe is the European network of communities, local leaders, experts, and change agents working towards the elimination of waste in our society. We advocate for sustainable systems and the redesign of our relationship with resources, to accelerate a just transition towards zero waste for the benefit of people and the planet.

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