Dynamic growth: global production capacities of bioplastics 2020-2025

Bioplastics represent about one percent of the more than 368 million tonnes of plastic produced annually. But as demand is rising, and with more sophisticated applications and products emerging, the market for bioplastics is continuously growing and diversifying. Global bioplastics production capacity is set to increase from around 2.11 million tonnes in 2020 to approximately 2.87 million tonnes in 2025.

Material development and diversification

Bioplastics alternatives exist for almost every conventional plastic material and corresponding application. With further bioplastics materials being commercially available, for example polyethylenefuranonat (PEF), bio-based polypropylene (PP), but also polyhydroxyalkanoates (PHAs) and polylactic acid (PLA), the production capacities will continue to increase and diversify within the next 5 years.

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Applications and market segments

Bioplastics are used for an increasing variety of applications, ranging from packaging and consumer products to electronics, automotive and textiles. Packaging remains the largest market segment for bioplastics with 47 percent (0.99 million tonnes) of the total bioplastics market in 2020.

Land use share for bioplastics estimated to be at 0.02 percent of the global agricultural area

The land used to grow the renewable feedstock for the production of bioplastics is estimated at approximately 0.70 million hectares in 2020. This accounts for less than 0.02 percent of the global agricultural area of 4.7 billion hectares. Despite the market growth, the land use share for bioplastics only displays a slight increase to 0.02 percent until 2025. This indicates once more that there is no competition between the renewable feedstock for food and feed, and the production of bioplastics.

\[\text{Land use estimation for bioplastics 2020 and 2025}\]

**GLOBAL AGRICULTURAL AREA**

- **Pasture**
  - 3.3 billion ha

- **Arable land**
  - 1.4 billion ha

- **Food & Feed**
  - 1.24 billion ha = 25%*

- **Material use**
  - 106 million ha = 2%*

- **Biofuels**
  - 53 million ha = 1%*

- **Bioplastics**
  - 2020: 0.7 million ha \(\approx 0.015\%\*)
  - 2025: 1.1 million ha \(\approx 0.020\%\*)

* In relation to global agricultural area
** Including approx. 1% fallow land
*** Land-use for bioplastics is part of the 2% material use


About this market data update

The market data update 2020 has been compiled in cooperation with the market experts of the nova-Institute (Hürth, Germany). The market data graphs are available for download on http://www.european-bioplastics.org/news/publications/