

From waste to resource: Packaging and Packaging Waste Regulation

The Packaging and Packaging Waste Regulation (PPWR) is an opportunity to make waste a resource in the EU's circular economy. Ambitious recycled content targets in the PPWR will ensure that waste has value enabling the further scale-up of recycling in the EU. This benefits the environment, the economy and reduces the EU's reliance on imports of virgin fossil raw materials to produce plastics.

The average EU recycling rate for plastic packaging was just 38% in 2020 with the remaining being landfilled, incinerated or exported. To close the gap to full plastic packaging circularity, mechanical and chemical recycling are needed as complementary technologies to deliver recycled content supported by improvements in design, collection and sorting of packaging waste.

Targets can kick-start the EU's single market for secondary raw materials

Recycled content targets can incentivise the uptake of recycled content, leveraging the power of Europe's single market. Setting targets is an important driver for creating and scaling the market. To do this in the most effective and meaningful way, Cefic considers setting total recycled content targets per average of packaging format.

Total recycled content can use numbers accumulated over a period of time (e.g. 12 months).

The development of a circular economy for plastics requires more waste to be collected, sorted, and directed towards recycling regardless of waste origin. Cefic supports that all waste types should account for recycled content, beyond post-consumer waste, to include also pre-consumer waste, and to incentivise investment in technologies that would bring more recycled feedstock to the economy.

Chemical recycling is key to deliver recycled content for the circular economy

To further increase plastic recycling, other and complementary recycling routes will be required to process plastics that are difficult to handle in mechanical recycling processes. Chemical recycling can thus fill a void in the plastics recycling loop, conserve valuable resources, and contribute to the creation of a low-carbon circular economy. Chemical recycling technologies allow the use of plastic waste as feedstock to produce new chemicals including plastics. Chemical recycling can upgrade the quality and produce secondary feedstock materials that are equivalent to virgin resources and compliant with REACH. Chemical recycling also has the potential to remove undesired additives and impurities allowing the use as recycled content in high-demanding applications such as food contact materials or medical applications. In addition, waste streams originating from e.g. automotive and electronics with large quantities of mixed and/or contaminated plastic waste can be converted into secondary raw materials for the chemical industry.

Mass balance is the key enabler, and so far, the missing link

One of the main barriers to scale up chemical recycling technologies is uncertainty about the method for calculating the recycled content of plastics. The current PPWR proposal indicates that the calculation rules for recycled content will be set by an implementing act by 31 December 2026, as per Article 7 (7). This is too late to provide legal certainty for businesses currently investing in new recycling facilities or working on scaling up. The same goes for the economic providers to ensure compliance with the targets set in this legislation.

In the case of chemical recycling, mass balance is needed to allow for a smooth and rapid transition to leverage recycled feedstocks in existing infrastructure, together with the virgin fossil sourced feedstock. As the two different feedstocks cannot be physically separated once they are co-fed into the complex large-scale installations, the mass balance methodology is required to accurately calculate and verify the amount of recycled content allocated to products.

Without rapid resolution of the issue, the EU's chemical industry may not be able to deliver recycled content to meet the EU's climate and circular economy targets in time. The chemical industry is investing in chemical recycling capabilities. Major investments for commercial scale installations have already been announced, covering different chemical recycling technologies.

It is important to be able to leverage existing infrastructure to allow co-feeding of the recycled feedstock, replacing part of the virgin fossil-sourced feedstock. This is also because it would not be feasible to build an entirely new stand-alone infrastructure for producing plastics solely from recycled waste since it would take years to construct new manufacturing plants with billions in costs and high climate footprint.

Mass balance is one of the well-known and widely used "chain of custody" models, as defined in ISO standard 22095¹. It is already successfully deployed in other sectors, such as fairtrade cacao and coffee with their own relevant characteristics based on the nature of the products.

To provide further clarity about future calculation methods for recycled content methods, the legal text of the PPWR should include a reference to the internationally recognized standards which the EU will base its future method on.

Design for recycling measures should be based on clear criteria and subject to regular update

Cefic appreciates considerations of design for recycling, with a view to improving the quality of end-of-life product streams in function of recycling. As such, there should be deadlines (by 2026 the latest) to develop the delegated acts referred to in Article 6 (4), including the preferred design methods, to ensure sufficient time for the packaging industry to adopt the changes. In addition, these deadlines for the delegated acts should take into account the fact that the time of implementation of Design for Recycling measures will vary depending on materials and packaging types.

It is important that the recyclability requirements remain technology-neutral. While not yet specified in the proposal, the assessment of recyclability should consider the materials that can be recycled through all recycling pathways, including chemical recycling technologies.

¹ Mass balance is defined by ISO standard 22095:2020 as a system in which "materials or products with a set of specified characteristics are mixed according to defined criteria with materials or products without that set of characteristics"

Measures in this regard should be based on clear criteria, to be developed together with relevant stakeholders. These can provide for a robust basis for independent and case-by-case assessment of different packaging elements. In addition, technology is evolving and progressing, which means that some materials that are difficult to recycle today could potentially pose no issue tomorrow. As such, Cefic recommends continuous adaptation to technological progress. Provisions determining that products or materials are not recyclable should be carefully analysed via dedicated impact assessments, which should consider the role of the packaging types and potential alternative packaging systems (in terms of e.g., food safety and food waste prevention) together with the relevant environmental impacts.

In terms of the **recyclability at scale** requirement, we are concerned that a narrow framework would limit the development of innovative materials and recycling processes, such as chemical recycling. The definition of 'recycled at scale' (as per Article 3 (32)) includes a 75% EU coverage requirement, which is a very ambitious target to achieve for newer technologies that are in the process of being scaled up.

On chemical safety, regulatory coherence is key and duplication should be avoided

Cefic welcomes the attention that the European Commission has put in **avoiding double regulation** when establishing the requirements for substances in packaging. We strongly believe that allowing the restriction of certain substances for safety reasons under the PPWR would interfere with REACH and thus, introduce legal uncertainty and affect proper implementation by industry and authorities.

Requirements on substances of concern (SoCs)² under PPWR should only apply to substances that impede the recyclability and reusability of the packaging or the packaging material, when their detection in products is feasible, and consider³:

- SoC restrictions for circularity reasons are only addressing specific packaging or packaging materials for which the substances are proven to impede recycling and reuse;
- excluding substances used during manufacturing processes and not intended to be present in the packaging of the final product to ensure an adequate level playing field, as production processes outside the EU cannot be audited/enforced and are not regulated by EU law;
- if deemed necessary, thresholds on substances that may impede recycling should be based on impact assessments and regularly revisited in line with technological progress.
- the evaluation on an ongoing basis of the state-of-the art recycling technologies has confirmed that an identified SoC continues to impede the reuse and recycling of the packaging or the packaging material of the final product in which it is present; and
- the organisation and evolution of all types of recycling loops (closed and open).

² Cefic position on Substances of Concern (SoCs) in the context of products circularity

³ Cefic position on the Establishment of regulatory requirements on Substances of Concern (SoCs) for circularity reasons: regulatory coherence is key, and duplication should be avoided

The utilisation of bio-based & CO₂-based materials in packaging can contribute to Sustainable Carbon Cycles

Encouraging the use of biomass- and CO₂-based content would also support the EU's aspirational objectives of 20% non-fossil carbon for plastics and chemicals production as set out in the Commission's Communication on Sustainable Carbon Cycles. The EU should embrace an inclusive approach by factoring in other options beyond its focus on recycling. Therefore, we call for considering biomass- and CO₂-based content as complementary to recycled content and therefore contributing to a circular and sustainable packaging sector. Efforts in this regard should be additional, and should not compete with recycled content targets.

For more information about chemical recycling, please consult [Cefic's position paper](#) on chemical recycling (April 2022)

For more on the calculation methodology for recycled content, please consult [Cefic's position paper](#) on 'Delivering recycled content to meet the EU's circular economy ambitions' (December 2022)

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About Cefic:

Cefic, the European Chemical Industry Council, founded in 1972, is the voice of large, medium and small chemical companies across Europe, which provide 1.1 million jobs and account for 15% of world chemicals production.