

BioPLAStic from Sludge

MISSION

B-PLAS Sbrl, a benefit corporation, designs and manufactures fully automated systems to **convert waste sludge** into polyhydroxyalkanoate (PHA), a bio-based and biodegradable bioplastic, with reduced environmental impact than currently available technology alternatives. **B-PLAS** adopts the “**green growth**” approach in its circular technological model.

SOLUTION

B-PLAS proposes a solution for two problems.

- 1. Sludge:** it reduces the volume of sludge to be recovered or disposed of up to 70%. This is achieved by solid/liquid separation with filter press technology without use of polyelectrolytes.
- 2. Fossil-based plastics :** it replaces conventional plastics with PHAs.

KEY ADVANTAGES

- Avoids the use of chemicals usually necessary for conditioning the sludge in the dewatering step, a benefit of the hydrothermal module.
- Replaces fossil-based plastics with biologically produced PHAs.
- Reduces the volume of dehydrated sludge (cake) to be sent for disposal or recovery by 50-70%, resulting in reduced management costs.

TEAM

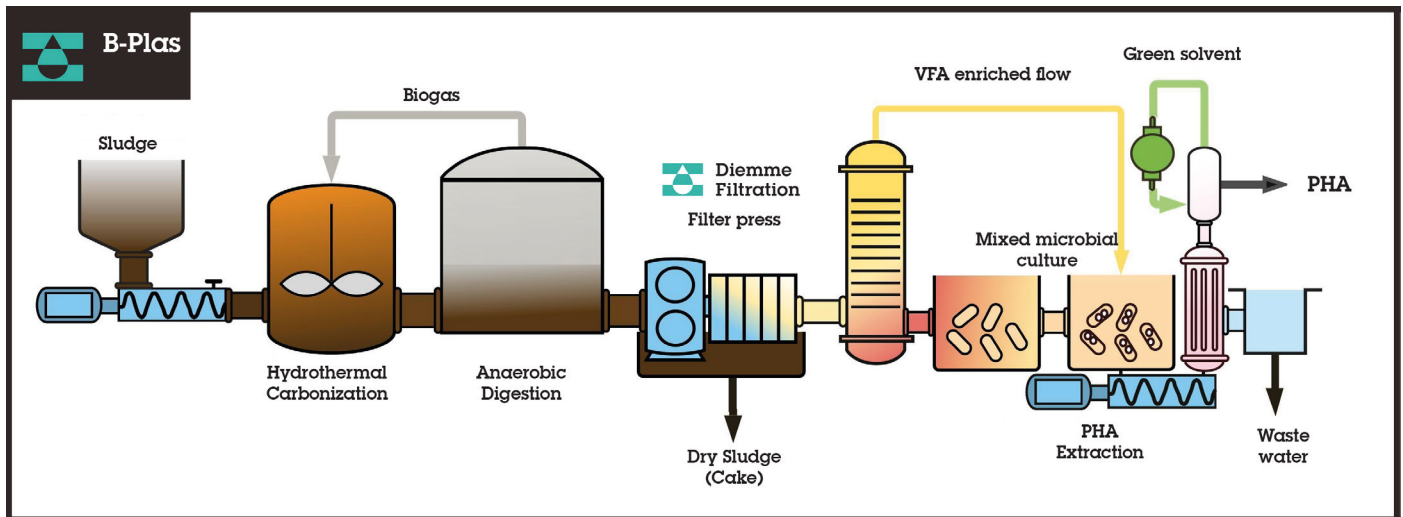
Our team, made up of **women and men** with different and complementary **high-level scientific backgrounds and education**, is able to face challenges that require **multidisciplinary skills integrated to a common value**.



THE SUSTAINABILITY PACT

- **Reduced environmental impact** due to sludge disposal (volumetric reduction and hydrothermal sterilization).
- **Reduction of environmental footprint** by significantly limiting the release of climate-altering emissions (only biogenic CO₂ and vapor).
- **Energy optimization** through an engineering concept based on the circular economy principles.
- **Regeneration of a waste** into a bio-based and biodegradable product.
- **PHA production** capable of offering new opportunities in terms of technological innovation and employment.

How B-PLAS works:



SLUDGES FED

B-PLAS treats sludges from:

- agri-food industry
- civil and industrial purification
- paper manufacturing industry
- biological treatment of industrial waste

B-PLAS improves the chemical-physical characteristics of the dewatered sludges, without altering their legal classification.

PHA USES

- The PHA produced is purchased from B-PLAS Sbrl at an agreed price.
- Later on, the PHA is stored by B-PLAS Sbrl and marketed for the production of ecological materials and products for applications in 3D printing, agriculture, disposable items, sustainable building, packaging & catering.

DATASHEET

Residual sludge			filterpress cake* (SS: 37-47%) (ton/y)	Waste water	PHA produced ** (ton/y)
(ton/y)	i.e.	dry (%)			
1.000	15.000	2-10 %	~45	COD reduction up to a 100 factor	~2
10.000	150.000		~450		~25
50.000	700.000		~2300		~130
100.000	1.500.000		~4600		~250
200.000	2.800.000		~9000		~500

* no conditioning

** Collected by B-PLAS Sbrl at an agreed price

B-PLAS Sbrl

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