EUROPEAN BIOPLASTICS
Driving the evolution of plastics
It is almost impossible to imagine a world today without plastics. Plastics make up an integral part of many products surrounding us in everyday life. Bioplastics are highly complex and sophisticated materials that can help make plastic products more sustainable.

**European Bioplastics defines bioplastics as polymers that are biobased, biodegradable, or both.**

Bioplastics are a large family of materials. They comprise biobased materials featuring identical properties compared to their fossil-based versions as well as new materials featuring additional properties. These add-on qualities, i.e. being derived from renewable resources (biobased), being biodegradable, or both, can significantly reduce the impact on our environment.

European Bioplastics is the European association that represents the interests of the industry along the complete bioplastics' value chain. Bioplastics’ advantages are the primary reason for the industry’s dynamic development. It is steadily growing, at a rate between 20 – 100 percent per year. A survey conducted by European Bioplastics in cooperation with the Institute for Bioplastics and Biocomposites and the nova-Institute shows that between 2014 and 2019, production capacities worldwide are expected to multiply to 7.8 million tonnes.

Due to their ability to enhance economic growth and ecological footprint, bioplastic materials and products should be a welcome supplement to European legislators’ work programmes and to any company’s product portfolio.

The European Commission has recognised the great importance of the bioplastics sector and identified it as an important pillar of the bio-economy. But how can fossil resources used for the production of conventional plastics be replaced with biomass? Can it be done in a sustainable way? Are there already solutions and if so, on what scale? These are some of the important questions that European Bioplastics is clarifying in partnership with policy makers such as the European Commission, its members and various stakeholders.

This brochure will give you an overview of the bioplastics industry, its association European Bioplastics, and the market.

Yours sincerely

**European Bioplastics**
European Bioplastics was founded in 1993 as Interessengemeinschaft Biologisch Abbaubare Werkstoffe e.V. (IBAW, International Biodegradable Polymers Association & Working Group). First, it constituted a German, and later, European representation and platform for the leading companies of biodegradable polymers. In 2005, the association extended its activities under the name European Bioplastics e.V. to the global bioplastics market and counted roughly 50 organisations among its members. Today, European Bioplastics represents the interests of the industry along the complete bioplastics' value chain. Its members produce, convert, distribute and use bioplastics. With around 70 members, it is the largest association within the bioplastics industry.

OUR VISION: **Bioplastics drive the evolution of plastics and contribute significantly to a sustainable society.**
OUR MISSION:

*European Bioplastics' mission is to align the bioplastics value chain and work in partnership with various stakeholders towards a favourable landscape enabling the bioplastics market to grow.*

Our Market

Striving to satisfy the societal demand for sustainable products and solutions in the plastics markets, European Bioplastics supports the market introduction of biobased disposable, semi-durable and durable bioplastic products by creating favourable technical, technological and regulatory framework conditions.

Our Members

European Bioplastics aspires to be a knowledge partner to the entire value chain of bioplastics. Our members are located all over the globe and are engaged in the European market. They rely on European Bioplastics as a platform:

- to gain insights into the industry as a whole
- to represent their business interests
- to connect to others in the bioplastics value chain
- for a dynamic and open stakeholder dialogue regarding overarching issues.

Our Stakeholders

As a knowledge partner to all interested stakeholders, from decision-makers to consumers, European Bioplastics seeks to inform others about the bioplastics industry as a whole, its sophisticated products, and their specific and unique societal benefits.

Our Environment

European Bioplastics:

- supports and promotes the technological innovation of bioplastics to improve the balance between environmental benefits and environmental impact.
- supports the sustainable growing of biomass crops for the production of biobased plastics.
- promotes efficient recovery, re-use and recycling systems.
- supports standards, certifications and guidelines for transparent claims about bioplastics.
The constantly increasing membership of European Bioplastics covers the whole value chain of the bioplastics industry. The member companies and institutions range from SMEs to global players. The majority come from Europe, but there are also numerous members from further afield who have a special interest in the dynamic European market.

Companies that are already involved in the bioplastics business sector, but who are not yet a member of European Bioplastics, should consider the advantages of enlarging their network and connecting to our information platform. Newcomers to our industry and/or the European market, in particular, can rely on European Bioplastics to help them get a foothold in the new sector and benefit from our knowledge and contact networks.

Members according to industry sectors, 2015
Bioplastics are biobased, biodegradable, or both. They are not a single type of plastic but rather a family of materials that can vary considerably from one another. There are three groups in the bioplastics family, each with its own characteristics:

- Biobased or partly biobased, non-biodegradable plastics such as PE, PET (polyolefins / drop-in solutions) or PTT, TPC-ET (polyamides),
- Plastics that are biobased and biodegradable, including PLA, cellulose and PHA,
- Plastics that are based on fossil resources, and are biodegradable, such as PBAT.

Bioplastics can be processed into a vast number of products using conventional plastics processing technologies. The process parameters of the processing equipment have to be adjusted to the individual specification of each polymer. An increasing number of converters are transforming bioplastic materials to products, several of which are members of European Bioplastics.

Global production capacity 2014 by type

According to European Bioplastics’ definition, bioplastics are biobased, biodegradable, or both.

Source: European Bioplastics, Institute for Bioplastics and Biocomposites, nova-Institute (2015)
MARKET –

steady and dynamic growth

Bioplastics can help to save fossil resources and to reduce CO2 emissions. Furthermore, they can offer additional end-of-life options where appropriate. This makes bioplastic materials and products an attractive option for industries and consumers aiming to minimise their impact on the environment.

Demand for bioplastics is rising continuously, and the market is characterised by high and steady growth rates of between 20-100 percent per year. As production facilities multiply and capacities grow, supply options for bioplastic materials and products will increase considerably within the coming years. Europe is a major hub for the entire industry; it occupies the top rank in the field of research and development and is the industry’s largest market worldwide.

With regard to the actual production of bioplastics, a supportive framework at EU- and Member State-level is needed to ensure a balanced global development.
MARKET –

*broad applications for bioplastics*

Bioplastics are a large family of materials with varying properties and can be used in any number of products – disposable, semi-durable or durable. The number of application fields is growing constantly. Today, bioplastics can be found in the following segments: packaging, catering, agriculture and horticulture, automotive, consumer electronics, textiles and fibres, toys and sports.

The increasing utilisation of biomass in bioplastic applications has two decisive advantages – renewability and availability. Life cycle analyses show that bioplastics can reduce CO2 emissions by 30-80 percent compared to conventional plastics (depending on the material and application). Also the limited domestic crude oil reserves in the EU can be preserved and additional crude oil imports from unstable regions can be reduced.

A group of first mover brandowners has recognised the advantages of bioplastics and has switched, or has plans to switch, the production of major brands to bioplastics. Among these globally known brands are several members of European Bioplastics.
BIOPLASTICS – an important part of the EU bioeconomy

Bioplastics are a promising and dynamic industry that supports innovation which will create a future oriented European bioeconomy. Bioplastic materials feature all the properties of conventional plastics and have, in addition, a unique potential to reduce the environmental impact of European industrial production.

Bioplastics can provide employment for generations.

Considering European employment growth, the bioplastics industry can contribute to a prosperous European knowledge based that generates new highly skilled jobs.

EU Resource Efficiency Strategy: Bioplastics offer major benefits

Biobased plastics’ potential to increase resource efficiency and support a circular economy can be exploited most effectively by establishing ‘use cascades’. Renewable resources are initially used to produce materials and products prior to being used for energy recovery. Biobased plastics products, which are also biodegradable and compostable can, furthermore, support a separate collection of organic waste and through this can help to increase the efficiency of waste streams.

Europe has the potential to be a front runner in the development of bioplastics – a policy framework that supports market uptake would help many bioplastics products to reach economies of scale faster and generate sustainable economic growth in Europe.

Important elements of such a framework would be, e.g. the establishment of a level-playing-field for all biobased industries, access to competitively priced agricultural feedstock in sufficient quantities and quality, access to waste collection systems, and the support of innovation and research on bioplastics through the “Horizon 2020” funding programme.
The use of independent and internationally respected labels identifying bioplastic products is important for transparent and accurate consumer information. Using commonly accepted labels also helps to safeguard the good reputation of the bioplastics industry. A sound label should be linked to an international standard via an independent certification scheme. European Bioplastics supports corresponding certification schemes and labels for product identification and disposal, and their EU-wide implementation.

Certifying compostability
Biodegradable products certified according to EN 13432/14995 standards can be called (industrially) compostable. There is already a reliable and accepted label in place for plastic products fulfilling these criteria: the “seedling”. It assists the buying and disposal decision.

Certifying the biobased share
Most experts agree that biobased carbon is key to determining the share of renewable material in biobased products (according to CEN/TS 16137 and ASTM D 6866). In addition to biobased carbon, other parameters such as the biobased mass content are communicated (standard is currently being developed). Even though there is no common minimal biobased value, due to varying regional definitions, a clear labelling exists. The certifiers Vinçotte and DIN CERTCO offer a stepwise labelling approach based on biobased carbon content testing (according to CEN/TS 16137).

A label must be unambiguous, commonly accepted and awarded by a certifier.
You want to learn more about the advantages and applications of bioplastics?

European Bioplastics
Marienstraße 19-20
10117 Berlin

Phone: 0049 30 28 48 23 50
Email: info@european-bioplastics.org
Email: press@european-bioplastics.org

For more information please visit our website:
www.european-bioplastics.org

Or follow us on twitter:
twitter.com/EUBioplastics

Or subscribe to our channel on youtube:
youtube.com/EuropeanBioplastics