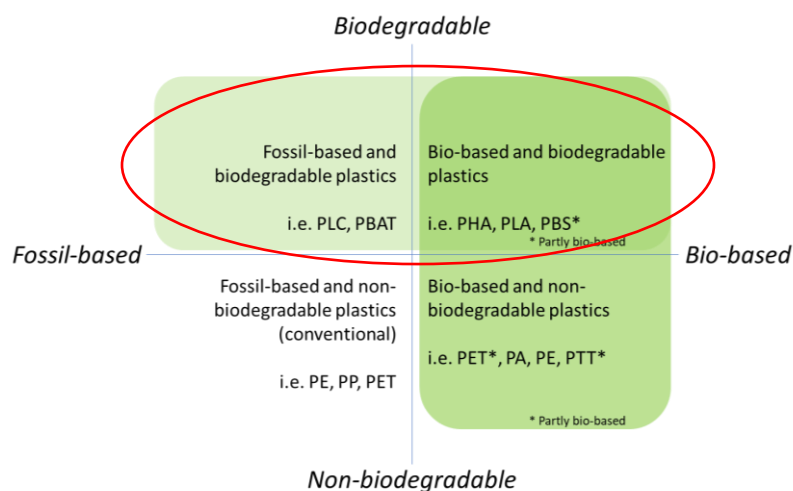


Biodegradable and compostable plastics - Towards an enabling policy framework

Stimulating growth to meet the objectives of the EU Green Deal

FOREWORD

In the context of the forthcoming Policy Framework on bio-based, biodegradable and compostable plastics, Cefic is of the view that a single approach that combines bio-based plastics and biodegradable and compostable plastics would be confusing and fail to address the specificities of each category of plastic. We have therefore developed two separate position papers, which complement each other.



Biodegradable and compostable plastics (BDCP) provide unique benefits for the end-of-life management of products and have the potential to play a key role in achieving the Green Deal objectives (e.g. reducing food waste, sustainable production and consumption).

Given the importance plastics play now and will play in future, there is a need to make them more sustainable and circular. In that respect, biodegradable and compostable plastics with proven environmental and climate benefits, e.g. based on LCA methodologies, can play a role as well as contribute to achieving the “Fit for 55” and climate neutral economy ambitions, as well as the restoration of sustainable carbon cycles.

Biodegradable^a and compostable^b plastics (BDGP) can provide sustainable solutions to Europe's need for lightweight, versatile, and affordable materials as any other standard polymers. But they have an extra benefit as their specific biodegradable/compostable characteristics can represent a way to tackle end-of-life situations for specific applications that cannot be easily solved with conventional materials. Europe was a pioneer in this field, thanks to a series of measures that have marked the history of the sector, enabling its development. To continue being a leader in the field, we recommend these measures form the basis for the implementation of a dedicated policy framework for biodegradable and compostable plastics.

Aspects to look at:

When developing a policy framework for biodegradable and compostable plastics (which can also be bio-based - see separate position), we call on EU policymakers to follow the same steps as when bio-based products/plastics were first introduced to the market (such as the Lead market Initiative for bio-based products). We recommend it gives special consideration to:

- Clarity and consistency of the **terminology and definitions**, to avoid possible confusion on the markets, especially for products intended for end-consumers. Definitions and terminology drawn from existing standards, policy initiatives and legislative acts served as cornerstones and should do so in the future. The Commission's Staff Working Document accompanying 'A European Strategy for plastics in a circular economy'^c addresses the issue by giving the correct definitions of the various terminologies (bio-based, biodegradable, compostable, etc.) and should serve as a basis with further additions such as material based on the mass balance^d approach.
- The development of proper standards for biodegradability and compostability should ensure that:
 - Biodegradability ensures that the product, as well as degraded parts of it, are not persistent in the environment when littered.
 - Compostability is evaluated for the final product to account for all factors that affect the composting rate and is not limited to one single component.

^a "Biodegradable waste" means any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard (Directive 1999/31/EC on the landfill of waste)

^b Industrial Composting can be defined as the controlled biological decomposition of organic waste under managed conditions that are predominantly aerobic (i.e., in the presence of oxygen) and that allow the development of thermophilic conditions as a result of biologically produced heat. When referring to "home" or "backyard" composting, a cooler aerobic breakdown of organic material or waste is meant, usually in small-scale composters and by 'slow-stack' treatment methods. (European Bioplastics). EN 13432:2000 standard sets 4 criteria to assess compostability:

- Chemical composition: volatile matter and heavy metals as well as fluorine should be limited.
- Biodegradability: the conversion of >90% of the original material into CO₂, water and minerals by biological processes within 6 months.
- Disintegrability: at least 90% of the original mass should be decomposed into particles that are able to pass through a 2x2 mm sieve.
- Quality: absence of toxic substances and other substances that impede composting.

^c <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52018DC0028&from>

^d Chain of Custody model 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. (ISO 22095)

- Biodegradability and compostability should never be considered as a “free pass” to littering at any stage of the value chain. Any communication on these properties, especially to the end-consumer, should be unequivocal and non-misleading. **Clear, transparent and credible labelling** should support this endeavour.
- Unleashing **research and innovation**: R&I activities funded by the European Commission under Horizon 2020 (see BBI-JU) and under Horizon Europe (see CBE-JU^e) are critical to enlarge possible applications for BDCP in compliance with the principles of the circular economy and with the waste hierarchy. Definitions of “recycling” should create the conditions for such applications enlargement, bearing in mind that BDCP waste must be directed to the appropriate type of facility.
- A robust and trusted **Life Cycle Analysis** in compliance with ISO 14040/14067 or Environmental Product Declaration (EPD) should support the claimed environmental benefits.
- Relevant, enabling and swiftly applicable **sustainability criteria** for feedstocks including biodiversity safeguards. (See our position on a policy framework for bio-based plastics)

Policy recommendations:

- Incentivise the use of biodegradable and compostable plastics, where it proves to be valuable, beneficial from an LCA perspective and consistent with circular economy principles and aspirations derived from other legislative initiatives (infrastructure requirements, additional sorting, contamination issues for recyclers)^f. This can be done in the context of several ongoing legislative initiatives, such as the Sustainable Product Initiative, the Packaging and Packaging Waste Directive (PPWD), the review of the Waste Framework Directive, the revision of the end-of-life vehicles Directive, as well as the Single Use Plastics Implementing Act.
- Increase the use of biodegradable and compostable plastics in green public procurement contracts for products and services, where beneficial from an LCA perspective and suitable from an end-of-life perspective. Apart from generating additional demand, this would also serve as a proof of concept, demonstrating to the market the feasibility of using biodegradable and compostable solutions.
- Broaden the scope of the policy framework to include a broader range of new plastics and polymers which can replace certain polymers across a broad range of industrial and consumer applications (food packaging, hygiene wipes, adhesives, etc.) due to their unique properties of tailored solubility, inherent biodegradability and compostability in various environments.
- Promote the development of efficient collection schemes of food waste as well as the development and the modernisation of the infrastructure for the management of organic waste, in order to reach the zero organic waste in landfill (as required by the Waste Framework Directive). Recycling bio-waste into high-quality compost returns some carbon

^e <https://www.cbe.europa.eu/>

^f The use of BDCP should be targeted to applications where other plastics would get so contaminated with compostable matter that they can no longer be recycled and incineration would be the fate of the plastic and its compostable contamination otherwise

and nutrients to the soil, thus contributing to the overall goal of building a resilient circular economy and to EU's climate neutrality goal.

- Modulate the Extended Producer Responsibility (EPR) scheme obligations to incentivise BDCP, provided that the sustainable benefits are also demonstrated.
- Introduce mandatory labelling to increase transparency and improve credibility of the green claims. A right definition/identification of sustainability criteria which capture benefits of compostable products is essential and a prerequisite to support this option.
- Increase the knowledge and awareness of the applications suitable for BDCP, their positive effects of BDCP in the public, especially at schools and universities. Trigger sustainability education and training and enhance qualification courses towards industrial production and use of sustainable materials.

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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 1.2 million jobs and account for 16% of world chemicals production.