



GEOTHERM-FORA Deliverable D7.6

## Short Promotional Movie

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## 1 Executive Summary

The deliverable D7.6 is a series of short, engaging videos focused on geothermal technologies published on the ETIP-Geothermal (ETIP-G) website. These videos aim to highlight innovative developments in the geothermal sector and their role in shaping a sustainable energy future in Europe and beyond. Designed to inform and inspire, the promotional content was created to target stakeholders within the energy sector, policymakers, researchers, and the general public. The videos are part of ETIP-Geothermal efforts to raise awareness about geothermal technologies and their transformative potential. This report outlines the project objectives, the target audiences, and the planned next steps to expand the initiative further.

## 2 Introduction

As the world intensifies its focus on renewable energy, innovative geothermal solutions are emerging to meet energy demands sustainably, securely, and affordably. From new exploration and drilling techniques to better power and heat supply systems and groundbreaking lithium extraction methods, European companies are at the forefront of this transformation. Here's a closer look at five trailblazing projects redefining geothermal energy.

## 3 Videos

### 3.1 Canopus Drilling Solutions

**Revolutionizing Drilling Efficiency: Canopus Drilling Solutions Geothermal BV (Netherlands), with the project Field pilot of the Directional Steel Shot Drilling technology at VersuchsStollen Hagerbach, CH.**

The novel hybrid directional steel shot drilling (DSSD) technology developed by Canopus drills up to three times faster than pure PDC drilling while steering through any rock type and at any depth. Firstly, the impact on the rate of penetration was tested at the full-scale drill test facility at TNO RCSG in NL. Secondly, a field pilot was done at VersuchsStollen Hagerbach (VSH, CH) in June-July 2023. That pilot demonstrated the steering with DSSD by drilling two shallow horizontals of 125 m in length each.

The project was done as part of the Deploy the Heat project [www.deploitheheat.eu](http://www.deploitheheat.eu) (Joint Call Geothermica SES 2021).

Video: <https://www.youtube.com/watch?v=wB6XXtc-zNY>

### 3.2 Deutsche Erdwärme

**Unlocking Hot Reservoirs: Deutsche Erdwärme GmbH (Germany), with the project Geothermal Well GN-Th-1 (Geothermal Project Graben-Neudorf).**

The geothermal project of Deutsche Erdwärme GmbH in Graben-Neudorf, in SW-Germany (Baden Württemberg) has demonstrated for the first time in the Upper Rhine Graben the innovative application of silicate drilling fluid systems in combination with an offshore mud cooler technology to successfully cope with very hot subsurface temperatures in challenging reactive geological formations

enabling the successful exploration of fractured reservoirs in a temperature environment of up to 205°C.

Video: <https://www.youtube.com/watch?v=J1-joGGV51s>

### 3.3 Halliburton

**Powering Efficiency in High-Flow Applications: Halliburton (Netherlands), with the project GeoESP Intake: Geothermal Electric Submersible Pumps (ESP) Intake.**

The GeoESP Intake leverages technologies from the oil and gas and medical industries to reduce power consumption in some cases by over 30% for Geothermal Electric Submersible Pumps (ESP) in high-flow geothermal applications (> 92 lt/s). The GeoESP Intake design for a variety of applications has remained practically unchanged for decades till 2023. GeoIntake improves geothermal applications by:

- Reducing power consumption in some cases by over 30% in high-flow applications (>50KBPD, 92 liters/second)
- Managing open-hole completions with solid production
- Reducing scale formation
- Mitigating causing erosion at the ESP inlet setting depth

Video: <https://www.youtube.com/watch?v=dB51jC9WwEw>

### 3.4 HydroVolve

**Breaking Barriers in Deep Geothermal Drilling: HydroVolve UK Ltd (United Kingdom), with the project The GeoVolve HYPERDRIVE**

For the past ten years, HydroVolve has been researching and developing a downhole engine capable of operating continuously and reliably in the harshest of downhole environments. This has resulted in the development of the GeoVolve HYPERDRIVE, a high-performance, high-integrity percussive drilling system. In its first trial well deployments in 2023, the Hyperdrive has been proven to reduce rig time costs by increasing the rate of penetration while also reducing costs associated with flat time tripping to replace dull bits and reduced bit cost due to fewer bit deployments. This technology breaks down drilling performance limitations while overcoming the technical challenges associated with drilling deep, hard rock formations.

Video: <https://www.youtube.com/watch?v=jJbZOLWB14M>

### 3.5 Vulcan Energie Ressourcen

**Green Lithium for Europe: Vulcan Energie Ressourcen GmbH (Germany), with the project Lithium Extraction Optimization Plant (LEOP) to produce green lithium in Europe.**

The Upper Rhine Graben deep reservoirs contain lithium. The brine produced is cooled to use the energy for the extraction process and to supply energy to customers. The cooled brine is filtered through an adsorption process, a physical method of Direct Lithium Extraction (DLE). When filled, the adsorbent is rinsed with clean water. The eluate then contains lithium chloride (LiCl) and a few impurities. The eluate is purified and condensed. After these steps, 40% LiCl is contained in 60% of water. This pre-product is then trucked to Frankfurt-Höchst chemical park to refine the LiCl to Lithiumhydroxide, a product used in batteries. The LEOP is a pre-commercial stage plant that trains personnel and optimises the process.

Video: <https://www.youtube.com/watch?v=U9Hee22c-Lc>

## 4 Objectives

The main objectives of these videos are to:

- **Raise Awareness:** Enhance the visibility of geothermal technologies among stakeholders and the public.
- **Promote Innovation:** Showcase cutting-edge advancements and the contributions of various stakeholders in geothermal.
- **Support Sustainability Goals:** Emphasize geothermal energy's role in achieving a global energy transition and climate goals.

## 5 Target Audiences

As part of the ETIP-G dissemination activities, these actors are considered the primary target groups:

- Geothermal stakeholders: industry & research (internal and external stakeholders)
- SET Plan countries (Ministries in charge of energy, research, competitiveness and industrial policy), members and potential members of the DG-IWG
- Public authorities involved in R&I funding programmes (European, national, local, and regional level)
- Other fora and technology platforms
- Policy and decision-makers (European, national, local, and regional level); especially actors of the SET-Plan
- Media and press
- NGOs, consumers associations, civil society

## 6 Next Steps

The following actions are proposed to expand the outreach:

- **Second Round of video with the Ruggero Bertani European Geothermal Innovation Award 2025 Nominees:** Record a new set of videos featuring the five shortlisted nominees from the 2025 edition of the award. This initiative aims to showcase innovative projects and highlight new advancements in the sector.
- **Distribution via ETIP Newsletter:** Include a short news article with a link to the videos in the upcoming ETIP-G newsletter.
- **Leverage the GeoTHERM-FORA and ETIP-G social media channels:** Utilise GeoTHERM-FORA and ETIP-G social media platforms to amplify the video's reach.

## 7 Conclusion

The promotional movie deliverable has been launched with a series of videos showcasing geothermal technologies, available on the ETIP-G website. This initiative will raise awareness and engagement within the energy sector. Moving forward, creating a second round of videos in collaboration with EGIA Awardees 2025 will further strengthen this project.