ReUseHeat

There is enough waste energy produced in the EU to heat the EU's entire building stock; despite of this huge potential, only few small-scale examples of urban waste heat recovery are present across the EU. The objective of ReUseHeat is to demonstrate first of their kind advanced, modular and replicable systems enabling the recovery and reuse of excess heat available at the urban level.

ReUseHeat will tackle both technical and non-technical barriers to unlocking urban waste heat recovery projects and investments across Europe. There are four large-scale demonstrators in the project, showing the technical feasibility and economic viability of excess heat recovery and reuse from data centres (Brunswick), sewage collectors (Nice), cooling system of a hospital (Madrid) and underground station (Bucharest). The experience from running the demonstrators and from other examples across the EU will be consolidated into a handbook that will provide guidance for investors and project developers and support future uptake of using urban excess heat. It will include innovative and efficient technologies and solutions, suitable business models and contractual arrangements, estimation of investment risk, bankability and impact of urban excess heat recovery investments and authorisation procedures.

ReUseHeat kicked off in October 2017 and will run for four years. It is funded by the European Union's Horizon 2020 Programme for Research and Innovation. [1]

Goals

- Creating awareness and raising interest – to create a demand for urban waste heat recovery investments
- Fostering engagement – to create an acceptance of urban excess heat recovery investments
- Accelerating the market uptake of the ReUseHeat solutions – to facilitate implementation through a handbook that also outlines business models, contractual and legal arrangements, financing and technology solutions. [1]

Partners

- IVL: The Swedish Environmental Research Institute
- Euroheat & Power
- London School of Economics
- CARTIF
- Tractebel Engineering
- Halmstad University
- Aalborg University
- Rina Consulting
- Scientific and Technical Centre for Construction
- Électricité de France
- Metropole Nice Côte D'Azur
- Metroul
- Veolia Energie Deutschland
- BS|ENERGY
- gasNatural Fenosa
- Dansk Fjernvarme

Read more

Introduction to District Energy

- Waste energy recovery
- Waste heat from urban infrastructure

Technical Toolbox

- Waste heat from data centres
- Waste heat recovery from sewage water
- Heat recovery from the London Underground
- Waste heat recovery from electrical substations

Socio-Economic Toolbox

- Investment and capital funding

Case Studies

- ReUseHeat examples
  - Waste water as heat source in Kalundborg, Denmark
  - Excess heat from vegetable market in Copenhagen, Denmark
  - District heating from super supermarkets in Denmark
  - Excess heat from cooling at Grundfos in Bjerringbro, Denmark
  - Heat recovery from local paper mill in Skjern, Denmark
  - Industrial waste water used for district heating in Rødkærsbro, Denmark
  - Energy optimization in a supermarket in Høruphav, Denmark
  - District heating from crematory in Aalborg, Denmark
  - Co-production with a gas engine driven heat pump in Tønder, Denmark
  - Excess heat from hospital chillers in Viborg, Denmark
  - Excess heat from mink coat storage in Copenhagen, Denmark
  - Exploiting excess heat from a converter station in Endrup, Denmark
  - Heat recovery from the London Underground in Islington, UK
  - Sewage water demonstrators in Cologne, Germany
  - Excess heat from lignite mining in Bergheim, Germany
  - Datacentre supplies local heating in Mäntsälä, Finland
  - Heat pumps using waste water in Gothenburg, Sweden
  - Open District Heating in Stockholm, Sweden
  - District cooling in Helsingborg, Sweden
  - Energy recovered from sewage water in Sandvika, Norway
  - Excess heat from data centre in Val d'Europe, France
  - District heating in Castelnuovo del Garda, Italy
  - Industrial residual heat and transmission in Leiden, Netherlands
  - Heat recovery at hospital in Budapest, Hungary
  - Excess heat from sewage in Hamburg and Singen, Germany
- Handbook - 25 cases of urban waste heat recovery, by ReUseHeat 2017.

Project website

https://www.reuseheat.eu/

References

1. ↑ Jump up to:1.0 1.1 www.reuseheat.eu