Deliverable D7.5

Life Cycle Analysis for each of the developed technology and the comparison with the traditional one

WP7

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Dissemination Level

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

Publishable summary

This study presents the results of the environmental analysis with a life cycle perspective for very low temperature geothermal installations developed within the Cheap-GSHPs project.

The study includes the analysis of the six real case studies of the Cheap-GSHPs project. The case studies are located in Spain, Greece, Germany, Belgium, Croatia and Ireland, providing a wide view of different climate conditions and underground typologies.

Within the study 10 environmental impact categories have been analysed and two energy performance indicators have been calculated. All together provide a lot of information about the environmental and energy performance of the systems under study. Moreover, the study includes a comparison of Cheap-GSHPs real case studies results with (1) other traditional geothermal systems and (2) other thermal technologies.

Most of the partners involved in Cheap-GSHPs project contributed with their expertise to this study providing relevant information about the (1) materials types and quantities used in exchngers manufacturing; (2) energy consumption of the drilling machines; (3) drilling fluids and grouting materials; (4) detailed energy performance of the geothermal systems implemented in the case studies; (5) maintenance needs; (6) site specific information. Therefore, a lot of data has been collected and analysed within this study and valuable environmental impact results have been obtained.

Results show the environmental benefits of the geothermal systems developed in Cheap-GSHPs project and open new areas of study to improve even more the environmental performance of them.