



European
Commission

Bio-based Industries: using renewable natural resources and innovative technologies for greener everyday products

- Developing new value chains for bio-based industries, from primary production to consumer markets;
- Using innovative technologies to turn biological residues and wastes into greener everyday products;
- Moving from fossil-based to bio-based products: planting the seeds for the European circular economy;
- Supporting regional development by diversifying the local economy;
- Promoting the opening of new markets for bio-based products and applications “Made in Europe”.



What is the challenge?

A strong European bio-based industrial sector will significantly reduce Europe's dependency on fossil resources, help the EU meet climate change targets, and lead to greener and more environmentally friendly growth. The key is to develop new biorefining technologies to sustainably transform renewable natural resources into bio-based products and biofuels.

This nascent sector is expected to grow rapidly and create new markets and jobs, and is already attracting substantial investments in the US, China and Brazil. The EU is, therefore, pooling its public and private resources and expertise to exploit its potential for research and innovation.

What is the Bio-based Industries Joint Undertaking?

The Bio-based Industries Joint Undertaking (BBI) is a €3.7 billion Public-Private Partnership (PPP) between the EU and the Bio-based Industries Consortium (BIC). It is dedicated to realising the European bioeconomy potential, turning

biological residues and wastes into greener everyday products through innovative technologies and biorefineries, which are at the heart of the bioeconomy. The BBI is about connecting key sectors, creating new value chains and producing a range of innovative bio-based products to ultimately form a new bio-based community and economy.

BIC, the industrial partner in the PPP, hosts a unique mix of sectors including agriculture, agro-food, technology providers, forest-based, chemicals and energy. It was established in 2012 to represent the private sector in the BBI. The BIC membership consists of full industrial members (large companies, SMEs, clusters) and associate members (RTOs, universities, associations and technology platforms) and is still growing.

The BBI will fund projects aimed at:

- Building new value chains based on the development of sustainable biomass collection and supply systems with increased productivity and improved utilisation of biomass feedstock (including co-and by-products);
- Unlocking the utilisation and valorisation of waste and lignocellulosic biomass;

- Bringing existing value chains to new levels, through optimised use of feedstock and industrial side-streams while offering innovative added value products to the market, thus creating a market pull and reinforcing the competitiveness of EU agriculture and forest based industries.
- Bringing technology to maturity through research and innovation, by upgrading and building demonstration and flagship biorefineries that will process biomass into a range of innovative products.

What results and benefits are expected?

The BBI will create new jobs, especially in rural regions, and offer Europeans new and sustainable products sourced and produced locally.

Bio-based industries will increase the competitiveness of the European economy through re-industrialisation and sustainable growth. New value chains will be created between often unconnected sectors, ranging from primary production and processing industries to consumer brands.

The development of new bio-based products and markets based on smart and efficient use of resources will diversify industries' revenue streams. The BBI should therefore enable European companies to be more competitive in the global bioeconomy race with the US, China and Brazil.

The BBI is expected to bridge European research knowledge with commercial scale bio-based products, making full use of European scientific and technological knowledge. The BBI should benefit all Member States where regions can play an important role through their Smart Specialisation Strategies.

How much will it cost?

A total of €3.7 billion will be invested in bio-based innovations over 2014-2020. The EU contribution (Horizon 2020) will be €975 million, while the Bio-based Industries Consortium will contribute €2730 million (of which €1755 million will be dedicated to additional activities such as Flagship projects). As an emerging industry, it will be important to use this PPP to leverage capital markets and additional private and public funds (e.g. synergies with EU Structural Funds) to top up existing public and private commitments.

Innovative multipurpose biorefineries for regional growth in Europe

The EUROBIOREF project, one of three big projects selected in a joint call on biorefineries under the seventh EU research framework programme (FP7), is an example of what could be undertaken on a more comprehensive scale under the new BBI JTI. Working with a €23 million EU contribution, EUROBIOREF demonstrated biorefinery scenarios that: handle separately different types of biomass, such as oil plants, lignocellulosics (e.g. grasses, willow), and agricultural and forestry residues; process them in different ways (chemical, biochemical, thermochemical); and produce multiple high added value bio-based products (e.g. chemicals, biopolymers and aviation biofuels). Furthermore, the developed scenarios are modular and flexible, so parts of biorefineries can be installed in various locations as a large- or small-scale unit depending on regional conditions. The project ended in early 2013.

More information on EUROBIOREF: www.eurobioref.org



Biorefineries: the key to a post-petroleum society

How is it managed?

The BBI is a legal entity representing the partnership between the EU and industry. It establishes its own strategic research agenda. Projects are selected through open and competitive calls for proposals. The best proposals will be selected based on independent peer review and concluded by formal funding agreements. Its Governing Board comprises an equal number of European Commission and BIC representatives.

Useful links

BBI: bbi-europe.eu
 BIC: biconsortium.eu