

Weidensdorf, Saxony

Biogas Plant of Friweika eG

The potato processing company Frieweika eG handles around 140 000 tons of potatoes per year resulting in a daily production of 80 m³ organic residues. To economically utilize these residues within the company, Frieweika eG decided to build their own biogas plant in 1997.



Biogas Plant of Friweika eG (Foto: Friweika eG)

Three CHP plants with an installed electrical power of 210 kW generated electricity, which was fed in to the public grid. The waste heat was used for water heating. In 2002 the biogas plant was expanded to a fermenter volume of 3 600 m³ and an installed electrical power of 500 kW. Since 2008 biogas is only used to generate heat for potato processing. This improved the efficiency of the biogas plant and simplified the process of energy conversion which made it less sensitive to failure.

Friweika eG not only uses its organic production residues to generate biogas, but also treats its wastewater in an own anaerobic wastewater treatment plant since 2003 and hence gains additional biogas. In 2012 the wastewater treatment plant was expanded. The biogas of both plants is used to generate heat for the production process. Altogether the use of biogas contributes 30% to the total heat demand, of

which 90% is produced from organic residues. Friweika eG thus saves one million liter of fuel oil per year. The digestate is given to nearby farmers as natural fertilizer.

Technology at a glance

- Substrate: 29 200 t/a potato residues with a dry matter content of 12%
- Heating boiler: 2 000 kW_{therm.}
- Fermenter: LARAN® loop reactor 3 600 m³
- Biogas production: 2 Mio. m³/a

Information on financing

- Fuel oil savings: 1 Mio. l/a
- Transport costs for digestate: 2 Euro/m³

Crucial Factors

The plant of Friweika eG displays an industrial biogas plant using food waste resulting from potato processing. It successfully combines the anaerobic digestion of solids and waste water treatment.

More Information

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Plant operator

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