

Policy Briefing

The 2022 Proposal for an EU Regulation on Packaging and Packaging Waste: Compostable/Biodegradable Packaging

Summary

- The European Commission published a proposal for a Regulation on Packaging and Packaging Waste on 30 November 2022. This includes provisions relating to “compostable packaging” and “biodegradable plastic polymers”.
- The term “compostable packaging” is not well defined and needs revising to limit its end of life to industrial composting and to make its definition practical to manufacturers. This briefing proposes a revision.
- The lack of a definition for “biodegradable plastic polymers” is unfortunate. The sense in which biodegradation is used is different to the understanding set out in the parallel policy from the Commission on bio-based, biodegradable and compostable plastics. The briefing proposes a definition and approach to ensure consistency across EU policies.
- The provisions concerning how the European Commission may mandate compostable packaging are well set out.
- This briefing frames its arguments for improvement in the text of the Regulation around the principles of better regulation.

Introduction

On 30 November 2022 the European Commission published its proposal¹ for a Regulation to replace the existing Directive on Packaging and Packaging Waste. The proposal covers many different issues. However, this briefing focuses on one – that of compostable packaging and biodegradable plastics. The aim of this briefing is to inform discussion by the EU institutions and others in the process of adoption of the proposal. It focuses on a few selected issues derived from analysis undertaken within the SEALIVE Horizon 2020 project.

This briefing identifies parts of the proposal which are problematic (e.g. unclear) and parts which are well drafted. As a result, it goes on to make recommendations for improvement of the text.

None of the recommendations for amending the proposed Regulation in this briefing change the objectives, targets or requirements of the proposal. Instead, they add clarity, consistency and coherence and aim to deliver the objectives of better regulation².

It is important to note that the provisions in the proposed Regulation on compostable and biodegradable plastics (and plastics more generally) are based on a view of what the European circular economy should look like, in particular what the role of plastics should be and how to ensure proper circularity of plastic materials. The proposed Regulation is based on an incremental improvement in current waste management systems. These are, however, issues that cannot be

addressed within the proposed Regulation alone. The EU Plastics Strategy, the Circular Economy policy, and waste legislation form important pieces of the European policy and law landscape. While these policies are not addressed in this briefing, they are an important aspect and SEALIVE will explore and consider them in future project outputs.

The key text in the proposal is Article 8 concerning compostable packaging. This article is repeated in the box below.

Article 8 Compostable packaging

1. By [OP: please insert the date = 24 months from the entry into force of this Regulation], packaging referred to in Article 3(1), points (f) and (g), sticky labels attached to fruit and vegetables and very lightweight plastic carrier bags shall be compostable in industrially controlled conditions in bio-waste treatment facilities.
2. Where appropriate waste collection schemes and waste treatment infrastructure are available to ensure that packaging referred to in paragraph 1 enters the organic waste management stream, Member States are empowered to require that lightweight plastic carrier bags shall be made available on their market for the first time only if it can be demonstrated that those lightweight plastic carrier bags have been entirely manufactured from biodegradable plastic polymers, which are compostable in industrially controlled conditions.
3. By [OP: Please insert the date = 24 months from the date of entry into force of this Regulation], packaging other than that referred to in paragraphs 1 and 2, including packaging made of biodegradable plastic polymers, shall allow material recycling without affecting the recyclability of other waste streams.
4. Compliance with the requirements set out in paragraphs 1 to 3 shall be demonstrated in the technical information concerning the packaging referred to in Annex VII.
5. The Commission shall be empowered to adopt delegated acts in accordance with Article 58 to amend paragraphs 1 and 2 of this Article by adding other types of packaging to the types of packaging covered by those paragraphs when it is justified and appropriate due to technological and regulatory developments impacting the disposal of compostable packaging and under the conditions set out in Annex III.



Photo by [Sophia Marston](#) on [Unsplash](#)

Missing definition(s)

It is a key principle of better law making that all key terms are defined in law (or are cross-referenced to a term in other law). Article 8 of the proposal is titled “compostable packaging” and this term is defined in Article 3.41. However, Article 8.3 refers to “biodegradable plastic polymers”. This term is not defined. Nor is the term “biodegradable” defined. As this is a proposal for a Regulation, it is essential that the law is clear to packaging producers (and importers) that they know if this applies to them. It is not clear and this needs to be rectified in Article 3.

Recommendation

The term “biodegradable plastic polymer” should be defined.

In the SEALIVE briefing on the importance of clear definitions³, we proposed a definition for “biodegradable plastic polymers”. This was linked to a broader term for “biodegradable plastics” and should be used with it. The two terms are recommended here for consideration.

“Biodegradable plastics” are plastics that will decompose at the end of their life in one or more environments, by the conversion of all their organic constituents (polymers and organic additives) mainly into carbon dioxide and water, new microbial biomass, mineral salts and, in the absence of oxygen, methane.

“Biodegradable plastic polymers” are plastic polymers that could be used to make biodegradable plastics.

Coherence with the European Commission policy on bio-based, biodegradable and compostable plastics

On the same day that the European Commission published its proposal on packaging and packaging waste, it also published its policy on bio-based, biodegradable and compostable plastics⁴. It is a principle of better regulation that laws and policies should be fully coherent and consistent with each other. As the proposed Regulation stands, there is, however, a problem of coherence with the policy document. This concerns the understanding of biodegradability.

The policy document correctly states that “biodegradation must be regarded as a ‘system property’ that takes into account material properties, specific environmental conditions and risks.” Following this argument, one cannot hold a piece of packaging and say that it will biodegrade without knowing the environment into which it will be placed⁵. Yet this is what packaging manufacturers need to know if they are to be compliant with the new Regulation.

This presents a problem for the proposal on packaging and packaging waste. Article 8.3 is directed at manufacturers of packaging. However, it is clear that the use of the term “biodegradable plastic polymer” is meant to refer to specific classes of polymer. In this sense the term “biodegradable” does not take any account of what environment it will finally enter (or indeed if its end of life is within the waste management system).

The policy document states that biodegradability can only be viewed as a system characteristic, but the proposed Regulation views it as a character that may be intrinsic to a material. These two positions are not consistent as they stand.



This problem can be overcome using both of the definitions proposed by SEALIVE set out above. The definition of “biodegradable plastics” is based on the Commission policy, but makes clear the system character of biodegradability. The second definition of “biodegradable plastic polymers” focuses on the intrinsic character of the material, but cross-references the first definition. Together the definitions allow for clarity for manufacturers to implement the proposed Regulation with confidence that they will be compliant. They also ensure that there is consistency and coherence between the proposed Regulation and the policy document.

Recommendation

It is important to ensure that the inconsistency between the understanding of biodegradability between the proposed Regulation and the Commission policy on biodegradable plastics is addressed. This briefing proposes how to do this.

Poorly worded definition

Article 3.41 defines “compostable packaging” as “packaging capable of undergoing physical, chemical, thermal or biological decomposition such that most of the finished compost ultimately decomposes into carbon dioxide, mineral salts, biomass and water, according to Article 47(4), and does not hinder the separate collection and the composting process or activity into which it is introduced in industrially controlled conditions”.

This definition is not well drafted. A key problem is that it combines a description of the nature of a type of packaging together with objectives relating to its use. As a result, no manufacturer can look at a piece of packaging that will be widely sold and answer the question, “Is this compostable?”.

The first part of the definition is generally acceptable. However, the Commission Communication on an EU policy framework on biobased, biodegradable and compostable plastics makes it clear that compostable plastics today are largely only compostable under industrial composting conditions (i.e. within the waste management system). It might be appropriate, therefore, to add this qualification in the part of the definition concerning the material itself, rather than at the end concerning its use.

Recommendation

The definition of “compostable packaging” should make clearer reference to composting and industrial composting in particular as the end-of-life destination of “compostable packaging” is inherent in the term.

The final part of the definition has elements which are inappropriate, unworkable and, also, unnecessary. Definitions of materials should not include conditions over which those making those materials have no possible knowledge. How can manufacturers understand the wide variety of consumer behaviours and domestic waste systems across Europe so that they know whether their material might hinder separate collection? Indeed, this could mean the same manufacturer could make the same material for sale in two places – one is “compostable” by this definition, and the other is not. Indeed, one might be compostable today, but not tomorrow. As a result, this part of the definition is unworkable as well as inappropriate.

Having said this, the evidence in the support studies undertaken by the European Commission for the Impact Assessment for this proposal does not suggest that the issue of separate collection is likely to be a problem, even with significantly increased use of compostable plastics. It is appropriate not to want the problem to arise. However, this should be addressed elsewhere in the text. In fact, Article 8.3 effectively tries to do this. However, as it refers to “biodegradable plastic polymers” and Article 3.41 refers to “compostable packaging”, some confusion might arise. Hence the need for clear definitions.

The unnecessary part of the definition is the final reference to not causing hinderance to industrially controlled conditions. This is not needed if the earlier definition of the material would include the proviso that degradation has to take place in these conditions (and so is coherent with similar definitions of this term elsewhere⁶).

We propose that the definition in Article 3.41 be changed to:

“Compostable packaging” is “packaging capable of undergoing physical, chemical, thermal or biological decomposition in industrial composting conditions such that most of the finished compost ultimately decomposes into carbon dioxide, mineral salts, biomass and water, according to Article 47(4)”.

Issues relating to the efficiency of separate collection and recycling should be addressed in a (better worded) Article 8.



Image by rawpixel.com on Freepik



Mandating compostable packaging conditions

Article 8 requires a limited number of items of packaging to be compostable, and states that the Commission can add to this list using delegated acts. Article 8 also makes reference to Annex III (repeated below), which sets out conditions that the European Commission must consider when mandating the use of compostable packaging. These conditions are consistent with other elements in the proposed Regulation, seeking to use compostable packaging to enhance the collection of organic waste and not to cause problems with other aspects of waste management. It is also appropriate that these conditions are to be “considered” in developing the delegated acts. This enables a focus on what is important and the list does not act as a constraint on future delegated acts or in how to capture future innovation⁷. These all seem to be appropriate and should be retained in the adopted text of the Regulation.

ANNEX III COMPOSTABLE PACKAGING

Conditions to be considered when mandating the use of compostable packaging format:

- (a) it could not have been designed as reusable packaging or the products could not be placed on the market without packaging;
- (b) it is designed to enter the organic waste stream at the end of its life;
- (c) it is of biodegradable nature allowing the packaging to undergo physical, chemical, thermal or biological decomposition, including anaerobic digestion, resulting ultimately in conversion into carbon dioxide or methane, in the absence of oxygen, mineral salts, biomass and water,
- (d) its use significantly increases the collection of organic waste compared to the use of non-compostable packaging materials;
- (e) its use significantly reduces the contamination of compost with non-compostable packaging; and
- (f) its use does not increase the contamination of non-compostable packaging waste streams.

Conclusion

It is important that issues of clarity and consistency are addressed in the final adopted text. Too often EU law is adopted and then huge time and effort is given to developing guidance to explain what it means. This is inefficient at the very least. For a Regulation it is worse. At adoption it will be directly applicable on businesses and they need to know clearly what it means for them. Otherwise they will make the wrong investment decisions. The recommendations contained in this briefing will help to improve the final Regulation as far as it concerns compostable/biodegradable materials.



Photo by Paul Schellekens on Unsplash

Recommendations

- All key terms should be defined in the final Regulation. In particular the term “biodegradable plastic polymer” should be defined if producers are to know what applies to them. This briefing proposes needed definitions.
- The term “compostable packaging” needs amending to clarify its limitation to industrial composting and to avoid confusing a definition of a material with how it is used.
- It is important to ensure that the inconsistency between the understanding of biodegradability between the proposed Regulation and the Commission policy on biodegradable plastics is addressed. This briefing proposes how to do this.
- The conditions set out for the European Commission in mandating compostable packaging are good and should be retained.

¹ European Commission 2022b. Proposal for a revision of EU legislation on Packaging and Packaging Waste. COM(2022) 677. 30.11.2022. https://environment.ec.europa.eu/publications/proposal-packaging-and-packaging-waste_en

² See: https://commission.europa.eu/law/law-making-process/planning-and-proposing-law/better-regulation/better-regulation-guidelines-and-toolbox_en

³ SEALIVE 2023. Briefing: The Importance of Clear Definitions in Managing Bio-based and Biodegradable Plastics <https://doi.org/10.5281/zenodo.7744012>

⁴ European Commission 2022a. EU policy framework on biobased, biodegradable and compostable plastics. COM(2022) 682. 30.11.2022. https://environment.ec.europa.eu/publications/communication-eu-policy-framework-biobased-biodegradable-and-compostable-plastics_en

⁵ Materials are more likely to biodegrade in warm, wet conditions than very cold or very dry conditions.

⁶ SEALIVE 2023. Briefing: The Importance of Clear Definitions in Managing Bio-based and Biodegradable Plastics <https://doi.org/10.5281/zenodo.7744012>

⁷ This is consistent with the SEALIVE briefing on Future Proofing Policy for Innovation. <https://zenodo.org/record/7078744#.Y8Uto2jP1PY>

Authors

Andrew Farmer
IEEP
Email: afarmer@ieep.eu

Demetra Orthodoxou
ISOTECH
Email: project@isotech.com.cy

Christina Baldwin
AKTI
Email: program@akti.org.cy



Project Coordinator

Miriam Gallur
ITENE
Email: miriam.gallur@itene.com

Communications

Annette Wilson
ERINN
Email: annette@erinn.com



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No. 862910 (SEALIVE). This output reflects only the authors' views and the Research Executive Agency cannot be held responsible for any use that may be made of the information contained therein.