

# Biogas installation renewable energy

Interreg  
North-West Europe



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RE-Greenhouse

## DIGESTOR

Anaerobic digestion at farm scale is a technique that allows farmers to generate their own energy by valorizing agro-residual streams, such as manure and crop residues.

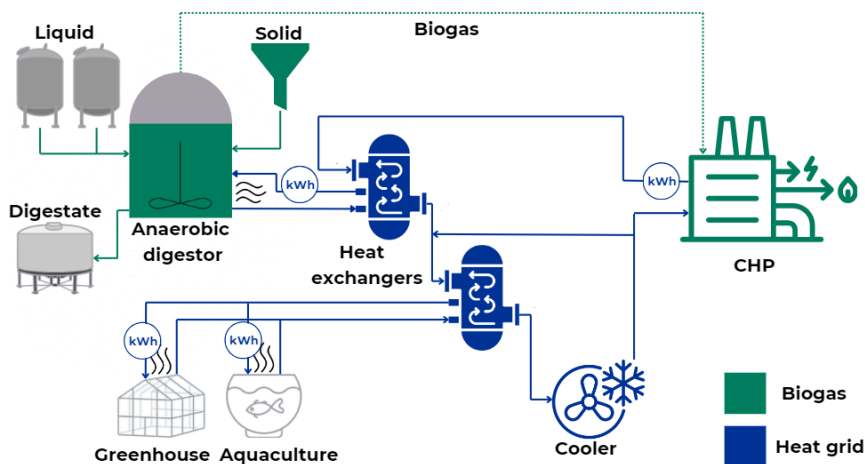
The digester at Inagro is a traditional Continuous Stirred Tank Reactor with a total volume of 200 m<sup>3</sup>, similar to those found on farms. The facility can operate at both mesophilic (around 40°C) and thermophilic (around 50-60°C) temperatures and is suitable for processing both animal (manure) and plant residues, producing biogas in the process.

Currently, the digester is fed exclusively with crop residues such as chicory roots and leaves, maize silage, rotten potatoes, and grass.



Pilot farm-scale anaerobic digester,  
Inagro Belgium

## COMBINED ELECTRICITY AND HEAT PRODUCTION



The produced biogas is used for a combined heat and power (CHP) unit with a capacity of 32 kW<sub>el</sub>, generating renewable energy in the form of electricity and heat.

Approximately 10% of the generated electricity is required for the operation of the digester (pumps, mixer, etc.). A part of the remaining energy is used at Inagro, the remainder is injected into the grid.

The generated heat is utilized to maintain the temperature of the digester itself, as well as for heating the greenhouse and the aquaculture at Inagro. If there is an excess of heat, the CHP unit is actively cooled.

RE-Greenhouse is an Interreg NWE project aimed at accelerating the transition from fossil fuels to renewable energy in greenhouse horticulture. Follow the project website for more information.

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