

Best Practices

TIMBER Project



Eco-labelled district heating and district cooling at Norrenergi

Renewable Energies

Region
Stockholm County
Sweden

THEME	Eco-labelled heat and cooling production
OBJECTIVES	Presentation of experiences from the first eco-labelled district heating and district cooling in Sweden.
LOCATION	Cities of Sundbyberg and Solna, Stockholm County, Sweden
DETAILED DESCRIPTION	Timescale Norrenergi was awarded with The Swedish Society of Nature Conservation's "Good Environmental Choice" eco-label in 2008. The whole process of eco-labelling took 9 months.

 Naturskyddsföreningen

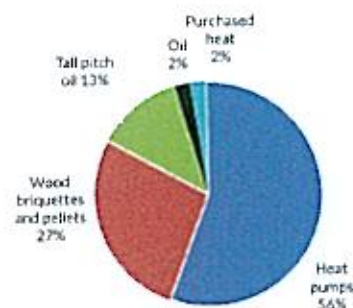


Bodies involved / implementation

Norrenergi, which is an energy company owned by the cities of Solna and Sundbyberg, and The Swedish Society of Nature Conservation (SSNC).

Process and detailed content of the practice

Norrenergi was the first energy company in Sweden offering its customers district heating and district cooling awarded with SSNC's "Good Environmental Choice" eco-label. Norrenergi produces about 1 TWh district heating every year. More than 50 % of the heat production comes from large heat pumps, which use residual waste water as heat source. Heat is also produced in hot water boilers, which are fuelled with wood briquettes, pellets and tall oil pitch. Bio fuels accounts for 27 %, tall pitch oil for 13 % and fossil oil for 2 %.



Norrenergi also produces about 70 GWh district cooling every year. District cooling is generated by heat pumps, cooling machines and cold sea water.

There are strict environmental requirements on district heating and district cooling certified in accordance with "Good Environmental Choice", e.g.:

- No more than 10 % of the supplied heat or cooling may originate from non-renewable energy sources;
- The plant's efficiency must be at least 70 % and the plant must have a control system to trace the origin of the biofuels;
- The suppliers of wood fuel must fulfil the demands for certification according to the Forest Stewardship Council or practicing equivalent principals aiming at a sustainable forestry. Wood fuel may not come from illegal loggings or forests with high conservation values. Palm oil may not be used as biofuel;

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- Heat or cooling from heat pumps must come from geothermal sources, lakes, solar energy, or process water from food industry. Electricity used for heat pumps must come from renewable sources.

Legal framework

SSNC's criteria for "good environmental choice" heat and cooling. No legal framework exists for that.

Financial framework

The costs of the process have been calculated to 1 euro per year and apartment heated with district heating from Norrenergi.

Opportunities

By eco-labelling its products Norrenergi increases its credibility towards the customers and simplifies the communication about offering environmentally sound district heating and district cooling.

The process of eco-labelling has resulted in improved routines when it comes to environmental and sustainable requirements on contractors. All in all, eco-labelling has potential to strengthen Norrenergi's brand and to improve its competitiveness.

CO₂ reduction

There hasn't been any noticeable change in the fuel mix since 2008, when the eco-labelling was completed. At the moment Norrenergi is applying for an environmental permit of burning bio-oil (instead of fossil oil) in one of the heat plants used on extremely cold winter days, which will result in CO₂ reductions if permit is granted.

Energy production

1 TWh district heating and 70 GWh district cooling.

EVALUATION

Possible demonstrated results (e.g. through indicators)

The eco-labelling process has resulted in higher motivation within Norrenergi to decrease the remaining use of fossil fuels. The process has also led to cooperation between Norrenergi and the fuel contractors about studies of effects of recycling of wood ash. Further, eco-labelling has resulted in more comprehensive environmental and sustainability requirements on contractors and an improved control system of the origin of purchased biofuels and electricity. According to Norrenergi, eco-labelling has resulted in improved competitiveness and a strengthened brand.

LESSONS LEARNT

This best practice shows that eco-labelling of heat production can result in improved routines in energy companies of requirements on contractors and higher motivation within the company to work with reducing the negative impacts of its activities. It also shows that eco-labelling is a possibility for energy companies to improve their credibility towards their customers. This shows that eco-labelling has potential to strengthen a brand and improve competitiveness.

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