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REUSEHEAT

“Roadmaps are ready: now what??
Exploring the realities of the heat transition”

Brussels, February 13th, 2019

Speaker: Kristina Lygnerud (IVL, The Swedish Environment Research Institute)
The ReUseHeat vision - smart cities heat themselves
ReUseHeat facts

• Nine countries
• 15 partners
• H2020, Innovation Action
• 5 MEURO
• 4 years (started in October 2017)
# Introduction

## Context

- **H&C: 50% of EU final energy use**
- **EU decarbonisation**
- **EU Strategy on H&C**

## DHNs

**ReUseHeat**

- Technology demonstration
- Monitoring & Evaluation
- Business models
- Contracts

## Waste Energy

- **Building renovation**
- **Increase RES share**
- **User’s involvement**

**Urban**

**Industrial**

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

COMBINE TECHNOLOGY DEMONSTRATION WITH SOFTER ITEMS
(risk, business model, contracts, bankability, potential analyses)
**Expected results**: Useful insight for future investors (by means of a handbook)

- Efficient **technologies** and solutions
- Suitable **business models and contractual arrangements**
- Estimation of investment **risk**
- **Bankability** and impact of urban waste heat recovery investments
- **Authorization procedures** are examples of handbook content
Demosite 1

Waste heat recovery from sewage water network (Nice)

- Heat source: Cleansed water downstream WWTP
- LTDH network + reversible HP at substation level
- Waste heat source temperature: ~26°C (summer); ~12°C (winter)
- Enabler of high-efficiency heating/cooling operation at network level
Demosite 2

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

- Offices, commercial, hospitals, supermarkets, etc.
- Heat source: rejection of heat from cooling plants
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
Demosite 4

Waste heat recovery from underground railway stations (Berlin)

- Heat sources: energy dissipation from train brakes + electric equipment (traction, lighting, HVAC, etc.)
- Fancoils at platforms, in tunnels
- Booster HP injecting upgraded heat recovery into DHN / local thermal plant
Want to follow us?

Register at www.reuseheat.eu
Thank you for your attention!

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