BioEnergy Farm 2

NETHERLANDS

Fermtech

Microferm

At knowledge centre 'De Marke', part of Wageningen University, there is now more than ten year experience with micro scale digestion. In 2012 they installed a new 'tower' digester combined with a hydrolysis unit.

At the picture the white tower is the new digester. The hydrolysis unit is placed in the building.
This digester runs mainly on cow manure, with some adjustments of fats. Advantage of this type of digester is that it needs less space compared with the traditional tank. Another advantage is that it can reach higher methane percentages. Because there is nog gas storage above the manure, the digester is better isolated, what dramatically decreases the heat demand.

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A disadvantage is the higher investment costs. Another issue can be its height, that can give difficulties in getting the necessary permits.
The combination with a hydrolysis unit is not proven very effective. It costs a lot of energy to heat the wet manure up to 60°C whereby the gas yield per ton manure is not significantly increased.

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Key data:

Start of operation: 2012
Manufacturer: ..... Fermtech systems **(http://www.fermtechsystems.com/)**
Type of plant: ..... tower digester, combined with hydrolysis.
Location: ..... KTC De Marke, Hengelo (Gld), the Netherlands
Amount of gas produced (m3 per year): 150.000
Amount of biomass treated (tonnes per year): 3100
Investment costs (EUR): 350.000
Cost and benefit: Costs: €65.000 | Benefits: €85.000 (depending on subsidy scheme)
Payback period (years): 17,5

Feedstock

Liquid pig manure (tonnes per year): 0
Liquid cattle manure (tonnes per year): 3.000
Other (tonnes per year): ..... 100 ton of glycerin

Production data

Available area for the output of the biogas fertilizer (hectares): ..... 55 ha.
Electric power of the gas engine (kW): 35
Generated thermal energy: ..... 45 kW
Utilization of heat: ..... Process heating. In the future manure treatment.
Generated electric energy (kWh): 280.000
Power consumption (electricity) of the plant itself (kWh): ..... unknown

Technical plant description

Operating temperature (dg): 37
Average retention time in digester (days): 20
Average expenditure of human labor (persons): ..... 1 hour/day
Size of reception facility (m3): .....
manure is pumped directly from storage beneath stable into the hydrolysis unit.
Size of fermentor (m3): 20
Size of end storage tanks (m3): 400
CHP (kWh): 35

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!

www.BioEnergyFarm.eu

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