



The Company

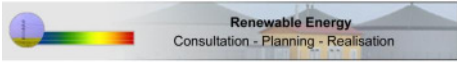
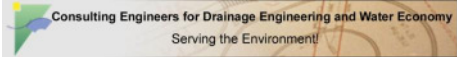
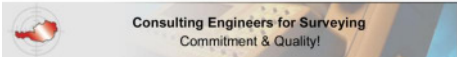
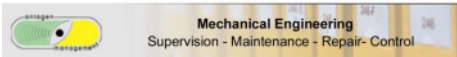
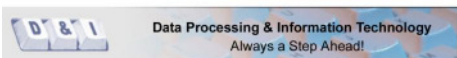
- Private engineering and consulting company
- Leading in the Austrian environmental, energy and infrastructure sector
- Independent of industry and trade
- Integrated in national and international networks
- Independent advice in all areas of business activities
- From project development to financing, planning and construction supervision up to commissioning
- Quality assurance

INGENIER GERHARD AGRINZ GMBH





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Subsidiaries



Project management within the autonomous business segments

- Environmental engineering and water management
- Waste water management and water supply facilities
- Surveying
- IT Services
- Facility management
- Consulting
- **Renewable Energy**

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RENEWABLE ENERGY

Use of biomass

- **Biogas**
- Bioethanol
- Biodiesel







- **Combination of different technologies**
- Other sources of renewable energy



BIOGAS

Heat-, Electrical Power and Fuel Production

Biomass from

- Agriculture
- Food industry
- Animal feed industry
- Communal waste (biowaste)
- Gastronomy

Production of

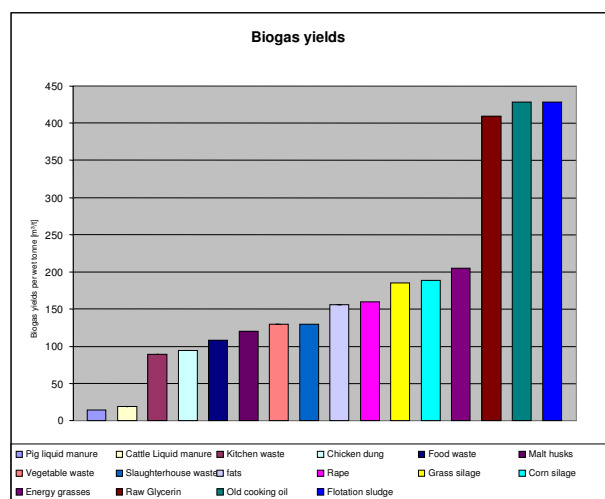
- Electrical power
- Heat
- Fuel
- Fertilizer



Input material used

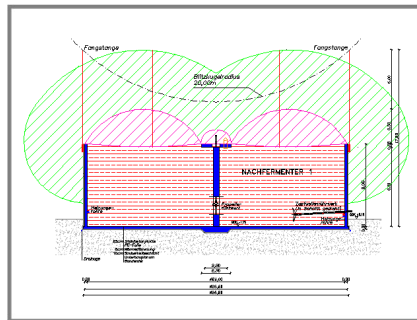
Input material

Corn silage, grass silage, liquid manure pig, liquid manure cattle, chicken dung, energy grasses, vegetable waste, pomace, malt husks, food waste, kitchen waste, biowaste, old cooking oil, chip fat, flotation sludge, glycerin, slaughterhouse waste,



Biogas Process

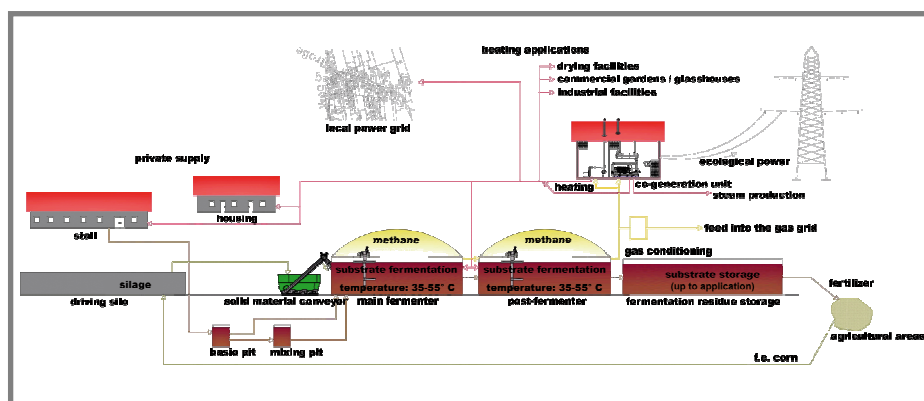
- Multi-step fermentation process
- Breakdown of organic substances with high molecular weight into substances of lower molecular weight until it reaches methane
- Damp anaerobic environment



Stages of fermentation

1. Hydrolysis
2. Formation of acid
3. Formation of acetic acid
4. Formation of methane

Process flow of a biogas plant



Agricultural Biogas Plant (500 kW)

Biogas Plant Margarethen / Moos (Austria)

Substrate Used (9.980 t/a):
Corn silage, Sudan grass, liquid manure

Output:

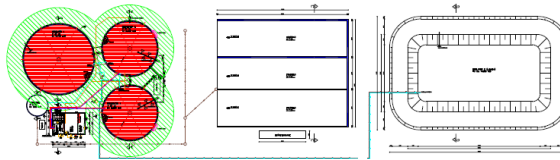
electrical: 500 kW_{el}
thermal: 535 kW_{therm}

Energy yield per year:

Electricity: 3,9 Mil. kWh/year

Heat: 4,2 Mil. kWh/year

Biogas: 1,4 Mil. Nm³/year



Agricultural Biogas Plant 500 kW

Biogas Plant Margarethen / Moos



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Agricultural Biogas Plant 500 kW

Biogas Plant Margarethen / Moos

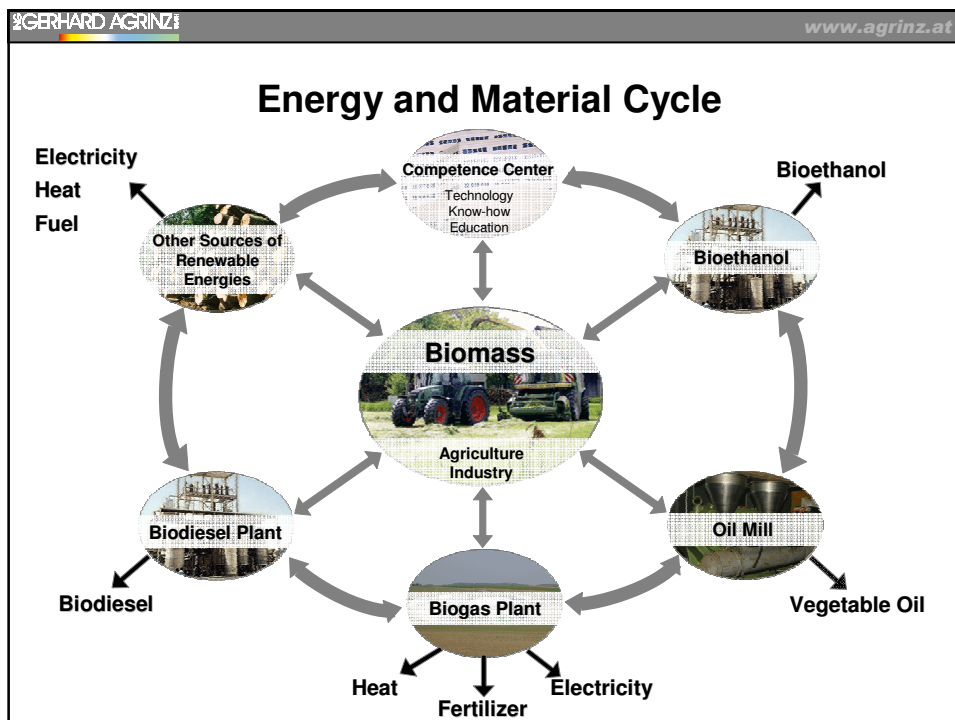
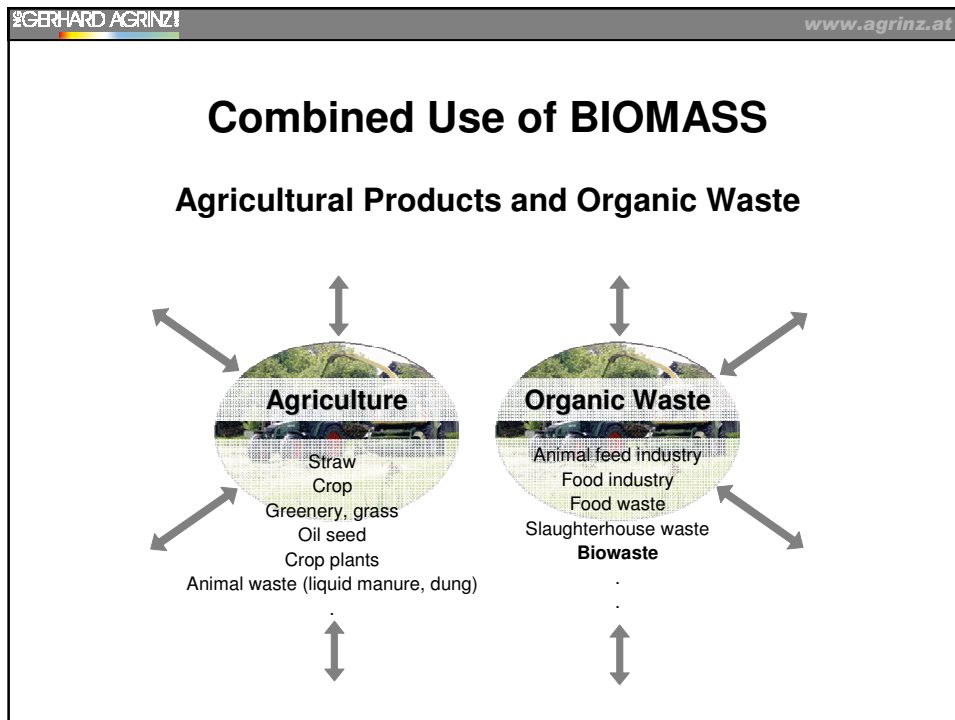


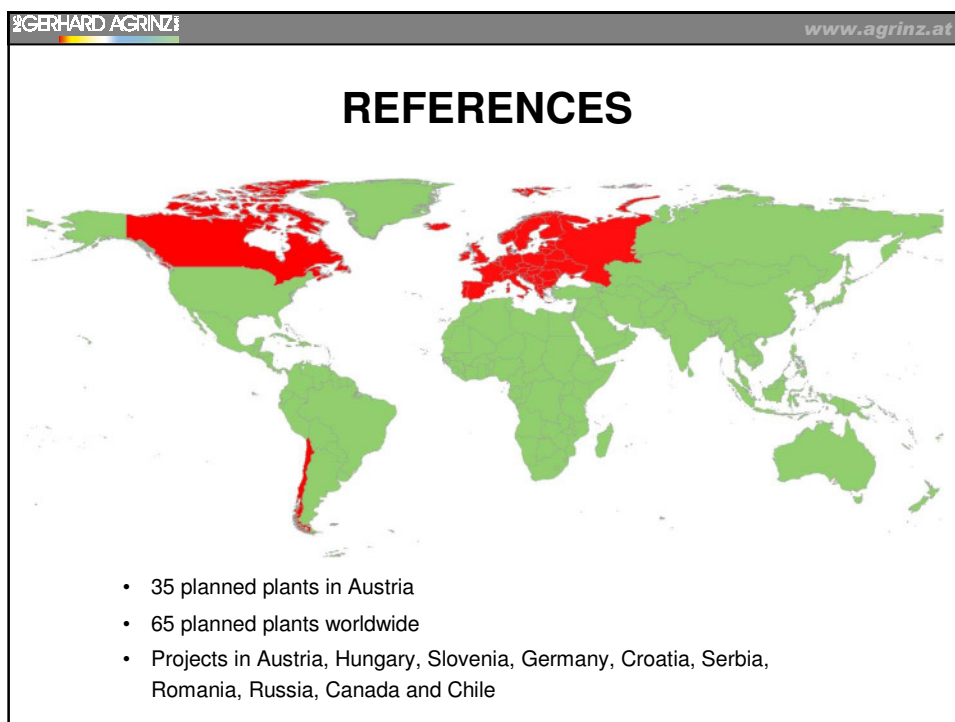
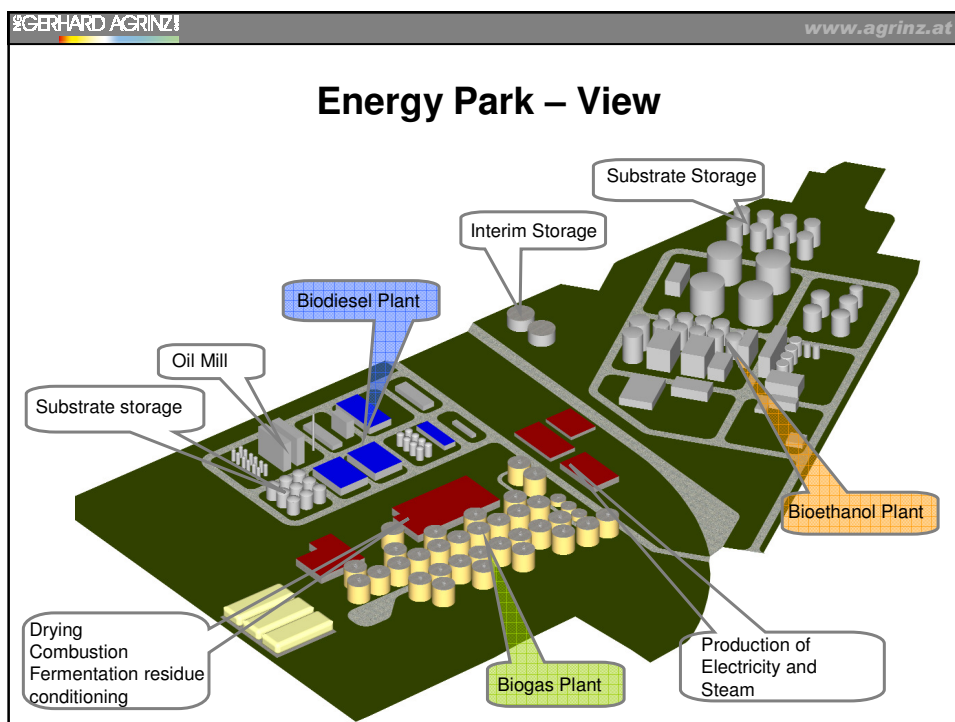
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Agricultural Biogas Plant 500 kW

Biogas Plant Margarethen / Moos











Consulting & Information

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