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## Smart networks integrating renewable and waste energy sources

### Newsletter #4

December 2021

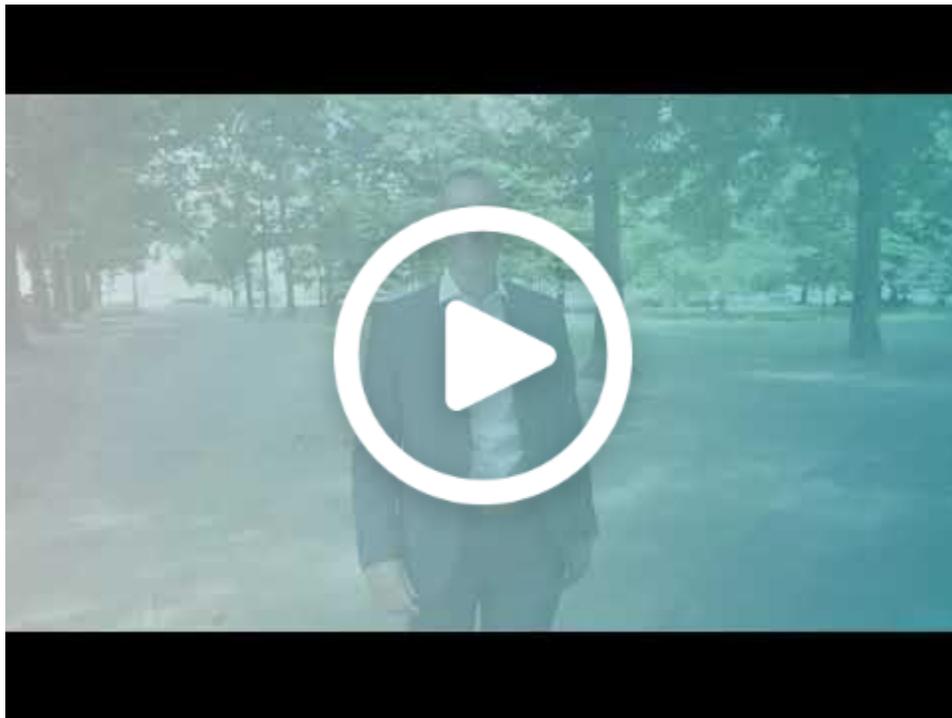
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In urban areas, where heat demand is highest, there is a large amount of renewable and waste heat freely available. Why use fossil fuels to heat our buildings when these viable alternatives exist?

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

### **Watch the latest promotional videos to learn more about the REWARDHeat demonstrator networks**



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## REWARDHeat Events

Are you interested in

**POLICIES & ACTIONS FOR EFFICIENT  
AND RENEWABLE DISTRICT HEATING?**



Then save the date and join us in Brussels  
(and online) on **February 9th 2022** from **9:00 to 13:30!**

Registration will open in January 2022



### REWARDHeat Policy Workshop

This half-day workshop focuses on best practice policies and actions for fostering the use of local energy sources in district heating networks to increase their efficiency and their renewable quota.

5 areas from Croatia, Germany, Italy, Poland and Slovenia will report their practical experiences. Then a discussion will follow where the wider picture of the frameworks at the national and European levels will be analysed.

The workshop is jointly organized by the European projects ENTRAIN and REWARDHeat and the Celsius Initiative.

Save the date! More information will come soon.

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8th International Conference on

## Smart Energy Systems

4th Generation District Heating,  
Electrification, Electrofuels and  
Energy Efficiency

#SESAU2022

energy CLUSTER DENMARK

### REWARDHeat Special Session: Technologies and management strategies of low- and neutral-temperature district heating and cooling grids

The session welcomes contributions with a focus on enabling technologies adapted to low- and neutral-temperature DHC grids. This includes innovative energy storage, piping and pumping technologies, large and small-scale substations. Monitoring and control of these components aimed at the efficient and flexible use of renewable and waste heat and interoperability between thermal and electric grids are also within the scope of the session.

For more information, or to participate in the session, please contact Karl Sperling, University of Aalborg ([karl@plan.aau.dk](mailto:karl@plan.aau.dk)).



### REWARDHeat Special Session: Planning and modelling of next generation district heating and cooling systems

This special session invites researchers to contribute to the planning and modelling of next generation district heating and cooling systems. Potential topics include optimisation of DHC systems, DHC network expansion planning, the role of DHC systems in renewable energy systems, power-heating sector coupling via DHC systems, waste heat utilisation, novel prosumer business schemes, thermal storage in new DHC systems, heat planning of novel DHC systems, and others.

For additional information please write to special session organiser Hrvoje Dorotić from University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture ([hrvoje.dorotic@fsb.hr](mailto:hrvoje.dorotic@fsb.hr)).



The REWARDHeat roll-up poster and flyer are now available!

The materials are available to download on the project website and have been translated into the national languages of the project's demosites. They provide useful information about the project activities, impacts and demonstrator networks.

The roll-up will be printed and used at conferences and workshops to promote the project. The factsheet is in digital format only to avoid the environmental impact of printing the materials.

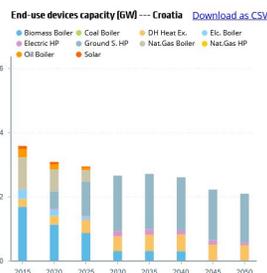
[Download the materials here](#)



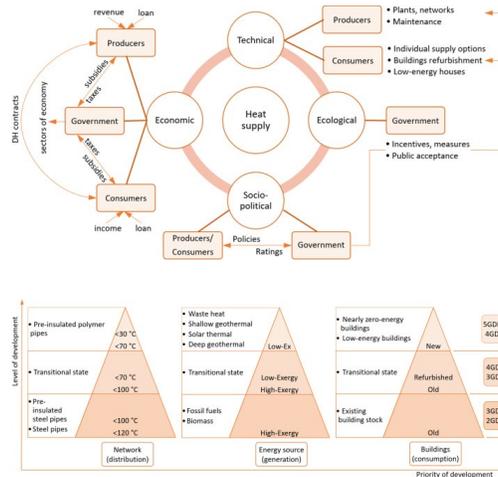
## DHC Scenario Development

REWARDHeat uses the well-known TIMES (The Integrated MARKAL-EFOM System) energy system model generator for the study of different energy modelling scenarios. 9 scenarios were created, based on 3 heat supply scenarios and 3 climate policy options.

You can compare scenarios and change assumptions (options) to explore how the energy systems are changing within different scenarios for each country. For further information and to explore the scenarios, follow this link -> <https://rewardheat.tokni.com/>



## Publications



### District heating systems modeling: A gamification approach

District heating is supposed to largely contribute to the achievement of climate goals in the near future. However, public awareness, understanding and acceptance of the technology are required. The REWARDHeat Serious Game can help reach the public and allow players to explore interdependencies between technical, economic, ecological and sociopolitical aspects of DH.

The full article is [available here](#)

## Latest Project Deliverables

### **D3.1 REWARDHeat PESTLE analysis**

The report analyzed factors impacting effective replication of low temperature DHC networks with low temperature heat and renewable energy sources integration.

### **D3.2 Customers' perspective on REWARDHeat solutions**

In this deliverable a survey was conducted with both professional customers and end-users in connection to the REWARDHeat demonstration sites.

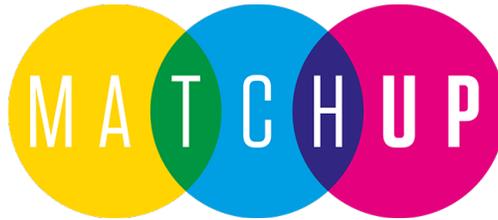
### **D4.1 Configuration and sizing of package substations**

This deliverable reports on the main outcomes of REWARDHeat activity focused on the definition of suitable packaged substation concepts for buildings connected to low- and neutral-temperature DHC networks.

### **D5.4 Advanced controls in DHC networks**

The aim of this report is to create common knowledge by comparing approaches and results.

## Project Boost



## MATCHUP

**Deliverable:** Methodology for integrated modelling and impact assessment of city energy system scenarios

As the largest consumers of energy, cities are set to play a key role in the transition towards a greener and healthier future. And with the global population expected to become 70% urban in the future, the challenge is to design cities able to balance energy efficiency, socioeconomic structure and historical identity.

-> [Link](#)

**Related Project** provides an innovative concept of decentralized ultra-low temperature (ULT) district heating networks, which allows for the incorporation of low-grade heat sources with minimal constraints. Thermal energy is produced at low temperature, with large shares of renewable and residual energy sources, and heat load is modulated with advanced control, and thermal storage, allowing for heat delivery at 40-45°C.

Learn more [here](#) ->



## Connect on social media



Follow the DHC+ Twitter for the latest updates



Check out our LinkedIn for more detailed info

## Check out the website



<https://www.rewardheat.eu/>



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