



# Farmers of tomorrow get a close encounter with a new biogas concept

Written: 04<sup>th</sup> August 2023

**A mini-biogas plant that converts agriculture's own slurry into energy and makes farming operations carbon neutral is now a reality at Gråsten Agricultural School. The aim of the school's newly established plant is to show students how farms of the future can become important players in the green transition. The biogas plant was built by GreenFarm™ with concrete tanks provided by A-Consult.**

“Our plant targets the agricultural sector and functions solely using slurry, meaning that no dry matter needs to be added. The plant produces biogas from what is already found on the farm. It produces gas without any form of transport to or from the farm and doesn't inconvenience the neighbours with odours, noise or light.”

These are the words of Martin Rindom, Sales Director, GreenFarm™, who emphasises that reducing greenhouse gas emissions is the biggest advantage of the GreenFarm™ plant. The plant converts slurry into biogas and then uses the gas to generate electricity in its gas-fired motors. This significantly reduces greenhouse gas emissions – and the degassed biomass can be used to fertilise the fields.

## Cooperation with a European perspective

The concrete tanks for GreenFarm's plant are provided by A-Consult, a Danish company specialising in concrete storage tanks for agriculture and biogas. The GreenFarm™ plant is based on a primary digester tank which heats and converts the slurry into biogas; an intake storage tank for the slurry; and a gas-fired motor system which burns the biogas to generate energy and heat. A-Consult's digester tank is equipped with an insulated baseplate, which reduces the amount of energy needed to retain heat inside the tank itself.

GreenFarm™ chose A-Consult based on its previous sector experience, explains Martin Rindom. This is because the relatively newly established GreenFarm™ company grew out of Combigas, a company that had been cooperating with A-Consult for many years. A-Consult's international experience makes them an ideal business partner, according to Martin:

“A-Consult's technical knowledge and product know-how mean that the plant simply works. Also, we needed someone who could assist us across markets and have a European perspective at the same time.”

## Biogas plant with an educational purpose

Bjarne Ebbesen, Director of Gråsten Agricultural School, is very satisfied with the institution's new GreenFarm™ plant, officially commissioned as GreenFarm's first plant in Denmark on 23 June 2023. Gråsten Agricultural School has both pig and cattle operations that produce enough slurry for the new plant to generate roughly 350,400 kWh of electricity a year from the biogas. Bjarne Ebbesen explains:

“The new plant makes us self-sufficient in energy. We've had photovoltaic panels since 2019, which supply us with power during the day, and the biogas plant takes over at night. Calculations show that the plant reduces our climate impact by 1,500 tonnes of CO<sub>2</sub> equivalents a year, so it has a real impact on the green transition.

“Besides the specific climate-related and financial gains, however, the biogas plant serves a clear educational purpose,” Bjarne emphasises.

“A basic principle of our educational activities is to show students the business they will be encountering. We're convinced that farms of the future will also generate energy and feature climate-friendly solutions, and we feel that it was well spotted by agriculture's organisations to contribute to the green transition this way. When we saw that it was possible to get a biogas plant tailored to our needs, we thought that it would fit well with our way of thinking.

“Now that the biogas plant is up and running, all Gråsten Agricultural School needs to do now is replace our diesel-powered tractors with tractors powered by biogas-based electricity and we'll have achieved our objective to become carbon neutral. And tomorrow's farmers can get a close-up experience of how agriculture contributes to the green transition.”