

# District Heating in Hillerød

Expansion and transition

# Introduction

# Hillerød District Heating in numbers



**Municipality of Hillerød:** 51.000 citizens



**No. Of customers:** approx. 8.600



**Peak heat demand:** 110 MW



**Annual heat sales:** approx. 300.000 MWh/year

## Brief history of DH in Hillerød

1962 –1985	District Heating established based on oil
1985	Transition from 100 % oil to 100 % natural gas
1991	Natural gas CHP established to cover 90 % heat demands in Hillerød
1996	Seperate DH systems established in Skævinge, Gørløse and Meløse/St. Lyngby
2005	4,5 MW wood pellet boiler established
2008	3000 m <sup>2</sup> solar heating established, later additional 2000 m <sup>2</sup>
2011	8,5 MW wood chip boiler established
2012-2013	DH in Skævinge, Gørløse and Meløse/St. Lyngby taken over by Hillerød Varme
2015	Transmission network to Skævinge, Gørløse and Meløse /St. Lyngby
2016	Biomass CHP established
2022	Natural gas CHP closed down
2025	Electric boiler established and ATEs system under establishment

# Transmission network in Hillerød

Temperatures in  
transmission  
network:

Supply 80-90 °C

Return 40-50 °C

# Heat distribution in Hillerød

Temperatures in distribution networks:

Supply 65-80 °C

Return 40-50 °C

Customers:

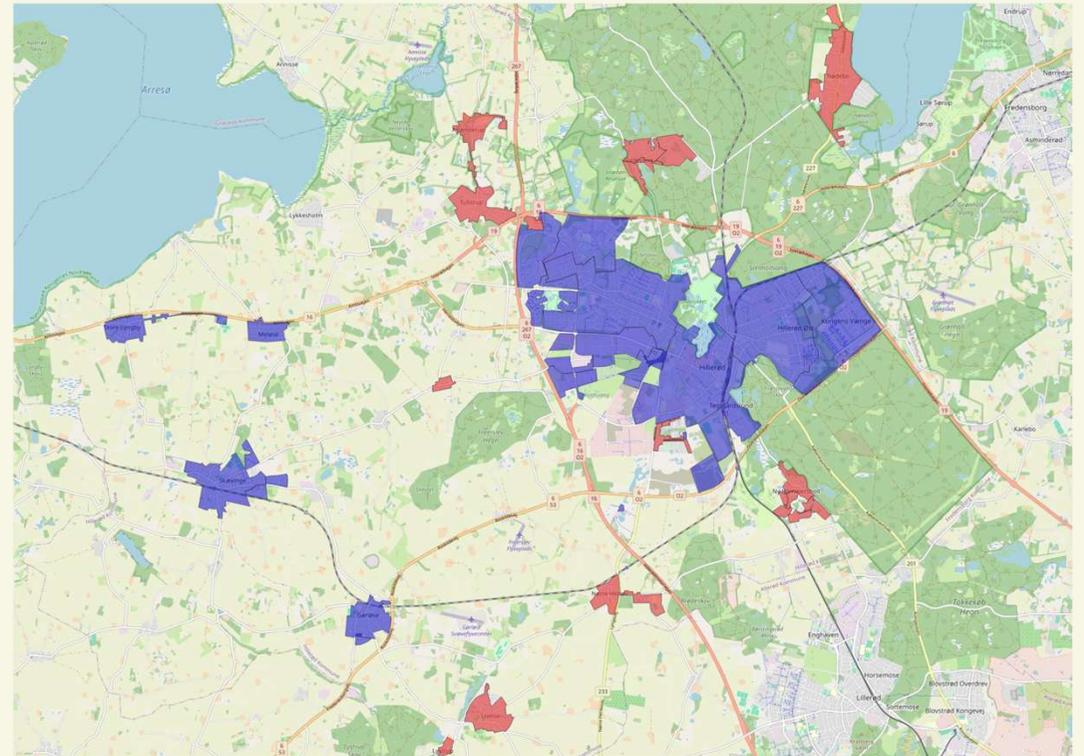
**Large customers** – hospital, office buildings, apartment buildings

**Small customers** – regular single-family houses and new low-energy row houses

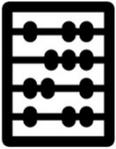
# Expansion of the district heating network

# Possible expansions

Possible new district heating areas



# Steps of expansion process (roughly)



## **Feasibility studies**

- heat production
- heat sales
- Investment cost (pipes, heating centrals)



## **Municipal heat plan approval**

- Prerequisites: land and location of pipes
- Socioeconomic analysis
- Economic analysis
- "Minimum" no. of signed contracts



## **Signed customer contracts**

# Steps of expansion process (roughly)



**Detailed system design / Tendering**



**Final economic approval**



**Construction phase**



**Operation**

# Expansion to five housing associations

2024-2025

Designed to ultimately enable heat delivery to the entire area.



# Customer dialogue and conditions

## Before

- Local meetings
- Advertisement
- Availability for questions
- Conditions and prices



# Crossing the railway and temporary heat delivery...

Controlled drilling was not possible due to stones and other obstacles. Therefore "micro-tunneling" was used.



# Establishing a heat exchanger

Dialogue with local land owners and contract for location of heat exchanger station



# Customer dialogue

## During/after

- Issues with temporary heat supply
- Temperatures and "quality" (start of operation)

