

# Deliverable D6.4

## Evaluation of performance in demonstration site No 4: Test site Erlangen, Germany

### WP6

**Grant Agreement number** 657982

**Project acronym** Cheap-GSHPs

**Project full title** Cheap and Efficient Application of reliable Ground Source Heat Exchangers and Pumps

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**Dissemination Level**

<b>PU</b>	Public	
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	<b>X</b>
<b>CI</b>	Classified, as referred to in Commission Decision 2001/844/EC	

## Publishable summary

The deliverable “*Evaluation of performance in demonstration site No 4: Test site Erlangen, Germany*” is a confidential document delivered in the context of WP6, Task 6.4: “*Demonstration site No 4: test site Erlangen*” with regard to the application of new designed borehole heat exchanger and new developed drilling techniques and tools.

This document reports on the test results of the demo site in Erlangen-Eltersdorf. There, four helicoidal GSHEs developed in WP2, Task 2.2: “*Study, simulation and development of geometries of ‘heat basket type’ GSHEs to fit with borehole diameters of 325 mm*” are installed and equipped with a huge amount of monitoring sensors to gather data. Further, for the installation of the GSHEs a new drilling technique, developed in WP2, Task 2.3: “*Improving of the drilling/installation technologies starting from easy drill concept in combination with the heat basket type or helix type of GSHE of larger diameter*” was tested on this test site.

The heat exchanger shows a good performance and provides a good solution for areas with drilling restrictions in terms of depth and where shallow ground water tables should stay untouched. The used technique “enlarged easy drill” is already highly efficient in fine grained unconsolidated sediments and has the potential to be extended to more complex geological conditions with further technical improvements.