

European Bioplastics position on the revision of the Packaging and Packaging Waste Directive

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Executive summary

The revision of the *Packaging and Packaging Waste Directive (PPWD)* is a milestone in the EU's approach to tackle waste, overpackaging, and sustainable production and consumption practices. Therefore, it is crucial that the policy revision is done right - in a manner that would incentivise innovation and the circularity of packaging. To be aligned with the priorities outlined in the European Green Deal, we need to work collectively towards proper waste management infrastructure, reducing our dependency on fossil fuels, encouraging innovations in packaging, and fit for purpose legislation.

The main applications of bio-based and biodegradable plastics are currently in (food) packaging, food service ware, bags, fibres/ non-woven and agricultural applications – packaging being by far the largest sector. Therefore, the revision of the PPWD represents a priority for our industry.

Driving the transition towards a low-carbon circular economy requires carbon to be regenerated using renewable resources. Therefore, the promotion of alternative feedstocks in EU packaging legislation should not be limited to recycled feedstock. It must also include bio-based feedstock, as this can significantly contribute to the overarching goals of the EU Green Deal for climate neutrality by 2050 and for closing the carbon loop. If we neglect the opportunity provided by **bio-based plastics (derived from biomass – a material of biological origin)**, the 2050 target may be missed. At the same time, biodegradable and compostable plastics help in closing the material cycle as well as the biological one. **Biodegradable materials** are materials that can be broken down by microorganisms (bacteria or fungi) into water, naturally occurring gases like CO₂ and methane CH₄. A particular benefit of biodegradable plastic packaging is that they can help in collecting a larger share of the municipal kitchen waste which would then otherwise end up in landfill or incineration. **Compostable plastics** are materials that break down at composting conditions. Industrial composting conditions require elevated temperature (55-60 °C) combined with a high relative humidity and the presence of oxygen. Compliance with EN 13432 is recommended for industrial compostability of packaging materials.

When reviewing the PPWD, we are asking the Commission to consider our proposals:

- Include a provision in the PPWD that compostability falls within the definition of recyclability
- Consider bio-based content equal to recycled content for packaging
- Acknowledge the benefits brought by bio-based plastics in defossilising the economy
- Incentivise innovation in the (bio)economy. Hence, minimum 10 years for innovative products placed on the market to find a proper recycling stream
- No inclusion of a 95% recyclability threshold in the definition of recyclable packaging
- Promote an internal market for bio-based, biodegradable, and compostable plastics

We furthermore call for caution when focusing exclusively on the recycled content as mechanical recycling will not be enough alone to replace Europe's dependency on fossil resources and to stop the current trend of over-packaging and excessive waste in the EU. A change in the mindset at the design stage is essential, together with more incentives for switching to renewable sources for plastic production, and for designing packaging that is biodegradable or compostable.

Introduction

European Bioplastics calls on the EU Commission to use the opportunity given by the revision of the PPWD to set up a **forward-thinking** regulatory framework which paves the way for innovation and sufficiently considers the important role that bio-based, biodegradable, and compostable plastics play in reducing environmental and climate impacts. Therefore, the entire family of bioplastics must be included in the preferred policy option for the PPWD revision.

We should recall the [2018 European Strategy for Plastics in a Circular Economy \(COM \(2018\) 28 final\)](#) which states that *“biodegradable plastics can certainly have a role in some applications and the innovation efforts in this field are welcomed.”*

Furthermore, the Commission underlined in its own strategy that *“In response to the high level of plastic leakage into our environment and its harmful effects, solutions have been sought to design biodegradable and compostable plastics. Targeted applications, such as using compostable plastic bags to collect organic waste separately, have shown positive results; and standards exist or are being developed for specific applications.”* Furthermore, *“applications with clear environmental benefits should be identified and in those cases the Commission will consider measures to stimulate innovation and drive market developments in the right direction. To allow adequate sorting and avoid false environmental claims, the Commission will propose harmonised rules for defining and labelling compostable and biodegradable plastics. It will also develop lifecycle assessment to identify the conditions under which the use of biodegradable or compostable plastics is beneficial, and the criteria for such applications.”*

The first [European Bioeconomy Strategy in 2012](#) recognised that **“the bioeconomy has a huge potential for climate mitigation and a carbon neutral future”**. Achieving carbon neutrality requires the contribution of all sectors of the EU economy and strong economic incentives for investments in innovation and climate-friendly production practices. At the same time, as part of the efforts to combat climate change, we urgently need alternative raw materials – making the switch to bio-based materials in which CO₂ – a greenhouse gas – remains captured in products over the long term. [The EU Bioeconomy Strategy Progress](#) report published in June 2022 highlights that **“Europe has a market share of 35% of bio-based plastics. R&I in the biobased plastics sector can support climate neutrality while supporting EU industrial leadership”** and continues further on to call for more investments in R&D for bio-based and biodegradable plastics. Therefore, policy support is urgently needed to boost bio-based, biodegradable and compostable plastics' s potential for climate change mitigation. As Europe continues to rely heavily on fossil resources for carbon and energy sources, this is making it vulnerable, particularly in the context of the Ukrainian war. Bio-based, biodegradable, and compostable plastics can help in transitioning the EU towards a low-carbon, efficient and competitive economy with a thriving industry,

The definition of recyclable packaging

In the context of the revision of the PPWD, the Commission is looking into providing a definition for “recyclable packaging” as “that which can be effectively and efficiently separated from the waste stream, collected, sorted and aggregated into defined streams for recycling processes, and recycled at scale through relevant industrial processes such that it is turned into a secondary raw material of sufficient quality such that end markets exist in which it is valued as a substitute for virgin material”. While we welcome the overall idea behind the proposed definition, it fails to acknowledge the technical advancements both in the production, sorting, and end of life options for bio-based, biodegradable, and compostable polymers.

Concretely, we suggest including a provision in the PPWD revised text that “**recycling includes the organic reprocessing of compostable packaging**”. The EU-wide definition of recyclable packaging **must include compostable packaging** which is designed to biodegrade in industrial composting (certified EN13432) and through the composting process closes the organic carbon cycle as soil improver.

The issue of soil health and the need to return organic carbon to soil is outlined in the Farm to Fork, Carbon Recycling and Soil Strategies. However, to get organic waste back to soil we need to ensure it is clean and does not bring contamination. Compostable plastics are one instrument that can help this process, and they should not be overlooked. Moreover, we call on the EU to support EPRs for compostable packaging and the promotion of high-quality compost which benefits the soil e.g., by carbon farming. Compost has a certain composition of nutrients (e.g. phosphate, nitrogen, carbon) that makes it a very healthy composition for keeping soil health. For the composting process to work properly, a certain carbon to nitrogen ratio is required. For this reason, the managers of composting plants mix nitrogen-rich fractions (kitchen waste, manure, etc.) with carbon-rich fractions (e.g. cellulose, green garden waste) to avoid fermentation imbalances. Compostable plastics are also an essential element which needs to be considered in the revision of the PPWD given their contribution to climate change mitigation. Compostable plastics are non-toxic and entirely decompose back into carbon dioxide, water, and biomass when composted.

Organic recycling of bio-waste is crucial for meeting the EU target to recycle 65 % of municipal waste by 2035. Composting and digesting biowastes also reduces GHG emissions, creates energy and compost to put resources back to soil. In some European countries, e.g., Austria, Belgium, Germany, Italy and The Netherlands, industrial composting is already well established and a widely accepted part of the waste recovery infrastructure. Other EU countries still need to catch up to achieve an equivalent level of industrial composting. However, a decent separate bio-waste collection system is fundamental to implementing organic recycling and thus industrial composting. Furthermore, no hierarchy should be set among the different types of recycling technologies – compostable plastics, bio-based content and recycled content should all have an equal value in the development of the legislative proposal for the PPWD.

With regards to the part **“separated from the waste stream, collected, sorted and aggregated into defined streams for recycling processes”** from the proposed definition, EUBP would like to highlight that bio-based and compostable plastics can be sorted from plastic waste very efficiently using the industry standard NIR (near infra-red) and density (sink-float) sorting technologies. We would therefore propose that the definition includes a roadmap and relative timeframe to allow for different bio-based polymers to be “aggregated into defined streams”. Concretely, the Commission should define a realistic timeframe to upscale the proper sorting technologies which would enable better waste streams and allow all available recycling technologies (mechanical, chemical, and organic) for bio-based and/or compostable plastic packaging. To accelerate this process, the EPR fee paid by producers should be “earmarked” for the upscale of NIR sorting technologies as well as, in the case of compostable packaging, of the composting infrastructure¹.

With regards to the definition of recyclable packaging, **EUBP is strongly opposed to the 95% mandatory recyclability threshold.** We would like to stress that one size does not fit all, and the definition of recyclability must consider all different products used for packaging, their material specificities and market share.

Maximum period of recycling set at 5 years for innovative packaging

The current proposal to set up the period for recycling at maximum 5 years for innovative packaging placed on the market represents a major concern for EUBP members. We consider that this requirement will hamper innovation in our industry and will in fact be counterproductive to our members’ efforts to develop alternatives to conventional plastics. Innovative bioplastics can be on the market for more than 5 years without being able to develop a new recycling stream – for several reasons, such as market demand or technology advances. We would therefore ask the Commission to extend the maximum period of recycling for innovative packaging to 10 years. Otherwise, we will face a real risk that companies will not be incentivised to invest further in innovative packaging.

Revision of the Essential Requirements:

The Essential Requirements for biodegradable and compostable packaging should not scrap the current requirements. In fact, the requirements have guaranteed a harmonized development of the EN 13432 standard and a common view among operators of what is a compostable packaging. However, the two requirements (*“Packaging recoverable in the form of composting”* and *“Biodegradable packaging”*) would need to be merged. Eliminating the word biodegradability could open a regulatory gap on the term, which is not in line with the Single Use Plastics Directive that provides a definition of “biodegradable plastics”, which could lead to an unregulated approach to the labelling of biodegradable packaging.

¹ An example is the Italian EPR scheme Biorepack – the scheme includes “compostable only packaging”. Biorepack will collect the environmental fees for compostable packaging and will use them to help municipalities collecting organic waste and to support composting plants that will accept to manage bioplastic waste.

Furthermore, the ER should apply to all packaging (material neutrality). In addition, before putting a packaging on the market, the following should be considered:

- Prevention and re-use to be reviewed,
- In case of recycling all technologies should be compared on an equal level (recycling technology neutrality),
- Organic recycling is relevant as the preferred end-of-life method in case it increases the capture rate of bio-waste without leaving trace elements of macro or microplastics in compost and digestate and therefore through to soil.
- Compostable packaging should be exempted for targets regarding recycled content (see legislation in Spain).
- The list of criteria should entail the following:
 - a) Compostable packaging should be used only if they bring “environmental benefits” over reusable alternatives. It should be clarified that compostable are to be considered recyclable, therefore a prioritization of “mechanically recyclable” packaging shall be considered a discrimination towards this class of material. It is essential to highlight that for all packaging re-usable alternatives should be considered, not just for composting.
 - b) The use of compostable plastic packaging can be expected to increase the capture of bio-waste compared to non-compostable alternatives (for a specific application)
 - c) The use of compostable plastic packaging can be expected to reduce the contamination of compost with non-compostable plastics (for a specific application) compared with current practice

Finally, while we agree that the property of compostability should be seen as a solution for specific products that are mainly linked to the separate collection and recycling of food waste (i.e., bags, tableware, coffee capsules, tea bags, fruit & vegetables packaging), a legally binding list of applications for packaging will only hamper the sector by being a discriminative legislative measure.

Conclusion

In the long term, to effectively tackle challenges related to packaging and to mitigate climate change risks, **recycling and re-use will unfortunately not be enough**. We need to **start using CO₂ as a raw material and turn plant-based materials into the products we need for everyday life**, while ensuring the highest level of quality and safety. At the same time, we must operate in circles, promoting circularity of products, while closing the carbon loop. Not to be overlooked, collection and proper sorting of waste determine how efficient waste management systems are. And for this, we need to engage consumers and properly inform them about the functions, sorting, and end-of-life options of their packaging.

Plastic packaging has an important role to play in reducing food waste - extending shelf life and reducing food loss during transportation. Therefore, removing plastics from our packaging is not desirable, nor possible. But there is the choice of switching to biodegradable, bio-based and compostable plastics which have proven environmental benefits and contribute to climate change mitigation, while reducing our dependency on fossil fuels for plastics production.