# Greening our cities with district energy

15th September - Online

*This conference is the final event of the [HeatNet NWE project](#), with the participation of the EU-funded projects [D2Grids](#), [LIFE4HeatRecovery](#), [Hotmaps](#), [REWARD Heat](#), [COOL DH](#) and [Tempo](#) (see a short presentation of the projects at the end of the programme).*

Decarbonisation of the heating and cooling sector is a major challenge to reach carbon neutrality in the near future. **One solution is to provide renewable and low carbon heat with district energy.** Today's most advanced 4th and 5th generation district heating and cooling (DHC) systems run at low temperature, allowing less heat loss through pipes, and the use of local heat sources. This means less $CO_2$ emissions and the development of greener local economy.

Despite these advantages, the use of district energy remains low across European countries, especially in the North-West area. However, **cities in collaboration with citizens, policy makers and companies can meet the challenge and overcome the policy and organizational barriers to the rollout of this innovative technology.**

This conference is a great opportunity to:
- learn from cutting-edge pilot cases across Europe,
- find solutions to replicate successful projects,
- share experience with like-minded people.

Thanks to the interactive format and the work in small groups, you will be able to ask questions and have fruitful discussions.

## Registration

Please register via this [registration form](#).

## Programme

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| 9:00 - 9:20 | **Introduction and Welcome** |
| | Rebecca Grossberg, Interreg North-West Europe Secretariat |
| | Donna Gartland, Codema |
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| | Moderator: Julien Joubert, Energy Cities |
| 9:20 - 10:15 | Have your say about the 4th and 5th generation DHC! |
| | Tell us what you think about the 4$^{th}$ and 5$^{th}$ generation for DHC via real-time polls. Our speakers will then react to your answers, giving you a glimpse of their projects! |
| | - Dominiek Vandewiele, Intercommunale Leiedal, pilot of HeatNet NWE |
| | - Herman Eijdems, Mijnwater, coordinator of D2Grids |
| | - Roberto Fedrizzi, Eurac, coordinator of REWARD Heat |
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| | Moderator: Julien Joubert, Energy Cities, involved in Hotmaps |
| 10:15 - 10:45 | Developing DH&C projects: Q&A with the pilots |
| | In this interactive session, you can discuss in small groups the projects developed by the HeatNet NWE pilots. |
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| | A) Developing 5th generation grid in Plymouth (UK) – Jonathan Selman, Plymouth City Council |
| | B) Multi-energy grid in Boulogne-Sur-Mer (FR), Ecoliane – Sebastien Duval, Dalkia |
| | C) District heating roll-out in South-West Flanders (BE) – Ann Andries and Bram Pauwels, City of Kortrijk |
| | D) Advanced 5th generation grid in Heerlen (NL) – Herman Eijdems, Minjwater |
| | E) Waste heat recovery from data centre in Dublin (IE) – Eddie Conroy, South Dublin County Council |
| | F) Using low-temperature DHC to fight energy poverty (UK) – Sara Cameron, Aberdeen City Council |
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| | Moderator: Julien Joubert, Energy Cities |
| 10:45 - 10:55 | Coffee break |
| 10:55 - 11:05 | HeatNet NWE: what's in it for you? |
| | Quick overview of the resources developed in the framework of the HeatNet NWE project |
| | Declan McCormac, Codema |
| | Moderator: Sara Giovannini, Energy Cities |

| 11:05 - 12:00 | Parallel session: |
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| | During these parallel sessions, we will discuss more in detail some key aspects of developing clean district heating and cooling systems. |
| | A) Transition roadmaps for cities: how to scale up DHC pilots? |
| | - Marco Cozzini, Eurac, coordinator of LIFE4HeatRecovery |
| | - Renee Heller, Hogeschool van Amsterdam (HeatNet NWE) |
| | - Veerle Cox, Intercommunale Leiedal (HeatNet NWE) |
| | B) Heat mapping and spatial policy for DHC development |
| | - Annemarieke Loth, Mijnwater (HeatNet NWE) |
| | - Audrey Pierre, Cerema (HeatNet NWE) |
| | - Marcus Hummel, e-think (Hotmaps) |
| | C) 4th and 5th generation DHC: what does it change in terms of operations and technologies? |
| | - Ilaria Marini, A2A Calore e Servizi (TEMPO) |
| | - Joyce Bongers, Mijnwater (HeatNet NWE) |
| | D) DHC business models and pricing |
| | - Benoit Hofer, Cap Construction (HeatNet NWE) |
| | - John O'Shea, Codema (HeatNet NWE) |
| | - Sara Kralmark, Kraftringen (COOL DH) |
| 12:00 - 12:15 | Conclusion |
| | Donna Gartland, Codema |
| | Moderator: Sara Giovannini, Energy Cities |

*This event is supported by the EU Covenant of Mayors for Climate & Energy*

## Projects' presentation

| HeatNet NWE (2016-2020) | The main outputs of the project are:<br>- A transferrable HeatNet model for the implementation of 4DHC schemes in North-West-Europe(NWE);<br>- Six living labs, which developed, tested and demonstrated through investments the HeatNet model to make it robust. The project results in 15,000 t $CO_2e$ saved per annum at its end;<br>- Transition Roadmaps plan for the roll out of new technical, institutional & organizational arrangements in 6 living labs (new roles and responsibilities of stakeholders, regulation & policies, spatial planning, business models & viability, connection to finance and markets, acceptance, etc);<br>- Promotion and replication of the HeatNet model in NWE through Transition Roadmaps to secure wide and long-term impact. |
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| LIFE4Heat Recovery (2018 – 2022) | The main results expected from the LIFE4HeatRecovery project are:<br>- Prefabricated skids installed;<br>- Database of DH networks solutions and waste heat sources developed. A reliable database of energy, environmental and economic performance will be created through monitored and simulated data.<br>- Trading schemes studied;<br>- Financing schemes developed. A Financing and Risk Management Plan for utility companies and investors will be elaborated, based on the assessed information. |
| Hotmaps (2016-2020) | The Hotmaps project develops an open source toolbox (Hotmaps toolbox) that comprehensively supports local, regional and national **heating and cooling planning processes**. It provides a **starting open data set to lower the initial barrier** in using the software. Users can adapt the information and provide more accurate, large and complex data for data for a specific area.<br><br>The toolbox is:<br>- **User-driven**: developed, demonstrated and validated in close collaboration with 7 European pilot areas.<br>- **Open source**: the software and all related modules will run without requiring any other commercial tool or software. Use of and access to Source Code is subject to Open Source License.<br>- **EU-28 compatible**: the software can be used in all 28 EU Member States thanks to a default open data set. |
| D2Grids (2019- 2022) | The D2GRIDS project aims to develop 5th generation urban heating and cooling networks (5G DHC) in Europe. They will allow to anticipate the needs or sources of waste heat, cold or renewable electricity in their vicinity. Similarly, local collective self-consumption logic will be optimized by broadly integrating heating and cooling needs, storage capacities or associated thermal or electrical flexibility.<br><br>The objective is to maximize the share of renewable energies in these local energy loops, through an industrialization of the approach, a standardized technological model, and a clarification of the business model to strengthen the interest of these projects for third party investors. |

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| **REWARD Heat**<br>(2019-2023) | The overall objective of REWARD Heat is to demonstrate a new generation of low-temperature district heating and cooling networks, which will be able to recover low-grade renewable and waste heat available at low temperature. It focuses on the exploitation of the energy sources available within the urban context in order to maximize the replicability potential of the decentralized solutions developed in the project.<br><br>REWARD Heat will promote punctual metering, thermal storage management, network smart control as means to enable and optimise the exploitation of renewable and waste heat in DHC networks. At the same time, this approach permits a change of paradigm with respect to the business models devised: thermal energy will not be seen as a commodity anymore, rather it will be sold as a service to the customers. |
| **TEMPO**<br>(2017-2021) | TEMPO demonstrates the applicability of low temperature district heating through a **comprehensive solution package** including technological innovations on the network and building side, consumer empowerment enabled by **digital solutions** and innovative business model for EU replication.<br><br>The main objectives of TEMPO are:<br>- Final development of **technological innovations** for low-temperature (LT) district heating (DH) networks.<br>- Quantify the **benefits of the TEMPO solution packages** for LT DH networks through demonstration in 3 sites.<br>- Empowerment of **end users** in LT DH network.<br>- Develop innovative **business models** and demonstrate their replication potential for the roll-out of sustainable and economically viable DH networks across the EU.<br>- Guarantee EU-wide **market uptake** of TEMPO solutions packages by developing an exploitation and replication plan. |
| **COOL DH**<br>(2017-2021) | The objective of COOL DH action is to support cities in their endeavour to plan and deploy new, efficient district heating and cooling (DHC) systems, and extend and refurbish existing ones to higher standards. Thus, it will be allowing greater uptake of renewables, recovering of excess heat or cold while improving the overall efficiency of the systems.<br><br>The main project goals are:<br>- Innovate, design and build c**ooling and heat recovery process systems**, enabling heat recovery to a local low temperature DH (LTDH) grid.<br>- Design and build a LTDH grid with **non-conventional pipe materials**.<br>- Innovate and design suitable **heating systems and controls inside buildings** that combine LTDH with distributed integration of local produced renewable energy.<br>- Develop viable business models and **new pricing systems**.<br>- Demonstrate a full system with all needed components suitable for low DH temperatures (40–65 °C). |