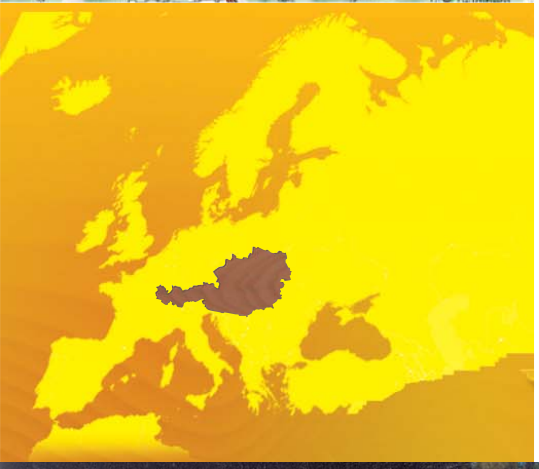


St.Oswald-Möderbrugg: Long years of experience with biomass/district heating

District heating in two villages:

At a time when it was not yet clear whether farmers could be energy providers without registering a commercial enterprise, there were already a number of pioneers who did not shy away from long-term planning and who began to implement the idea of district heating based on biomass. Several farmers put this idea into practice twice in a valley off the main transit routes in Styria. The community of Möderbrugg consists of the villages of Möderbrugg and St. Oswald. In 1985, when Styria counted just two biomass-fired district heating grids,

Möderbrugg: boiler house with adjacent store

the rural cooperative “Fernwärme Möderbrugg” was founded, and commenced planning on the heating plant and grid in Möderbrugg. Because the economic efficiency of a district heating grid hinges substantially on connected load per unit of grid length, it was not attempted to connect the village of St. Oswald to the grid via a long pipe line; instead, a separate heating plant was built there two years later. The heating plant in Möderbrugg supplies district heating to 71 customers (connected load 1721 kW), with major customers including a school, a road maintenance centre, residential housing and a rectory with approx. 1000 kW; the heating plant in St. Oswald supplies district heating to 38 customers (connected load 604 kW).

Information about the municipality

Altitude:	927 m
Inhabitants:	1.336

Fuel supply

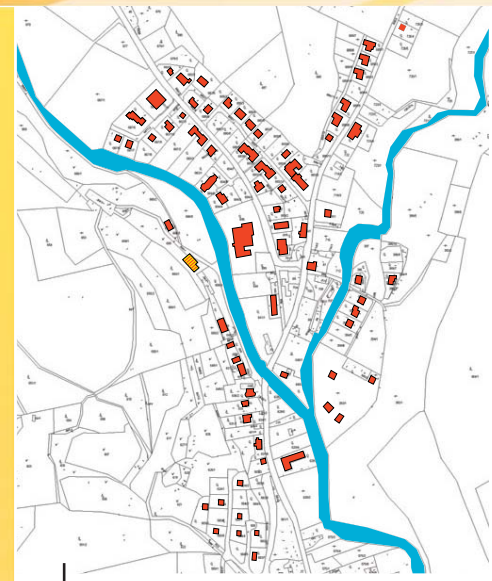
Both heating plants are fired with forest wood chips and bark, with more bark being burnt in the large-capacity boiler. The farmers in the community are actually foresters, with xx% of their income coming from forest management. They supply timber to the wood processing industry and forest waste to the biomass heating plants.

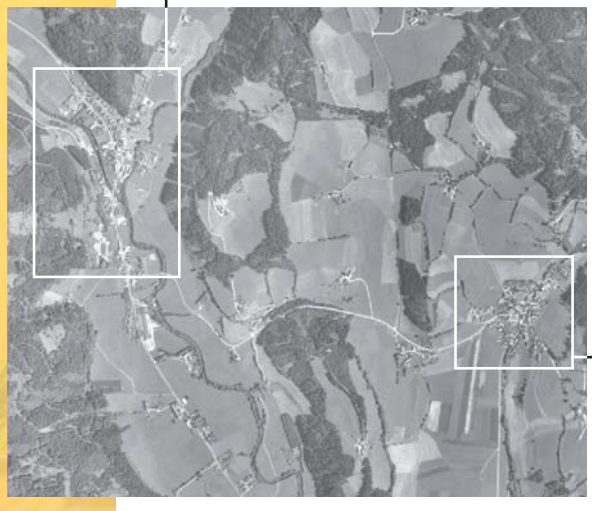
Boiler

The boiler system consists of two Kohlbach boilers, each with a nominal capacity of 2000 kW. Annual output in 2004 was approx. 9500 MWh. Components of the system include a travelling grate, return flow temperature control, primary and secondary air control, flue gas heat exchanger, mesh filter and technical equipment for glycerol phase burning.

St. Oswald: store with boiler house

control center St. Oswald





air view: St. Oswald-Möderbrugg

Information / Contact

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Fax: +43 (0) 4352/2157-11
E-mail: office@kohlbach.at

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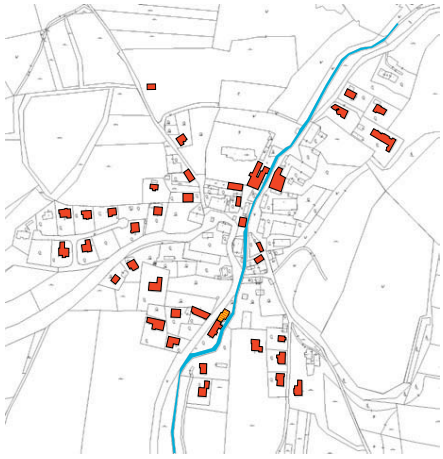
Fax: +43 (0) 7242/406-320
E-mail: contact@vam.at



Economic and technical specifications:

Year of commissioning:	1987, 1989
Investment:	1.466.741 ,– Euro
Funding:	
Own capital	881.374 ,– Euro
Province / Ministery	585.367 ,– Euro

Möderbrugg

Year of commissioning:	1987
Number of customers:	77
Connected load:	1.761 kW
Boiler type:	Kohlbach
Number of boilers:	2
Boiler capacity:	1.000 / 800 kW
Flue gas cleaning:	elektrostatic precipitator
Fuel / annual fuel volume:	
Forest chips	approx 500 Srm
Bark	approx 4.500 Srm
Heat generated:	approx 3.560 MWh
Heat sold:	approx 2.460 MWh
total storage size:	storage 4.500 Srm
Energy rate:	
Index linked to Group IV	
Lighting and heating:	5,09 Cent/kWh
Grid length:	4,38 km

St. Oswald

Year of commissioning:	1989
Number of customers:	38
Connected load:	604 kW
Boiler type:	Kohlbach
Number of boilers:	?
Boiler capacity:	600 kW
Flue gas cleaning:	Multicyclone
Fuel / annual fuel volume:	
Forest chips	approx 1.500 Srm
Bark	approx 350 Srm
Fines	approx 400 bulk m³
Heat generatede:	approx 1.321 MWh
Heat sold:	approx 865 MWh
total storage size:	storage 250 Srm
Energy rate:	
Index linked to Group IV	
Lighting and heating:	5,09 Cent/kWh
Grid length:	1,01 km