

Mureck: Heat from wood as the first step towards a self-sufficient bioenergy supply

The big vision of a small community:

The history of Mureck's pioneering role in bioenergy utilisation starts with the foundation of SEEG (Südsteirische Energie- und Eiweißherzeugung reg.Gen.m.b.H.) in 1998, the birthplace of biodiesel produc-

major customers such as schools, an old people's home, blocks of flats and the SEEG company. The heating plant operates all year round. The investment costs for the biomass heating plant were approx. EUR 7,200,000.

Information über die Gemeinde

Sea level:	237m
Inhabitants:	1.690EW
Woodland:	57,5ha

Fuel supply

The farmers and sawmills in the region supply raw material to the Mureck heating plant. The raw materials for heat generation are wood and wood waste from the forestry (2000 bulk m₃) and timber industry (9000 bulk m₃). The wood chips are stored in a storage facility (6000 bulk m₃). In addition, SEEG supplies approx. 600 t of glycerol phase, a by-product of biodiesel production. The exhaust heat from electricity generation in Mureck is also fed into the heating grid.

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



2 Heizkessel der Firma Kohlbach mit der Gesamtleistung von 4 MW

tion. The foundation of Nahwärme Mureck GmbH in 1998 marked another step towards ensuring a self-sufficient bioenergy supply. Nahwärme Mureck is a company comprising two farmers and SEEG. In 2001, SEEG was awarded the World Energy Globe first prize in the transport category for its "Mureck Energy Loop". This loop also includes the Mureck district heating system with its cogeneration facility. Heat is produced by two Kohlbach boilers, electricity is generated by a biodiesel generator set – for production of "Green Electricity" (backup power supply for the companies) – with a nominal electrical capacity of 144 kWel. The exhaust heat from this conversion process is fed into the local heating grid. Four years after starting operation, the plant now covers 75% of the heat demand of Mureck households, companies and public buildings. The grid has a length of 12.5 km and comprises approx. 200 connections, including



Der Murecker Energie-Kreislauf

Öleinsparung	10.900 t/Jahr
CO ₂ -Einsparung	30.520 t/Jahr



