



**Denmark, Høje Taastrup**  
**HØJE TAASTRUP C AND ØSTERBY**

**LTDH in an existing city district**

In an area with mainly existing buildings a low temperature district heating network (55/30°C) is being built. The network will distribute waste heat from a number of cooling plants combined with supply of district cooling to major consumers, hereunder a new City Hall.

**Sweden, Lund**  
**BRUNNSHÖG**

**Science heats the city**

The world's largest low temperature district heating network (65/35°C) is being built to recover energy from waste heat and cooling from prosumers, for example the science facility MAX IV. The network will distribute heat to the new city district Brunnshög – a European model for sustainable urban planning – where 40,000 people will work and live in the future.

**COOL DH**  
COOL DISTRICT HEATING

COOL DH is a project that aims to find ways of utilizing low-grade waste heat in energy efficient buildings by optimizing Low Temperature District Heating (LTDH) solutions

[www.cooldh.eu](http://www.cooldh.eu)



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# COOL DH

COOL DISTRICT HEATING



## Low Temperature District Heating (LTDH)

### 1 Waste heat recovery

LTDH networks enable efficient recovery of energy from surplus heat and cooling, for example from the science facility MAX IV in Lund and a shopping mall with solar powered heat pumps as well as several other buildings in Høje Taastrup.

### 2 Prosumers

LTDH is well adapted to low-energy houses and enables local integration of customer's renewable heat sources. COOL DH investigates control technology for integration of several types of heat sources.

### 3 Pipe design and materials

LTDH enables the use of non-conventional pipe materials and design, lowering the investment cost, allowing easier and safer transportation and installation and facilitating coordination with other infrastructure. COOL DH evaluates different types of plastic pipes and pipe components.

### 4 Network layout and control

Due to lower temperature losses, LTDH enables more efficient heat distribution. To optimize the distribution and minimize heat losses, COOL DH evaluates network layout, connections and control of heat pumps and chillers in the LTDH system.

### 5 Demand side installations

COOL DH verifies and compares different technical solutions of demand side installations that affect the heat load and return temperature in the LTDH system. For example, heat driven appliances as well as substation components are investigated.

### 6 Avoiding risk of Legionella

COOL DH investigates different techniques to reduce the risk of growth of Legionella bacteria in LTDH systems.

### 7 LTDH applications: Ground heat

COOL DH investigates LTDH applications that can optimize the use of low-temperature heat while benefiting the public, for example through ground heat that removes snow.

### 8 Business models / Legislation / Knowledge sharing

COOL DH investigates possible LTDH business models, legislative frameworks related to district heating and shares the knowledge at European level.