



Revision of the Waste Framework Directive

How to revise EU legislation to align
with the political ambition and
commitment of the European Green Deal

Position paper

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Introduction

We are facing multiple, urgent, and interlinked environmental challenges. One of them is the ever-increasing amount of waste generated by societies. The EU set out to address this unnecessary waste of resources, energy and nutrients by formulating efforts on the circular economy. However, these have so far only led to a quantitative increase in recycling and reduction of landfilling but continue to support high levels of incineration. The amount of waste generated has only increased (rather than decreased) over the last decade. The Waste Framework Directive (WFD) should be a tool to tackle the root causes of the increasing amount of waste and resource extraction – i.e. the overuse of resources, overproduction, overconsumption, and a lack of accountability of producers. The focus of this revision on qualitatively improving the waste management system, as well as on waste prevention, is therefore of high importance.

Above all, the transition towards a circular economy should have resource use reduction at its core: it is not only about closing the circle but also about reducing the size of the flows. This requires completely reshaping our extraction, production, and consumption patterns.

¹ To achieve this, we believe the revision should aspire to the following three objectives:

1. Facilitate concrete implementation on the ground in European communities through the adoption of binding waste prevention targets and focus on reducing residual waste altogether, instead of prioritising one disposal technology over another;
2. Redesigning EPR schemes in a way that limits the power of producers and holds polluters accountable;
3. Raising the standards for waste collection and recycling in order to deliver more and safer high-quality secondary raw materials.

Zero Waste Europe (ZWE) calls for EU policies to match the European Green Deal's ambitions and narrative. Europe aims to be carbon-neutral and circular by 2050, yet Europe's circularity today is only at 8.6% circularity as the 2022 Circularity Gap Report found²; and the EU is far from closing the loop.

Despite the good progress in EU legislation, the linear economy continues to be the norm in Europe. Most nutrients present in our waste still end up in landfills and incinerators; prevention and reuse lack the necessary infrastructure; packaging recycling rates are low and packaging reuse is even lower; fast fashion reigns free and recycling rates of textiles are close to zero. We often trust producers to come up with the needed solutions, resulting in cost-efficiency instead of a reduction of environmental impact. The revision of the Waste Framework Directive, therefore, comes at a key time to organise the work for the coming decades.

This is a great opportunity to create a framework directive that is fit for delivering the circularity and carbon-neutrality agendas. ZWE welcomes the intention to propose waste prevention and food waste reduction targets, as well as to improve and harmonise separate collection, financial incentives like Pay As You Throw (PAYT), greater facilitation of reuse, expanding the scope of Extended Producer Responsibility (EPR) and utilising EPR in attaining waste prevention objectives. While these new changes will be useful, we believe it is important to use this revision to build the strength of the directive and make it bulletproof for the years to come. Notably, if the EU is to reduce emissions and waste, it is important to set ambitious waste reduction targets and redesign EPR schemes, but also to tighten the belt at the lower end of the hierarchy by setting residual waste targets, phasing out non-recyclable products, and delaying the degradation of material cycles via the promotion of high-quality recycling.

We, therefore, call for the following measures to be adopted:

1. Reinvent EPR schemes
2. Mandate quantitative waste prevention targets
 - a. Adopt a residual waste target
 - b. Financial incentives: mandate the introduction of Pay-As-You-Throw (PAYT) systems for residual waste

¹ Mayer, Andreas, Willi Haas, Dominik Wiedenhofer, Fridolin Krausmann, Philip Nuss, and Gian Andrea Blengini (2019). *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 Circle Economy (2022). *CIRCULARITY GAP REPORT 2022*. Online: www.circle-economy.com/resources/circularity-gap-report-2022

3. Revise the definition of recycling and amend the waste hierarchy

1. Reinvent EPR schemes

Producers are responsible for the increasing amounts of waste; hence, producers must be part of the solution, but in order to do this, they need the right tools and guidance from policymakers. Placing financial responsibilities on producers within EPR schemes has thus far not delivered noticeable design changes towards increased repairability or durability,³ as stipulated in Article 8a.4b of the WFD. EPR schemes thus need to be revised to serve as an incentive for better design and go beyond cost coverage. **The fees should act as price signals that push producers to adopt systemic changes instead of optimising poor design.**⁴ EPR needs to start incorporating tools to realise prevention, repair, and reuse solutions, with the allocation of a percentage of the fees collected to a fund dedicated to financing the transition to circularity (e.g. the French Solidarity Reuse Fund⁵). Moreover, EPR fees should also cover the costs of providing information to citizens about waste prevention measures, centres for reuse, preparation for reuse, take-back and collection systems. In addition, EPR should cover the treatment costs of the waste subjected to EPR that is not collected through the right channel and that is property of the Producer Responsibility Organisations (PROs), as this burden is usually borne by municipalities.

The revised WFD should provide the tools for member states to implement enforceable targets for prevention, reuse, and high-quality recycling (in this order of priority as stipulated in the Waste Hierarchy). To act as price incentives, **the modulation of the fees should be organised to meet ecodesign goals** (e.g. the fee can be increased as much as needed to make ecodesign cost-competitive against products that externalise costs). This way, member states can incentivise manufacturers to go beyond the minimum requirements set by (future) ecodesign rules. However, the 'necessary costs' concept in Article 8a.4c⁶ limits the options to modulate fees to become effective price signals.

EPR governance

We observed several issues regarding the role of PROs within EPR schemes. While PROs are made responsible for the operational aspects of EPR schemes through legislation, they simultaneously use their strategic position to influence environmental policy. They are treated by national governments as the main stakeholders within EPR schemes, resulting in legislation that aims for cost-efficiency and measures ambition in terms of feasibility instead of environmental impact. We, therefore, urge the **WFD to stipulate that the financial and operational responsibility of PROs must be separated from strategic responsibility.** PROs should be responsible for the execution of targets and finances, but not for co-designing the targets and making strategic decisions. PROs have acted as lobby groups for producers, often taking a monopoly position that sidelines other stakeholders (such as municipalities), and have been involved in campaigns that shift the focus away from producer responsibility toward consumer responsibility. Due to a lack of transparency, it is difficult to verify the data provided by PROs, thereby hindering enforceability.

According to Utrecht University, one of the possible solutions to this undesirable position of PROs within EPR schemes is to introduce a so-called '**circular value chain management organisation**' that is involved at the strategic level. This body would be responsible for assessments, strategic decision-making, and monitoring of transparency of all actors involved in the EPR scheme. This independent body consists of all (economic) actors involved in the various sectors of the circular economy (e.g. repair, refurbishment, recycling, and social economy actors).⁷

³ Vermeulen, W.J.V., C.W. Backes, M.C.J. de Munck, K.Campbell-Johnston, I.M. de Waal, J. Rosales Carreon, M.N. Boeve (2021). *Pathways for Extended Producer Responsibility on the road to a Circular Economy. White paper based on a literature review and the results of a Delphi study, on the experiences with EPR in the Netherlands.* Utrecht University, Circular Economy and Society Hub:

www.uu.nl/sites/default/files/White-paper-on-Pathways-for-Extended-Producer-Responsibility-on-the-road-to-a-Circular-Economy.pdf

⁴ Sachdeva, Anurodh; Ariel Araujo and Martin Hirschnitz-Garbers (2021). *Extended Producer Responsibility and Ecomodulation of Fees. Opportunity: Ecomodulation of Fees as a Way Forward for Waste Prevention.* Ecologic Institute: www.ecologic.eu/18226

⁵ LOI n° 2020-105 du 10 février 2020 relative à la lutte contre le gaspillage et à l'économie circulaire (I)

⁶ "Member States shall take the necessary measures to ensure that the financial contributions paid by the producer of the product to comply with its extended producer responsibility obligations (...) do not exceed the costs that are necessary to provide waste management services in a cost efficient way"

⁷ Vermeulen, W.J.V., C.W. Backes, M.C.J. de Munck, K.Campbell-Johnston, I.M. de Waal, J. Rosales Carreon, M.N. Boeve (2021). *Pathways for Extended Producer Responsibility on the road to a Circular Economy. White paper based on a literature review and the results of a Delphi study, on the*

This is especially important when EPR schemes are extended to other product streams, as the current governance favours the inclusion of big industry actors over smaller businesses, NGOs, and municipalities, which is not in line with Art. 8a of the WFD.

If implemented as outlined above, EPR systems can have great leverage on waste streams and should therefore be extended to other product groups like nappies, menstrual items, furniture, and textiles.⁸ However, minimum requirements respecting the Waste Hierarchy should apply – meaning prioritising prevention, reuse, and preparing for reuse activities.⁹ This should go beyond nominal support and voluntary initiatives, as we have seen that these have little to no impact. This issue has to be addressed, as well as the implementation and enforcement of EPR (e.g. ensure that EPR requirements also apply to online sales).

2. Mandate quantitative waste prevention targets

The EU needs to take action to tackle the root causes of the waste crisis, i.e. overproduction and overconsumption. Waste prevention has, therefore, rightly been established as a key priority by the European Commission within the European Green Deal (EGD) and the Circular Economy Action Plan (CEAP). The concept is already defined in the WFD and includes:

- Reducing the quantity of waste generation, 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.¹⁰

Waste can therefore be tackled with quantitative and qualitative prevention measures. Research has shown that current waste prevention plans are often limited to softer measures like consumer awareness-raising campaigns¹¹ and that many member states' waste prevention plans actually misinterpreted this concept and confused it with waste management measures such as recycling.¹² Based on these alarming findings, we call for **legally binding, European-level quantitative targets for waste prevention**. In that sense, we recommend the adoption of the following measures:

- Adopt **overall EU-level binding waste prevention targets for total municipal solid waste**. Compared to the 2019 levels of waste generation, we recommend adopting the following targets:
 - An overall EU-level target of 20% binding reduction of waste generation to be achieved by 2030 by all member states, who are mandated to set their own legally binding targets;
 - An overall EU-level target of 30% binding reduction of waste generation to be achieved by 2035 by all member states, who are mandated to set their own legally binding targets.

Furthermore, specific targets should be set for **individual product groups** in order to complement the overall waste prevention target. 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 2019,¹³ 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;

experiences with EPR in the Netherlands. Utrecht University, Circular Economy and Society Hub:

www.uu.nl/sites/default/files/White-paper-on-Pathways-for-Extended-Producer-Responsibility-on-the-road-to-a-Circular-Economy.pdf

⁸ Eonomia for European Environmental Bureau (2022). *Driving a Circular Economy for Textiles through EPR*. Online:

eeb.org/library/driving-a-circular-economy-for-textiles-through-epr

⁹ RREUSE (2020). *Extended Producer Responsibility and the role of social economy re-use operators: Implementing a socially inclusive waste hierarchy*. Online: rreuse.org/wp-content/uploads/rreuse-position-paper-on-epr-final.pdf

¹⁰ 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

¹¹ Johansson, N., & Corvellec, H. (2018). *Waste policies gone soft: An analysis of European and Swedish waste prevention plans*.

¹² ECOS, the European Environmental Bureau (EEB), Recycling Network Benelux (RNB), RReuse and Zero Waste Europe (ZWE) (2022). *Joint paper: recommendations on waste prevention targets*. Online: zerowasteurope.eu/library/joint-paper-recommendations-on-waste-prevention-targets

¹³ Zero Waste Europe (2019). *Research study on holistic indicators for waste prevention*. Online:

zerowasteurope.eu/library/research-study-on-holistic-indicators-for-waste-prevention

- Small household appliances;
- IT and telecommunications equipment;
- Toys, leisure and sports equipment;
- Electrical and electronic tools;
- Textiles;
- Motor vehicles;
- Furniture and furnishing.

Decreasing the amount of waste encompasses not only 'refuse' practices, but also other critically important actions such as reuse, repair, and design for durability and reparability. We therefore encourage the Commission to also adopt **reuse targets**. The current quantitative waste prevention measures in the WFD aim at reuse and recycling, but show a strong focus on recycling. Apart from this, specific **targets for residual waste** are necessary, as further outlined below.

In order to **measure the impact of waste prevention**, we need a methodology for resource consumption. While this can be difficult to assess, recent research has established a new methodology for measuring how much primary raw material can be saved through less product use (product prevention), increased reuse, and better recycling. Circular targets add targets for prevention (using less product), reuse and recycled content to the existing targets in European policy. They focus on reducing resource use in an absolute sense rather than 'just' increasing the efficiency of resource use (i.e raw materials efficiency; decreasing resource use or raw materials use per Euro produced).¹⁴ The methodology can serve as the basis for setting quantitative reduction targets to reduce the use of natural resources. Inspiration for successful waste reduction targets may also be drawn from food waste reduction targets, as outlined next.

Introduce an ambitious food waste reduction target

Food waste is a manifold problem that not only contributes to environmental and climate damage but is equally morally unacceptable. It is therefore essential to adequately address this issue by adopting efficient and ambitious targets for the coming years. Those targets should be binding, as citizens' awareness or voluntary commitments will not be sufficient **to achieve the 50% food loss and waste reduction target by 2030, as set in Sustainable Development Goal (SDG) 12.3**.

All actors shaping the food system should bear the responsibility to achieve this goal. The main barrier to EU food waste reduction is the lack of legally binding ambitious reduction targets. These targets should require an EU food waste reduction of 50% by 2030, including a 50% reduction of all food loss and waste in the entire supply chain – from farm to fork.

Pre-retail food waste is often underestimated and could represent 59% of the total EU food waste. At the farm level, it is estimated that 150 million tonnes or 14.6% of the total food production are wasted.¹⁵ **Food loss at this stage has been excluded from the EU methodology**. Simply focusing on retail or consumers will result in incomplete measures that won't address systemic drivers of food waste (overproduction, long transportation, decreasing the products' shelf life, pre-fixed portion or size leading to over-purchasing etc.).

Although we acknowledge the need for the EU to reach the 50% food waste reduction target across the supply chain, it should be achieved through a kilograms per capita target for the member states. This measure will ensure fairness for countries that already have low levels of food loss and waste. For instance, the Food and Agriculture Organization (FAO) estimates that food waste in the retail sector in Denmark (30 kilograms per capita per year) is six times higher than in Slovenia (4 kilograms per capita per year).¹⁶ Therefore, in the hypothetical case of an EU-wide target of 10 kilograms of food waste per capita per year to be reached by the retail sector, it only seems fair that Slovenia is rewarded for its already good results while Denmark will have to put extra efforts to reach the target.

¹⁴ Het Groene Brein (2022). *Op weg naar circulaire doelstellingen voor preventie, hergebruik en recycling*. Online: hetgroenebrein.nl/project/op-weg-naar-circulaire-doelstellingen-voor-preventie-hergebruik-en-recycling

¹⁵ WWF (2022). *DRIVEN TO WASTE: THE GLOBAL IMPACT OF FOOD LOSS AND WASTE ON FARMS*. Online: wwfint.awsassets.panda.org/downloads/technical_report_wwf_farm_stage_food_loss_and_waste.pdf

¹⁶ UN FAO (2021). *Food Waste Index Report 2021*. Online: www.fao.org/platform-food-loss-waste/resources/detail/en/c/1378978

Related to the way the targets are expressed above, we believe that:

1. **Member states should reach the same kilograms per capita target...**
2. **... that will contribute to reaching an EU-wide 50% reduction target by 2030.**

2.a. Adopt a residual waste target

One of the cornerstones of the Circular Economy Package, adopted in 2018, is the new **Landfill Directive**. The strategic goals of the new Directive are largely the same as the EU policy on landfills defined in 1999. However, a key new element brought about by the new Directive is the landfill minimisation target, which obliges the member states to limit the amount of municipal waste due to be landfilled to 10% or less of municipal waste generated by 2035. Although the landfill minimisation target seems to be aligned with the strategic goals of the WFD, the new obligation also generates operational goals which contradict the overarching principles of the EU Circular Economy Agenda. Evidence shows that meeting the target is extremely challenging and the way it is defined and calculated (in any given year and defined as a percentage) may cause unwanted consequences:

- **Firstly, it lacks emphasis on waste reduction**, which translates into a paradox: it does not matter how much waste is produced, it only matters that no more than 10% is landfilled since the percentage would anyway have to be calculated in any given year on the remaining waste.
- Secondly, it may **push decision-makers to invest in waste incineration** to minimise landfilling. This would consequently create a lock-in effect, with waste compelled to go to incineration in the long-term, rather than to reuse options or recycling. This contradicts the principles and strategic goals of the Circular Economy Package which give a clear priority to reducing waste and maximising material recovery.
- Finally, it sends the wrong signal by solely emphasising the negative impacts of one type of residual waste treatment - landfilling - while the **circular economy aims at progressively phasing out residual waste in itself and stopping all kinds of disposal**.¹⁷

For these reasons, we recommend amending the WFD to establish targets to reduce residual municipal waste in kg/inhabitant, to be achieved in the same schedule as the existing recycling targets. This would be calculated prior to waste entering into the stabilisation process, or at the point it enters the incinerator furnace. We suggest the following targets be adopted and complement the existing legislation:¹⁸

- **A maximal target of 120 kilograms per capita per year to be achieved by 2030;**
- **A maximal target of 100 kilograms per capita per year to be achieved by 2035;**

Albeit such targets might seem ambitious to achieve, many municipalities across Europe have already reached them through our Zero Waste Cities programme. We work with nearly 500 European municipalities committed to becoming zero waste; and regularly see municipalities achieving 70-80% recycling and producing less than 60kg¹⁹ of residual waste per capita/year. These cities provide active case studies on how to successfully create systems that reduce waste.²⁰ Besides the municipal level, some countries also achieved low levels of residual waste production—for example, Slovenia reached 136 kg per capita in 2020.^{21 22}

¹⁷ Zero Waste Europe (2020). *A case for an integrated Waste Prevention Framework*. Online:

zerowasteurope.eu/wp-content/uploads/2020/06/zero-waste-europe-policy-briefing-waste-prevention-framework-en.pdf

¹⁸ Zero Waste Europe (2019). *Rethink the EU Landfill Target*. Online:

zerowasteurope.eu/wp-content/uploads/2021/10/Rethinking-the-Landfill-Target_OCT2021.pdf

¹⁹ Legambiente (2022). *COMUNI RICICLONI*. Online: www.legambiente.it/rapporti/comuni-ricicloni

²⁰ Zero Waste Europe (2021). *The State of Zero Waste Municipalities Report 2021*. Online:

zerowasteurope.eu/2021/12/the-state-of-zero-waste-municipalities-report-2021

²¹ Republic of Slovenia Statistical Office (2021). *Almost 9% less waste generated in 2020*. Online: stat.si/StatWeb/News/Index/9851

²² Calculation: 489 kg per capita of MSW at 72.2 % separate collection.

Additionally, the targets would match the European Commission's ambition to 'halve the amount of residual (non-recycled) municipal waste by 2030'.²³ According to the most recent European waste statistics,²⁴ halving the current 259 kg²⁵ of residual waste per person by 2030 means lowering this number to 129,5 kg/capita/year.

These targets guarantee fairness for member states with low waste generation and less advanced waste management capacities, as they are usually perceived as laggards. For instance, in 2020, Denmark's municipal solid waste (MSW) production exceeded 800 kg/person, and a recycling rate of roughly 50%, has been reported to produce more than 400 kg of residual waste going to disposal and incineration (D10 and R1), while Romania only generated 287 kg per capita in 2020.²⁶ Yet, according to the targets (in percentage in 2019) for recycling and landfilling, Denmark is among the best performers while Romania is perceived as a laggard country.^{27 28}

To achieve the overall goal of waste reduction, targets for residual waste are indispensable. Policies to reduce the total quantity of residual waste will lead to a reduction, increased reuse and recycling of materials. Legally binding rules will act as incentives to phase out overpackaging and products that are not recyclable. They will also be a strong driver in improving the separate collection of recyclables and ensure that no more resources are wasted. This can reduce the need for raw material extraction in the first place as it enables the scaling up of the use of recycled material.

2.b. Financial incentives: mandate the introduction of Pay-As-You-Throw (PAYT) systems for residual waste

A recent study found that the implementation of financial incentives positively encourages citizens to sort their waste. In focus groups, respondents specifically emphasised that systems like deposit return schemes (DRS) or pay-as-you-throw (PAYT) systems are highly motivating to trigger or maintain the sorting habits.²⁹

PAYT models are valid schemes to keep the system cost-efficient, deliver optimal environmental and social results, and comply with the targets. In addition, they often lead to increased environmental awareness among the participants. Well-implemented PAYT systems might also have an additional impact on overall waste prevention by nudging consumer choices towards reusable packaging.

²³ A new Circular Economy Action Plan For a cleaner and more competitive Europe COM/2020/98 final, Pub. L. No. COM(2020) 98 final (2020). P.16.

²⁴ Eurostat (2021). *Municipal waste statistics*. Online: [ec.europa.eu/eurostat/statistics-explained/index.php?title=Municipal_waste_statistics#:~:text=505%20kg%20of%20municipal%20waste,in%20the%20EU%20in%202020.&text=48%20%25%20of%20municipal%20waste%20in,recycling%20and%20composting\)%20in%202020](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Municipal_waste_statistics#:~:text=505%20kg%20of%20municipal%20waste,in%20the%20EU%20in%202020.&text=48%20%25%20of%20municipal%20waste%20in,recycling%20and%20composting)%20in%202020)

²⁵ For 2018: 492kgs (of MSW generated) - 233kgs (47,4% of recycled MSW) = 259kgs of residual waste.

²⁶ Eurostat (2022). *Municipal waste by waste management operations*. Online:

ec.europa.eu/eurostat/databrowser/view/env_wasmun/default/table?lang=en

²⁷ EEA (2021). *Waste recycling in Europe*. Online: www.eea.europa.eu/ims/waste-recycling-in-europe

²⁸ EEA (2021). *Municipal waste landfill rates in Europe by country*. Online:

www.eea.europa.eu/data-and-maps/figures/municipal-waste-landfill-rates-in

²⁹ H2020 Collectors project (2021). *Deliverable 2.5 Report on implemented solutions and key elements in selected cases for societal acceptance*. Online: www.collectors2020.eu/wp-content/uploads/2021/02/Collectors-Deliverable2.5.pdf

We would like to bring to your attention several municipalities that successfully implemented a PAYT: Salacea³⁰, Newport³¹, Parma³², and Besançon.³³

Furthermore, in Ghent, a PAYT waste collection system was introduced in 1998 and we can see a continuous downward trend of collected residual waste ever since. Citizens pay a fixed 'deposit' fee depending on their housing situation and container size. Parma, on the other hand, implemented a PAYT system with a variable fee. Citizens pay the fixed fee (€244 for a 3-person and 100m² household in 2017) and can collect eco-points: a discount on their waste bill for the following year. Eco-points are collected for bringing, for instance, electronic waste, hazardous waste, and medical waste to collection points; and depend on the quantity and sort of waste. This way, citizens can receive a maximum discount of €20.³⁴

PAYT systems can vary and therefore apply different strategies, depending on what best suits the local context. These strategies range from charging for the size of container chosen by the household (the biggest containers costing more); the frequency of collection of a given container (e.g. how many times a month or year a household can put their full waste bin out for collection); the application of a fee per sack that is used; the weight of waste set out for collection; or a combination of the above.³⁵

The most effective PAYT systems set a fixed fee for every household, business, or individual, covering the core operational costs of waste collection and treatment. This is normally around 60-70% of the previous existing waste fee. **The remaining 30-40% is therefore variable and is calculated depending on the volume of waste generated by a user**, with those who generate below average consequently paying less than the average household fee. PAYT systems should be flexible and continue to be updated with the goal of reducing waste generation.

By mandating the implementation of PAYT, the EU can set a clear agenda for member states and local municipalities to follow. Citizens and businesses should be rewarded for generating less waste every year, with those who continue not to do this having to pay a greater contribution. With such incentives in place and tailored to the local community, we can expect PAYT to help increase recycling rates by 10-30% and reduce residual waste volumes by similar percentages (as seen through the experiences of our Zero Waste Cities).

3. Revise the definition of recycling and amend the Waste Hierarchy

Post-consumer recycled material is an integral part of decoupling economic development from natural resource use and reduction of material dependencies, as outlined in the European Commission's proposal for the Ecodesign for Sustainable Products Regulation.³⁶ The foreseen requirements for minimum quantities of recycled content in new products require scaling up high-quality recycling for safe secondary material. Too often, we observe material being downcycled (like PET) from bottles into other non-food grade applications (like textiles).³⁷

³⁰ Zero Waste Europe (2019). *THE STORY OF SALACEA*. Online:

zerowastecities.eu/wp-content/uploads/2019/09/zero_waste_europe_CS12_The-story-of-Salacea_en.pdf

³¹ Zero Waste Europe. *The Story of Newport*. Online:

zerowastecities.eu/wp-content/uploads/2021/03/zwe_case-study_the_story_of_newport_en.pdf

³² Zero Waste Europe (2018). *The Story of Parma*. Online: zerowastecities.eu/wp-content/uploads/2019/07/zero_waste_europe_cs7_parma_en.pdf

³³ Zero Waste Europe (2018). *The Story of Besançon*. Online:

zerowastecities.eu/wp-content/uploads/2019/07/zero_waste_europe_cs8_besancon_en.pdf

³⁴ H2020 Collectors project (2020). *Work package 3 Quantification of costs and benefits, ASSESSMENT OF SOCIO ECONOMIC AND FINANCIAL PERFORMANCE OF 12 SELECTED CASE STUDIES*. Online:

www.collectors2020.eu/wp-content/uploads/2020/04/Deliverable3.2_COLLECTORS-project-1.pdf

³⁵ H2020 Collectors project (2020). D4.6 – *Policy recommendations & development needs related to the waste framework conditions*. Online:

www.collectors2020.eu/wp-content/uploads/2020/12/COLLECTORS-D4.6_Policy-recommendations-final.pdf

³⁶ European Commission (2022). 2022/0095 (COD) *Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a framework for setting eco-design requirements for sustainable products and repealing Directive 2009/125/EC*.

³⁷ Zero Waste Europe (2022). *How circular is PET?* Online: zerowasteurope.eu/library/how-circular-is-pet

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

- **Amend the Waste Hierarchy to shift the focus from waste management to resource management.**³⁸ 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 so-called ‘chemical recycling’ needs to be regulated to ensure sustainable management of current resources. In order to regulate it, technologies need to be differentiated based on their environmental impacts, yields, and outputs produced.^{39 40}
- **Define chemical recycling and recovery technologies and rank them in the Waste Hierarchy.**⁴¹ The term ‘chemical recycling’ (also called ‘advanced’ or ‘molecular’ recycling) has no formal definition and is currently used in different ways. We strongly recommend updating the WFD to introduce harmonised definitions of different chemical reprocessing technologies to provide clarity on the nature and output of different technologies. Concerning plastics, we recommend only categorising processes as ‘recycling’ if their yield outputs are – or can be directly converted into – polymer materials, and exclude any operation (such as fuel production) that does not result in the direct production of new plastic building blocks.⁴² 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, and need to be further processed in several steps to yield a polymer again. Based on the type of output and the overall environmental impact, chemical recycling technologies shall be ranked above chemical recovery techniques in the Waste Hierarchy.
- **Define and distinguish recycling according to its quality, which is closely intertwined with recycling value and output.** Today, EU legislation puts upcycling, recycling, and downcycling on an equal footing, which is causing a downward spiral toward downcycling and doesn’t allow the quality of the recycling process output to be taken into account.^{43 44} Recycling and downcycling have different channels and values.^{45 46} 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 at 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’, and ‘**High- and low-quality recycling**’. Based on a definition proposed by Grant et al. (2020),⁴⁷ we propose the following qualitative definition:

³⁸ Zero Waste Europe (2019). *A Zero Waste hierarchy for Europe*. Online: zerowasteurope.eu/2019/05/a-zero-waste-hierarchy-for-europe

³⁹ ZWE, EEB, DUH, ECOS, GAIA, Rethink Plastic, NABU (2020). *Understanding the Environmental Impacts of Chemical Recycling*. Online: zerowasteurope.eu/wp-content/uploads/2020/12/zwe_jointpaper_UnderstandingEnvironmentalImpactsOfCR_en.pdf

⁴⁰ Rollinson, A., Oladejo, J. (2020). *Chemical Recycling: Status, Sustainability, and Environmental Impacts*. Online: www.no-burn.org/wp-content/uploads/CR-Technical-Assessment_June-2020.pdf

⁴¹ Zero Waste Europe, ECOS (2021). *Chemical recycling and recovery: recommendation to Categorise Thermal Decomposition of Plastic Waste to Molecular Level Feedstock as Chemical Recovery*. Online: zerowasteurope.eu/wp-content/uploads/2021/12/December2021_ZWE_Chemical_Recycling_position_paper.pdf

⁴² Rethink Plastic alliance (2020). *Chemical recycling: 7 steps to effectively legislate on chemical recycling*. Online: zerowasteurope.eu/wp-content/uploads/2020/07/rpa_chemical_recycling_statement.pdf

⁴³ Zero Waste Europe, Eunomia (2020). *Recycling of multilayer composite packaging: the beverage carton*. Online: zerowasteurope.eu/wp-content/uploads/2020/12/zero_waste_europe_report_-beverage-carton_en.pdf

⁴⁴ Zero Waste Europe, Eunomia (2022). *How circular is PET?* Online: zerowasteurope.eu/library/how-circular-is-pet

⁴⁵ H2020 Collectors project (2019). *Analysis of boundary conditions for waste collection systems*. Online: www.collectors2020.eu/wp-content/uploads/2019/09/COLLECTORS_D2.2.pdf

⁴⁶ H2020 Collectors project (2021). *Report on solutions for tackling systemic and technical boundary conditions*. Online: www.collectors2020.eu/wp-content/uploads/2021/02/D2.4_COLLECTORS-project_Analysis-case-studies_CE-perspective.pdf

⁴⁷ European Commission, Joint Research Centre, Grant, A., Cordle, M., Bridgwater, E., (2020). *Quality of recycling : towards an operational definition*, Canfora, P.(editor), Dri, M.(editor), Gaudillat Pierre, (editor), Antonopoulos, I.(editor), Publications Office. Online: data.europa.eu/doi/10.2760/225236

‘High quality recycling is a process that ensures that a product is efficiently and effectively recycled, and the distinct characteristics and quality of the material (the polymer, or the alloy, or the glass, or the paper fibre) are preserved or recovered so as to ensure they can be reused [incorporated] in products with the same market value (compared to the correspondent virgin product) and allows further recyclability of the same quality when reaching their end-of-life. Such “distinct quality” should include, for example, food-contact quality /suitability.’

For **closed-loop recycling**, we suggest the following definition:

‘Process in which post-consumer waste is collected and recycled preserving the value of the material so it can be used again to make the same product category it came from with minimal loss of quality or function.’⁴⁸

We should aspire to achieve **fully closed and resource-efficient waste management systems for all materials when it makes sense from an environmental/climate point of view**. Indeed, the more closed-loop a system is, the more resource efficient it will be by delivering quality recycled materials.⁴⁹ Beverage bottles are already included in such a framework with the introduction of mandatory separate collection and recycled content targets in the EU Single-Use Plastics Directive. Recent reports⁵⁰ have illustrated that post-consumer recycled PET from beverage bottles is increasingly used by non-food sectors (textiles, automotive, etc.) to boost their environmental sustainability credentials. This means that bottles are being recycled (“downcycled”) into other, lower-grade applications. Also, textiles are at great risk of breaking the closed recycling loop: the EU Strategy for Sustainable and Circular Textiles acknowledges the growing source of concern that is the accuracy of green claims on textiles made using recycled plastic polymers where these polymers do not come from fibre-to-fibre recycling, but rather from sorted PET bottles.⁵¹ To achieve full circularity, each producer must invest in the design for recyclability, collection and incorporation of its own (recycled) materials. This will also help achieve the lower toxicity aspects of waste prevention.

We, therefore, **recommend amending Articles 3 and 4 of the WFD accordingly**.

Conclusion

The CEAP calls for urgent action on EU waste legislation. Our outlined priorities should lead the way to a substantial redesign of the EU legislative landscape necessary to reach full circularity. The revised WFD must tackle the root causes of the increasing amounts of waste and resource extraction and move us away from waste management to prevention.

As stated above, current legislation lacks the necessary ambition to achieve those goals and any review should include ambitious waste prevention targets; harness the power of effective EPR schemes; and create a reliable supply of secondary raw materials by securing high-quality recycling. ZWE stands ready to cooperate on these issues and to provide evidence, best practices, and policy guidance.

Glossary

- Residual waste means all non-separately collected waste.

⁴⁸ Zero Waste Europe, AIJN, Changing Markets Foundation, Natural Mineral Waters Europe, Unesda (2022). *Towards a policy framework that enables efficient waste collection, closed loop recycling and access to recycled content*. Online: zerowasteurope.eu/wp-content/uploads/2022/05/27-04-2022_Collection_Closed-Loop-recycling_Access-to-recycled-content_FINAL-Statement.pdf

⁴⁹ *ibid.*

⁵⁰ Zero Waste Europe, Eunomia (2022). *How circular is PET?* Online: zerowasteurope.eu/library/how-circular-is-pet

⁵¹ European Commission (2022). EU strategy for sustainable and circular textiles.

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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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