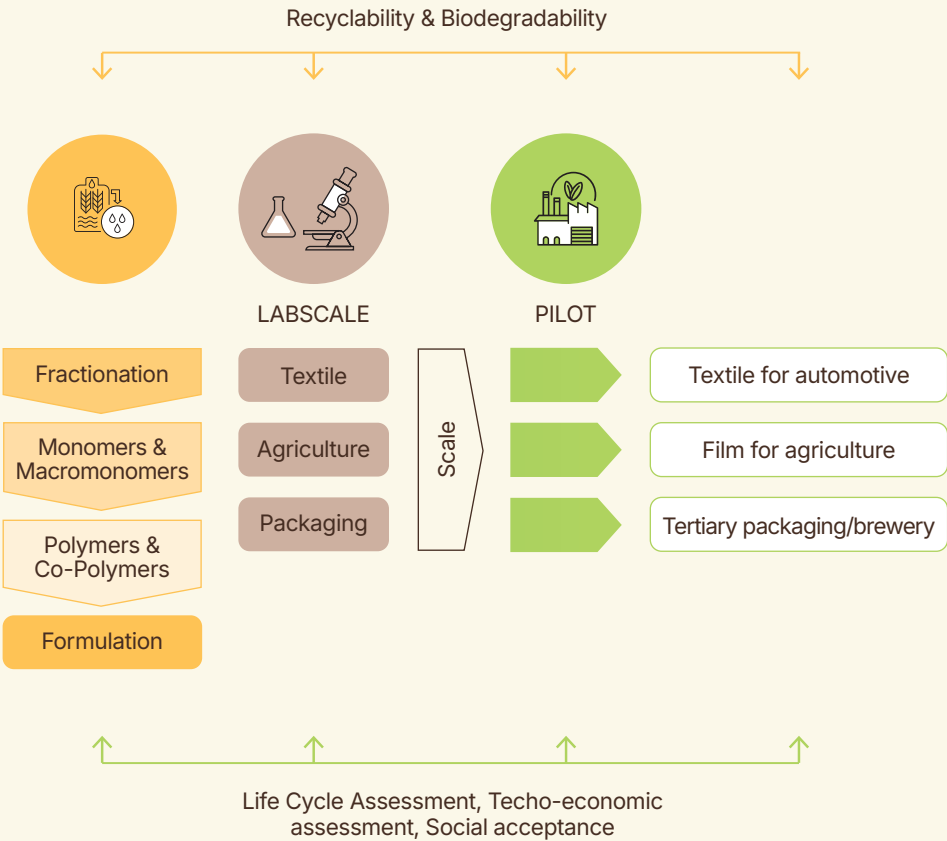


Bioplastics represent less than 1% of the annual global plastic production, which is a far lower proportion than the plastic market needs. Substantial investment and innovation are needed to advance the production of **bio-based, recyclable** and/or **biodegradable** bioplastics. Furthermore, **brewers' spent grain** is the main by-product of the brewing industry, produced in large, non-seasonal quantities.



Stay in touch!

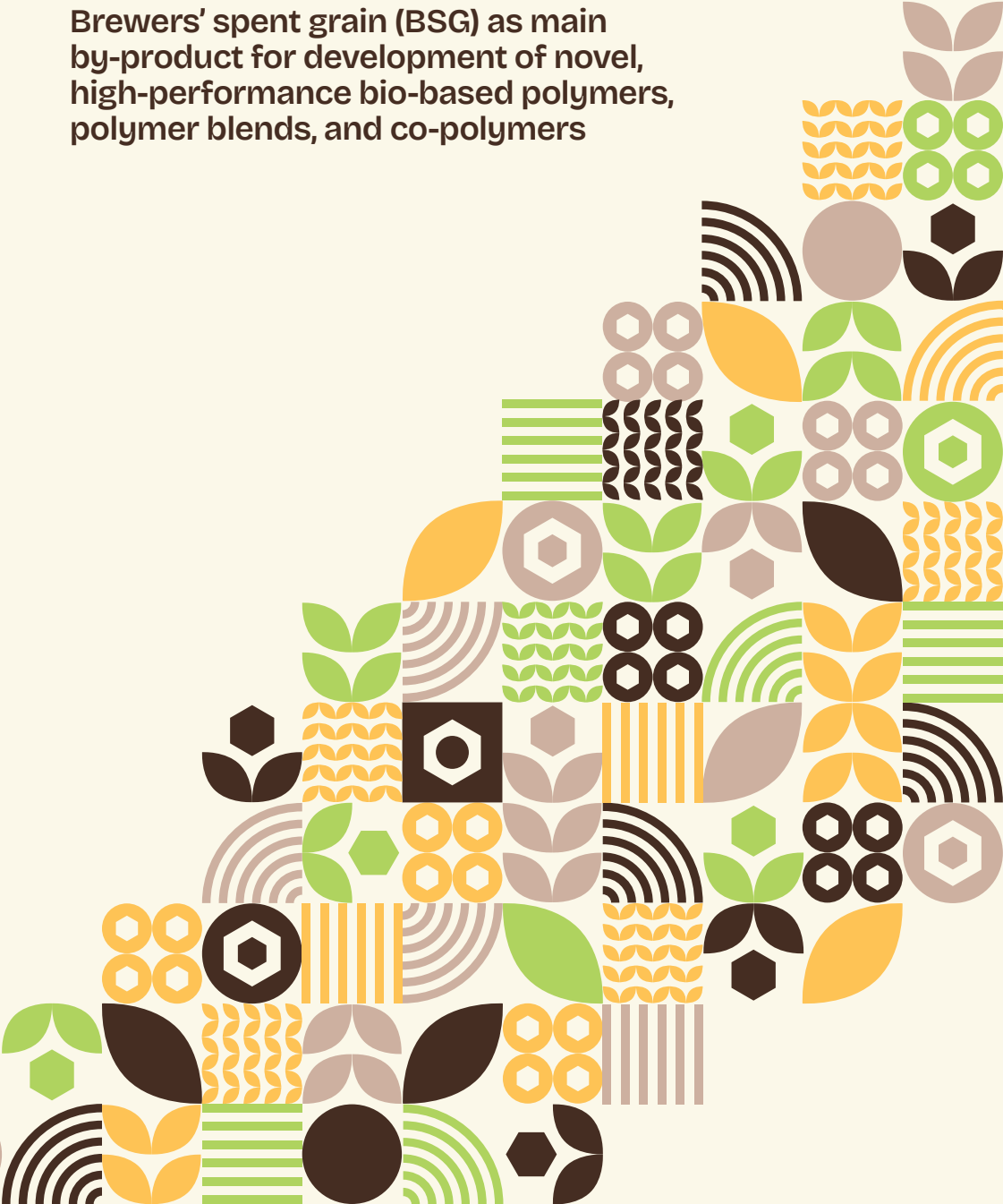
POLYMEER Project
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Brewers' spent grain (BSG) as main by-product for development of novel, high-performance bio-based polymers, polymer blends, and co-polymers



The aim of POLYMEER is to contribute to the establishment of a new sustainable bio-based value chain of bioplastic products through the efficient conversion of wet BSG into bioplastics.

It covers the entire production process, starting with BSG fractionation into the main biopolymers (cellulose, hemicellulose, and lignin), which are then converted into specific polymers and co-polymers using environmentally friendly and waste minimising processes.

Finally, blending, formulation and processing will produce bioplastics suitable for three target applications will be created:



Films

For agriculture use



Tertiary packaging

For breweries



Textiles

For automotive industry

Expected outcomes

01

10% of BSG in Europe is used for the production of bioplastics.

02

20 industries in Europe from the bioplastic production value chain apply more sustainable methods based on POLYMEER insights.

03

30 industries in Europe produce final applications/products with POLYMEER bioplastics as their main component.

04

The three applications reach the market and reach 1,000+ potential consumers, so that:

- 5 breweries replace plastic tertiary packaging by bioplastic based on BSG.
- 50 consumers of agricultural film switch to biodegradable and BSG-based options.
- 10 automotive brands demand BSG-based textile.

Results

- Enhanced economic sustainability.
- Reduced reliance on finite fossil resources.
- Lower production costs.
- Creation of new markets.

Benefits to society

The project will also provide benefits to society and the environment, including:

- Improved sustainability, safety, and circularity when compared to fossil-based plastics.
- Enhanced environmental performance across the value chain.
- Public awareness and eco-conscious consumer choices.
- Economic sustainability, portfolio diversification, higher competitiveness.



14

Partners

8

Countries

4.9

Million euros budget

48

Months

