FROM THE TRADITION TO THE FUTURE: THE ØSTERBY CASE

10:30 – 11:30
MEET THE EXPERTS

Steen Olesen
Project Manager in Smart Energy Systems at COWI

Emanuele Zilio
Sustainable Energy Engineer at COWI

Sara Kralmark
Project Manager in Business Development at Kraftringen

Gabriele Pesce
Project Officer at Euroheat & Power

The project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement n° 767799-COOL DH- H2020-EE-2016-2017/H2020-EE-2017-RIA-IA
COOL DH is a Danish/Swedish collaboration

- A Horizon 2020 project with 11 partners
- 2 demonstration sites: Høje-Taastrup and Lund
- Budget: 5.3 M€
- Project period from Oct. 2017-Sept. 2021
Why is COOL DH cool?

• Because COOL DH is a project that aims to find ways to:
  • **Use low grade heat sources**, cooling and surplus heat for heating of energy efficient buildings (both existing and new buildings)
  • by **optimizing low temperature district heating solutions**, and
  • Integrate **renewable energy** produced locally with district heating

• And because:
  • We **demonstrate the full systems** with all needed components suitable for (ultra-)low temperature District Heating
  • We **innovate** a catalogue of new solutions
Lund - Brunnshög area

- Newly-built area – 100 hectares
- to become Europe’s largest LTDH facility
- Lund’s heat production is already fossil-fuel free
- New low-grade heat sources: MAX IV and EES facilities
- The waste heat will supply the new LTDH system. The residual waste heat will be delivered to the existing DH system in Lund

  - The total available source of low-grade heat including ESS will grow to 250 GWh/y by 2025 with a maximum capacity of 40 MW
Lund - Brunnshög area

Questions raised:

• How to avoid risk of legionella in DHW systems in low temperature grids

• How to optimise the design of heat pump systems for low temperature grids

• Substations in multifamily houses – how?

• Heating connected appliances – possible?
Høje-Taastrup C - Østerby area

- 50K inhabitants
- 51% heat production from RES
- Expected new surplus heat sources:
  - **Cooling machines at the CITY2 Mall**
    power from more than 16,358 m² PV plant with an installed capacity of 2.07 MW
  - **Cooling machines and cooling of servers at the Danske Bank data centre, DSB and hotels** having a high cooling demand year-round
- extra focus will be on energy storage, demand side management, new pipe types and reduction of heat losses
Høje-Taastrup C - Østerby area

• How to design local low temperature DH grids?

• How to integrate local renewables?

• Legislative and regulatory framework?
MEET THE EXPERTS

Steen Olesen
Project Manager in Smart Energy Systems at COWI

Emanuele Zilio
Sustainable Energy Engineer at COWI

Sara Kralmark
Project Manager in Business Development at Kraftringen

Gabriele Pesce
Project Officer at Euroheat & Power

The project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement n° 767799-COOL DH- H2020-EE-2016-2017/H2020-EE-2017-RIA-IA
Thank you for your attention!

More info on www.cooldh.eu

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