

Position of European Bioplastics

HOME COMPOSTING OF COMPOSTABLE BIOPLASTICS

Municipalities usually treat separately collected organic waste (kitchen and garden waste) from households in industrial composting, which is increasingly connected with an anaerobic digestion (AD) phase. In addition, or as a replacement for an organised collection, households may also choose to put their organic waste into home composting.¹

Home composting – if done properly – can have benefits compared to landfilling and incineration of organic waste: due to lower volumes of waste collected from households it may lead to reduced waste management fees, and it produces compost for private gardening use. However, as with landfilling, home composting bears the risk of producing greenhouse gases. What is more, some types of kitchen waste with particularly high energy content, such as meat and fish, are not suitable for home composting. While home composting can complement industrial composting and biomethanisation in AD plants, it cannot replace it.

European Bioplastics (EUBP) recommends the separate collection of organic household waste with a dedicated kerbside waste collection system and subsequent treatment in industrial composting or AD plants. Home composting should only be considered as an additional option for the treatment of organic waste, especially for garden waste.

Bioplastics in composting - compostability and standards

Certified biodegradable and compostable bioplastics have a number of benefits: Compostable biowaste bags make the separate collection of biowaste more practical and hy-

gienic, raising acceptance levels for the collection, and thus increasing the volumes collected and the amount of biogas and compost produced from them². Other products, such as certified compostable food packaging, can also contribute to increased volumes of organic waste collected, because they can be discarded together with food waste into the biowaste bin.

Compostability of packaging is certified according to the European Standard EN 13432³. This standard refers specifically to compostability in industrial composting facilities. The standard does, however, not cover home compostability. Bioplastics certified according to EN 13432 can be recognized by conformity marks such as the *Seedling*, *OK compost*, or *DIN Geprüft Industrial Compostable*. Those materials are suitable for the separate organic waste collection with subsequent treatment in AD and industrial composting facilities.

Standards for home compostability on the national level

Currently, there are several national standards for home compostability of bioplastics and corresponding certification schemes, which are mainly based on EN 13432. To confirm compliance with these standards and schemes, bioplastics are tested according to the conditions prone to be found in home composting, in particular lower temperatures and longer dwell times compared to conditions in industrial composting facilities. Materials or products compliant with these standards can be recognised by a conformity mark stating their home compostability.

¹ For more comprehensive information on home composting, please refer to the European Bioplastics Fact Sheet on home composting

² Kern, Michael; Siepenkothen, Jörg: Biowaste potential in household waste. Modelling a collection increase of biowaste from household waste. Müll und Abfall 07/2014. p. 356-360.

³ The compostability of plastics in general is evaluated according to EN14995.

The certifier TÜV AUSTRIA BELGIUM, for example, offers such a home compostability certification scheme, and DIN CERTCO offers a certification for home compostability according to the Australian standard AS 5810. Italy has a national standard for composting at ambient temperature, UNI 11183:2006. In November 2015, the French Standard NF T 51-800 *Plastics – Specifications for plastics suitable for home composting* was introduced. This standard is covered in the DIN CERTCO scheme.



Examples of home compostability conformity marks

EU standard for home composting

The need for a dedicated standard for home compostable packaging was highlighted by the European Parliament and the Council of the EU in a Directive of April 2015 amending the Packaging and Packaging Waste Directive (PPWD)⁴. Directive (EU) 2015/720 aims at reducing the consumption of lightweight plastic carrier bags, which are often used in households to collect and carry garden and kitchen waste to home composting piles in private gardens. It is therefore expedient for these lightweight plastic carrier bags to be home compostable. For all other types of biodegradable plastic packaging, professional organic recycling in industrial composting or AD plants is the ecologically most sensible waste management method. EUBP therefore supports the development of a European standard on home compostability for light-weight carrier bags that harmonises the various existing certifications, claims, and labels in regards to this specific type of plastic packaging.

Such a standard will require a definition of the characteristics and requirements for the typical home composting process. Although most municipalities or composting associations provide guidelines for home composting, it remains very challenging to establish a harmonised process. Because home composting is not a professional waste management activity but a private gardening practice carried out on private premises, it is also difficult to monitor. Home composting is also not available throughout the whole year due to seasonally fluctuating and generally geographically diverse ambient temperatures. A common norm should build on a wide array of scientific and practical experiences and draw on the requirements and performances of the existing and accepted national standards and certification schemes.

However, neither the Waste Framework Directive (WFD), nor the PPWD accept home composting as a form of recycling or a legal waste treatment option. In line with Directive (EU) 2015/720, the scope of the new standard should therefore be limited to compostable lightweight carrier bags that can be used to collect and carry garden waste and kitchen waste to home composting piles. All other compostable plastic packaging materials and products are not suitable for home composting and should be collected by professional waste management organisations for proper organic recycling in industrial composting facilities or AD plants to fully exploit their energetic value and material recovery potential.

About European Bioplastics

European Bioplastics is the association representing the interests of the bioplastics industry along the entire value chain in Europe. Its members produce, refine, and distribute bioplastics, i.e. plastics that are either biobased, biodegradable, or both. More information is available on www.european-bioplastics.org.

⁴ Directive (EU) 2015/720 of the European Parliament and the Council of the European Union amending Directive 94/62/EC on packaging and packaging waste to reduce the consumption of lightweight plastic carrier bags.