

Biomass mobilisation through conversion of heat plants

Project partners



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Figure in the head: The plant in the city of Värnamo: Source: Värnamo Energi

The municipality of Värnamo and the company Finnvedsbostäder had several small local fossil fuelled boilers in various communities nearby the city. Several were in need of renovation, partly due to age but also to convert to more environmentally friendly fuels. Meanwhile, the municipality and the company perceived these units as relatively small and not their core business. As the small heat plants were in need of major renovation, a golden opportunity arose to capitalize on the synergies that can exist between the municipality, Finnvedsbostäder and the heat plants of Värnamo Energi, and also with external real estate owners. The Parties agreed that Värnamo Energi has the best conditions to realize such coordination for synergies. The company aims to meet a certain maximum portion of fossil fuels in the energy mix. A consequence of the introduction of these small local boilers into their business was that the portion of fossil fuels was exceeded. Something needed to be done.

Partners

Värnamo Energi AB was formed in 1955 by a merger of two companies. In 1996, when the Swedish electricity market was deregulated, new demands were put on the energy companies to separate the sale of electricity and distribution of electricity (grid), hence the subsidiary Värnamo Elnät (electricity network) was formed. Värnamo Energi AB is partner in two local wind turbines. The operations are divided in business areas: power sale, heat, communication, gas, energy services, electricity grids and wind power. Finnvedsbostäder is the company, owned by the municipality, which originally owned the heat plants.

Activities

Värnamo Energi has been able to finance investments, by support of the national co-financing scheme for investments which will reduce GHG emissions. The innovation voucher was used for compilation of a base for an application to get funding from the scheme. The investments concerned replacement of 14 small boilers with four biofuel boilers in four various communities and expansion / renewal of the grid.

Map of the community of Bor showing the grid extension. Source: Värnamo Energi



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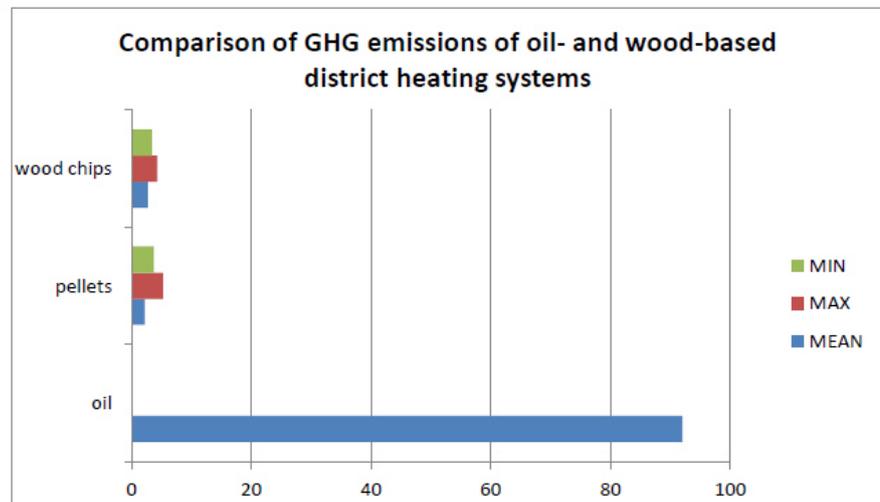
Results

The project at Värnamo Energi concerns replacement of 14 small boilers with four biofuel boilers and expansion / renewal of the grid. The boilers are installed in the smaller communities around Värnamo. Some actions have been conducted to attract new customers, since the potential of heat deliveries will increase as a result of the investments. The boilers in "Lanna" and "Bor" has been co-funded with 0,85 MEURO (65 % of total budget). The consultant's report was used as a base for the application for co-funding. The enterprise used the national funding scheme, called "Klimatklivet" (like "The big climate step").



Digging for the extension of the grid in the community of Bor.
Photo: Värnamo Energi

Later on an application for extension of the DH grid in "Bor" was submitted as a consequence of the previously granted one. They were granted for 0.4 MEURO (55 % of total budget). Even later, they submitted a new application for new boilers in "Bredaryd" and "Forsheda". They were granted for 3.0 MEURO (82 % of total budget). They have received even more grants for other actions to decrease fossil fuels in the energy mix, in total 5.1 MEURO.



Comparison of GHG emissions of oil – and wood based district heating systems. Source: BOKU

Progress in the various communities: *Lanna*: Excavations for extension of the DH grid is finalized. The boiler is implemented, it has been test operated and is in regular operation. *Bor*: Excavations is almost finalized. Parts of the equipment to the plant has been delivered. The boiler is ordered, planned to be delivered and operated before the summer of 2018. *Bredaryd*: Excavations are ongoing, almost finalized. The boiler will be delivered before the summer of 2018 and test operated the autumn of this year. *Forsheda*: Excavations will start in May 2018. The boiler will be delivered before the summer of 2018 and test operated the autumn of this year.

Follow-up

The activities with the purpose to attract new customers will go on. According to the conditions in the national funding scheme, the implementation must be carried out before the end of 2018.