MIJNWATER LEAD PARTNER D2GRIDS PROJECT
Rolling out 5G District Heating & Cooling
A new Interreg NWE project

D2GRIDS is an acronym for ‘demand driven grids’. This new Interreg North-West Europe (NWE) project, coordinated by Mijnwater Ltd., aims to upscale 5th generation District Heating and Cooling (5G DHC) grids across Europe. Five pilot sites in Paris-Saclay (FR), Bochum (GE), Brunssum (NL), Glasgow and Nottingham (UK) will develop 5G DHC grids. The 20 million EUR project is supported by Interreg funds, covering close to 60 % of the overall budget - 11,6 million euros. D2Grids first kick-off meeting, held in Heerlen, set the stage for three years of intense collaboration among European partners to roll out this proven technology.

What is 5G DHC?

First developed in Heerlen by Mijnwater Ltd., and in contrary to conventional district heating, this thermal smart grid is based on low temperatures. By a cloud of decentralized heat pumps, located at end-user accommodation, energy is exchanged on the grid, and flows are induced through customer demands. The concept allows large scale utilization of low temperature waste heat, from data centers, supermarkets, industry, etc. The five partner pilot sites aim to connect ca. 50,000 m² of dwellings and/or commercial buildings to a 5G DHC grid.

Mijnwater Ltd is lead partner of this Interreg NWE D2grids project with Herman Eijdems as leading manager of the project. Herman’s vision about the role of Mijnwater: “The energy transition is the major challenge of this era; the 5G DHC concept, as such, is a powerful and affordable strategy to decarbonize building stocks in urban environment all over Europe. In the city of Heerlen we show proven technology and are eager to share our expertise and experiences to accelerate the developments in other areas.”

Attracting stakeholders to roll out the technology

Upscaling the technology - boosted by transnational cooperation - enables the consortium to raise the interest of the industry to develop the right products and reduce the costs by 10-20%. VITO in Belgium is a key project partner for industrializing the 5G DHC concept and to evaluate results. In the Parkstad Limburg region Mijnwater cooperates with Weller Social Housing foundation in order to connect thousands of dwellings during their renovation process.

Moreover, the project will deliver plans to create further similar developments in Parkstad Limburg, North-East France, Luxembourg; Flanders, the Ruhr-area, Scotland and East Midlands (UK). Dedicated education and training programs, will be set up by Open University, a partner in the project, bringing in expertise on post-graduate and digital learning. The investment-level for such a technology must gain interest from large investors (like pension funds). Asper+M from London will participate by introducing business models and knowledge platforms for the financial markets.

Commissioned by Mijnwater the application was successfully constructed by EUQuest in Heerlen and Grants Europe Consulting in Budapest.

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About Mijnwater Ltd.

Full-fledged supplier of renewable energy
Mijnwater B.V. (founded in 2013) has the ambition to roll out the project of the municipality of Heerlen into a fully fledged sustainable energy company. With the sale of the Mijnwater shares by the municipality of Heerlen to Limburg Energy Fund (LEF) in 2018, Mijnwater accomplished the next step towards the position of being a major green energy company. Louis Hiddes (director): “We have the knowledge to disconnect neighbourhoods, both new and existing, from natural gas. This is already apparent in many homes, businesses and schools in the region. And we are going to expand to many more locations in Heerlen and the surrounding area. Although the idea of our thermal smart grid is born from utilizing the enormous water reservoirs in abandoned mines, the 5G DHC technology has been developed to a promising concept also for cities not allocated to former mining activities. Demand driven approach and closing the energy loop are universal key features of this concept.

International recognition
Mijnwater B.V. is gaining more and more international recognition for its innovative ‘demand driven supply’ system. A system in which energy flows occur from customer demand only, as such giving minimal losses, but also low temperature demand is served by low temperature sources. Enabling a wide range of (waste) sources to contribute to thermal comfort in buildings and utilizing multilevel storage to overcome time gaps in generation and demand. Smart control accommodates further performance based on factors such as weather forecasts, cell balancing and market interaction. Adaptive control and learning algorithms generate an optimum yield from multiple resources, such as solar energy (solar thermal and photovoltaic), wind energy, biomass energy and industrial waste.

Mijnwater energy is now an essential part of regional 2040 renewable energy roadmap and has been included in the Parkstad Limburg Energy Transition (PALET) strategy.

12 project partners and 7 sub partners

Partners

Subpartners