



BIOGAS REGIONS

„train the trainer“

Study Tour – a brief introduction

BIOGAS PLANT „Saaz“

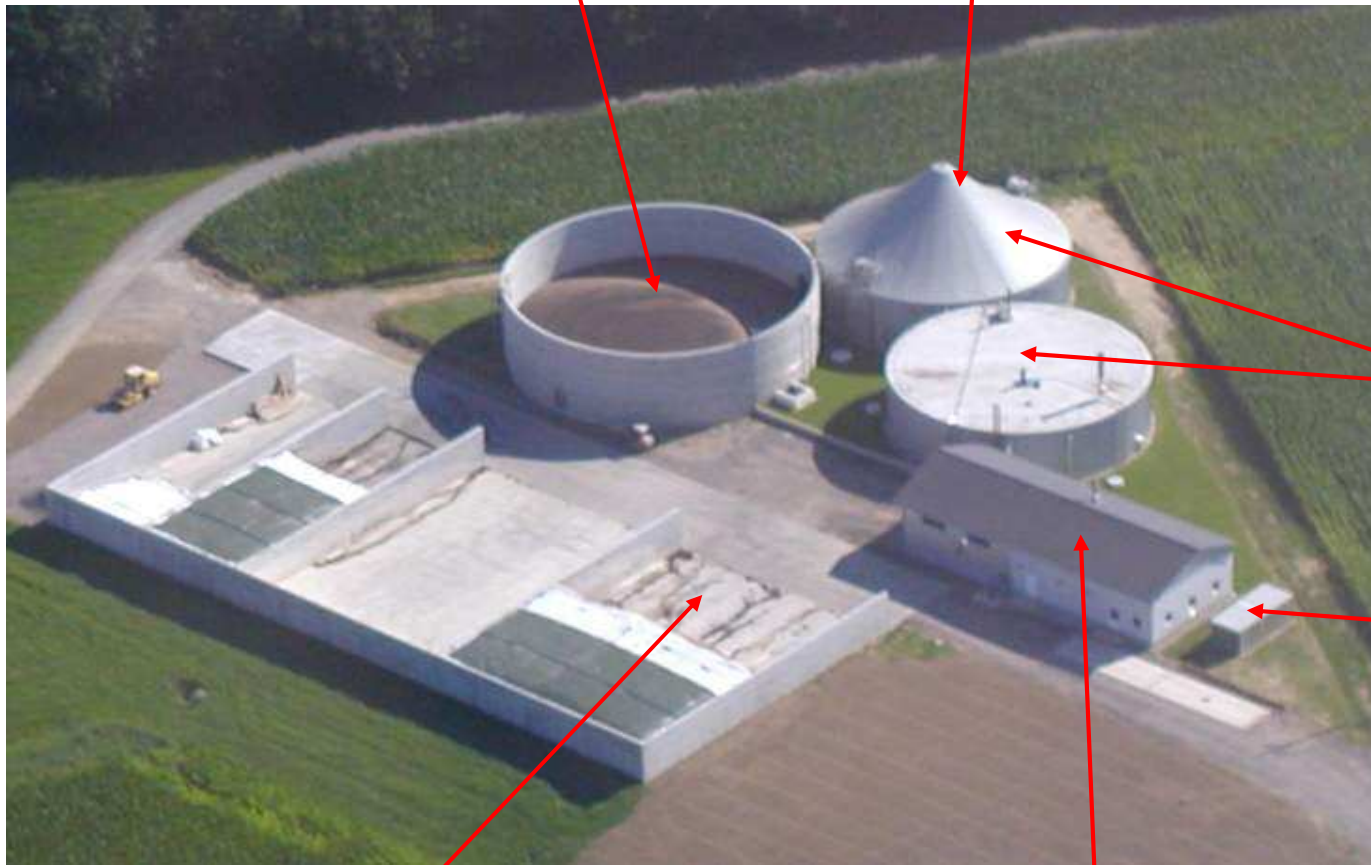
RWP Bioenergy Ltd. company





storage for biogas
fertilizer (4000 m³)

Gasholder (800 m³)



digesters
(a´1800 m³)

TRAFO

storage for silage
(8400 m³)

machinery house,
office



key data

start of operation	2004
type of corporation	ltd. Company
amount of gas produced	5000 m ³ /d
investment costs	1 585 000 € + internal labour (9000 hr)

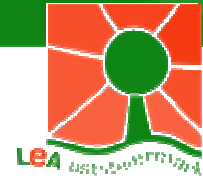
type of feedstock

liquid manure (pig)	5000 t/a
grass silage	150 t/a
maize silage	6000 t/a
corn-cob-mix	800 t/a
green pruning rye	900 t/a



production data

available area for spreading of fertilizer	300 ha
thermal power rating of gas engine	568 kW
generated thermal energy	4 900 MWh /a
utilization of heat	2 blocks of flats
electric power rating of gas engine	500 kW
generated electric energy	4 200 MWh /a
power consumption _{el} of plant itself	350 MWh /a
annual delivery of electricity to the regional electric grid company	3 850 MWh /a
district heating network	about 400 kW _{th}



technical plant description

digester	1800 m ³
second digester	1800 m ³
gas storage tank	800 m ³
retention time in the digesters	~ 100 days
temperature of anaerobic digestion	38°C
average expenditure of human labour	2 h /d



BIOGAS PLANT St. Stefan im Rosental

Rosentaler bio power plant

ltd. partnership with a ltd. liability company as general partner

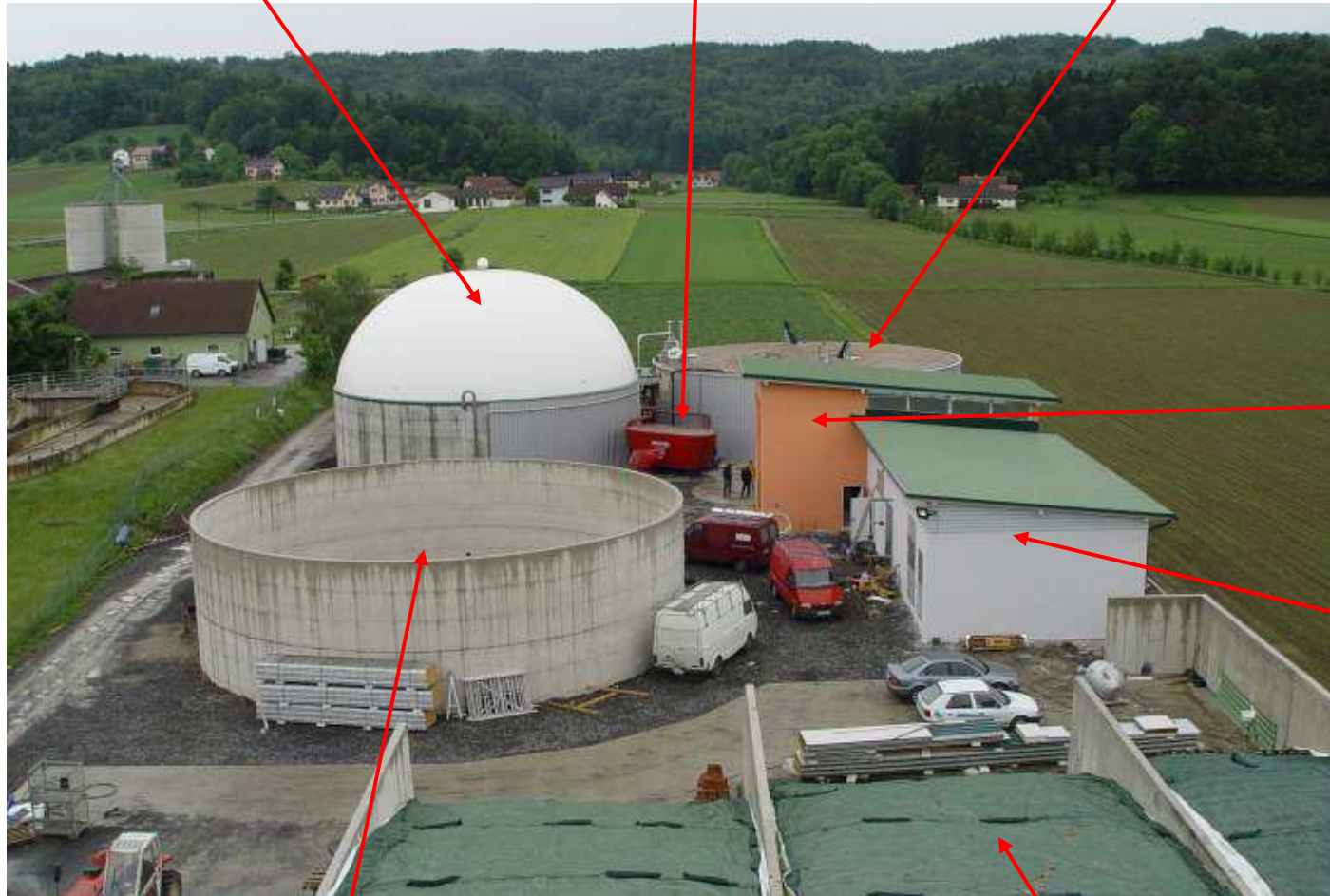




2nd digester (1430 m³,
gasholder (1080 m³)

feeder

1st digester
(1380 m³)



hygienisation
unit

CHP, office

fertilizer storage (4080 m³)

substrate/feedstock
storage (3150 m³)



key data

start of operation	2003
type of corporation	ltd. Company & Co KG
amount of gas produced	6800 m ³ /d
investment costs	2 600 000 €

type of feedstock

liquid manure (pig)	5500 t/a
maize silage	1800 t/a
silage grain maize	950 t/a
loppings (green cuts)	200 t/a
apples/pomace	240 t/a
vegetable matter	130 t/a
organic leftovers	1900 t/a



production data

available area for spreading of fertilizer	345 ha
thermal power rating of gas engine	1240 kW
generated thermal energy	3 100 MWh /a
utilization of heat	neighbouring stables 2 blocks of flats drying plant for dried fruit
electric power rating of gas engine	2x 500 kW
generated electric energy	15 300 kWh /d
power consumption _{el} of plant itself	200 MWh /a
annual delivery of electricity to the regional electric grid company	5 400 MWh /a
district heating network	3 100 MWh /a

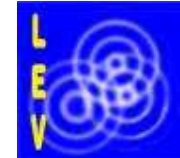


technical plant description

digester	1380 m ³
second digester	1430 m ³
gas storage tank	1080 m ³
mixing vessel liquid manure	150 m ³
mixing vessel co-enzymes	120 m ³
retention time in digester	~ 70 days
temperature of anaerobic digestion	38°C
average expenditure of human labour	4 h/d
liquefied petroleum gas burner	1300 kWh



LEA

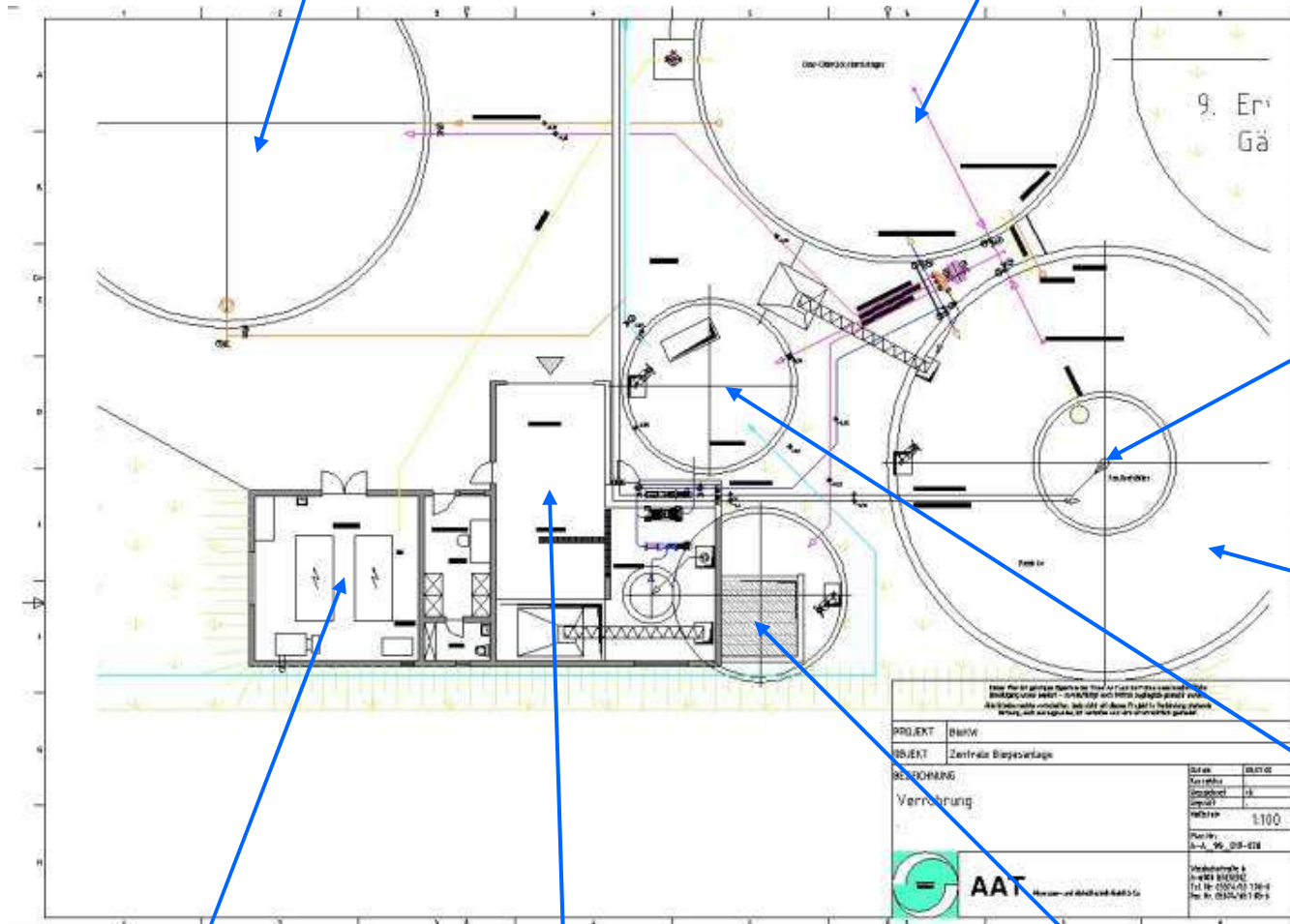


Landes Energie Verein Steiermark



fertilizer storage (4080 m³)

2nd digester (1430 m³)



research digester (sewage sludge, 190 m³)

1st digester (1380 m³)

storage liquid manure

CHP

mixing pit (wastes)

biofilter