

Implemented by:



## Europe learning about geothermal energy in Norway

April 2023

Geothermal energy researchers from Poland, Iceland, Hungary, Slovakia and Norway were gathered in Oslo, Norway, from May 23<sup>rd</sup> to May 25<sup>th</sup>, 2022. The event was organized by the User4GeoEnergy project, with NORCE as host.

### Energy efficiency, sustainability and reduction of CO<sub>2</sub> emissions

The aim of the User4GeoEnergy project is to use geothermal energy to increase the efficiency of district heating (DH) systems in Poland, Hungary and Slovakia, in order to increase sustainability, decrease air pollution and carbon dioxide (CO<sub>2</sub>) emissions. Meeting these goals should contribute to making geothermal DH systems more popular in cities and contribute towards mitigating climate change and more energy security.

The project's partners are the Mineral and Energy Economy Research Institute of the Polish Academy of Sciences (MEERI PAS) from Poland, who is leading the project, SLOVGEOTERM a.s. from Slovakia, InnoGeo Ltd. from Hungary, the National Energy Authority from Iceland, and NORCE from Norway.

### Site visits

During the visit, emphasis was on introducing activities utilizing the low-temperature geothermal heat available in Norway.

Visits were made to *Fjell school in Drammen* where energy stored in the ground during summer is used directly for heating the school in winter, to *Føyka football court in Asker* where geothermal heat is used to heat the grass of a football court during winter, to the building complex *Wesselkvartalet in Asker* where energy stored in the ground is primarily used for keeping pavements ice free in winter, and to the commercial building *Økern portal in Oslo* where direct use of groundwater is used for heating and cooling of the building.



Implemented by:



### Seminar

A one-day seminar was held in Oslo, presenting the project and relevant companies and activities in Norway, including The Norwegian Water Resources and Energy Directorate NVE, the Norwegian Heat Pump Association NOVAP, the research institutes SINTEF and NORCE, and the companies Celsius, Ruden, Geothermal Energy Nordic, and MuoviTech.

### Utilization of low-temperature heat

The systems and solutions presented in Norway form a contrast to systems presented by the project partner on Iceland, since the water temperature in the ground in Norway is far below that on Iceland. The geothermal water temperature in the other project partners' countries lay between these extremes.

A goal of the site visit to Norway was to make the Norwegian geothermal community aware of the possibilities in Poland, Slovakia, and Hungary, and vice versa. This can enable future cooperation, both commercially and within research.

### Project details

The project started in October 2020 and will last until September 2023. The budget is EUR 1.32 million and is financed by the EEA and Norway Grants Fund for Regional Cooperation. Kirsti Midttømme, chief scientist, is in charge of the project on behalf of NORCE.

The project focus is on district heating power control systems and on the importance of individual customers in the system. The main project activities are:

- Exchange of good practice in the management of geothermal district heating between the project partners
- Mathematical modelling of geothermal systems combined with district heating

Presentations from companies during the visit, as well as more information on the project, can be seen [here](#).

