



NOORD DEURNINGEN

Biogashub – Noord Deurningen (NL)

Biogashub Noord Deurningen

A unique project for the Netherlands and Europe is the planned biogashub in Noord Deurningen (Overijssel, Netherlands). A group of 20 farmers, all situated within a radius of 7 km, all planned to build a micro scale digester. The biogas they produce will be transported to a nearby industrial zone. Several factories will use the biogas to produce steam for their production processes.

Factors for success

There are some factors identified that strengthen this project setup

- Many small biogas producers together produce a significant stream of biogas, what makes them a serious energy producer.
- High density of dairy farms together with some industrial activity are important geographical circumstances to make such a biogashub feasible.
- The investments per farm are kept as low as possible. Low investments and low periodic costs give an reasonable pay-back period per farmer

Short description of the process

On every farm, a simple mono-manure digester is build. Manure is pumped from the stable to the digester, daily-fresh where possible. After a retention period of 30 days the digestate is pumped to the digestate storage, what can be in the cellar under the stable.

The biogas is dried on farm and then transported to the industrial area, via a dedicated biogas pipeline. There the biogas is used by several companies to produce steam. Over the weekend, when the gas-use is lower, the biogas is stored in an old natural gas transport grid.

Because the biogas is sold, it is important that the energy consumption of the biogas plant is as lows as possible. The tanks will be very good insulated and heat will be recovered from the digestate. Any remaining heat demand is provided by a heat pump or an woodchip boiler.

Key data (phase 1)

Start of operation: expected 2016
Supplier: Milieu Systemen Tiel B.V.
<http://milieusystemen.eu/>
Type of plant: Manure bag digester
Location: Noord Deurningen, the Netherlands
Gas production: 1.400.000 m³/y biogas
Biomass treated: 40.000 m³/y manure
Investment: € 1.500.000
Payback period: 5 - 7 years*
*payback period differs per farmer

Technical data

Process temperature: 37 °C
Average retention time: 30 days
Average labour needs: ½ hours per day
Dimensions: 250 – 1000 m³
Natural gas equivalent production: 800.000 m³/annum
Production hours: >8.000/annum
Length biogas grid: 15 km



Overview of digesters (red) biogas grid (black lines) and end-users (green)

The project BioEnergy Farm II wants to inform farmers about the benefits of micro scale digestion and give farmers a view on the feasibility of this technology for their business.

Are you curious about the feasibility of micro scale digestion on your farm?

From September 2015 we offer personal guidance at home! Our biogas experts have software tools to calculate the feasibility of micro scale digestion on your farm. Contact us!



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