



Editorial

We have now entered into a new decade. While heating and cooling is a key sector to develop renewable energy and decarbonize our cities, there is still a lot to be done. We believe **5th generation district heating and cooling (SGDHC)** can help us make our cities more sustainable, and that is the reason why the **D2Grids project** came to be. Our objective? Decarbonizing the urban building stock with a new type of heating and cooling network.

It has been almost a year since the project was awarded, giving us a great opportunity to engage on structural work on the SGDHC concept. This first year has been a good start. We have been facing a period of hard work to get things organized. Partners worked on **technology definition, financial models** and the **5 pilot sites** are now getting ready to implement SGDHC technology. Communication around SGDHC is also well underway with highlights during Batimat Paris, where **Mijnwater won a prize at the Green Solutions Awards**, and the first NWE capitalisation event **NWE making an Impact**.

2019 was also about governance and program management, with special thanks to Grants Europe, who helped us set efficient tools to work in collaboration.

The coming year though will be a year for speeding up, and exchanging information, ideas and inspiration! We look forward to the **Energy Cities Conference in Heerlen**, where we will meet over **100 experts from EU-DHC projects**, in the presence of Frans Timmermans, Executive Vice-President of the European Green Deal at the European Commission.

We are full of energy and ready to give our contribution to the **defossilization of our cities!**

Herman Eljdeems - Innovation manager, Mijnwater B.V

Case study

Bochum, from coal mining to heat extraction

FUW GmbH Stadtwerke Bochum Holding GmbH



FUW GmbH, a subsidiary of the municipal company Stadtwerke Bochum Holding GmbH and a project partner, is developing a project to **convert a former coal mine into a SGDHC network pilot site**.

The project to rehabilitate this former mining site into an industrial and commercial site is a real opportunity to **deploy a 5th generation heating network**. This will benefit from the **geothermal energy** of the water stored in the old mine and will provide **low-energy consumption (Low-Ex)** cooling and heating. Over time, coupled with a **photovoltaic installation**, the project could **cover 80% of the needs of the 70-hectare site**.

Find out more about the background and characteristics of the project in the article by **Frank Peper, Senior Vice President of Stadtwerke Bochum Holding**

[Read more](#)

Awards

Mijnwater wins the 2019 Sustainable Infrastructure Grand Prize at the Green Solutions Awards International



On November 4th 2019 at the Batimat fair (Paris), the Heerlen heating network won the **International Sustainable Infrastructure Award** at the Green Solutions Awards, a competition run by Construction21. **Angellique Palmen, the Mijnwater CEO and Louis Hiddes, the former CEO** were present to receive this distinction.

The ceremony brought together **pioneers of sustainable construction** from China, the Maghreb, Africa and all over Europe. Thanks to this prize awarded by an international jury, the project leader of D2Grids, Mijnwater B.V., will benefit from a high visibility during the year 2020, allowing for increased promotion of 5th generation heating and cooling networks.

As a result of this award, a **video about the Mijnwater grid** was produced to highlight the project.

[See the video](#)

Expert insight



Decarbonising cities with 5th generation heating networks

NordicHeat

In recent years, progress in **energy decarbonisation in the UK** has concentrated on the electricity sector. There is still a lot of efforts required for decarbonised heating and cooling to develop, as it has been done in Sweden.

Mark Woodward, co-founder of the Smart City Alliance, explains how Nordic Heat's SGDHC demonstrator project in **Nottingham** represents a real opportunity to develop heating and cooling networks in the country.

[Read more](#)



What is the future of heat supply in cities?

Open University

The Netherlands depends mainly on natural gas to heat its homes and offices. In order to **emancipate from a single energy source** and move towards decarbonised consumption, heating and cooling networks using **renewable energies** represent a relevant response.

Steph Boesten, PhD researcher at the Open University, explains why these networks are particularly suited to the local characteristics of the Netherlands.

[Read more](#)



Residential-tertiary : combining high-performance renovation and decarbonised heating networks

Greenflex

The residential-tertiary sector (homes, shops, offices, public buildings etc.) is the **largest energy consumer in France**, accounting alone for 46% of final energy consumption and is also the **second largest producer of GHGs**. To reduce this burden, **Greenflex** highlights the importance of combining all available solutions in a flexible way.

The D2Grids project integrates these solutions through the possibility of **coupling heating networks and high-performance renovation**.

[Read more](#)



Creating "energy communities" to optimize heating networks

EcoTransfaire

The successful installation and operation of a **decentralised heating network** are closely linked to **social acceptance and collective practices**.

Integrating differentiated uses and considering the ideas and specific expertise of each stakeholder are all aspects that enable **"energy communities"** and contribute to the adoption of heating networks such as those deployed by D2Grids.

[Read more](#)

Publications



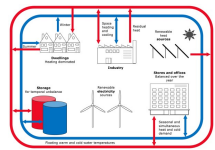
Vito and Greenflex deliver market survey results

Greenflex/Vito/BRGM

D2Grids project partners **Vito, Greenflex and the BRGM**, have drawn up an inventory of existing technologies for heating networks.

The document provides an **overview of the potential sources of energy supply** for 5th generation networks, their potential for standardisation but also the challenges to come.

[Read more](#)



SGDHC : a solution for renewable urban thermal energy supply

Open University, Mijnwater B.V

What is a 5th generation heating and cooling network? How does this concept differ from conventional district heating systems?

This article, resulting from a cooperation between **Open University, Utrecht University and Mijnwater B.V.**, gives a definition of SGDHC and displays, from the demonstrator of Mijnwater B.V. in Heerlen, what this type of urban network can look like.

[Read more](#)

News from the partners



D2Grids at the Interreg event "NWE making an Impact!"

Interreg NWE organised its **first transnational impact event in Tourcoing (France)** on the 4th and 5th December to present the results achieved by the **83 NWE projects funded** so far.

The partners **Mijnwater B.V., EcoTransfaire and Construction 21** had a stand to present D2Grids and to exchange in a dynamic and interactive way about the project.



Steering Committee

On Nov-7-8 2019, project partners met in **Bochum, Germany** for the second **Steering Committee of the D2Grids project**. The objective: getting a general view of the project's progress and setting up next steps for 2020!

Workshops and thematic meetings made it possible to make progress on various subjects such as post-project capitalization and the **technical definition of SGDHC**. The 2-days meeting ended with a visit to the Bochum pilot site.

About D2Grids

The project "demand-driven grids" (D2GRIDS), funded under Interreg North West Europe (NWE) programme, aims to develop 5th generation urban heating and cooling networks (SGDHC) in European cities.

The objective is to maximise the share of renewable energies in local energy loops, through an industrialisation of the approach, a standardised technological model, and a clarification of the business model to strengthen the interest of these projects for third party investors.

The project will last over 3 years (2018-2022). Mijnwater Ltd. based in the Netherlands is lead partner. The project comprises 12 partners and 7 secondary partners. Five pilot sites located in Paris-Saclay (France), Bochum (Germany), Brunnsum (Netherlands), Glasgow and Nottingham (United Kingdom) will develop SGDHC networks.

Want to keep updated about the D2Grids project?

[Join the community on Construction21!](#)