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European and Regional partners

Collaborations

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from **university** to **industry**

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B-PLAS

BioPLAstic from Sludge

www.b-plas.it

Climate-KIC is supported by the EIT, a body of the European Union

About us

MISSION

B-PLAS DEMO aims to reduce and optimize the wastewater treatment technologies in order to convert sludges from a cost to a benefit, providing the market with reliable bioplastics able to compete with fossil based ones.

SOLUTION

B-PLAS applies simple and reliable technologies for the conversion of waste sludges into bioplastics. The **B-PLAS project aims to realize fully automated plants** that allows to convert **food waste, waste sludges and other organic residues** into **Polyhydroxyalkanoates (PHAs)**. PHA is a bio-based and bio-degradable plastic, suitable for packaging, disposable items and 3D printing and more. Currently the cheapest bioplastic spool costs more than 30 €/kg, bioplastic pellets more than 4 €/kg. Differently, organic wastes are readily available and free, allowing the production of cheap PHAs.

Advantages

For society: reduction of sludge disposal impacts and related concerns. Elimination of pathogens. **For the environment**: Saving of non-renewable sources. Reduction of CO_2 emissions. Substitution of non-biodegradable plastics. **For the industry**: Decrease of sludge disposal costs by 40-65%. Energy savings during production.

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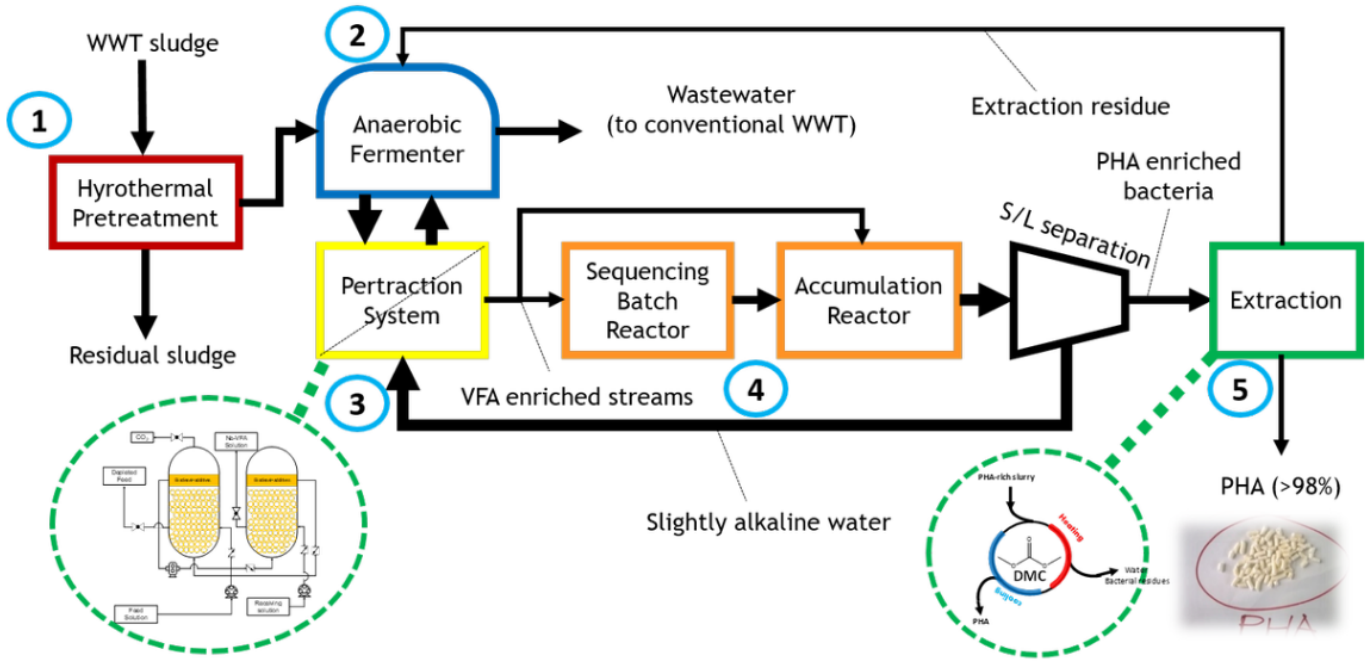
How the B-PLAS technology works:



Innovative system for pertraction of VFA

Closed loop Extraction with Green Solvent (dimethyl carbonate, DMC)

1. **Hydrothermal treatment** of wastewater treatment sludge
2. **Anaerobic fermentation**
3. Innovative **pertraction system** for selective extraction of volatile fatty acids (VFA) enriched solution
4. **SBR reactor** for production and accumulation of PHA enriched bacteria
5. Sustainable **green extraction of PHA** from bacteria cells

Area of application

- **Food and beverage wastewater treatment**
- **Sewage treatment and management**
- **Anaerobic Digesters**
- **Packaging**