

It's not waste. It's energy.



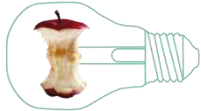
Company Presentation AAT

Know-How Event
W2Gas: Waste-to-Compost and Green Energy

29.09.2020

Johanna Bogner M.Eng.

www.aat-biogas.at



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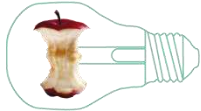
Presentation AAT



Introduction AAT

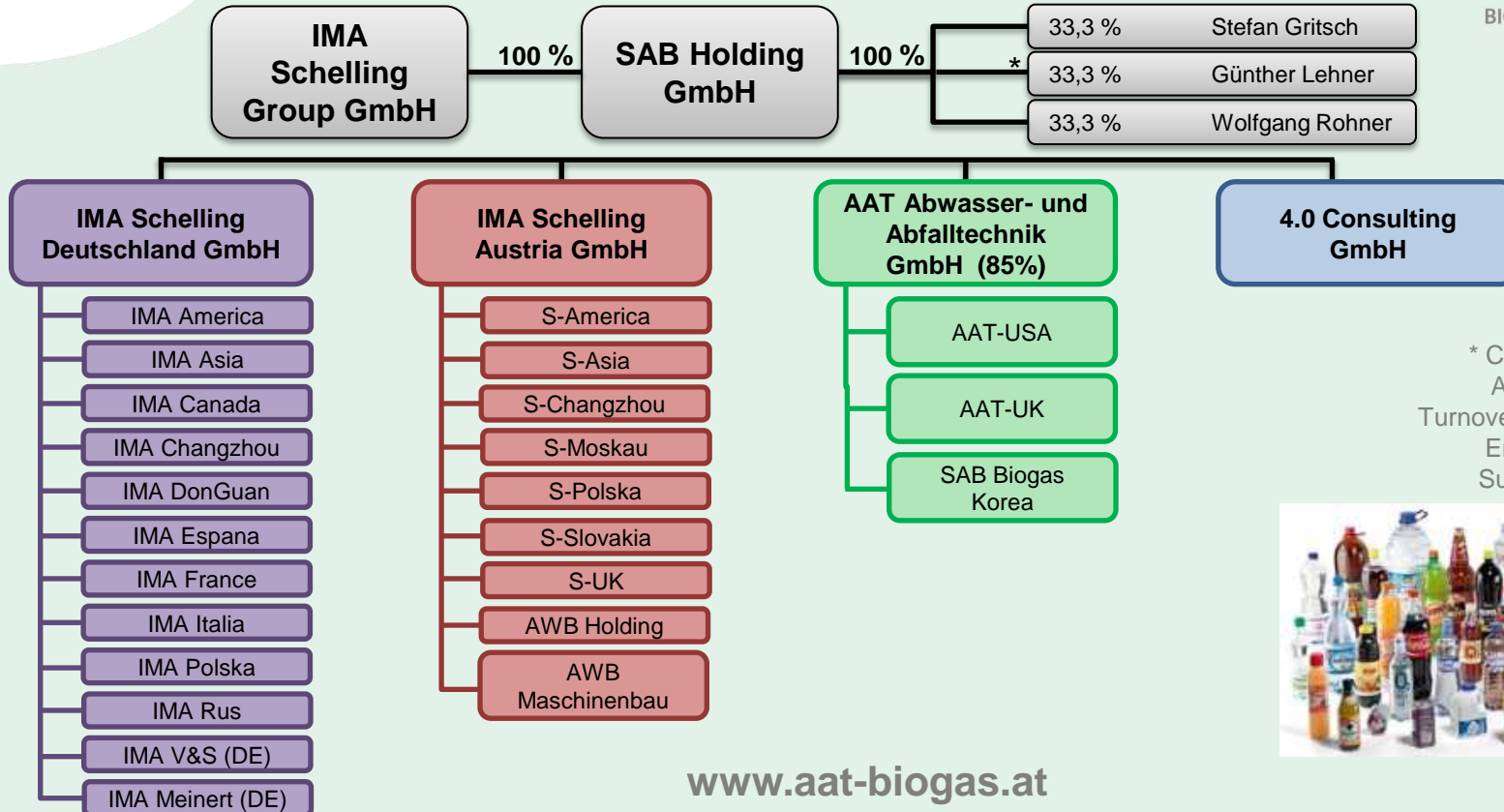
- Founded 1993
- Experience with biogas plants since 1981
- Dedicated and experienced staff (up to 20 years)
- Since 2009 part of IMA-Schelling Group
(corporate group with 1.300 employees and 230 Mio. EUR/a)
- Certificate ISO EN 9001, ISO EN 14001, ISO 45001





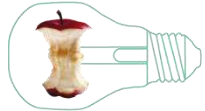
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Company structure



* CEO and owner of
ALPLA Packaging
Turnover 3,3 billion EUR
Employees 16.500
Subsidiaries > 150





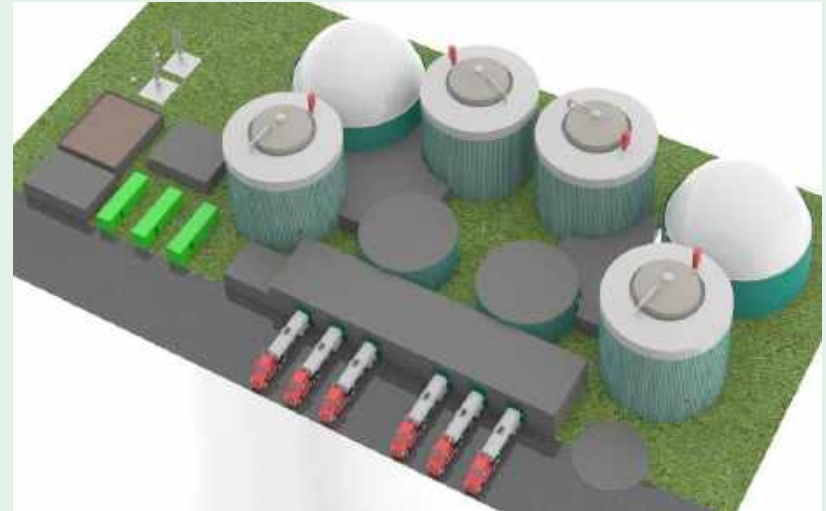
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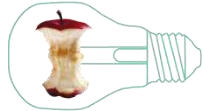
AAT – Your competent partner for



Range of services

- Feasibility studies
- Process planning
- Detail planning
- Supply of plant components
- Assembly
- Startup
- Service (biological support)
- Operator training
- Research
- Plant upgrading





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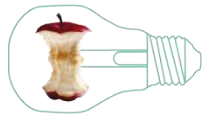
The unique selling proposition (USP)



Reliable Solutions for Commercial Success!

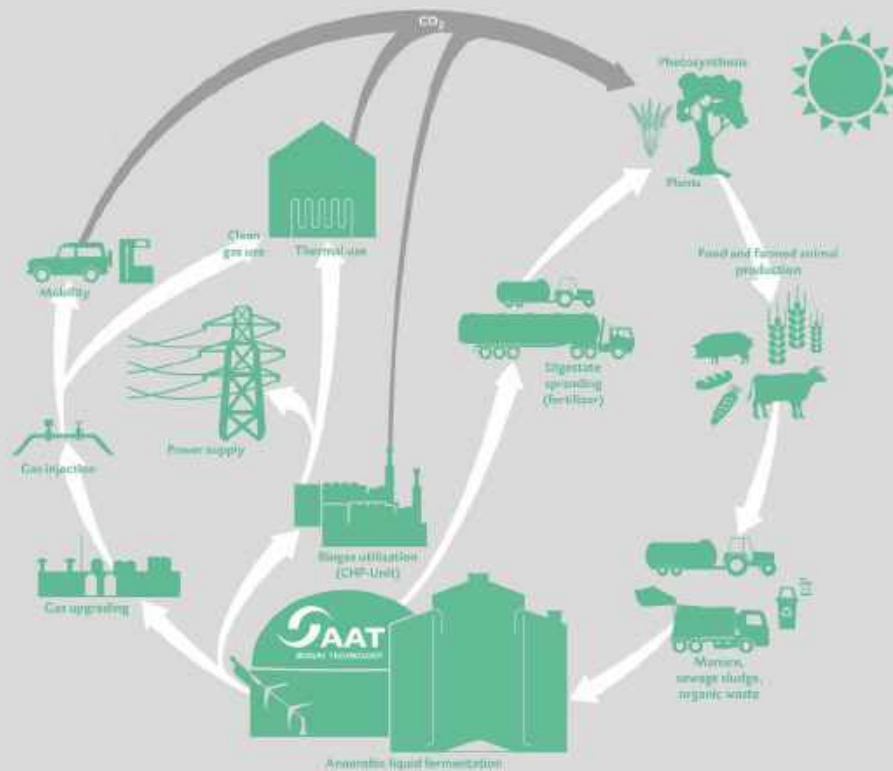
- More than 150 substrates in use
- Successfully on the market since 1993
- More than 1000 satisfied and well-known customers worldwide
- Development, engineering, production, assembly, commissioning, after-sale-service – all from one source
- Unbeatable 8,600 full load hour – this is over 98%
- Forward-looking engineering (upgradeable, flexibility on substrates, increased efficiency)
- Unique digester technology, patented processes
- International research network with universities and laboratories
- International environmental awards

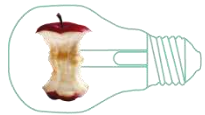




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The closed circuit





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Fertilizer from biogas plant

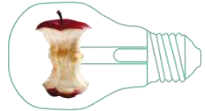


Fertilizer test field

- High class fertilizer
- Highly appreciated by the agriculture
- Landspreading logistic cost approx. 10 \$/to

Fertilizer from
biogas plant





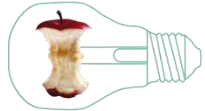
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Biogas - Substrate



Sewage sludge



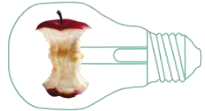


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Biogas - Substrate

Organic waste





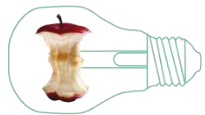
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Biogas - Substrate



Animal excrements





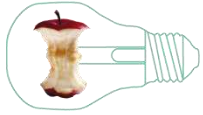
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Biogas - Substrate



Energy crops





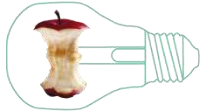
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Digester systems



Different substrates require different digester technology!

- Flat digester
Agricultural and energy crop plants
- CSTR-Digester with central agitator
Sewage plants, food waste etc.
- MSB-Digester
Whey plants
- Hydraulic digester
Substrates with high solid content

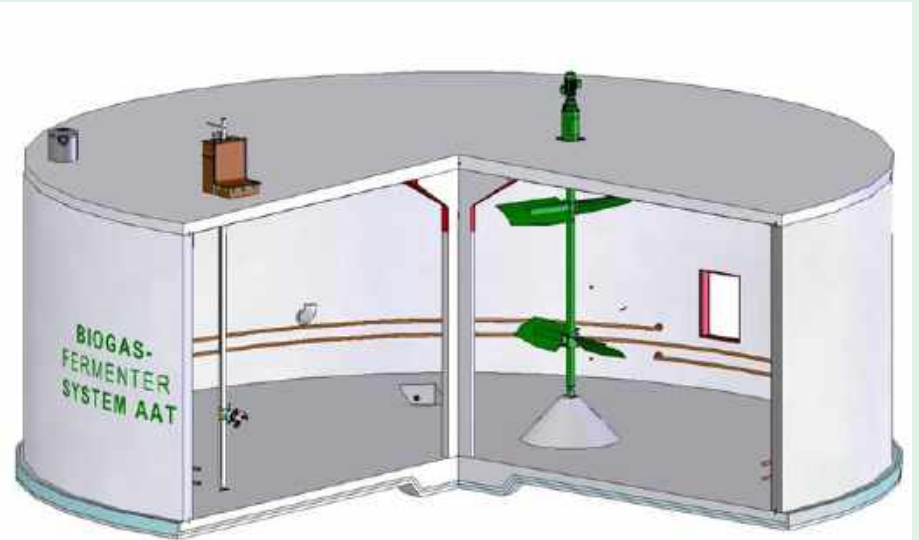


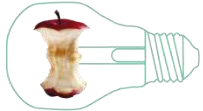
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Digester systems



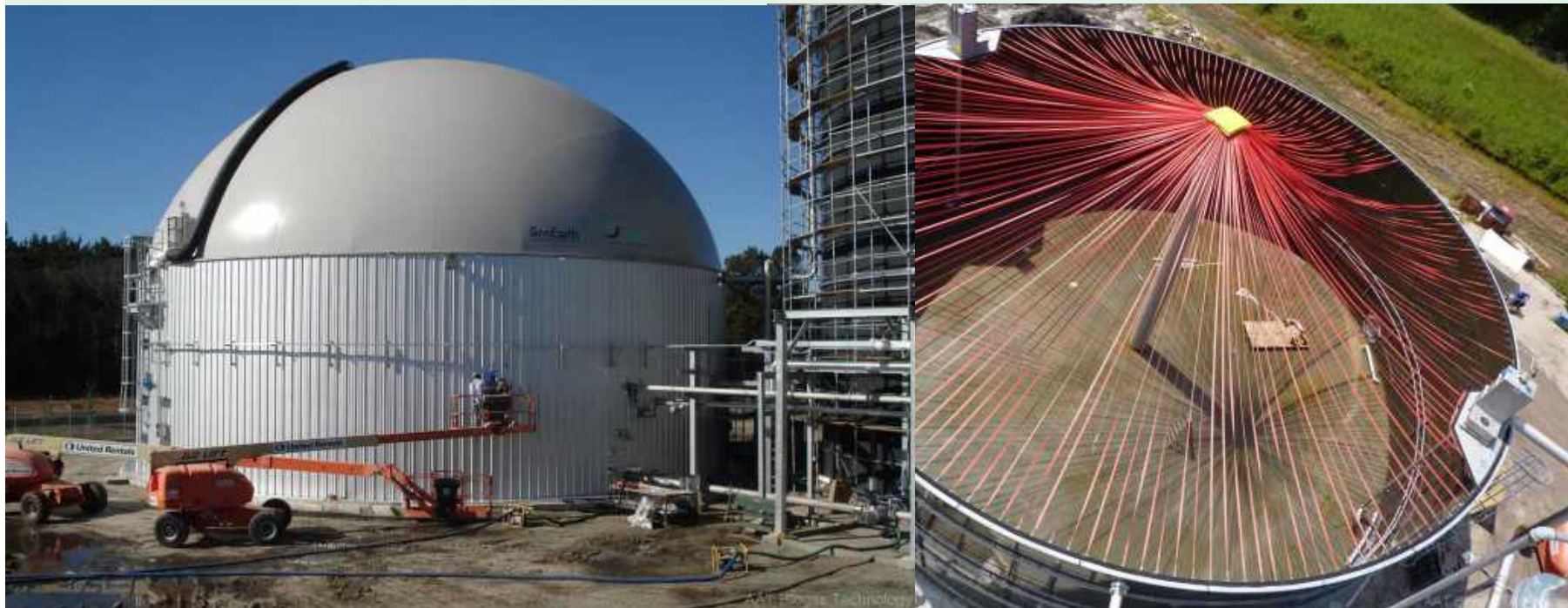
Flat digester

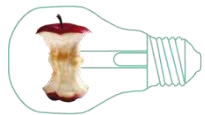




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Digester systems





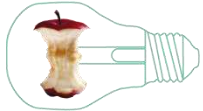
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Digester systems



CSTR-Digester



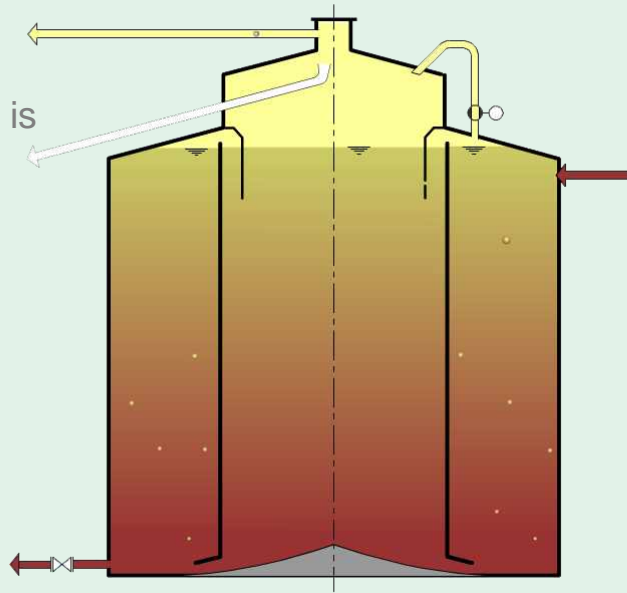


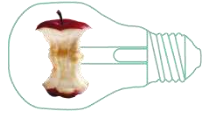
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Digester systems

Hydraulic digester – Unique system

- No mechanical equipment, like agitators
- Mixing and substrate discharge is done by the produced biogas
- Effective sediment and floating material discharge
- Defined flow without short circuiting





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Split of work

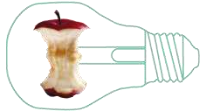


Customer

- Engineering
- Permitting
- Construction
- Piping
- Cabling
- Operation

AAT

- Engineering
- Equipment delivery
- Control unit
- Commissioning
- Start up
- Staff training
- Operator support



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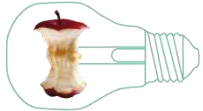
AAT-In-house production parts



AAT-Vertical agitator – VR

The AAT-Vertical agitator „HOMER“ is used for the perfect mixing of the substrate in the digester by using two flow-optimized stirring blades in the bottom and ceiling area.





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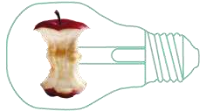
AAT-In-house production parts



AAT-Hydrolysis agitator - VRS

The special feature of the AAT-Vertical agitator „BART“ are the flow-optimized stirrer blades in the bottom area as well as the automatic height-adjustable floating blades.





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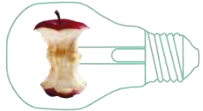
AAT-In-house production parts



Hygienisation system

The AAT-Hygienisation system is used for heat treatment of organic waste products which are further processed in biogas plants.





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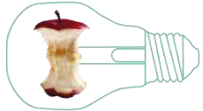
AAT-In-house production parts



Gravel- / Fine- / Active carbon filter

The gravel filter / fine filter is used to separate coarse substances as well as to collect and drain condensate.





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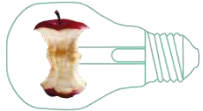
AAT-In-house production parts



Gas flares

The AAT gas flares are used for the combustion of biogas, sewage gas or landfill gas.





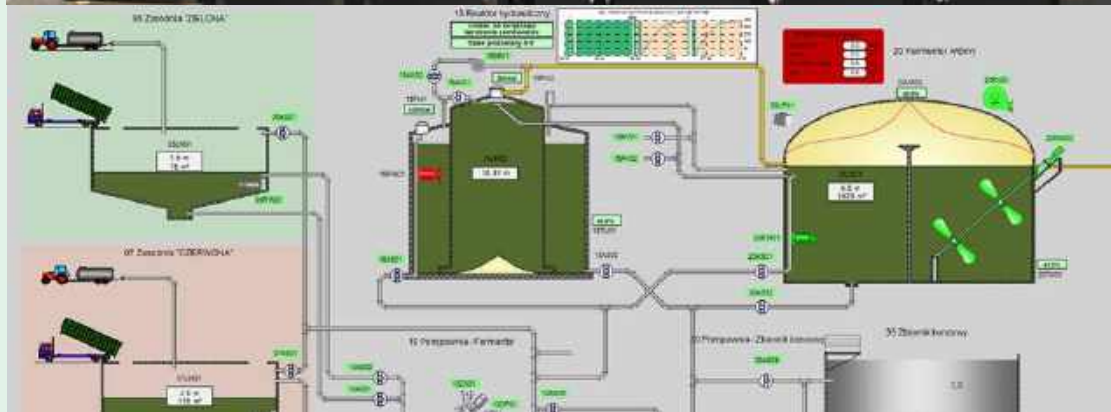
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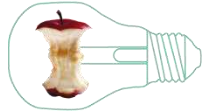
AAT-In-house production parts



Control units

We produce the Control Cabinet as well as the Software and the Visualization.





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Successful Reference



Jakob Bösch AG

Aedelswil / Switzerland

Substrate: slaughterhouse waste, pig manure,
food- and market waste, expired food

Thermal use: stable- and house heating, pre-
treatment

Startup: 2005

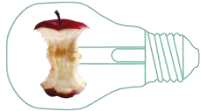
Capacity: 140 t/d (51.100 t/a)

Gas yield: 14.500 m³/d

Prod. elec. energy: 1,00 MW

Prod. therm. energy: 1,13 MW





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Successful Reference



Stahlbush (SIF)

Oregon / USA

Substrate: vegetable waste, potatoes, pumpkins, maize waste, grass

Thermal use: process heat, (hot water, steam), waste air for pumpkin seed drying

Startup: 2009

Capacity: 143 t/d (52.195 t/a)

Gas yield: 16.800 m³/d

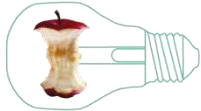
Prod. elec. energy: 1,6 MW

Prod. therm. energy: 1,7 MW

FoodEngineering

USA Sustainable Plant of the Year
2012





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Successful Reference



Panvita Ekoteh Nemscak

Murska Sobota / Slovenia

Substrate: pig manure, energy crops,
slaughterhouse waste, flotation sludge

Thermal use: stable heating for 50.000 pigs

Startup: 2006

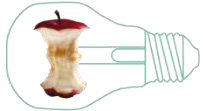
Capacity: 210 t/d (76.650 t/a)

Gas yield: 17.000 m³/d

Prod. elec. energy: 1,42 MW

Prod. therm. energy: 1,69 MW





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Successful Reference



Recycling Energie AG

Nesselbach / Switzerland

Substrate: slaughterhouse waste, bio waste, pig manure, whey, vegetable waste, potato peel, horse manure

Thermal use: connection to Gnadenthal retirement home, personal use, hygienisation and heating

Startup: 2011

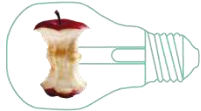
Capacity: 150 t/d (54.750 t/a)

Gas yield: 26.400 m³/d

Prod. elec. energy: 2x 1,1 MW

Prod. therm. energy: 2x 1,2 MW





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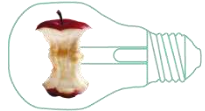


"Kapitanivska Ptakhofabryka", Novomirgorodskii Ukraine

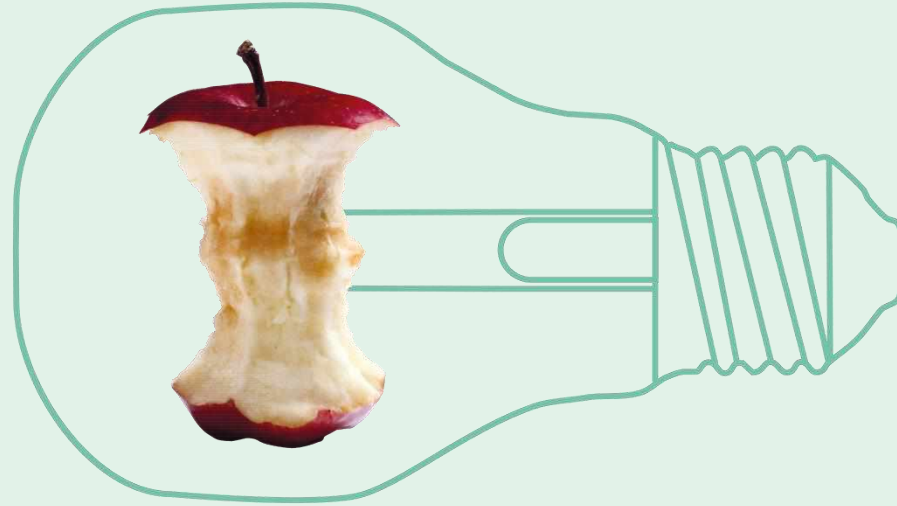
Substrate:	sugar beet chips
Hydraulic digester:	4 x 5.000 m ³
Gas storage:	2 x 3.400 m ³
Gas yield:	62.000 m ³ /d
Installed electric power :	6,0 MW
Start up:	2019



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Thank you for your attention!