Low Temperature District Heating in Albertslund

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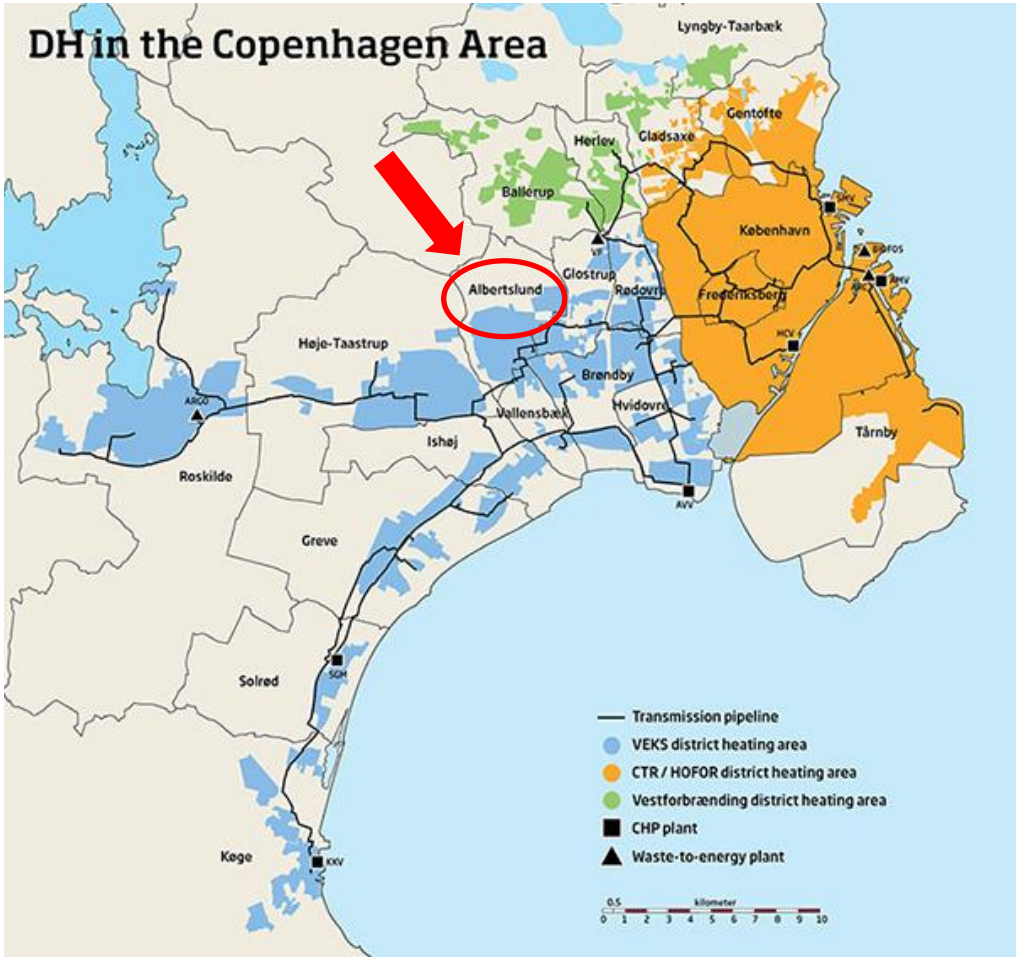
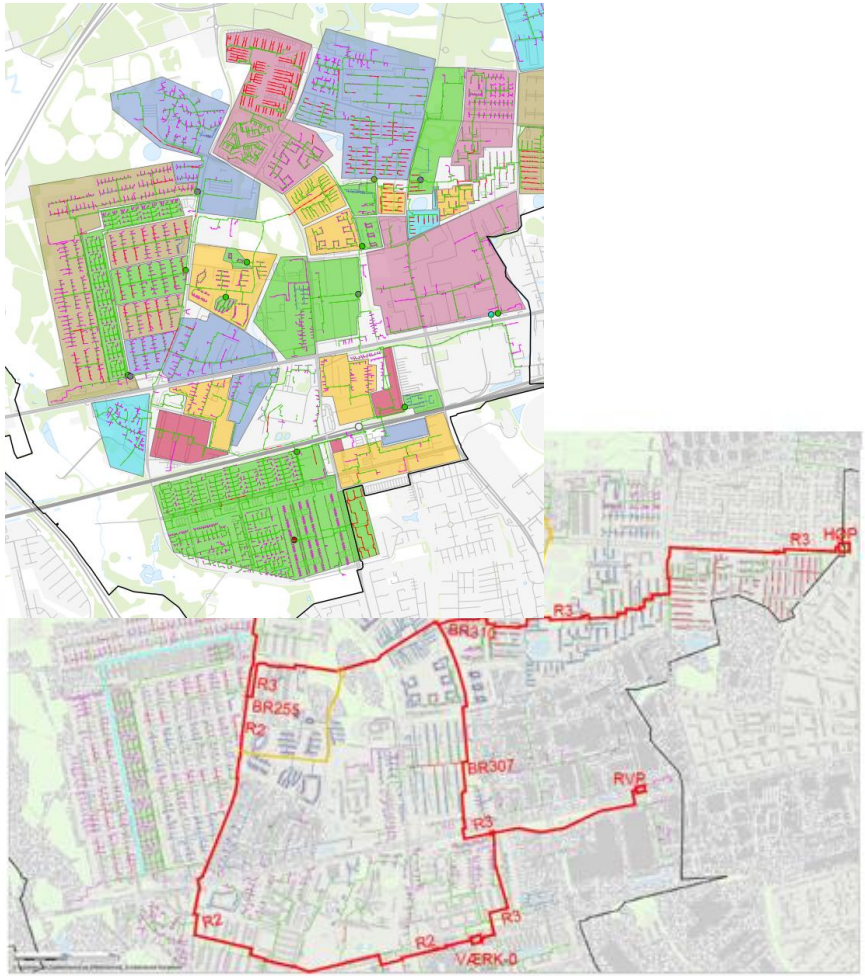
ALBERTSLUND FORSYNING

District Heating in the Capital Region



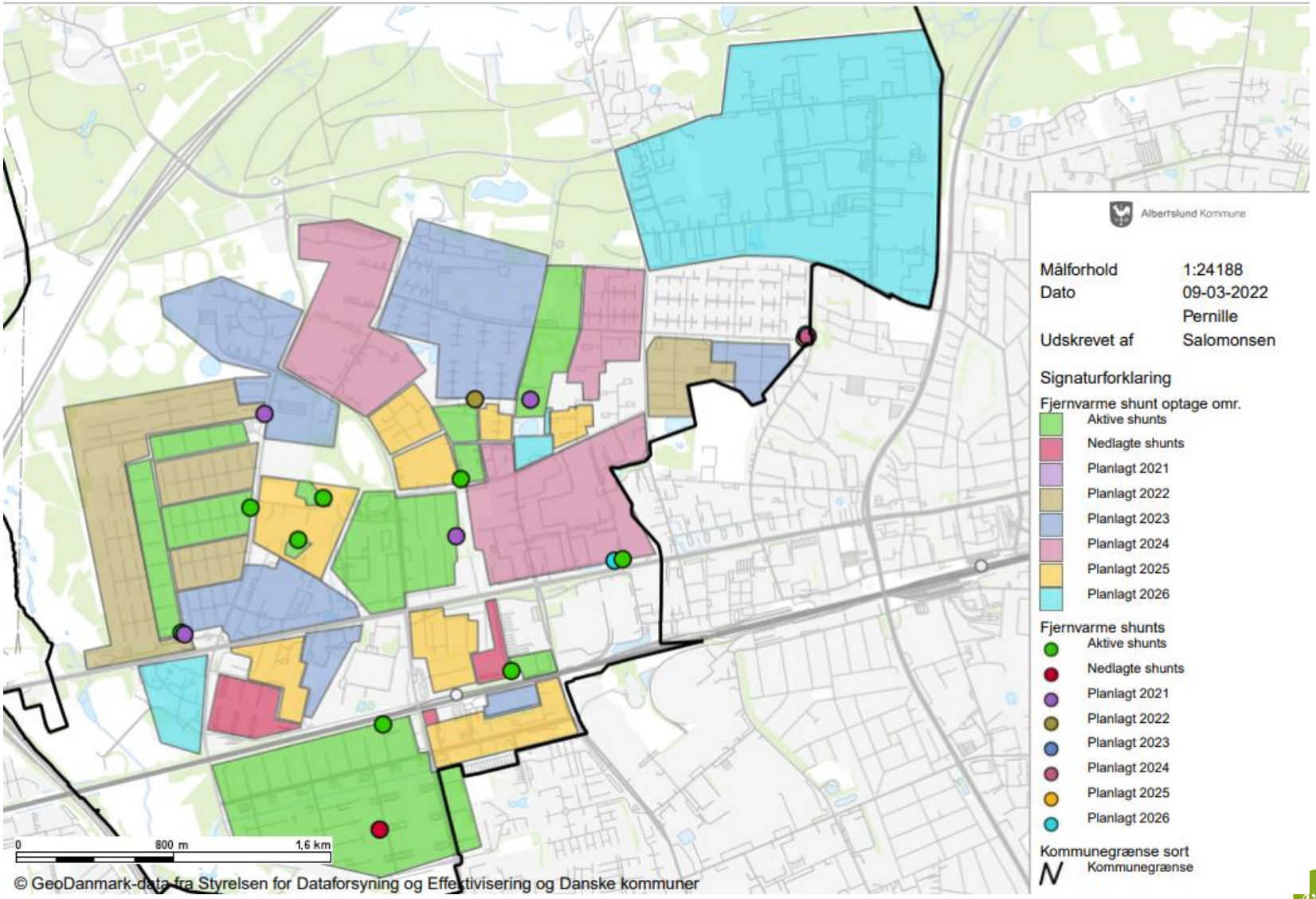
- The largest connected district heating system in Northern Europe
- Heat supply to 500,000 households
- Heat producers:
  - 4 CHP plants
  - 3 Waste-to-energy facilities
  - Reserve and peak load plants of a total of 1,900 MJ/s
  - Two heat accumulators of a total of 660 MJ/s
- 95 % DH in Albertslund
  - +7500 custumors

Strategy for Low Temperature District Heating by 2026



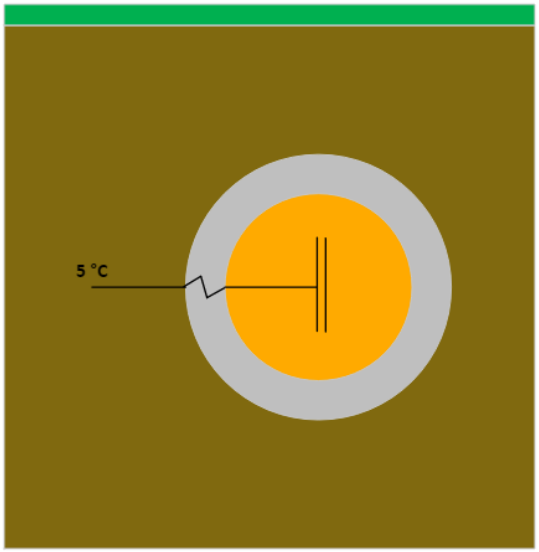
- High temperature in the main pipe (80 °C)
- Low temperature in sectioned areas by installation of ”shunts” (60 °C)
- Use meter data to get a better understanding of housing areas and individual buildings
- Gradually lowering the temperatures
  - Spotting the ”weak links” – houses having difficulties
  - Try to assist the houses

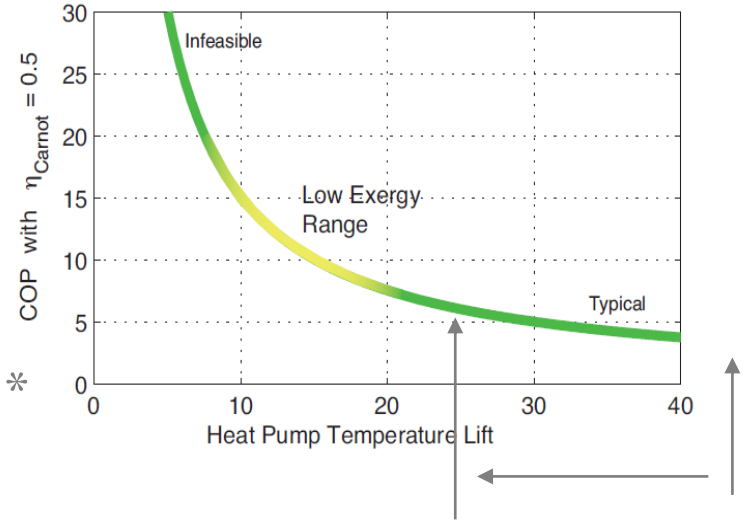
Active and planned shunts



Why Low Temperature DH?

- Less difference in temperature between the district heating water and the ground.
  - Lower heat loss (from almost 20 % to around 16-18 %)
    - (without pipe replacement)
- Improves opportunities to use new supply sources.
  - Provides better COP when using waste heat recovery and heat pumps
- Better sector coupling opportunities

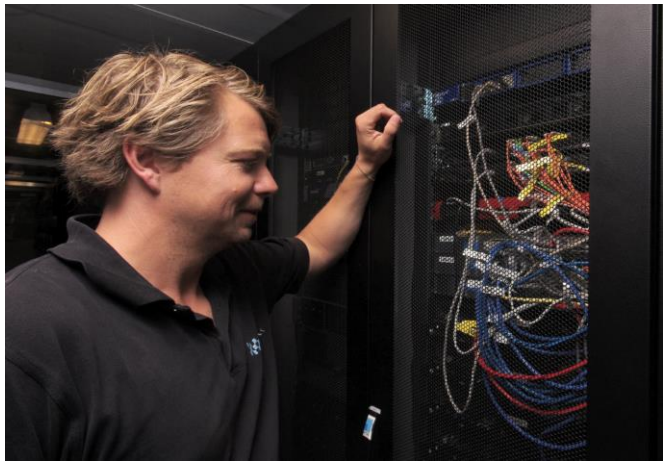


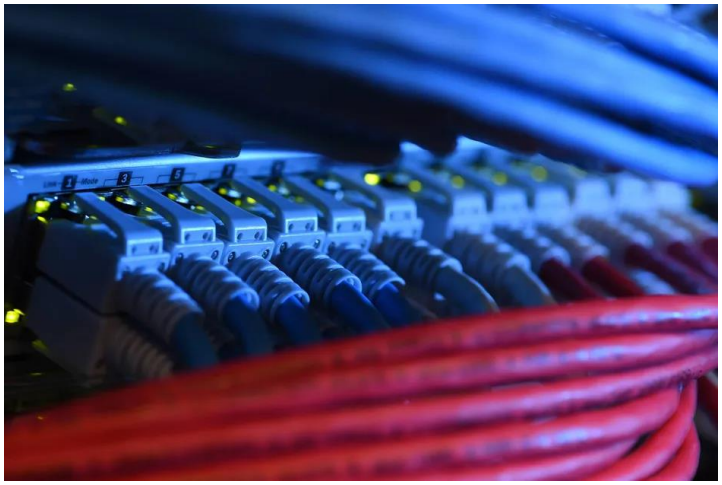


Waste Heat Recovery in Albertslund

Waste Heat Recovery from data center since 2015:

- 2000 m² datacenter supplies around 1.400 MWh/year
- Two 180 KW heat pumps
- Fixed heat price: 0,32 kr/kWh





Future Waste heat Recovery

Data Center Expansion plans in 2023:

- Expected heat production 18.500 MWh/year
- 5 heat pumps – 2,12 MW
- Monthly varied heat price

Waste Heat Recovery from another data center in 2023

Waste Heat Recovery from a Supermarket