

EU Plastics Recyclers' Roadmap: For a competitive & innovative industry

Re-shaping Europe.



EURIC'S **5 RECOMMENDATIONS** FOR A **COMPETITIVE** AND INNOVATIVE **PLASTICS** **RECYCLING** SECTOR

Executive Summary

Over the past five years, ambitious steps have been taken to reduce the environmental impact of EU plastic waste and accelerate the transition to a circular plastics economy. However, **despite significant progress, the European plastic recycling industry is currently facing pressing challenges as the demand for recycled polymers remains low.** This weak demand, together with low prices of recycled plastics and the unfair and fraudulent imports from third countries, **put the competitiveness of EU plastic recyclers at risk.**

Sustainability and competitiveness should not be opposing concepts. In fact, as outlined by European Commission President Ursula von der Leyen in her [political guidelines](#) 2024-2029 and reinforced by the [Draghi report](#), a comprehensive plan for decarbonising and boosting the competitiveness of the EU economy is essential. In this context, recyclers play a pivotal role in achieving both goals, not only cutting carbon emissions but also reducing the EU's dependence on virgin raw materials.

EuRIC calls for urgent measures to support one of Europe's key industries for transitioning to a circular and carbon-neutral economy:

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1. Swift implementation of pragmatic mandatory recycled content targets for plastics to stimulate demand for recycled materials and secure investments to scale up recycling capacity in Europe. Due to the growing imports from third countries, strong mechanisms for verification and traceability of recycled polymers, and the application of EU-equivalence rules are needed to protect the European recycling industry.

2. Introduction of incentives, whether market or tax-based, to bridge the price gap between virgin and recycled plastics. This includes fiscal incentives in the form of lower VAT rates for products made of recycled plastics, and eco-modulation of EPR fees, among others.

3. Mandatory collection targets and design-for-recycling criteria to enhance the quantity and quality of inputs to recycling processes. Increasing collection (quantity) and recyclability (quality) of the inputs to the recycling processes are key to delivering high-quality recycled materials.

4. With the new restrictions on plastic waste exports, a well-functioning market for recycled plastics in the EU is imperative. Establishing harmonised EU End-of-Waste (EoW) criteria for plastics is crucial for better reintroducing high-quality recycled products into new products.

5. Striking the right balance between precautionary measures and responsible risk management. Recycling of plastic waste risks to stop, if thresholds of restricted substances are reduced to levels, at which the recycling industry is incapable to prove compliance with available industrial-scale analytical tools and quality control methods.

In this Roadmap, EuRIC's Plastics Recycling Branch (EPRB) explores the current state of the EU plastics recycling industry and outlines key recommendations for the EU's 2024-2029 mandate to boost plastics recycling in the EU while driving innovation and investment.





Introduction

Plastic recycling significantly reduces CO2 emissions, energy, and water consumption. Recycling one ton of plastics can prevent up to 2.5 tons of CO2 compared to using primary materials (oil and gas), and 2.7 tons compared to incineration [1]. Despite significant progress, more action is needed to fully harness the potential of plastic recycling for a climate-neutral EU.

Plastic waste management and recycling in the EU

In 2023, Europe's plastic conversion reached 54 Mt, but **only 13.4% came from post-consumer recycled plastic**. This highlights the linear nature of the EU's plastic value chain, which relies heavily on imported hydrocarbons and extracted raw materials. In fact, of the estimated 32.3 Mt of post-consumer plastics waste collected in 2022, **only 26.9% was recycled** (8.7Mt). In contrast, 49.6% was incinerated and 23.5% still ended up in landfills [2].

European
plastic
production

54 Mt
in 2023

13.2%
(7.1Mt)

Mechanically
recycled plastics
production

Source: Plastics Europe, EU27+3, 2023 data



[1] Material Economics (2018), The circular economy – a powerful force for climate mitigation

[2] Plastics Europe, 2022 and 2023 data in the EU27

When it comes to **technical and engineering plastics**, the EU automotive industry accounts for around 10% of total EU plastic demand, consuming 5.1Mt annually. Yet, **only 19% of plastics from end-of-life vehicles are recycled**. Similarly, **recycling rates are low for plastics from Waste from Electrical and Electronic Equipment (WEEE) at 20%, and from building and construction plastics at just 17.4%.**

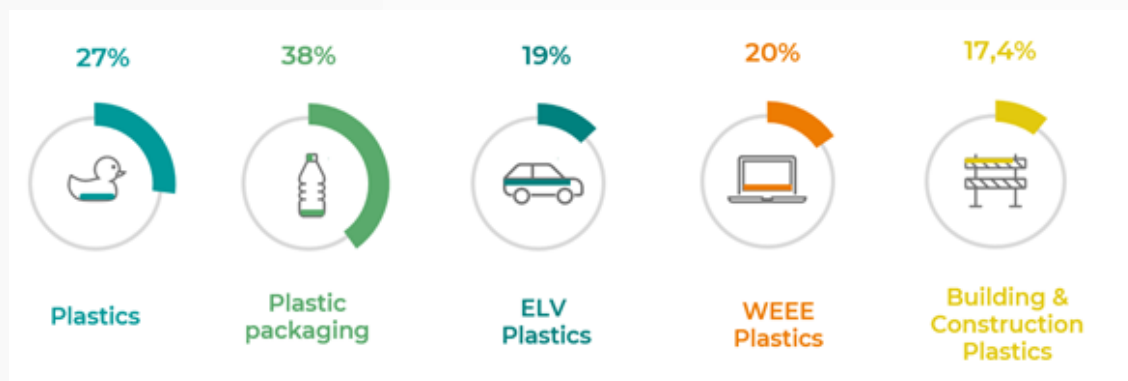
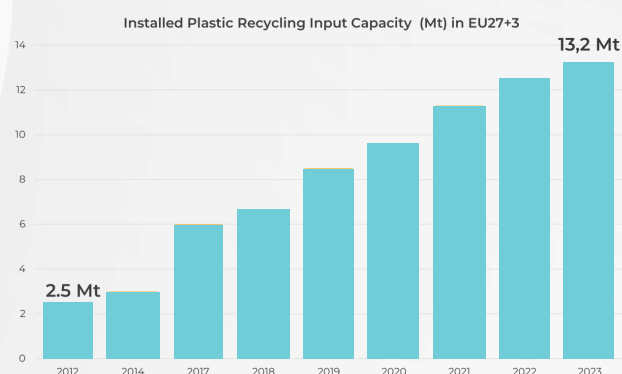


Figure 1. Plastic recycling rates in the EU. Source: Plastics Europe, 2022 data

Although the volume of recycled plastic waste increases every year and Europe is one of the leaders in plastics collection and recycling, overall recycling rates still remain low. To make Europe the first climate-neutral continent by 2050, EU countries must increase their capacity to manage growing amounts of plastic waste in a circular manner. This begins with increasing and improving waste collection and concludes with boosting the reintroduction of high-quality recycled plastics into new products.

The EU plastic recycling industry and its contribution to the circular economy

To maximise recycling rates, **the plastic recycling industry has rapidly expanded over the last decade, doubling its capacity in the past five years to reach 13.2Mt in 2023** [3]. This growth reflects the efforts and investments by plastic recyclers across Europe to increase the recycling capacity and thus contribute to the achievement of the EU Green Deal and Circular Economy Action Plan targets.



Source: Plastics Europe, 2023 data

The plastic recycling industry capacity has rapidly grown, **increasing by more than 30%** in the last three years.

However, after years of growth, **the growth rate decreased to 6%** in 2023, due to heavy market disruptions and price fluctuations.

Today, the **demand for recycled plastics in Europe remains low**, primarily due to the lower cost of virgin plastics and growing imports from non-EU countries. After some positive years for the industry, in 2023, recycled plastic **prices fell by up to 50% for certain polymers, and still, prices remain low**.

The insufficient demand and too-low prices results are putting **the growth and competitiveness of the EU plastic recycling industry at stake**. In fact, European plastic recyclers are currently operating well below their full capacity due to insufficient demand.



Ursula von der Leyen

President of the European Commission

To unlock the potential of the EU plastic recycling industry, EuRIC has called on the Commission President, the executive Vice-President for Industrial strategy and the Circular Economy Commissioner, and to introduce decisive and bold policy measures supporting one of Europe's key industries in the transition to a circular and carbon-neutral economy.

The announcement of a **“new Circular Economy Act”** by Commission President von der Leyen, reinforces the need to create market demand for recycled raw materials.

In order to address current market challenges, a multifaceted approach is needed in the new legislative period, one that encourages **competitiveness and innovation**, while overcoming **existing systemic barriers**.



Stéphane Séjourné

European Commission Executive Vice-President for Prosperity and Industrial Strategy



Jessika Roswall

European Commissioner for Environment, Water Resilience and a Competitive Circular Economy

Images: European Parliament Audiovisual



EURIC'S **5 RECOMMENDATIONS** FOR A **COMPETITIVE** AND INNOVATIVE **PLASTICS** **RECYCLING** SECTOR



1

BOOSTING THE USE OF RECYCLATES THROUGH MANDATORY RECYCLED CONTENT TARGETS

Securing investments to scale up recycling capacity

Binding measures to incentivise the use of recycled plastic are the only manner to reward recycling environmental benefits and level the playing field with extracted materials.

Pragmatic mandatory EU recycled content targets for plastics are needed to stimulate demand for recycled materials and secure investments to scale up capacity in Europe.

The **recycled content targets for plastic beverage bottles under the SUP Directive have been effective in decoupling recycled PET price from oil-based ones**, driving significant investments in food-contact recycling technologies. As a result, the installed capacity for food-contact rPET is sufficient to meet both 2025 and 2030 targets.[3]

With the new Packaging Waste Regulation (PPWR) and the upcoming End-of-Life Vehicles Regulation (ELVR), these targets will extend to all plastic packaging and vehicles, ensuring consistent demand for recycled materials in products. EuRIC advocates extending these targets to other sectors, such as the electronics and the construction industry.



[3] The installed capacity for food-grade in 2022 was already at 1.4 million tons, while the beverage industry would require 800 thousand tons to meet the 25 % mandatory recycled content target in 2025, and about 1 million tons in 2030.



In the automotive and electrical and electronic equipment (EEE) sectors, plastics recyclers have, over the last decades, developed state-of-art post-treatment technologies to efficiently separate and then recycle plastics from ELVs and WEEE. These recycled plastics, when compounded into new vehicles or EEE, meet similar performance standards as those compounds from virgin polymers. **This highlights the vast potential for recycling plastics in these sectors, which need to be encouraged and supported.**

Setting mandatory recycled content at the product level enhances the circularity of each value chain, not only reducing the environmental impact of product manufacturing but also encouraging better design for its end-of-life management.

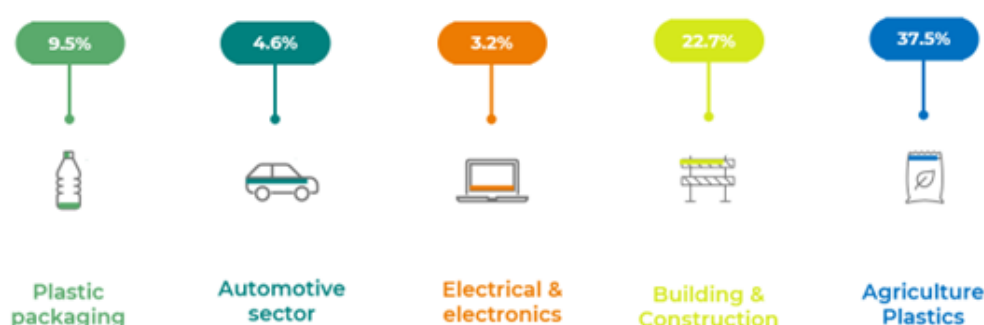


Figure 2. Recycled content from post-consumer plastic waste in 2022. Source: Plastic Europe



Moreover, intermediate objectives should be set to guide the incorporation strategy of companies that will face mandatory targets to ensure that they reach the required recycled content on time. In addition, to have a positive impact on the EU market of recyclates, **only post-consumer waste should count towards the recycled content targets.** Including pre-consumer or post-industrial waste will not contribute to increasing circularity, as it is more likely to be recycled due to lower costs and higher quality.

Verification and traceability

Strong mechanisms for the verification and traceability of recycled polymers are crucial to protect the European recycling industry from unfair competition and fraudulent imports.

This goes hand in hand with robust and fair calculations methods, which become particularly important with the development of new technologies, such as chemical recycling.



Source: Kriengsak Tarasri, Getty Images



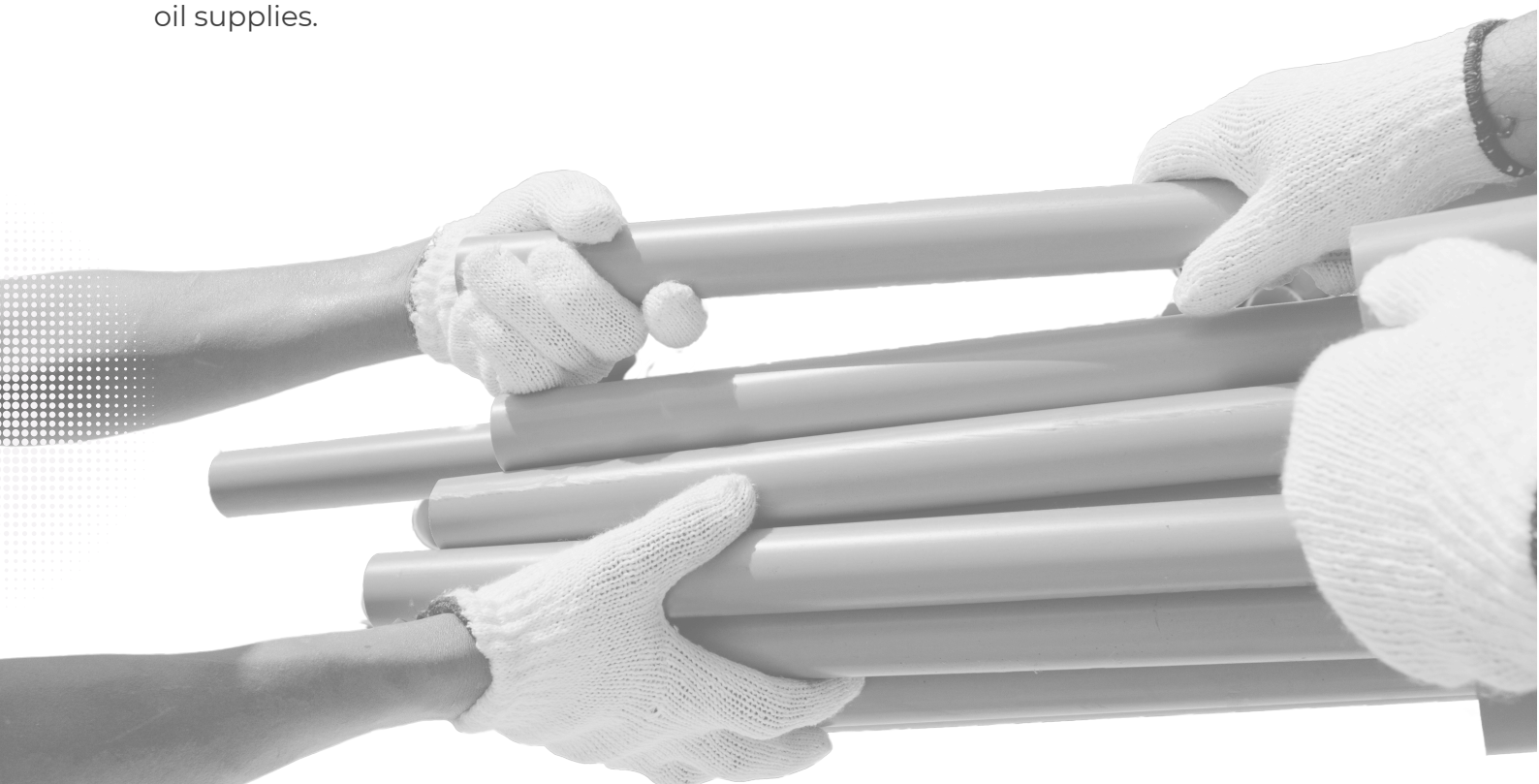
Moreover, EuRIC calls for mandatory third-party certifications on both recycled materials and goods claiming recycled content, to combat greenwashing and misleading claims, preserving the transparency and credibility of the industry. The same criteria should apply to imports from third countries.

Finally, a strong control over the claims must be applied by all EU members, as well as strong sanctions that are dissuasive enough to incentivise producers to respect the mandatory recycled content.

Sustainability criteria

Developing **sustainability criteria** for the incorporation of recycled materials is key to ensuring that the overall process minimises pollution. These criteria should **consider the origin of recycled plastics, and the environmental impact** of recycling technologies used. **In particular**, mechanical recycling should be prioritised over chemical recycling technologies, with **chemical or physical (dissolution) methods reserved only for waste that cannot be mechanically recycled**. In other words, only rejects from mechanical recycling should go to chemical recycling.

Consequently, **sustainability criteria should be based on a CO₂-incentivised scheme, where mechanical recycling, with its lower carbon footprint than chemical recycling, will come first**. The same should apply to locally recycled plastic waste versus imported recycled plastic from third countries. Increasing recycling rates and incorporating recycled content within the EU will help reduce reliance on volatile oil supplies.



2

IMPROVING COLLECTION AND RECYCLABILITY: LEVERS FOR RECYCLING

To meet the recycled content targets, it is essential to improve both the quantity and quality of inputs into recycling processes.

While some industries express concerns about the availability of specific recycled plastics, this policy tool has proven to be effective in boosting capacity growth and innovation.

However, increasing collection (quantity) and recyclability (quality) of the inputs to the recycling processes are key to delivering high-quality recycled materials. **EuRIC advocates for results-based obligations to enhance collection, emphasising that improving inputs directly improves recycling outputs.**

When setting **EPR schemes** to ensure proper collection and treatment, it is essential to preserve conditions of fair competition and ensure that waste ownership is retained by the recycling company entrusted with the responsibility to process the waste. EPR schemes should not have an operational role in the market they regulate, and monopolies, whether by law or otherwise, should be avoided.

“

***If you want to improve the outputs,
focus on the inputs!***

”

Even if collected, plastic products that lack design for recycling (DfR) will still end up incinerated or landfilled.

Therefore, **enhancing recyclability is pivotal for effective recycling and for retaining the plastic material value in the economy.**





Moreover, recyclability should be assessed not only against design-for-recycling (DfR) criteria but also on the basis of the best available sorting and recycling technologies and capacities across Europe. **In other words, design for recycling is a prerequisite but not enough to be considered recyclable.**

Collection, sorting and recycling installed infrastructure and processes need to be considered, with sufficient geographical coverage in each Member State. This approach, termed **“recyclability at scale”** for packaging, ensures that all stages of recycling are optimised. To achieve “recyclability at scale”, it is crucial to have free trade market within Europe to ensure supply with sufficient input for the best available technologies, thereby increasing their efficiency and fostering competition.

The current DfR guidelines for plastic packaging are mature, and the new EU packaging rules will require packaging to comply with recyclability criteria.

What is now needed is to speed up the application of these guidelines and to monitor and improve the implementation of “recyclability at scale”. However, for other products such as vehicles and electrical and electronic devices, there are no guidelines yet in EU legislation or EU standards, and this work needs to be accelerated by EU legislators.

Moreover, recyclers should be consulted beforehand when placing new, innovative products on the market, to ensure that recycling process constraints are considered at the design stage.

1. Accelerate the implementation of DfR guidelines for plastic packaging.

2. Expedite development of EU guidelines for vehicles and electronics.

3. Consult recyclers early in the design process for new products.

4. Ensure new EU regulations align with recyclability criteria.



Recyclability and recycled content are concepts that can be linked.

For example, new Commission-proposed rules for end-of-life vehicles require 25% of post-consumer recycled plastic, including 6.25% from closed-loop feedstock, pushing manufacturers to improve plastic parts' recyclability by ensuring easy separation of additives or mixtures during recycling.

Financial incentives for manufacturers

While the mandatory incorporation of recycled material is crucial for boosting recycling, complementary short-term financial **incentives are needed, be them market or tax-based, to close the price gap between primary and recycled plastics.**

Fiscal incentives such as lower VAT rates for recycled materials and products made from recycled plastics, can have a major impact on stimulating recycling. In this regard, **EuRIC supports** the Czech Republic's proposal to the Council suggesting exploring **reduced VAT rates for products made of recycled materials and recyclates** [4].

Additionally, **EuRIC calls for the introduction of a CO₂-incentivised scheme based on the CO₂ emissions avoidance induced by recycled content and the CO₂ efficiency of each recycling technology.**

**Eco-modulation of EPR fees**

Modulating Extended Producer Responsibility (EPR) fees based on a product's recyclability and recycled content is a practical way to better apply the “polluter pays principle”, and financially incentivise sustainable plastic products. EuRIC advocates for mandatory harmonised criteria for EPR fee modulation at the EU level, which would support more circular products across Europe and improve the internal market's functioning.

[4] EuRIC (2024). EuRIC supports the Czech proposal to lower VAT of recycled products. Position available [here](#).



While harmonised recyclability criteria for packaging EPR fees will be introduced, **modulating fees based on recycled content remains voluntary – a missed opportunity** according to EuRIC. We believe that the modulation based on recycled content can be an excellent tool to drive the use of recycled materials before recycled content targets take effect, and **reward those manufactures** who exceed them.

Green public procurement & EU taxonomy

Public authorities in the EU spend around €2 trillion (around 13.6% of GDP) on the purchase of services, work and goods annually [5]. **Therefore, it is evident that green public procurement can play a major role when boosting the demand for more sustainable and circular products.**

The Ecodesign for Sustainable Products Regulation (ESPR) will help steer these funds towards a more sustainable direction, by setting minimum mandatory requirements for the purchase of products under the new Green Public Procurement (GPP). However, the **ESPR's scope is limited**, leaving some plastic products uncovered. EuRIC calls for the swift development of **harmonised GPP criteria for recycled plastics across the EU**, as well as the introduction of limits for chemical contents. Moreover, minimum recycled contents should be set in the ESPR as a safety net for other regulations.

Furthermore, **the EU taxonomy plays a positive role in driving investments** toward the economic activities crucial for the green transition. This is necessary to scale up sustainable investments by creating security for investors and expand recycling capacities. In addition, continuous support for **innovation through R&I funding** is vital for the growth and competitiveness of the plastic recycling industry.

Other long-term support strategies should also be explored, based on the mechanisms that have been deployed to make renewable energies competitive.



For example, a purchase obligation system, where manufacturers are required to buy recycled before virgin ones, or an additional remuneration, where public authorities would pledge to address price volatility by covering the gap between the market price of recycled materials and a contractually pre-defined price, could be considered.

[5] European Commission. Page available [here](#)

4

TRADE AND EU-WIDE END-OF-WASTE CRITERIA

Regional circularity in a global economy

The EU no longer accepts exporting its plastic recycling challenge to third countries, and under the new Waste Shipment Regulation (WSR), plastic waste exports to non-OECD countries will be banned as of 2026. This will create an influx of waste available for recycling in the EU and intensify the need for a **strong internal EU market for recycled plastics**.

The **massive imports** of both primary and recycled plastics at artificially low prices into the EU single market in the past two years have weakened EU industry competitiveness, already shaken by the **skyrocketing prices of energy** in the EU market.

Current anti-dumping measures on certain imports of PET from China are insufficient, with the sanction scope being too limited and thus, failing to effectively address a wider problem.

It is not realistic to expect the EU economy to absorb all the recycled plastics from its own waste and, at the same time, to drag alone, at the international level, the recycling of plastics. The EU cannot remain silent and indifferent to the risk of de-industrialisation and missing its own recycling targets.



The EU should push forward regional plastics circularity at international level and promote the adoption of binding mandatory recycled content measures as part of the negotiations on the international treaty on plastic pollution.





The EU must apply the **same social and environmental standards on recycled plastics and products claiming recycled content imported into the EU, as those applied to EU recyclers and EU manufacturers**. Mandatory recycled content measures, equivalent to those applied in the EU, should be considered a condition to access the EU market for recycled plastics.

At the moment, it is impossible to distinguish between imports of virgin and recycled plastic. Therefore, **EuRIC calls for a separate international customs code for virgin and recycled plastics to facilitate their shipment**. This would enable better assessment of international trade flows and the risk of dumping in the recycled plastics markets, which is necessary to level the playing field.

EU-wide end-of-waste criteria for plastics

For a strong European market, **establishing harmonised EU End-of-Waste (EoW) criteria for plastics is crucial for better reintroducing high-quality recycled products** (e.g., pellets, powders and flakes) into new products and advancing the European recycling industry.

In the absence of harmonised EU EoW criteria for plastics, high-quality recycled plastics products face uncertainty, as Member States interpret their legal status - waste or product – differently. While countries like Spain or Portugal have established EoW criteria for the mechanical treatment of thermoplastic waste, inconsistencies remain across Europe.

EuRIC urges the Commission to develop harmonised EU EoW criteria for plastic waste. This approach **can create a level playing field, eliminating market barriers and foster trust in recycled materials, accelerating the transition to a truly circular economy**.

Furthermore, the cross-border traffic of plastics to be recycled, or recycled plastics, to OECD or other non-EU countries is becoming increasingly difficult, particularly for WEEE and ELV plastics. Hence there is a need to accelerate the EU wide EoW criteria and mutual recognition for green listed waste.



5

RISK VERSUS HAZARDOUS APPROACH

A high level of protection of the environment and human health remains a priority for the recycling industry.

In recent years, the Commission has intensified legislative efforts to regulate harmful substances, bringing the hazard versus risk debate into the spotlight. Striking the right balance between precautionary measures and responsible risk management has become critical for the circular economy (Figure 3).

There is a tendency at EU level to lower to zero or below the detection limits the concentration limits for numerous substances in products, regardless of their intended use and level of exposure. However, this hazard-based approach could jeopardise the circular economy, leading to material losses in the recycling loop, including downcycling, incineration or landfilling of this non-recyclable fraction, and threatening the economic viability of recycling process.



Figure 3. Risk-based approach vs precautionary principle. (Madelung, 2023)

Given the presence of hazardous “legacy” substances and the prolonged life of certain products within an evolving regulatory framework, **EuRIC calls for a change in the management of chemicals in waste from a precautionary hazard-based approach to a risk-based approach.**

Chemicals in waste should be regulated not only based on the hazardous properties but also on the level of risk they pose. When hazardous substances are fixed in the polymer matrix or the level of exposure is low or controlled, its use might be allowed provided the risk is deemed acceptable.[6]

[6] Hennebert P., Navazas A., Katrakis E. (2024). A Risk-based Approach for Waste Management in the Modern Circular Economy: Propositions from the EU Recycling Industries. Article available [here](#)



For instance, UV stabilisers are used in PVC window frames or bumpers in cars, and brominated flame retardants serve as essential safeguards against fire hazards. Even if these substances are banned, achieving zero concentration in recycled material is not feasible today due to their legacy presence in waste, because of the long lifespan of such products.

However, bumpers from end-of-life vehicles can be treated in a controlled closed-loop recycling process and recycled materials can be also incorporated in other applications, such as windmills, which will limit human exposure to contaminants. **Considering the ongoing efforts to make plastic value chains more circular, is neither practical nor proportionate to set almost zero concentration limits.** In fact, **disproportionate threshold values, disregarding sound risk assessment for safe end-uses, would exclude high quality recycling processes** for those elements, resulting in an increased demand for landfill and incineration.

In view of ongoing threshold discussions about particularly several POP substances and PFAS, before setting such restriction limits under REACH or POPs regulations, **there must be a harmonised, independent, scientific, and verifiable test method available that can be used on a continuous industrial basis** – both for recyclers and also authorities challenging evidence. The lack of industrial-scale analytical tools and quality control methods will render compliance impossible, with the risk of bringing the plastic recycling industry to a halt.

Finally, the **uncertainty of upcoming restrictions** results in less investments, as the lack of a stable regulatory framework holds back investments in technology development. This may lead to significant quantities of material lost for the Circular Economy with limited environmental benefits, hence the utmost need to ensure that assessment of regulated substances impacting recycling take into consideration waste intrinsic properties and safe end-uses of recycled materials.

Glossary

BPA - Bisphenol A
DfR – Design for Recycling
EEE - Electrical and Electronic Equipment
ELV – End-of-Life Vehicles
EoW - End-of-Waste
EPR – Extended Producer Responsibility
ESPR - Ecodesign for Sustainable Products Regulation
GPP – Green Public Procurement
JRC - Joint Research Center

PFAS - Per- and polyfluoroalkyl substances
POPs - Persistent Organic Pollutants
PPWD – Packaging and Packaging Waste Directive
PPWR – Packaging and Packaging Waste Regulation
REACH - Registration, Evaluation, Authorisation and restriction of Chemicals
SUPD – Single-use Plastic Directive
WEEE – Waste from Electrical and Electronic Equipment



EuRIC, the European Recycling Industries' Confederation is the umbrella organisation for the recycling industries in Europe. Through its 75 members from 23 European countries, EuRIC represents more than 5,500 large companies and SMEs involved in the recycling and trade of various resource streams. They represent a contribution of 95 billion EUR to the EU economy and 300,000 green and local jobs.

By turning waste into resources, recycling reintroduces valuable materials into value chains over and over again. By bridging circularity and climate neutrality, recyclers are pioneers in leading Europe's industrial transition.



EPRB, EuRIC's Plastics Recycling Branch represents the European plastic recycling industry to European institutions and collaborate with other stakeholders at the European and international levels.

Founded in 2018, EPRB brings together large companies, SMEs, and national recycling federations involved in the collection, recycling, and trading of recycled plastics. Its goal is to accelerate efforts to improve plastic recycling across Europe.



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