



Operator
Operating community

Commissioning
2011

Inputs
Maize, chicken manure
Cattle and pig slurry
Green rye, grass silage

Technical data

Slurry tank $d = 10 \text{ m}$, $h = 4 \text{ m}$; $V = 313 \text{ m}^3$, accessible concrete ceiling; Agitator: PlanET eco turbo

2 x Digester $d = 28 \text{ m}$, $h = 8 \text{ m}$; $V = 4,928 \text{ m}^3$, with wall and base heating, wooden beam layer with net, air supported roof
Agitation per tank: 1 PlanET eco paddel, 2 PlanET eco mix, 2 PlanET eco prop

2 x Secondary digester $d = 25 \text{ m}$, $h = 8 \text{ m}$; $V = 3,925 \text{ m}^3$, with wall and base heating, wooden beam layer with net, air supported roof
Agitation per tank: 2 PlanET eco mix, 1 PlanET eco prop

2 x Digestate stores $d = 32 \text{ m}$, $h = 8 \text{ m}$; $V = 6,433 \text{ m}^3$, with PlanET eco cover, air supported roof
Agitation per tank: 3 PlanET eco turbo

Solid chargers 4 PlanET Multirotor Vario à 74 m^3


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Capacity in total 1,250 m³/h raw biogas (equivalent 2,650 kW_{el.})

Biomethane upgrade 700 m³ raw biogas/350 m³ biomethane

Total power production of the CHP 1,125 kW_{el.}

(625 kW_{el.} 2G Jenbacher Gas engine, 2 x 265 kW_{el.} 2G Agenitor Gas engines)

Plant operation

3 shareholders own and operate the biogas plant and the CHP units. The engines are used as follows:

Two different digestion lines supply the three CHPs, the bigger one right at the farm, and the two satellite CHPs with 250 kW_{el.} each. The lower temperature from the cooling circuit of the Jenbacher CHP is used to heat the digesters. The exhaust temperature of the engine, which is between 400°C and 500°C, is used by the biogas upgrading system.

The two satellite CHPs, based in a nearby town, supply amongst others a school, a retirement home, the fire brigade and a sanitary company with energy. The connection of 100 additional homes is already planned.

The Arcanum Energy Systems GmbH & Co. KG is in charge of the upgrading system (an amine gas treatment system) and is also responsible for the biomethane marketing.

The biogas plant contributes about 30 Mio. kWh per year to a biomethane pool, where several municipal utilities take part in. The utilities need the biomethane for different combined heat and power projects. By participating in the biomethane pool, the utilities can invest in the upgrading system together and provide the amounts as required without having to build an own plant. The farmers benefit from constant sales of their raw biogas.



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