Interreg North Sea

Co-funded by the European Union

WaterWarmth

AQUATHERMAL ENERGY

FIND OUT IF THIS FREE, SUSTAINABLE AND FOSSIL FREE SOURCE FITS YOUR REQUIREMENTS

WaterWarmth aims to raise awareness about the potential of Aquathermal Energy (AE) so that more energy cooperatives can utilize this sustainable energy source. This is important because it leads to:

- Reduced carbon dioxide (CO2) emissions.
- Decreased air pollution.
- Generating our own energy, thus keeping money within our own economy instead of sending it abroad, as with, for example, Russian gas.
- More efficient use of energy and resources.

We achieve this through collaboration with 20 partners across 6 work packages, ultimately aiming to provide the knowledge necessary for collective energy initiatives. These work packages include researching how to intelligently utilize the local energy system, scaling up, and facilitating regulations and permits.

Who benefits from this project?

- Companies involved in heat pump manufacturing, design, and installation of heat networks.
- Installation companies, sellers of heat exchangers and heat pumps, as well as ground and water companies. Engineering firms.
- Local government authorities: municipalities and cities benefit from clarity on higher-level policies, gain insights into facilitating energy communities, and receive input for strategies and plans for the energy transition.
- Citizen initiatives and energy communities benefit from insights and information about bottom-up energy transition.
- Education can integrate practical information and examples into their curriculum.

About the project:

- Lead partner: Province of Fryslân.
- 20 partners from 6 countries: Sweden, Denmark, Germany, The Netherlands, Belgium, and France.
- Duration: June 15, 2023 – September 15, 2026.
- Total budget: € 7,997,253.

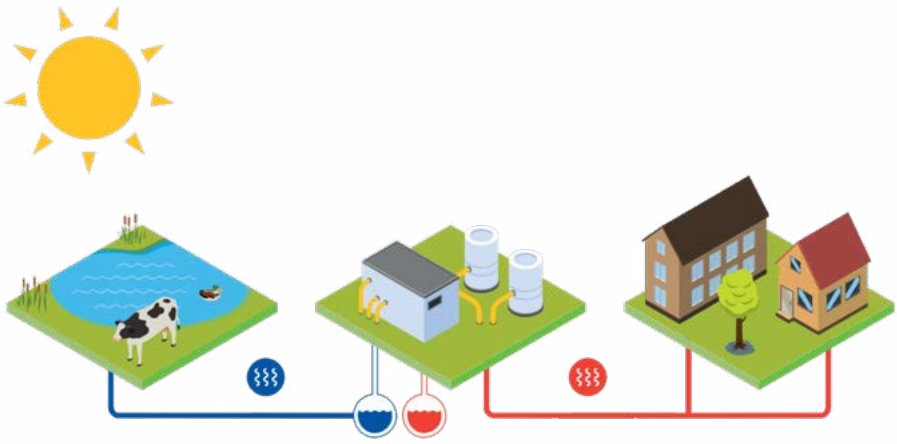
If you'd like to follow our journey towards sustainable energy, visit **www.interregnorthsea.eu/waterwarmth** and subscribe to our newsletter.

ACCELERATING THE TRANSITION TOWARDS SUSTAINABLE HEATING AND COOLING BASED ON COLLECTIVE SURFACE WATER HEAT PUMP SYSTEMS

Roughly half of the energy consumed in Europe is used for heating buildings, mostly sourced from fossil fuels such as gas from Russia. The WaterWarmth project aims to reduce CO2 emissions, pollution, and dependence on energy imports. It also aims to improve the efficiency of energy and material usage. WaterWarmth focuses on energy cooperatives and develops solutions across 6 research themes. Within WaterWarmth, 20 parties collaborate to address this issue throughout the entire North Sea Region (NSR).

What is aquathermal energy?

It is the extraction, storage and distribution of heat from water. Within aquathermal energy there are three different main sources to extract heat from: waste water, drinking water and surface water.
With the help of a heat exchanger, warmth is extracted from a source and with the help of a heat pump this energy is used to bring water to an suitable temperature for heating and hot water supply. Aquathermal energy can also be used to cool buildings



How do I know if Aquathermal Energy (AE) is suitable for our cooperative?

We conduct a 'quick scan' that allows us to quickly assess how much energy we can extract from water and whether Aquathermal Energy (AE) is a suitable energy source for the region. We have developed a fast method to conduct in-depth analysis of the energy system. This enables, among others, project developers to better understand what is technically feasible for their projects.

Where can I see how it works in practice?

We are implementing various pilots to examine how different water sources can be utilized. We test Aquathermal Energy (AE) using seawater, rivers, and lakes. We have examples on both small and large scales. We assess what works best and can be reused in other projects.

How do I know what I need to consider?

We research the various aspects that need to be taken into account. We gather insights that either promote or hinder developments and share those insights. We disseminate knowledge to professionals, academia, and education, thus gaining a comprehensive understanding of all aspects.

How do I know if all of this is reliable?

We test our ideas in real-life situations to see if they work. Based on what we learn, we develop practical plans to assist in designing large Aquathermal Energy (AE) projects. Additionally, we aim to create a user-friendly system that ensures the energy extracted from water is reliable for the users.

How profitable is aquathermal energy actually? Can any installation company implement the technology?

We investigate the important aspects that influence energy security and independence. We assess the opportunities aquathermal energy presents in the current energy market, including from an economic perspective. Aquathermal Energy (AE), as an alternative to fossil fuels, must contribu-

te to a sustainable and equitable energy system for the future. Once we have clarity on this, we can assist policymakers in planning and decisionmaking.

What about regulations and, for example, permits?

We are going to develop a system to assess the current state of governance, regulations, and community involvement in Aquathermal Energy (AE). We will also examine the community involvement in other heating alternatives. Our aim is to explore how projects can be managed and how citizens can be engaged. We will collaborate with regional partners, such as local governments and community groups, to develop plans and policies. Additionally, we will inform national and European policymakers about our ideas.

WaterWarmth
NSR Region

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A GREEN
TRANSITION

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