



Large CHP plant using solid recovered fuel (SRF)

The KYVO₂-project is realised in the city of Lahti, located 100 km north-east of Helsinki and having a population of 102 000 inhabitants. In Lahti a new generation power plant is under construction in 2011, destined for starting full-scale co-production of electricity and district heat (CHP) in 2012. The novelty of the project is in the technically advanced gas purification process and energy efficiency of the gasification process. The full-scale use of the new power plant will reduce some 40 % of the amount of coal used in the old power plant, which will now be substituted. The concept combining the efficient waste sorting of Lahti area with large scale energy production in CHP plant shows where the ambitiousness in municipal energy production can lead into. The owner of the new power plant is the city-owned Lahti Energy Ltd. The project has a large impact on waste management of the whole southern

Finland, as the plant uses 250 000 tons of SRF for energy production annually. The new power plant is the most important single step in the strategy of reducing 50 % of the CO₂-emissions by 2025.

The project brings the following benefits:

- efficient combination of waste management and energy production
- reductions in the use of coal and CO₂-emissions
- reduction in the volume of waste transported and disposed in the landfill sites
- improvement in the energy recovery efficiency of the boiler with new technology
- best practice showcase for the international market
- improved level of waste sorting at the consumers

NORDIC ENERGY MUNICIPALITY 2011

The Nordic Energy Municipality 2011 Project highlights sustainable energy, green growth and energy-related climate efforts in the Nordic countries. The initiative particularly recognises municipalities who have introduced special efforts to undertake innovative energy projects.

The initiative is based on cooperation between the Danish and Finnish Presidencies of the Nordic Council of Ministers for Energy. In total, 44 Nordic municipalities have forwarded an application to the Nordic Energy Municipality 2011 competition each describing a cutting-edge energy project. Of these 44 applicants, 14 municipalities have been nominated as finalists.

The Nordic Energy Municipality 2011 was elected in connection with the Nordic Prime Ministers' Globalisation Forum in Kirkkonummi, Finland, on 20 June 2011.

QUOTE



Saara Vauramo,
Development
Manager, Green
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City of Lahti

“The KYVO₂ project is a single biggest milestone of the ambitious climate reduction target of Lahti City. The concept of KYVO₂ is based on every-day ecological awareness of Lahti citizens in their own kitchen: when the energy wastes are separately handled and collected, the benefits come through electricity and district heating system back to the same kitchen.

KYVO₂ gasification power plant has been a huge project for the whole city. The new plant has great impacts on employment of Lahti area from the building peak of 300 men to long-lasting impacts on SRF handling and energy production. The Nordic Energy Municipality Competition 2011 has raised the citizens’ awareness of the project.”

Due to the long-term efforts of the regional Päijät-Häme Waste Disposal -company the local citizens have learned to sort their waste, and only 6 % of all waste is disposed in landfills in 2011.

The technological nucleus of the new boiler plant is a Circulating Fluidized Bed (CFB) gasifier accompanied by cooling and purification of the gas. The energy efficiency is several times higher than in the traditional waste incineration plants.

Major part of the investment is funded by the City of Lahti. Financial support was received as subsidies from the EU and the Finnish Ministry of Employment and the Economy.

Lahti is decisively developing its profile as a green city taking the principles of sustainable development into consideration in all of its activities. The same aim is characterizing the research and development activities and the output of the diverse local industries.

NORDIC VISION OF SUSTAINABLE ENERGY AND GREEN GROWTH

The Nordic Energy Municipality 2011 project provides practical and concrete examples of how the Nordic vision of sustainable energy and green growth may be realised and how it can show the way forward.

Ever since the Nordic Council of Ministers adopted the first sustainable-

development strategy in 2000, the Nordic countries have been working together towards sustainable Nordic societies. The joint Nordic vision is to prepare for future independence from fossil fuels or CO₂ neutrality. The main issue for the Finnish Presidency in 2011 is to address climate change at all levels.

GREEN GROWTH AS AN INTERNATIONAL TREND

The Nordic vision is constantly being challenged by increases in the demand for energy and volatile oil and energy prices. However, these global challenges are fuelling an international trend for green growth which offers great economic opportunities: new markets are being created within energy efficiency, renewables, low carbon transportation and new technologies like carbon capture and storage (CCS). The Nordic Countries are well prepared to benefit from the current trend in green growth, as they constitute an innovative and sustainable region, both at the political level and with regard to the development of new technologies. Many of the practices and instruments currently being introduced in other countries have been in place for decades in the Nordic region, e.g. high energy and CO₂ taxes. Also, the Nordic countries have many leading technology companies in relevant fields as well as environmentally conscious consumers.



FOR MORE INFORMATION ABOUT THE PROJECT

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