

Foulum

World's largest biogas test plant

Established in 2007

The plant is situated at The Faculty of Agricultural Sciences, Aarhus University. The plant consists of a full-scale biogas production plant and a test plant. The Faculty has livestock production and a large area for growing energy crops.

Production plant

The production plant is a complete biogas plant pre-treatment system, a 1200 m² primary digester, tanks for storage and gas cleaning as well as a plant for separation of the digested biomass.

Test plant

The test plant consists of four digesters of 2 x 30 m² and 2 x 10 m² respectively. The plant is one of the world's largest facilities for biogas research, and enables development of biogas and manure separation technologies for utilization



tion of energy and nutrients in farmyard manure and energy crops.

great importance to the individual player in the industry as well as to science in general.

Technical Data

Gas production: 2.08 mill. m³/yr

Power production: 4.38 mill. kWh/yr

Digester capacity:

Primary digester: 1,200 m³

Secondary digester: 1,500 m³

Final storage: 2 x 1,500 m³

Gas engine: 625 kW_e

Boiler: 895 kW_e

Process temperature: 52°C

Biomasses:

Cattle manure: 16,000 t/yr

Pig manure: 6,200 t/yr

Mink manure: 1,000 t/yr

Chicken litter: 135 t/yr

Sheep manure: 80 t/yr

Fodder residuals: 1,000 t/yr

Non-food crops: 360 t/yr

Cover crops: 15 t/yr

Fats: 500 t/yr

Total: 25,890 t/yr



Research scientists, companies and other interested parties in the biogas industry can rent the facilities for research into various methods and technologies within the field of biogas.

The plant facilitates testing at all temperature levels which makes it possible to test e.g. process efficiency in relation to changes in temperature.

Such tests are carried out on a regular basis and the results are of

Furthermore, these tests help identifying the energy outcome of the biomass. Other analyses determine the environmental and agricultural profits from separation of the nutrients in the biomass.

The Research Centre Foulum

The plant also contains a test hall which can accommodate up to 6 independent set-ups for testing of equipment and processes. A well-equipped lab together with conference facilities make the plant a central point for Danish biogas research.

