



# Hocloop project Verification testing at Ullrigg in Stavanger

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Stavanger, November 13, 2024



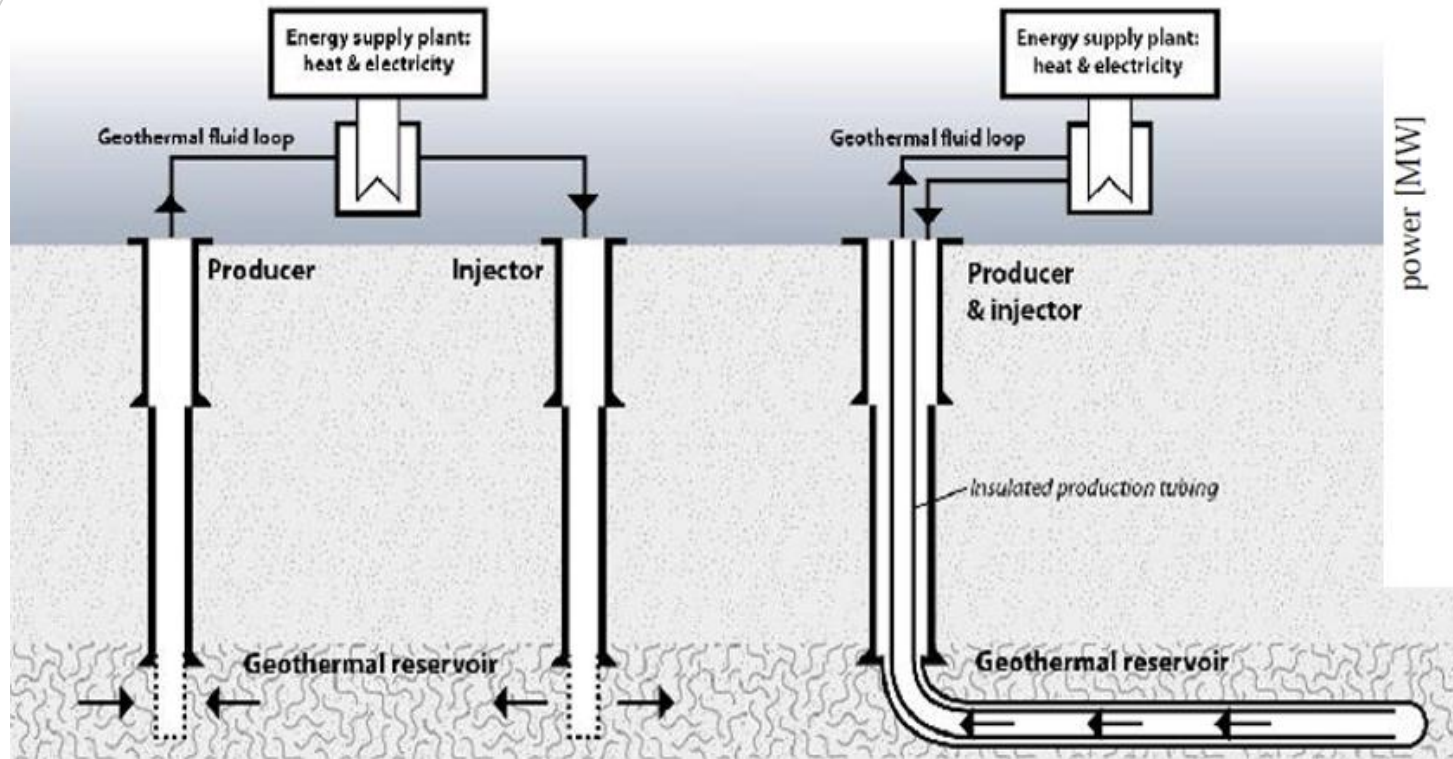
This project has received funding from the European Union's Horizon Europe research and innovation program under grant agreement No 101083558.

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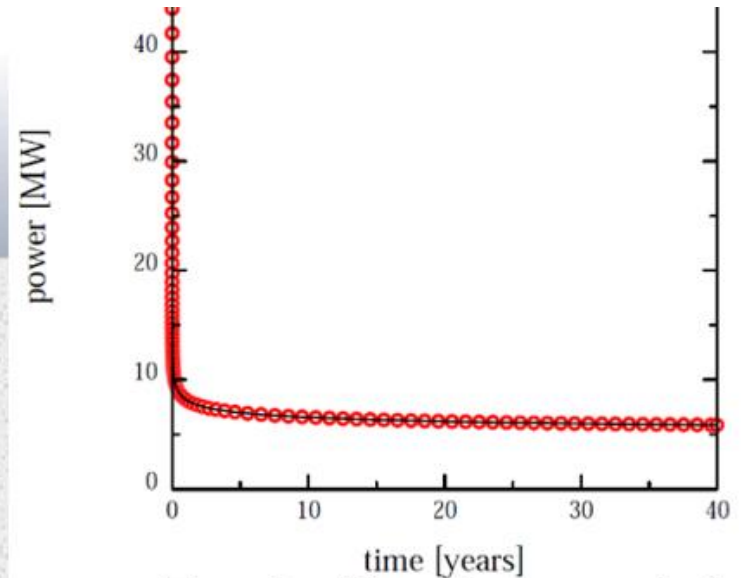


# Hocloop project - motivation



Conventional 2-well

Hocloop – single well



Example of thermal power production potential for a deep horizontal well

Idea:

- Horizontal Closed Loop (HOCLOOP)**
- Reduce risk and problems vs conventional
- Improve access to geothermal energy
- Enable production of heat forever



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# Hocloop - project

**Funded by EU Horizon Europe Programme. Budget 5 MEuro over 4 years**

## **Participants:**

<b>Norway:</b>	<b>IFE (co-ordinator), Norce/Ullrigg, Reelwell/Geotherma</b>
<b>Belgium:</b>	<b>VITO</b>
<b>Finland:</b>	<b>Uni Vaasa</b>
<b>France:</b>	<b>IFPEN</b>
<b>Germany:</b>	<b>TU Darmstadt</b>
<b>Italy:</b>	<b>Uni Firenze &amp; Uni Bari</b>
<b>Poland:</b>	<b>AGH Krakow</b>

## **Scope:**

- Develop and verify the heat flow models**
- Develop and verify a full-scale solution for the well completion**
- Investigate for potential geothermal pilot wells in Europe and its acceptance**
- Investigate the potential for improvements by use of alternative circulation fluids**



# Full scale verification at Ullrigg in Stavanger

- **Verify the installation of a prototype 650 m deep dual-pipe completion string**
- **Verify the heat flow models by a Thermal Response Test**



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# Full scale verification at Ullrigg in Stavanger



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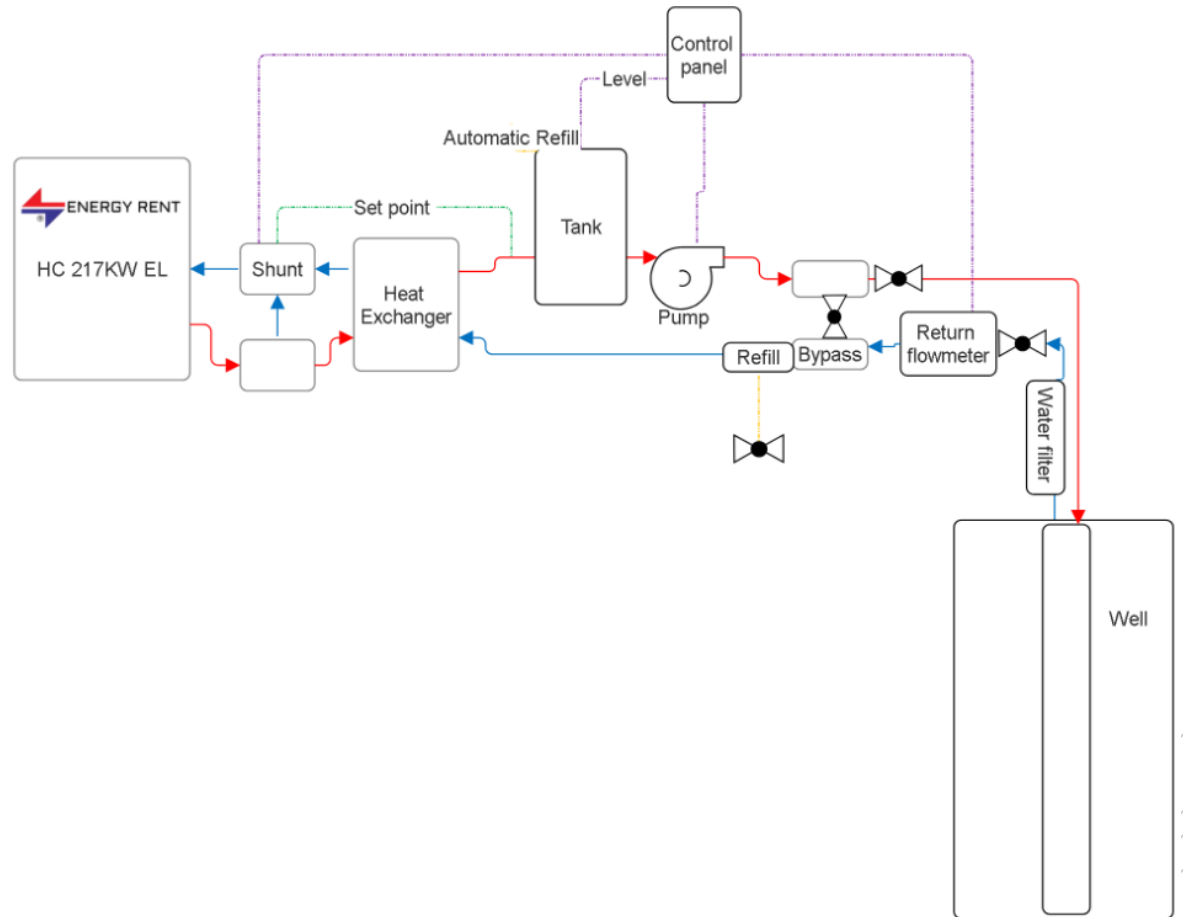
# Full scale verification at Ullrigg in Stavanger

**Movie from the installation - 3 min.**



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# Thermal Response Test



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# Thermal Response Test - Wellhead



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## Next step and outlook

- **Complete the thermal response testing in November 2024**
- **Pull out and inspect the DHS completion string, analysis and reporting**
- **Consider design improvements and an optional drill-in solution**
- **Consider implementation of the technology for district heating at:**
  - **Hocloop: European candidates in Belgium, Poland, Italy, Germany and France**
  - **Longyearbyen, Svalbard, Norway**
  - **Several district heating sites in Denmark**

