



## Biogas plant „Bioplinarna Nemščak“ Nemščak - Slovenia Ltd company

This biogas plant is the new one of the two existing biogas plants of the farm of Nemščak. The plant consists of reinforced concrete depo silo (for silage maize), sanitising unit for wastes from slaughter industry, mix-sump, two flow trough digesters from reinforced concrete which are equipped with dive in mixers and a second digester (also from reinforced concrete) to serve also as storage for fermented substratum. The second digester is covered with a double membrane and serves as biogas storage. Biogas is piped from the storage to the CHP gas engine. The total generated electric power is transmitted to the public grid respectively sold under feed in purchase terms to the regional public electric power distribution company whereas heat is used for heating of digesters and farm stables.

The project is based on the concept of integral solution of the waste treatment of the GROUP PANVITA agricultural group respectively its slaughter industry division and generation of additional income from sales of “green electric power” to the public grid under feed-in regime.



*Matjaž Durič (operator)*

*“By construction of the second biogas plant at the farm Nemščak we have provided a solution for wastes from our slaughter capacities while generating incomes from feed in based purchase of the generated “green electricity” to the public grid. In terms of project planning it is a big challenge to meet all requirements but we believe it will pay off.”*

### key data

Start of Operation .....	<b>2006</b>
Type of corporation.....	<b>Ltd company</b>
Amount of gas produced .....	<b>13500 m<sup>3</sup> per day</b>
Investment costs .....	<b>7 700 000 €</b>

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## feedstock

Liquid manure (pig).....	<b>69000 m<sup>3</sup></b> per year
Maize silage .....	<b>12500 tons</b> per year
Wastes from slaughterhouse industry.....	<b>4500 tons</b> per year (II. and III. Category)

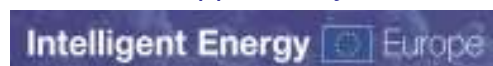
## production data

Available area for the output of the biogas fertilizer .....	<b>3500 ha</b>
Thermal power rating of the gas engine .....	<b>1600 kW</b>
Generated thermal energy.....	<b>11 000 000 kWh</b> per year
Utilisation of heat .....	<b>heating of digesters stables on farm</b>
Electric power rating of the gas engine .....	<b>835 + 625 kW</b>
Generated electric energy .....	<b>11 000 000 kWh</b> per year
Power consumption (electricity) of the plant itself .....	<b>1 500 000 kWh</b> per year
Annual delivery of electricity to the (regional) electric grid company	<b>11 000 000 kWh</b> per year

## technical plant description

Digester .....	<b>2 x 3200 m<sup>3</sup></b>
Second digester .....	<b>2500 m<sup>3</sup></b>
Gas storage tank .....	<b>600 m<sup>3</sup></b>
Residence time in the digester .....	<b>30 days</b>
Temperature of the anaerobic digestion (operational) .....	<b>38,5 °C</b>

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