

# Decarbonisation of local communities through bioenergy in Småland

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Final Event SecureChain, Brussels 7 June 2018

# Lessebo Fjärrvärme

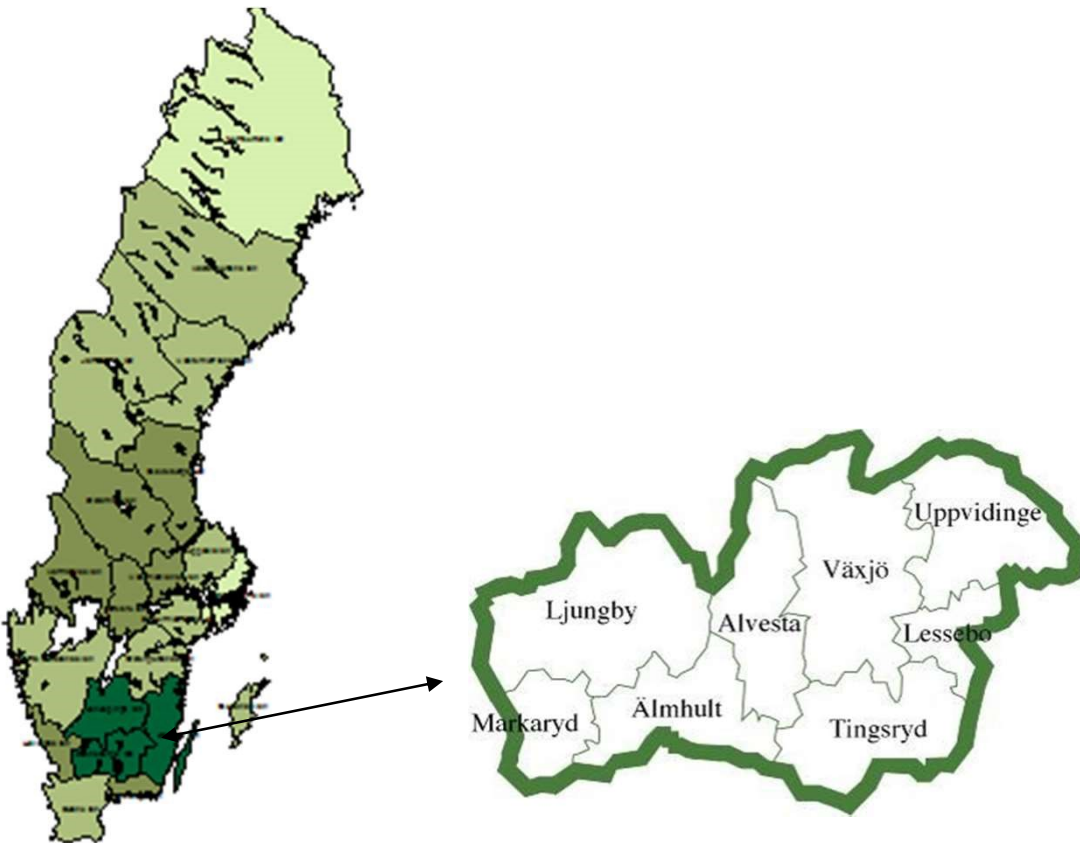
It's all about a big box in the deep forests of Småland...

Where they convert wood chips and fossile liquid gas to heat for the local demand.

With the objective to exclude fossile fuels from the energy mix.



# County of Kronoberg – a part of Småland



180 000 inhabitants

78 % of the land is woodland

37 % of the total amount of extracted branches and tops from harvesting areas in Sweden is from Kronoberg

7 500 full time equivalences forestry workers

Annual value from harvestings, after refinings, are EURO 5 000/inh



# Prior SecureChain



of the interieur at Kosta heat plant



of the system for fuel feeding

The heat plant in Kosta:

- Fuelled by wood chips
- Capacity of 3.5 MW
- Annual heat deliveries are appr 15 GWh
- Undersized

A boiler, fuelled with liquid fossile gas, is used for backup and peak load. Annual use of fossil gas is about 0.4 GWh.

A big customer has an incresead need of heat after extension of their business and actions are planned to attract more customers of heat.

Lessebo Fjärrvärme needs to cope with additional heat demand and to reduce the current consumption of gas, in order to further secure heat supply in Kosta during the cold periods.

*Lessebo  
Fjärrvärme AB is  
an enterprise that  
provides district  
heating in the  
communities  
Lessebo,  
Hovmantorp,  
Kosta and Skruv.*



# During SecureChain

innovation voucher for investigation  
how to secure heat deliveries

discussion internally in the  
enterprise, at RLLs and with providers  
Flue gas condensers

decision on an investment of a flue  
gas condenser with a capacity of 0.7  
MW. It is the estimated capacity when  
the boiler is in operation of its full  
capacity, 3,5 MW heat

innovation voucher on actions for  
preparation of the installation

Kosta fjärrvärmenät  
// nybyggnation, ny bioeffekt, rökgaskondensatör  
Tommy Göransson

785 av  
300 2020 no. 646457  
1015 31/07/2018  
securechain.eu EU



Linnéuniversitetet  
Kalmar Väst

Examensarbete

Analys av förlust  
fjärrvärmenät  
En studie för Lesse

SecureChain



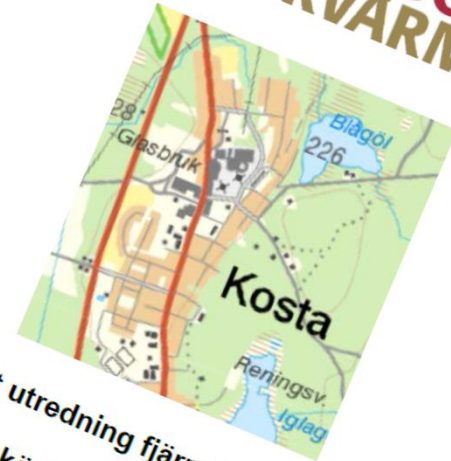
Rapport utredning fjärrvärme i Kosta  
Linköping 2017-06-30

Författare:  
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Handledare: Truong  
Examinator: Michael Ström  
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Energiteknik

Rapport konsultutredning för Kosta

2017-06-30

LESSEBO  
FJÄRRVÄRME



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# Results of SecureChain

Installation of the condenser is foreseen to July or August 2018.

The reduced need for fossil gas is equivalent to approximately 400 MWh, or 550 m<sup>3</sup> of biofuel. (400 MWh fossil gas corresponds to 94 ton CO<sub>2</sub>-emissions).

Less dependence of imported fossil fuels.

The condenser is purchased by a regional company and it is constructed by an SME located to the municipality of Lessebo → Local jobs.

The condenser is built on a new innovative technology with the additional benefit that the emissions of heavy metals will decrease under the new limits according to the MCP directive.

Strengthening the development of innovations and the competitiveness of Swedish business.

Establishment of a new business model.



Thank you for your attention

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