

Position of European Bioplastics

INDUSTRIAL USE OF AGRICULTURAL FEEDSTOCK

The transition from a fossil based to a bio-based economy is absolutely essential if the EU wants to be a global leader in climate protection and greenhouse gas emissions reduction targets. The material sector, including the plastics market, can make a major contribution to this transition via the use of bioplastics.

Bioplastics encompass a family of different materials that are bio-based, biodegradable, or both. 'Bio-based' means that the material or product is fully or partly derived from biomass. 'Biodegradable' refers to a chemical process during which micro-organisms available in the environment convert materials into natural substances such as water, carbon dioxide, and biomass (artificial additives are not needed).

Using biomass for industrial purposes, such as the production of bioplastics, has major benefits. It reduces the dependency on limited fossil resources and reduces greenhouse gas emissions. Through the implementation of use cascades, bioplastics can also make an important contribution to resource efficiency.

Named an important pillar of the European bioeconomy by the European Commission, the bioplastics industry has developed dynamically in recent years and has a significant growth potential. Global production capacities are predicted to grow from 2.05 million tonnes in 2017 to approximately 2.44 million tonnes in 2022. Maintained access to sustainably grown biomass is critical to guarantee this growth.

It is our belief that the choice of a biomass type for industrial use should only depend on the sustainability and efficiency of the feedstock.

Today, bioplastics are mostly made from carbohydrate-rich plants, such as corn or sugar cane, so called food crops or 1st generation feedstock. Currently, 1st generation feedstock is the most efficient feedstock for the production of bioplastic as it requires the least amount of land to grow on and produces the highest yields¹. In order to fulfill its growth potential, it is important that the bioplastics industry is ensured access to 1st generation biomass now and in the future. At the same time, the bioplastics industry is looking into the use of non-food crops (2nd and 3rd generation feedstock), such as cellulose, with a view to the development of new, innovative materials in future.

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The discussion about the use of biomass for industrial purposes is often linked to the question whether the conversion of potential food and feed to materials is ethically justifiable. This emotional debate is lacking empirical research to support these claims with actual facts. Enough food to feed the world is produced, and unfortunately, wasted each year. 97 percent of the global agricultural area is used to grow food and feed or used as pastures. The area needed to grow biomass for material use accounts for approximately 2 percent. Within this share, bioplastics account for about 0.02 percent.^{2,3}

¹ See publications of nova-institute (2013): „Food or non-food: Which agricultural feedstocks are best for industrial uses?“; See also calculations of Institute for Bioplastics and Biocomposites (IfBB, 2013): <http://ifbb.wp.hs-hannover.de/downloads/index.php?site=Statistics&nav=1-0-0-0-0>.

² Market data by European Bioplastics and nova-Institute (2017)

³ For more information on food security see the Economist Intelligence Unit's assessment tool: <http://foodsecurityindex.eiu.com/>.

No competition between biomass use for food, feed, and for material use. About 0.02 percent of the global agricultural area used to grow feedstock for bioplastics.

The sheer difference in volume shows that there is no competition between the use of biomass for food, feed, and for material use. What is more, 1st generation feedstock bioplastics are an enabling technology that will eventually facilitate the transition to later generations of feedstock. Consequently, the use of first generation feedstock for industrial applications should not be discriminated against.⁴

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A level playing field for the use of biomass in materials, compared to the use of biomass for energy, needs to be

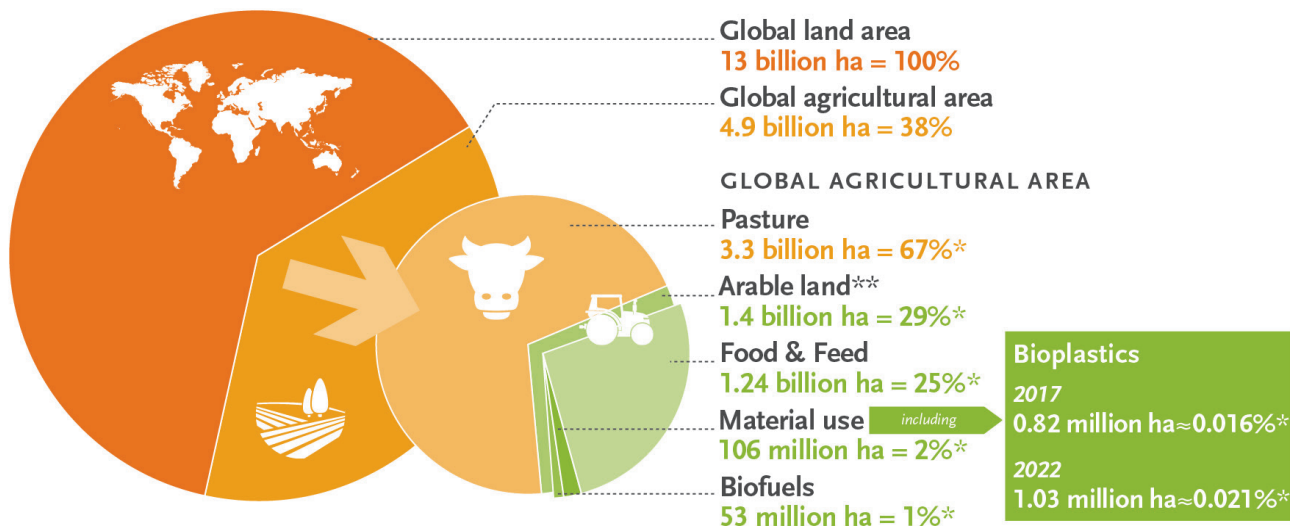
established. At European level, many measures exist, such as subsidies, quotas, taxes, etc., all of which should either be bestowed equally to different industries using biomass, or to none at all. Currently, the energy sector receives immense subsidies, whereas the bioplastics industry receives none - a condition that distorts the effectiveness of bio-based market segments.

European Bioplastics calls for an equal treatment of all pillars of the bioeconomy and opposes political discrimination or preference of specific bio-based industries.

About European Bioplastics

European Bioplastics represents the interests of around 70 member companies throughout the European Union. With members from the whole value chain, European Bioplastics serves as both a contact platform and catalyst for advancing the objectives of the growing bioplastics industry. For further information, please visit <http://en.european-bioplastics.org>

Land use estimation for bioplastics 2017 and 2022



Source: European Bioplastics (2017), FAO Stats (2014), nova-Institute (2017), and Institute for Bioplastics and Biocomposites (2016). More information: www.european-bioplastics.org

* In relation to global agricultural area
** Including approx. 1% fallow land

⁴This position is further backed up by a study published by the World Bank in 2013, according to which an increase in food prices is largely influenced by the oil price. Biofuels and, by extension, bioplastics play a negligible factor here.