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#18DEdays

The Reuseheat project

Grant Agreement 767429

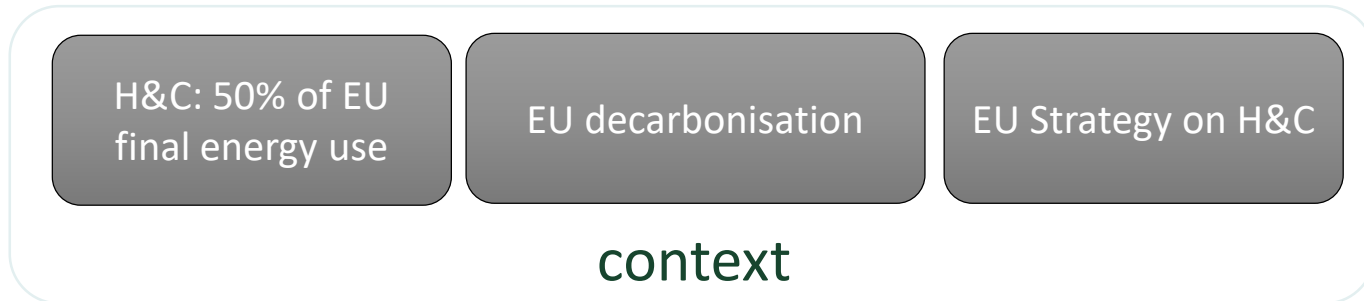
Kristina Lygnerud (PhD)



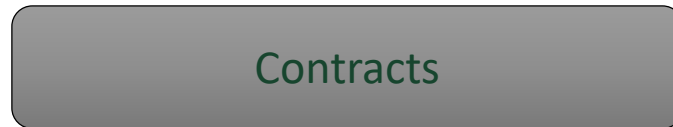
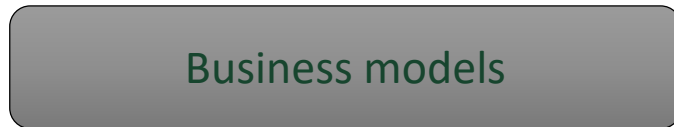
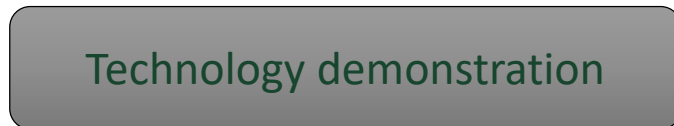
Outline of presentation

- **The context**
- **The objective**
- **4 demonstrators**
- **KPIs**
- **Beyond technology**

The context of the project



ReUseHeat



Short facts about the project:

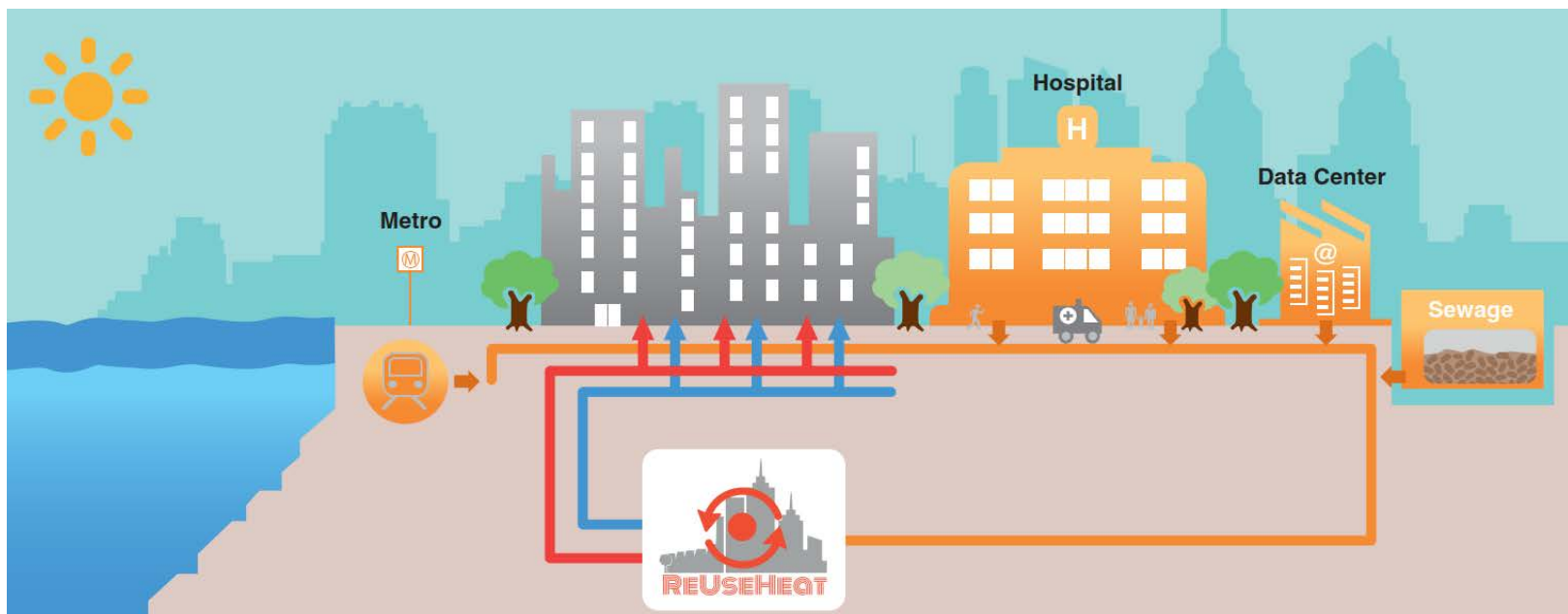
- 9 countries
- 16 partners; IVL coordinates
- 5 M Euro
- H2020; Innovation Action; TRL 8
- 4 years (October 2017-2021)

www.reuseheat.eu

@ReUseHeat



The objective of the project

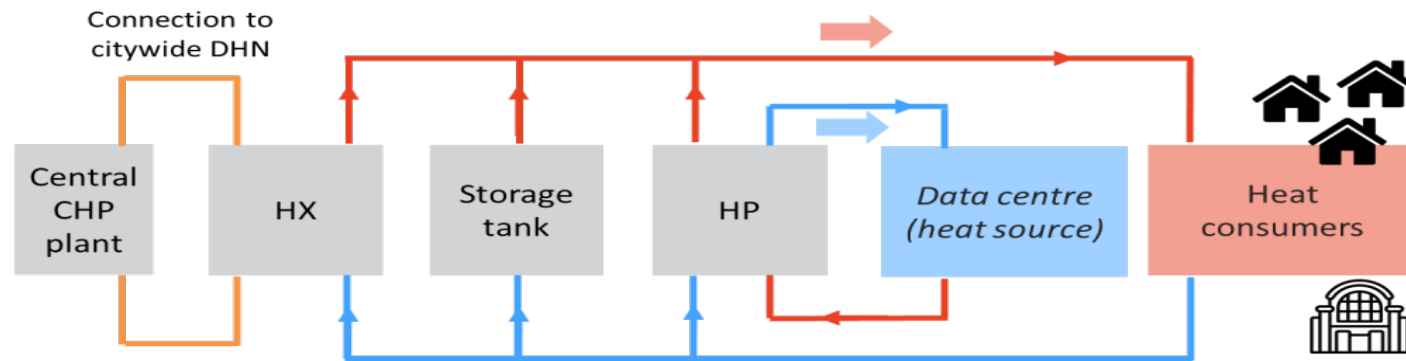


Objective: SMART CITIES

Demonstrate first-of-their-kind, advanced, modular and replicable systems enabling the recovery and reuse of urban excess heat.

4 demonstrators

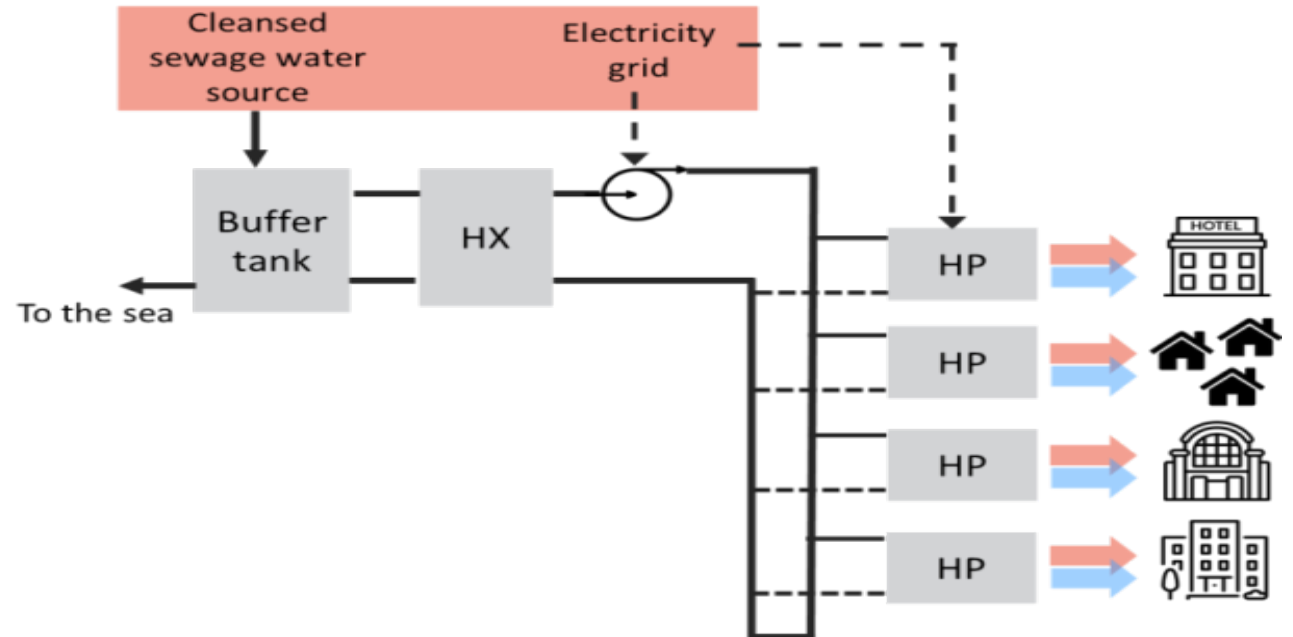
1. Waste heat recovery from data centers (Brunswick)



- Residential and commercial consumers in LTDH network
- Energy supply from (i) city-wide CHP-based DHN and (ii) HP capturing/upgrading excess heat from the data center
- Waste heat source temperature: 18C- 25C
- HP double simultaneous useful effect: (i) DC cooling, (ii) heating supply

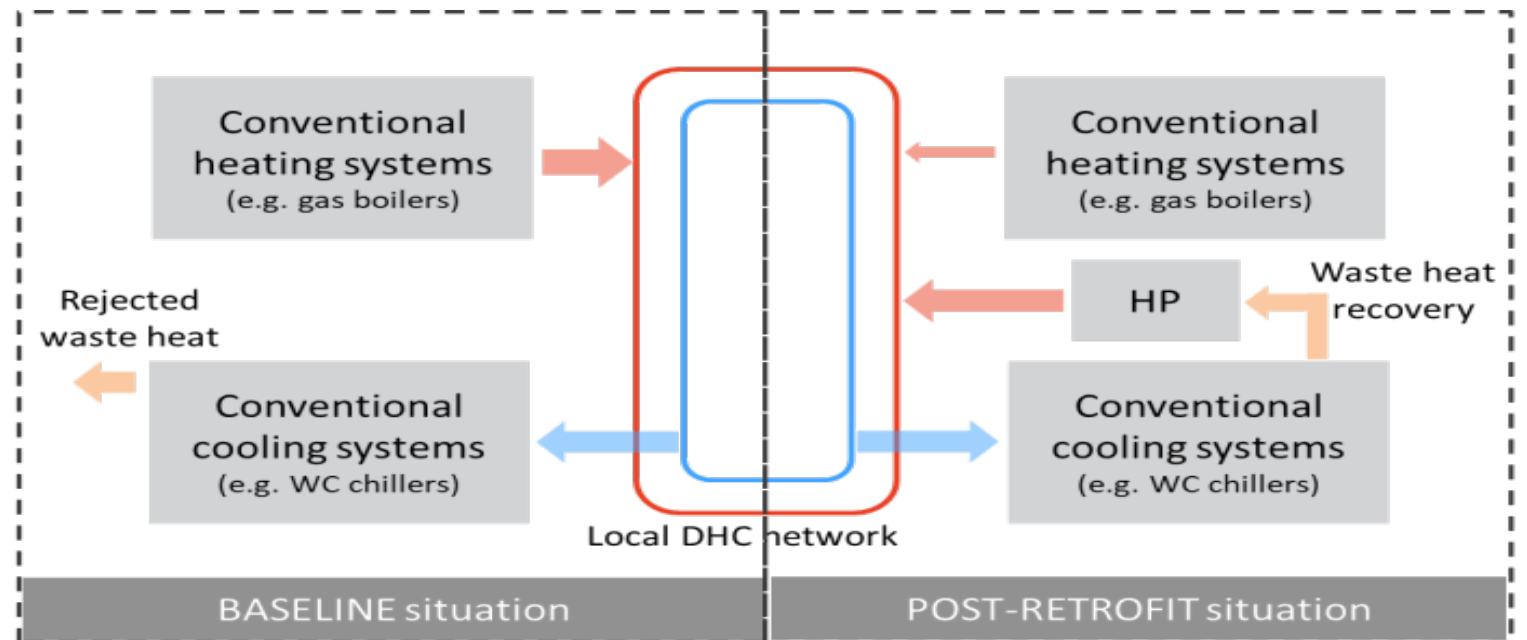
2. Waste heat recovery from sewage water network (Nice)

- Heat source: Cleansed water downstream WWTP
- LTDH network + reversible HP at substation level
- Enabler of high-efficiency heating/cooling operation at network level

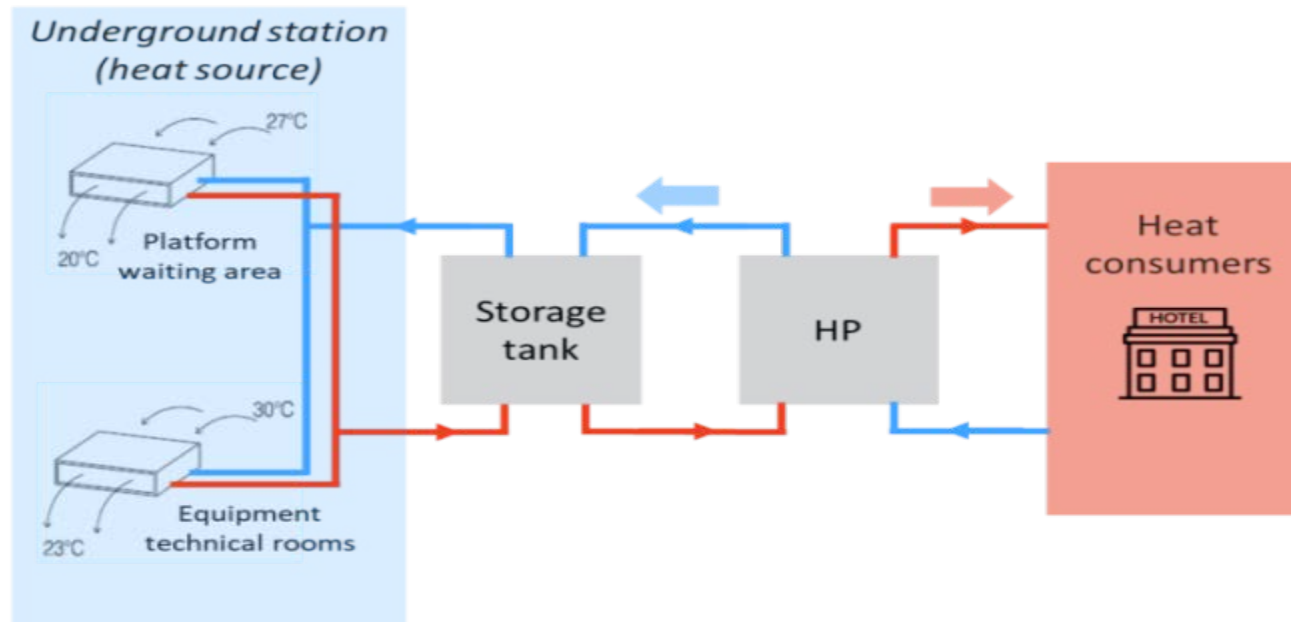


3. Waste heat recovery from cooling systems in tertiary buildings (Madrid)

- Offices, commercial, hospitals, supermarkets, etc.
- Heat source: rejection of heat from cooling plants



4. Waste heat recovery from underground railway stations (Bucharest)



- Heat sources: energy dissipation from train brakes + electric equipment (traction, lighting, HVAC, etc.)
- Fancoils in technical rooms and waiting platforms
- Booster HP injecting upgraded heat recovery into DHN / local thermal plant

Key Performance Indicators (KPIs)

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Energy

Primary energy savings

Useful energy demand

Final energy demand

Waste Heat Fraction

Seasonal COP of the HP

Social

People satisfaction

Comfort perception

Presence in social media

Economic

Cost avoidance

CAPEX

OPEX

Energy / Maintenance / Financing

PBP, RoI

IRR, NPV

Job creation

Environmental

GHG emissions reduction

Total GHG emissions

Beyond technology

Business models

Contracts

Investment risk

Bankability

Feasibility studies (5) - let us know if you are interested in having one

Thank you for listening!

