Transition roadmaps for cities: how to scale up DHC pilots? Ideas from the Life4HeatRecovery project

Greening our cities with district energy – HeatNet NWE final event

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LIFE 4 HEAT RECOVERY

General info

PROJECT LOCATION: Italy, Germany, Netherlands
BUDGET INFO:
- Total amount: € 5.612.877
- % EU Co-funding: 60 %

DURATION: Start: 15/06/18 - End: 14/06/22
COORDINATING BENEFICIARY: Eurac Research
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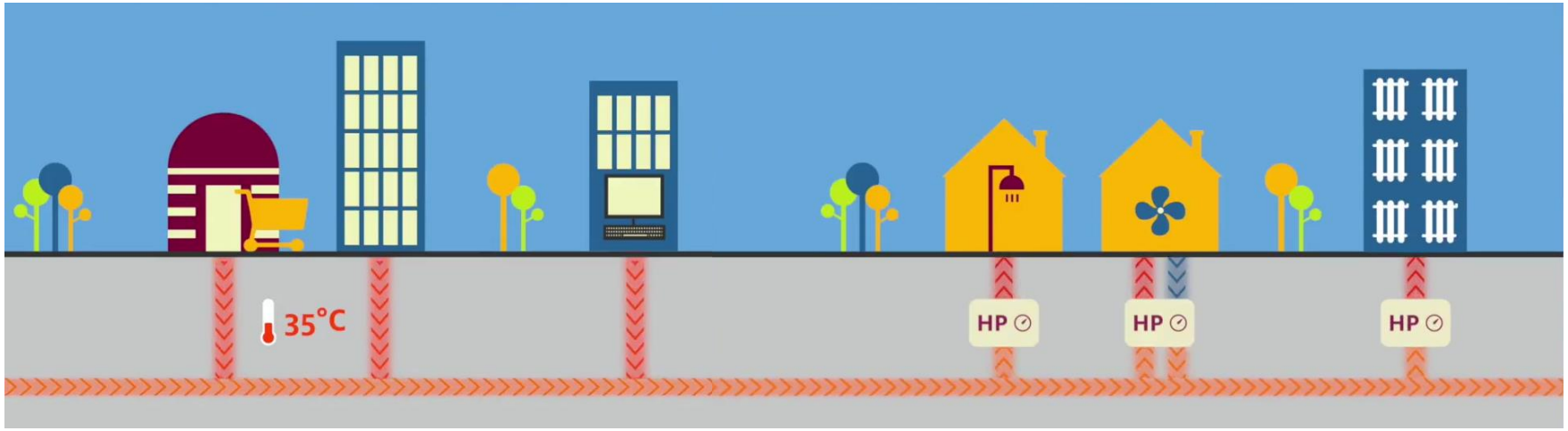
Objectives & Scope

LIFE4HeatRecovery demonstrates the recovery of **urban waste heat** available **at low temperature** (< 40 °C) in highly efficient **district heating and cooling networks** operated at conventional or low temperature.
This is done by means of **heat pumps** used either at heat recovery or heat utilization sites, with a focus on **prefabricated** solutions.



Examples of waste heat cases

Low-temperature heat can be found at:

- Cooling towers and dry coolers (from industries, hospitals, …)
- Chillers (from industries, supermarkets, …)
- Wastewater (from treatment plant affluent and effluent channels…)
- Water wells (open loop ground source energy)
- Agro-thermal fields (closed loop shallow ground source energy)
- Datacenters (liquid or air cooling)
- …

Demonstration sites ready to start

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Waste heat recovered and used:

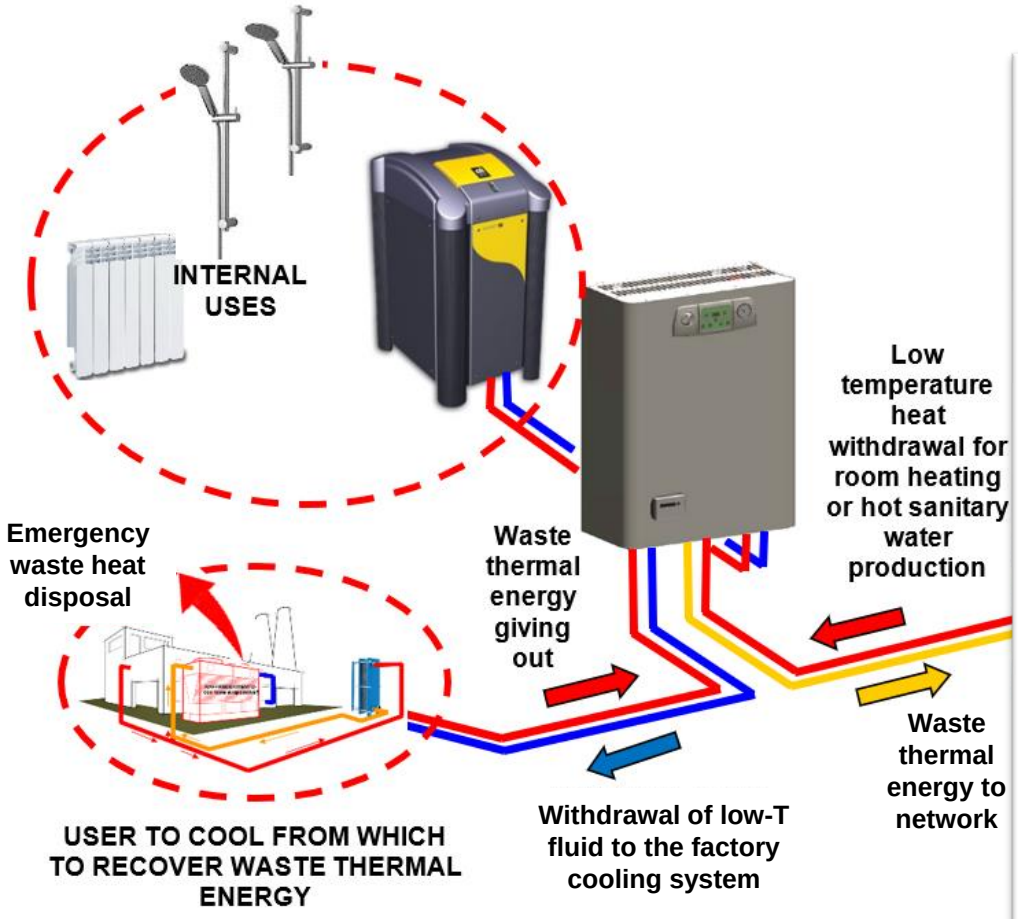
- **Ospitaletto, Italy**: about 230 MWh/y of heat recovery
- **Heerlen, the Netherlands**: about 1140 MWh/y of heat recovery

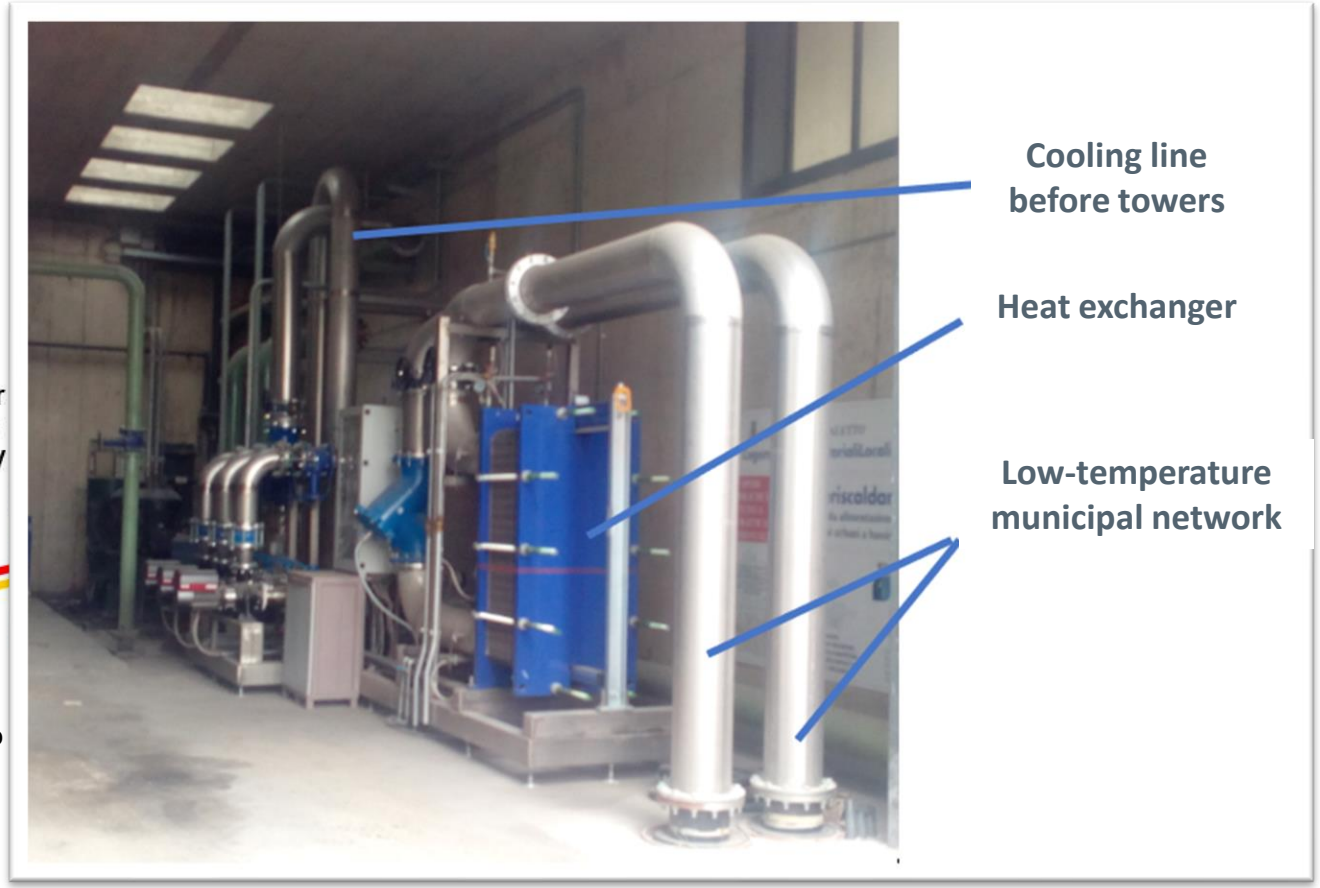
→ Innovative **prefabricated** skids including HPs
→ **Financing** schemes
→ **Business** models

Prefabrication is expected to be crucial to lower costs and installation times, while at the same time increasing replicability and trust form involved companies

Ospitaletto, cooling towers

Steel foundry





Heerlen, chillers

Detergent factory

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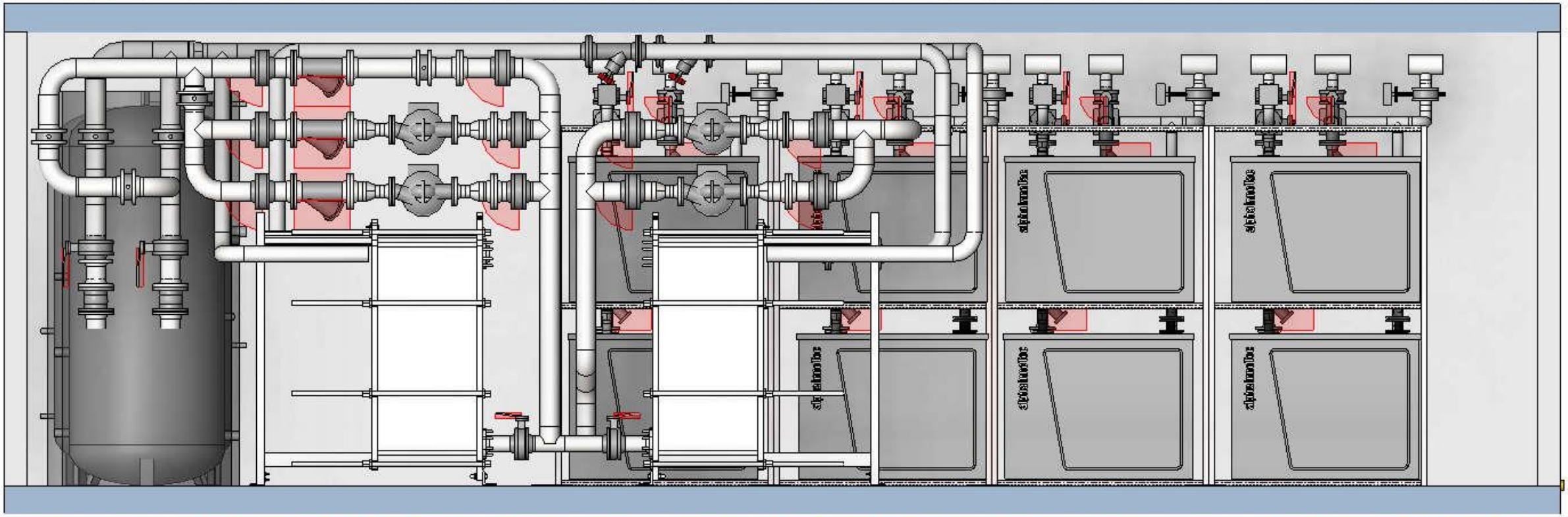


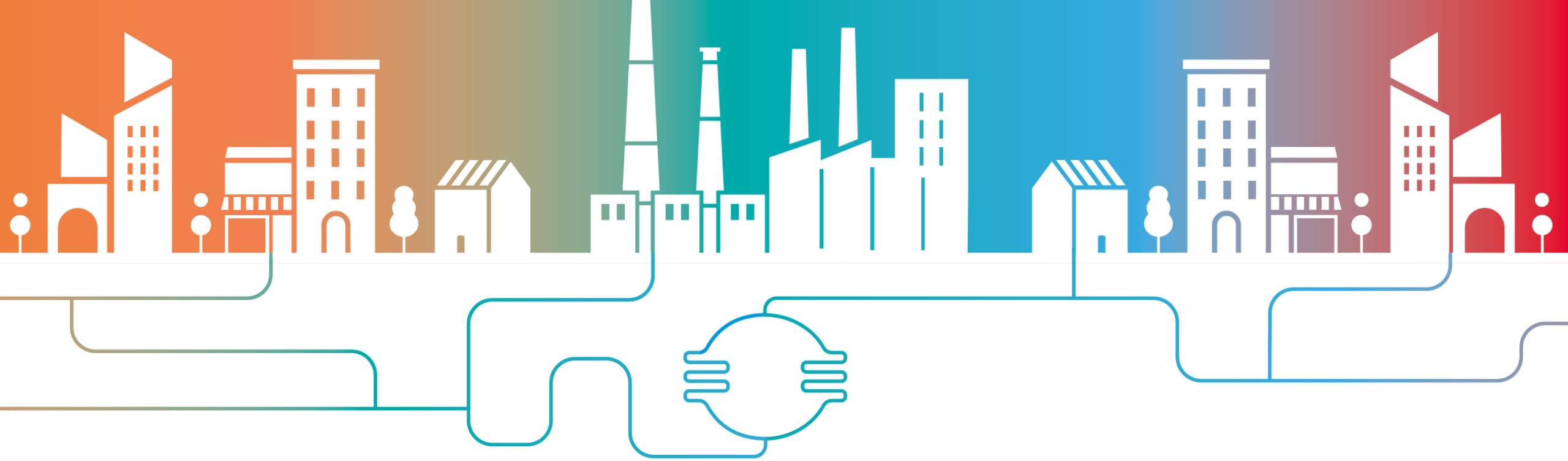
Beyond equipment

While technology (heat pumps, prefabrication) has a key-role, in order to widely spread this approach the project aims to consolidate:

→ **Business** models and trading schemes (multiple renewable sources can make pricing more complex); hence also…
→ **Financing** schemes (investment needs support); which in turn calls for…
→ **Risk** analysis (to increase investor and operator confidence).

The project also pursues **simulations** and **advanced control** solutions, as means to support the design of these strongly flexible and dynamic systems.

Finally, **GIS-based databases** will be built, in order to foster the efficient realization of feasibility studies in the sector, with a quick identification of potential sources.



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