

### Biogas plant and wooden chips heating AVEG GmbH, Kusey (Krs. Klötze)



The biogas plant is part of a disposal concept for a potato peeling firm. From the whole process water including all peeling rests, the starch and the potato rests are separated first. High-quality ethanol is gained. The remaining laitance is processed in the biogas plant and from the gained biogas current and heat is produced in a power station. The missing heat energy, especially steam is made by a wooden chips firing. Thus this company is supplied with energy from renewable resources to 100 %.

The remaining process water comes also to the biogas plant and is there pre-treated by a production of biogas at the same time.

The biogas fermenter is made of monolithic formed steel concrete and totally sunk into the ground. The entire outer area including the base plate and the cover are good insulated. The protection house on the fermenter consists of the feeding building, the gas safety devices, the measuring and sampling locations and the distribution for the fermenter heating.

The fermenter is a further developed two-step high-quality system, which is based on experiences of the Spradau - Schraufstetter – Principle. Because of the special installations very high reduction rates of the organic components can be achieved. This is the basic condition, that the at the beginning very high polluted waste water can be given to the canalisation at better conditions.



#### Technical data

planned substrates:		purification rate	
laitance from distillery	ca. 7.500 m <sup>3</sup> /a	biogas plant:	from ca. 20.000 mgCSB/l to < 2.000 mgCSB/l
process water from the potato peeling firm	ca. 15.000 m <sup>3</sup> /a	installed power station:	2 x 55 kW <sub>el</sub>
fermenter volume:	1.200 m <sup>3</sup>	installed biomass firing	1,5 MW <sub>th</sub>
gas production rate:		in the plant generatable electric power:	ca. 770.000 kWh <sub>el</sub> /a
from laitance:	0,65 m <sup>3</sup> /kg OTS <sub>add</sub>	in the plant generatable heat energy	ca. 3.200.000 kWh <sub>th</sub> /a
from process water:	0,45 m <sup>3</sup> /kg OTS <sub>add</sub>		
biogas yield:	> 1.000 m <sup>3</sup> /d > 300.000 m <sup>3</sup> /a		
hydrogen sulphide (H <sub>2</sub> S):	< 500 ppm		



**INNOVAS Innovative Energie- und Umwelttechnik**  
**Anselm Gleixner und Stefan Reitberger GbR**  
 Margot-Kalinke-Str. 9, D-80939 München  
 Phone: 089 - 16 78 39 73, Fax: 089 - 16 78 39 75  
 E-Mail: info@innovas.com  
 URL: http://www.innovas.com



**DGE GmbH**  
**Dr.-Ing. Günther Engineering GmbH**  
 Hufelandstr. 33, D-06886 Wittenberg  
 Phone: +49-3491-661841, Fax: +49-3491-661842  
 E-Mail: dge-info@t-online.de  
 www.dge-wittenberg.de