ENVIRONMENTALLY EFFICIENT PELLET HEATING IN GRYCKSBO

In Grycksbo near Falun, the Municipality replaced electricity-based and oil-based heating with a biofuel-fired district heating plant. As a result, Falun replaced 550 m3 of oil and 2 400 MWh of electricity with renewable energy.

The Municipality of Falun in 2000 received grants from the Local Investment Programme (LIP) to build a biomass-based hot water plant with associated distribution system to replace heating based on electricity and oil in Grycksbo. A school, a healthcare centre and around 20 apartment blocks are now heated by renewable energy from the new plant. The switch mainly took place in 2002, but the last customers were connected in 2004.

POSITIVE ENVIRONMENTAL AND ECONOMIC IMPACTS
• Switch from electricity to renewable energy: 550 MWh/year.
• Switch from oil to renewable energy: 500 m3/year.
• Carbon dioxide emissions decreased by 1 385 tonnes/year.
• The price of heating has fallen for the customers.
IMPLEMENTATION

The municipality built a boiler plant with a hot-water boiler, a reserve boiler, a boiler-house and a heating network to each customer and connected the customers. The boiler plant has a 1.5 MW wood pellet boiler. The plant today produces 4.5 GWh of heat. During the summer when the load is too low a smaller electric boiler is used. At first there was also an oil-fired boiler for peak loads, but that is not longer used.

The network was built early in the project, which meant that connecting the customers went smoothly once construction of the boiler plant was completed.

The ash is spread to a varying extent in the forests and is used to cover a landfill. It was intended to be possible in principle to spread all the ash in the forest, but there is a lack of interest today from the forest owners in spreading all the ash. The fuel for the boiler comes from local suppliers in Gästrikland.

Falun is examining the options for carrying out a similar reconstruction in Bjursås, and plans to use woodchips for firing there. The concepts are otherwise identical.

POTENTIAL AND FUTURE BENEFIT

District heating systems reduce air pollution locally, and often signify efficient fuel use. The biomass fuels in the systems have substantial positive climate effects. Increased urbanisation is improving the prospects for expanding district heating.

WHY BEST PRACTICE

Many customers are connected to the district heating plant. Implementation went well thanks to good planning. The fact that the fuel for the boiler comes from local suppliers creates employment for local suppliers. The return of ash contributes towards closing the cycle of nutrients between town and country. It is possible to convert the plant to combined heat and power if the technology for small-scale combined heat and power from biomass fuels becomes competitive.

FOR FURTHER INFORMATION

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Contractors/providers
Osby Parca supplied the boilers
Siemens supplied the control systems.
Standard suppliers were used for the boilerhouse, the pipeline system and the groundworks.

The project on the Internet:
www.fev.se

Further information on Best Practice
www.swedishepa.se/bestpractice
www.naturvardsverket.se/mir

FACTS
LIP Falun 2000
Action 14
Environmental investment: SEK 11m
Grant: SEK 1.6m