CASE STORY

The world's largest low-temperature district heating network

Lund, Sweden

In the city of Lund research is heating the city. Excess heat from the two large scale research facilities is connected to the district heating grid, providing comfort to houses and commercial buildings. Waste heat recovery on a high level – contributing to a sustainable energy system!

In Lund, you will find the world's largest low-temperature district heating network. The background to the major investment, done by the energy company Kraftringen, was the desire to recover the low-temperature heat (30-50°C) generated by the two large-scale research facilities Max IV and European Spallation Source (ESS) in the most efficient way.

The investment includes demonstrating and evaluating new types of plastic distribution pipes, developing business models and testing new exciting applications.

The technology is well-adapted and very suitable for the modern and energy-efficient homes and businesses that will be built in the area.

Some facts

- Just over 6 km of pipeline, of which just under 3 km of plastic pipes
- 65°C forward temperature, 35°C in return line temperature

About MAX IV and European Spallation Source (ESS)

MAX IV Laboratory is a national electron accelerator laboratory for synchrotron radiation research which was inaugurated on 21 June 2016. The MAX IV facility is the largest and most ambitious Swedish investment in research infrastructure and the brightest source of x-rays worldwide. It will receive more than 2,000 scientists annually from Sweden and the rest of the world. Research takes place in areas such as materials science, structural biology, chemistry and nanotechnology.

In an area of 70 hectares in north-east Lund, the European Spallation Source (ESS), a unique facility for materials research, is being built. ESS will be a multidisciplinary research facility harnessing the world's most powerful neutron source. The research infrastructure is being built and will be run by 13 European countries in wide collaboration. Along with the neighbouring synchrotron facility MAX IV, ESS will form a unique hub for materials research and life science in Europe. The facility is planned to be fully operational and open for external researchers in 2027.

Energy savings

Emissions savings

Heating of homes

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