

INSPIRED BY NATURE



BIO-BASED PLASTICS

Did you know that you can score goals with bio-based plastics?

Resolution on the last page



What are bio-based plastics?

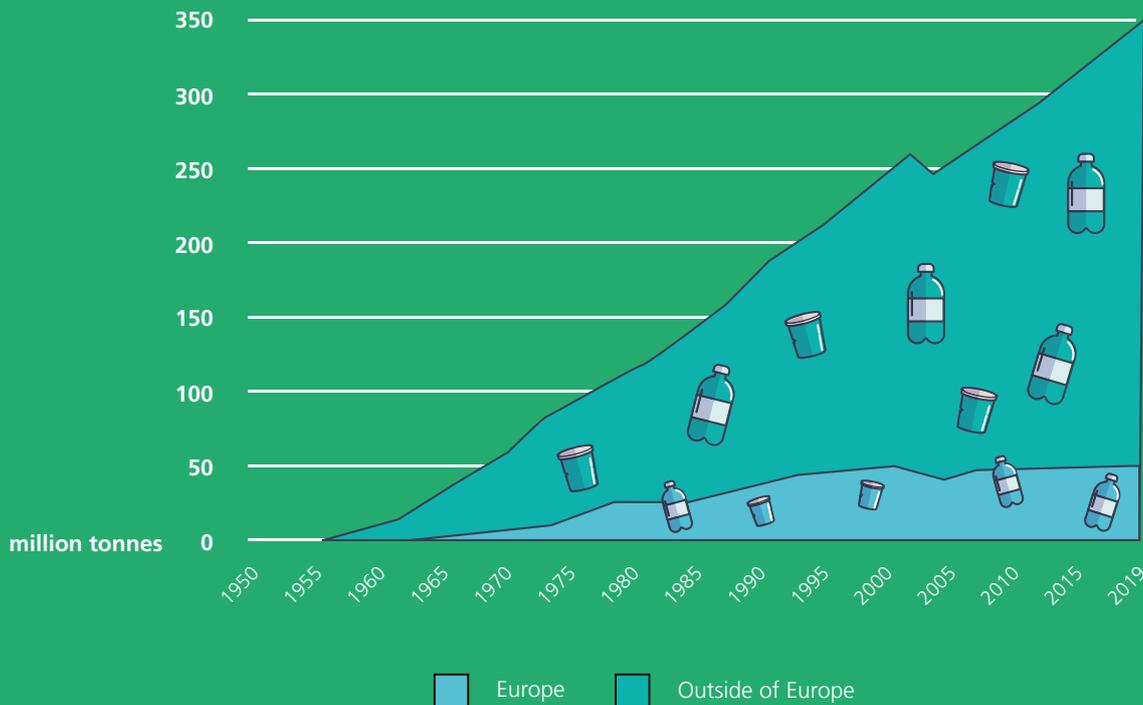
Plastic is made from fossil resources, such as crude oil. Bio-based plastic (bioplastic), however, is made entirely or to a considerable extent from renewable raw materials. Almost all known plastics could potentially be produced from renewable raw materials.

There is a difference between:

- bio-based, non-biodegradable bioplastics
- bio-based, biodegradable bioplastics

Increasing amounts of plastic

Global plastic production from 1950 to 2019



Source: PlasticsEurope

What are biodegradable plastics?

Biodegradation is a natural process by which a material is broken down into its constituent parts, especially carbon dioxide and water. If a plastic is biodegradable, this means it is completely broken down by microorganisms into carbon dioxide, water and biomass without leaving any harmful or toxic residue. The biodegradation process depends greatly on the environmental conditions (e.g. location and temperature), the material itself and the applications.

**Essentially:
Plastic – including bioplastic – should never thoughtlessly
end up in the environment!**

Facts & Figures



The area of land under cultivation for renewable raw materials for the production of bioplastic is estimated at 0.7 million hectares for 2021 and therefore still only accounts for slightly more than 0.01 percent of the world's 5 billion hectares of agricultural land. Estimate for 2025: 1.1 million hectares = 0.02%

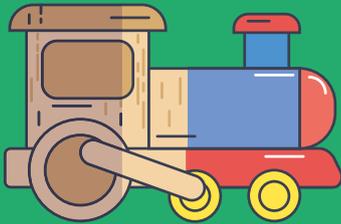


The production capacity for bioplastics is currently still very low compared to total plastic production. Only 1% of the plastic produced globally is bioplastic. By 2026, the share of bioplastics in total global plastic production will exceed the two percent mark for the first time.



12% of the organic raw materials used in the German chemicals industry are biogenic.

More Facts & Figures



Plastic and wood are the most important raw materials used in toys.



The most important raw material for bio-based plastics is vegetable biomass (e.g. starch, sugar and cellulose from wood). At the moment, there are increasing attempts being made to use also residual and waste materials from agriculture, forestry and industry.

**More about at: Download PDF
„Renewable raw materials“**



Objective

- To move away from fossil resources and towards bio-based (= renewable) raw materials.
- When we use renewable raw materials, we conserve fossil resources.
- Products made from renewable raw materials, such as bio-based plastics, are largely climate neutral. When we incinerate them at the end of their life cycle, we do not increase the amount of CO2 in our atmosphere.

QUIZ TIME

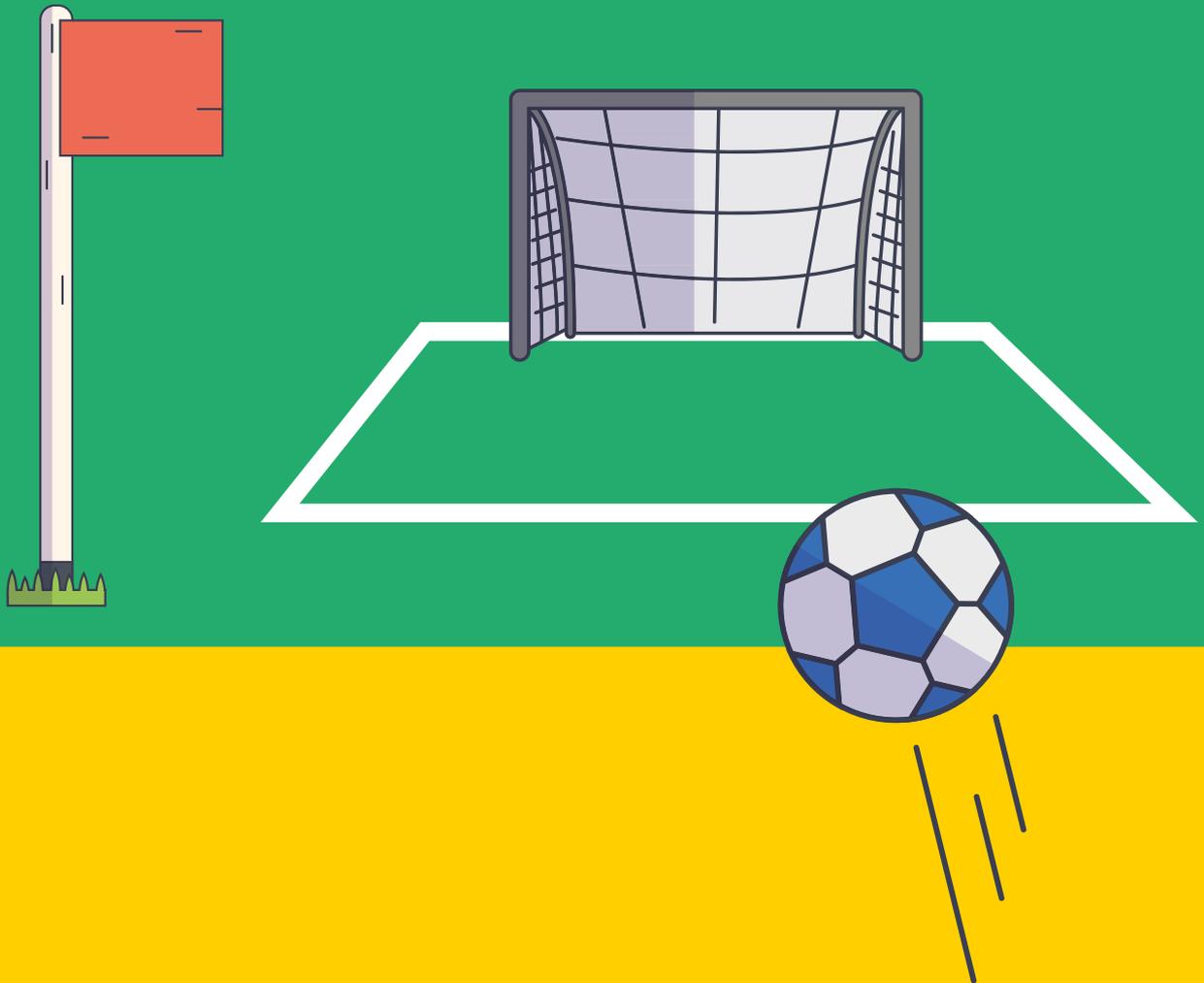
Challenge your knowledge!

www.spielwarenmesse.de/en/quiz-2

RESOLUTION

Did you know that you can score goals with bio-based plastics?

The ball used for the 2010 FIFA World Cup in South Africa was largely made from bio-based plastics.



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