



Brussels, 2 June 2020

Position Paper

Chemical Recycling Europe calls for a faster recognition and legislation review to unlock the potential of chemical recycling

Introduction

The recycling industry plays an important role in the transition to a more circular economy by turning polymeric waste into new value-added materials.

The sustainable management of waste and use of resources is at the heart of the European Green Deal¹. While the new Circular Economy Action Plan² aims at accelerating transformational change required by the EU Green Deal, in order to meet its ambitions and to reach EU recycling targets laid down in the EU Plastics Strategy³, there is an urgent need to develop and implement new technologies for the recycling of polymeric waste, going beyond the limitations of traditional mechanical recycling.

Chemical Recycling complements the current recycling approaches and has the potential to be an environmental game-changer by processing polymeric wastes which are currently difficult to recycle. Investment in developing chemical recycling technologies and infrastructure will lead to the creation of new jobs and the protection of our environment by curbing CO₂ emissions and increasing EU recycling capacity.

Chemical Recycling Definition

According to Chemical Recycling Europe (CRE), Chemical Recycling is defined as any reprocessing technology that directly affects either the formulation of the polymeric waste or the polymer itself and converts them into chemical substances and/or products whether for the original or other purposes⁴, excluding energy recovery.

Although we support the fact that creating alternative fuels reduces the dependency on fossil fuels and ensures that no polymeric waste is left without value to enter the environment, this will be discussed separately and is not part of the definition and the purpose of this paper.

¹ The European Green Deal.

² Circular Economy Action Plan – For a cleaner and more competitive Europe.

³ A European Strategy for Plastics in a Circular Economy.

⁴ This definition would include various technologies, namely depolymerization, pyrolysis, hydrothermal cracking and gasification, as well as dissolution (despite scientific debates about its inclusion).



We continue to actively support efforts to develop a common definition of chemical recycling endorsed by the whole value-chain to clarify the status of this activity. While we focus on the EU, we also support any global efforts.

Chemical Recycling: Recognition & Status

Chemical Recycling falls under the definition of ‘Recycling’ as stated in the Waste Framework Directive (2008/98) and has been recognised as a solution to enable a wider range of plastic waste to be recycled and create high-quality secondary raw materials and end-products. On that basis, we are calling for the recognition and acknowledgement of this inclusion by member-states, and for this recognition to be reflected through the adjustment of the recycling targets calculations to include chemical recycling following the above definition. This recognition would provide long-term visibility to secure investments in chemical recycling technologies.

We also call for an urgent review and harmonization of the End-of-Waste legislation following the lack of alignment between member-states interpretations and procedures for the end-of-waste status as well as the lack of alignment between Waste Framework Directive and REACH Regulation. The clarification of this status should create clear guidelines for an efficient application procedure and clarification on the status of chemical recycling output.

The Extended Producer Responsibility principles should also apply to all recycling technologies, including all chemical recycling techniques, given that they all contribute to providing a solution to make value from waste.

Upstream

Collection:

An increase in the range of plastic waste collected would open a new series of opportunity for recycling and recycling innovations. This is especially the case for those flexible and contaminated plastics that are not currently being collected but can be effectively recycled through chemical recycling.

Sorting/Recycling:

To increase recycling of plastic waste in a sustainable and transparent way, we need to significantly develop the recycling infrastructure in the EU. With this aim in mind and following the principle of the Waste Hierarchy, CRE would like to stress the importance of preventing exports of plastic waste as well as diverting recyclable plastic away from Energy from Waste facilities, whenever possible. Plastic waste is a valuable feedstock and this value should be kept within the EU. Finally, we need a tighter collaboration across the value-chain to align the collection and sorting infrastructure to facilitate the preparation of the plastic waste for chemical recycling processes.



Downstream

Mass-Balance Approach

Chemical recycling creates chemical building blocks identical to fossil ones, and therefore should not be distinguished. The only solution to account for the recycled content created in new packaging products is to allocate it through a transparent mass-balance system. We are committed to develop, in collaboration with the value-chain, a transparent and auditable system to ensure full confidence in the allocation and claims related to the chemically recycled output and the recycled content created.

Food-grade applications

Chemical recycling will be a key solution to offer recycled content for food-grade applications, which represents a large part of the demand for packaging. Mechanical recycling typically results in some carry over of feedstock contamination into the final product and therefore it is very challenging to produce a product suitable for food-contact applications.

Chemical recycling technologies can remove contaminants through purification steps and can create outputs comparable to virgin raw materials which are therefore suitable for food-contact applications.

We therefore support the view that no EFSA authorisation should be necessary for chemical recycling. We welcome the current assessment of the Commission in the amendment of EU Regulation 282/2008/EC that no EFSA authorisation would be necessary for “Feedstock Recycling” due to the eliminated contamination following the chemical recycling and cracking unit. However, depolymerisation recycling can also follow the same procedure as long as its output is in compliance with the defined characteristics and purity levels as explained in the relevant Regulations⁵.

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⁵ Regulation 282/2008/EC and Regulation 10/2011/EC.