Biogas plant „Bioplin Kolar Marjan s.p.“

Logarovci - Slovenia

Independent entrepreneur

Marjan Kolar has a farm measuring 2000 ha of own and hired land. The farm is situated a bit out of the way but still near enough the village of Logarovci where they have pigsties with pigs and horizontal silos for maize. They have built a biogas plant on the pig farm. The basic substrates for biogas production are: pig manure, maize silage and grass silage. They have silos for silage on other locations, too, and, when necessary, silage is transported there.

Silage is transported from horizontal silo with loader in the silage dosing system. In the process of wet dosing the silage is mixed with pig manure. Then the substrate goes in two main digesters and later in two second digesters. The total volume is 4 x 2200 m^3. They are built from reinforced concrete, and the four of them are linked together. Biogas is collected in two gas storage tanks with double membrane of the volume 2 x 1200 m^3.

The processed substrate goes in two final storage tanks of reinforced concrete of 7700 m^3 volume (one tank was already previously on the farm and the second one was built together with the biogas plant). Biogas is transported in tubes to the cogeneration unit with the engine of 1000 kW power. The thermal energy is used for heating of digestors, pig farm and grain drying room.

Marjan Kolar (operator)

“The option of biogas production from liquid manure in Slovenia has not been exploited enough. All the liquid manure ought to be included in the production of biogas. Positive experience gathered until now is a stimulation for a new investment – construction of the next biogas plant in the surrounding of Lendava for which we have already collected the required documentation. The construction is planned for the year 2008.”

supported by
Intelligent Energy Europe

Electricity is used by biogas plant and the majority is delivered to the national electric grid company.

They have decided to build a biogas plant due to excellent symbiosis of animal production, field crop production and biogas plant. The entire system has been rounded up. The food for pigs and the silage for biogas production are grown in the fields. Pig manure produced on the farm is processed in the process of anaerobic digestion and together with other substrates it is an excellent organic fertiliser which smells less unpleasantly when applied in the fields.

key data

Start of Operation **2007**

Type of corporation..... **Independent entrepreneur**

Amount of gas produced ..... **10560 m³** per day

Investment costs ..... **5 200 000 €**

feedstock

Liquid manure (pig)..... **3200 m³** per year

Maize silage .....**7700 tons** per year

Grain maize (Corn Cob Mikx..... **550 tons** per year

Grass silage..... **3000 tons** per year

All of the feedstock is provided by the owners of the plant.

production data

Available area for the output of the biogas fertilizer ..... **2000 ha**

Thermal power rating of the gas engine ..... **1200 kW**

Generated thermal energy..... **9 600 000 kWh** per year

Utilisation of heat ..... **heating of digestors**
pig farm
grain drying plant

Electric power rating of the gas engine ..... **1000 kW**

Generated electric energy ..... **8 000 000 kWh** per year

Power consumption (electricity) of the plant itself ..... **400 000 kWh** per year

supported by
Intelligent Energy Europe

Biogas Regions
Shining Example

Kmetijski inštitut Slovenije
Agricultural Institute of Slovenia

Annual delivery of electricity to the (regional) electric grid company

8 000 000 kWh per year

District heating network ..... **No**

technical plant description

Digester ..... **2 x 2200 m³**

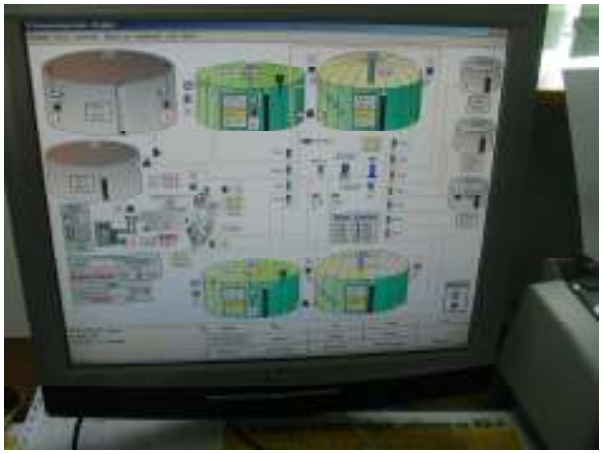
Second digester ..... **2 x 2200 m³**

Gas storage tank ..... **2 x 1200 m³**

Residence time in the digester ..... **~ 85 days**

Temperature of the anaerobic digestion (operational) .....**39°C**

Average expenditure of human labour ..... **2 hours** per day



For further Information, please contact:

Viktor Jejčič, Tomaž Poje
Kmetijski inštitut Slovenije
Hacquetova 17
SI – 1000 Ljubljana, Slovenia
bioplin@kis.si

Marjan Kolar
Logarovci 19
SI – 9242 Križevci pri Ljutomeru,
Slovenia
Tel.: ++386-(0)41-728071
Marjan.kolar@gmai.com

supported by

Intelligent Energy Europe