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Recycling Capabilities for Flexible Packaging in a Circular Economy



Full material circularity – a CEFLEX priority

Our common goal is to ensure all material is retained in the economy where it is used by existing and new end markets and applications. To achieve this, the range of recyclates produced must be both fit for purpose by quality and commercial value so they are preferred over new virgin fossil-based materials by the market.

A circular economy for flexible packaging requires all recycling technologies

Today, end markets in Europe are only able to utilise mechanically recycled materials equivalent to ~30% of the 10-14 million tonnes of flexible packaging materials and other films(i) reported as placed on the European market annually. For the remaining materials to be returned to appropriate end markets at the required quality and scale, additional recycling pathways are needed.

Mechanical/physical and chemical recycling solutions are complementary and effective

Wide implementation of the CEFLEX Designing for a Circular Economy guidelines is needed and is consistent with improved sorting. It is also synergistic with the mechanical/physical and chemical recycling solutions[ii] necessary to recycle the complete range of flexible packaging materials. This includes meeting regulated market quality requirements (i.e. food, pharmaceutical and medical) and other functional requirements not currently deliverable from mechanically recycled material. Less carbon intensive, industrialised recycling solutions should be preferred, where available and aligned with regulatory and end-market requirements, while allowing for innovative technologies to enter the market and to be scaled.

Foster a system designed for circularity – the vital role of EPR

Extended Producer Responsibility (EPR) schemes are essential to accelerate the shift to a greater proportion of recyclable packaging being placed on the market through eco-modulation. EPR can ensure collection of all flexible packaging so it is available for sorting and recycling, along with the development of an appropriate mix of mechanical/ physical and chemical recycling capacities aligned to market demand for these recycled materials. To do this EPR schemes must be designed to target full material circularity together with the principle of covering the full net costs associated with this.

Value chain alignment on key issues

The **Circular Economy for Flexible Packaging (CEFLEX)** initiative is a collaboration of over 170 European companies, associations and organisations representing the entire value chain of flexible packaging. Together, we work to make all flexible packaging in Europe circular by 2025.

To support CEFLEX's vision and help the entire value chain move forward as one, a facilitated alignment process tackles key issues. Information exchange, analysis, and interviews support participative workshops which create considered positions on each topic so that these can guide transformation to a circular economy. This process is hosted by CEFLEX in collaboration with Swiss university ETH Zurich.

Value chain alignment on key issues related to this position paper has already been achieved. CEFLEX positions on Preference for mono materials and Collection systems in addition to Designing for a Circular Economy Guidelines for polyolefin-based mechanical recycling encapsulate these core requirements and establishes 'design for circularity' as a prerequisite to realise a circular economy by the whole value chain.

How legislation can help

- In addition to ensuring full implementation of existing legislation, for the circular economy to work efficiently CEFLEX recognises that:
 - a. All recycling pathways that produce materials that replace virgin material use in new products should be recognised as recycling^[ii].
 - b. These recycled materials must count towards recycling targets and as recycled content in the new product.
 - c. Consistent EU and national definitions for recycling, recyclability, recycled materials and recycled content are essential facilitators to scale and achieve circularity.
- CEFLEX observes and agrees that EU Directive 2008/98/EC of 19 November 2008 on waste, Article 3 (17) states that products from recycling used in fuels or for the production of energy should not be classed as being recycled for the purposes of achieving recycling rates.
- CEFLEX supports using the principle of a harmonised mass balance approach^[iii] for recycled content from chemical recycling. Mass balance is a proven method for other materials and products. A certified process should be developed and recognised as an accepted method for accounting and reporting on recycled plastics from chemical recycling.
- A coherent regulatory framework to support and encourage a European single market for secondary raw materials is essential. CEFLEX observes that if Member States impose discounts on taxes based on locally sourced recycled content, this will impede the free market of secondary raw materials.
- For flexible packaging materials to be circular, increased recycling and expanded end markets are a prerequisite. To realise this, EPR systems must support the collection of all flexible packaging and the development of the required sorting and recycling capacities that are aligned with end market requirements so that the recycled materials are always used preferentially to virgin materials.
- CEFLEX supports the continued development of mechanical/physical and chemical recycling technologies, realising the required recycling capacity and expanding the end markets for their products.
- CEFLEX stakeholders have made significant investments in research and development, innovation and the industrialisation required across the sector to meet the desired circular outcomes and will continue to do so. Legislation needs to support, speed up and scale these investments and be consistent with delivering the circular economy for all (flexible) packaging materials.

[i] Sources: AMI 2019 market report for flexible packaging and Recycled Plastics, PRE, Interviews. While CEFLEX's primary focus is household consumer flexible packaging, it is recognised that in a circular economy all flexible packaging, products and films will 'compete' for the same end markets as they will all be collected, sorted and recycled. Taking this into account, this position paper has used the wider definition of market size and is not limited to the 5.6 Mtpa household consumer flexible packaging market.

[ii] Recycling: For the purpose of clarity, CEFLEX felt it important to reference mechanical and physical recycling separately. Mechanical recycling includes deinking, deodorisation, delamination and other preparatory steps used in mechanical recycling processes; Physical recycling includes "solvent-based separation" also known as "dissolution recycling". It is noted that ISO defines these recycling technologies as mechanical recycling. Chemical recycling includes all technologies that breakdown the polymer to either the monomer or to the polymer feedstock .

[iii] Mass balance is one of several well-known chain of custody approaches which have been designed to track, trace and certify the flow of materials through a complex value chain. (https://www.iscc-system.org/wp-content/uploads/2017/02/ISCC_DE_204_Mass-balance-calculation-methodology.pdf)

Disclaimer: CEFLEX acknowledges that this position paper is written mainly from a plastic recycling perspective. This is due to polyolefins being the dominant material in flexible packaging today. The general principles in this position paper apply equally to paper and aluminium foil used in flexible packaging and the recycling technologies used to return these materials to the economy