

## Deliverable D6.8

# Comparison between new technologies with standard technology

## Evaluation of the higher efficiency of the new technologies in a European scenario

### WP6

<b>Grant Agreement number</b>	657982
<b>Project acronym</b>	Cheap-GSHPs
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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 D6.8 “Comparison between new technologies with standard technology - Evaluation of the higher efficiency of the new technologies in a European scenario” is a confidential document delivered in the context of WP6, Task 6.8 – “Comparison between new technologies with standard technology”. The comparison concerns the application of innovative borehole heat exchangers (BHEs), drilling techniques and high temperature heat pump using CO<sub>2</sub> as refrigerant, which were developed by the Cheap-GSHPs consortium. The evaluation of these innovations is performed by comparing them with standard BHE types, heat pumps and drilling techniques.

This document reports the evaluation of the new technologies and techniques based on the Key Performance Indicators (KPIs). These KPIs were derived from monitoring real operation during heating and cooling of buildings at the demonstration sites, coupled to thermal response tests carried out at the BHEs and computer simulations using an analytical software tool developed by the University of Padova (Tasks 6.1-6.6).

It has to be highlighted that the innovative BHEs and drilling techniques, as well as the ecological heat pump with CO<sub>2</sub> refrigerant developed in the CHEAP-GSHPs project have shown significant advantages and can contribute to the development of the shallow geothermal market.