



Smart networks integrating renewable and waste energy sources Newsletter #3 March 2021

In urban areas, where heat demand is highest, there is a large amount of renewable and waste heat freely available. Why use fossil fuels to heat our buildings when these viable alternatives exist?

REWARDHeat aims to demonstrate a new generation of low-temperature district heating and cooling networks, which will be able to recover renewable and waste heat available at low temperature.

Read the third newsletter to find out more about the project and our ongoing activities!





Euroheat & Power and the European Heat Pump Association, on behalf of the REWARDHeat project, are organising a webinar on waste heat recovery involving several EU projects. The discussion will involve projects focusing on both (<u>R-ACES</u> and <u>DryFiciency</u>) and (<u>REWARDHeat</u> and <u>ReUseHeat</u>). Each project coordinator will deliver a presentation, followed by a high-level panel discussion about the role of waste heat recovery in energy system decarbonisation.

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Demonstrator Networks

A new demonstrator has joined the project!

Szczecin, Poland



The Szczecin demonstrator is based on a newly built low-temperature network, installed as part of a new development on Łasztownia, an island within the city. The grid consists of a 2-pipe system with warm and cold pipe that distributes thermal energy flows between neighbors. The warm pipe operates at 30-50 °C and the cold line operates at 25-35 °C. The modern system will exploit local waste heat, heat pumps, cooling machines and renewable energy sources, enabling flexible use of heat and cold, and prosumer integration.

New Project Partners



E.ON Energilösningar is a subsidiary of EON Sverige and focuses on customer solutions such as energy sales, energy efficiency, district heating and cooling and the development of the new energy system. The company aims to be 100% fossil free by 2025. Today, E.ON Energilösningar delivers approximately 5 TWh hours of district heating to customers in Sweden, and also has extensive activities in the area of city quarter solutions. As part of the REWARDHeat project, EON will develop, design, build and evaluate a substation for 5th generation district heating and cooling networks, which will be demonstrated in Lund, Sweden.

Szczecińska Energetyka Cieplna (SEC) has been on the market for 60 years, supplying heat to the inhabitants of the city of Szczecin and the provinces of Western-Pomeranian, Pomeranian and Lubusz. For almost 20 years, SEC has been a part of the E.ON group.

SEC promotes and implements actions to drive the energy transition. One recent project, based on Łasztownia island in Szczecin, deploys a low-temperature heating system, fueled by local waste heat, heat pumps, RES, and waste-to-energy. The REWARDHeat project perfectly fits into an overarching plan for Szczecin which is to make Łasztownia a new, ecological and vibrant part of the city.



Project Results

D2.3 Utilities needs and best practice examples

This report aims to define the specific needs of potential end-users of the REWARDHeat predesign tool, and their translation into preliminary technical specifications

D5.2 Cybersecurity guidelines

The report presents cyber-security strategies and guidelines that should be foreseen in modern DHC networks according to the legislative framework.

Publications

A full list of the REWARDHeat publications is available here

- Fifth-Generation District Heating and Cooling Substations: Demand Response with Artificial Neural Network-Based Model Predictive Control. -> <u>Link</u>
- Advanced Control and Fault Detection Strategies for District Heating and Cooling Systems — A Review -> Link
- How innovative district heating networks reduce the consumption of fossil energy
 Link
- Integration of Renewables in DHC for Sustainable Living Workshop -> Link

Project Boost



Energy Integration: From Policy to Action

Energy system integration is the pathway towards an effective, affordable and deep decarbonisation of the European economy. An integrated and transnational policy framework is needed to maximise the synergies between different energy sectors. This policy workshop will discuss the current status of energy system integration and what the future might have in store.

Register here!

Virtual tours to renewable DH examples

The best way to learn about the use of renewables in DHC systems and to be inspired for starting new projects is to look at existing examples and to hear from peers how they initiated it all. In times of pandemic, however, site visits are often not possible.

That's why the EU project ENTRAIN prepared a 'virtual tour package', collecting videos of built examples of renewable DHC across Europe, describing the technical details as well as the story of how the project was started, developed and completed. Though videos are published in different languages, you can easily add automatic English subtitles on YouTube.

Have a look at the list here and stay tuned for more updates!







The University POLITEHNICA of Bucharest, one of the four demo sites of the WEDISTRICT project, is about to start the integration of renewables in its DH network, which is currently operated by a gas CHP unit. The new system will include a unit producing thermal energy from geothermal heat pumps combined with hybrid photovoltaic/thermal collectors.

Find out more here!

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Check out our LinkedIn for more detailed info

Check out the website



https://www.rewardheat.eu/





























































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