

Deliverable D5.1

DSS Specification and requirements

WP5

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Project acronym Cheap-GSHPs

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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

The basic idea of Cheap GSHPs project is to substantially reduce the total cost of ownership, composed out of investment and operating costs, increase the safety of shallow geothermal systems during installation and operation and increase the awareness of this technology throughout Europe. These goals will be achieved, on the one hand, through improved drilling machines and innovations to the Ground Source Heat Exchanger designs and, on the other hand, through the development of software tools for an holistic engineering approach to optimize the entire systems for building and district heating and cooling applications across the different underground and climate conditions existing within the EU.

The D5.1 – “DSS Specification and requirements” is a restricted document delivered in the context of WP5 –Decision support tool development and Task 5.1 – Specification and requirement definition. The objective of the WP5 is the development of a user friendly web application that enables the end-users to choose the safest and cost optimal geothermal technology for their installations. For this purpose it will be necessary to develop a rule based Decision Support System (DSS) engine for assessment of the geothermal installations. The system will be based on the information provided by the previous WP, standard data models and 2D/3D web based visualization of the information.

This document presents the work carried out in the frame of T5.1, covering the requirements elicitation for the DSS to be developed. Thus, the goal of this work is the elaboration of the functional and non-functional requirements of the DSS engine following the SCRAM (Scenario-based Requirements Engineering) method in strong collaboration with the end-users. This document is the basis for the subsequent tasks in this WP, i.e. the reference architecture and functional modules specification in T5.2, the DSS development task in T5.3 based on the requirements developed in T5.1 and the development of the web platform in T5.4 enforcing compliance with the envisaged reference architecture.

The DSS tool will serve as an accelerator for technical offices, building owners and investors to introduce into the market the novel technologies that are being developed in the Cheap-GSHPs project, i.e. the helicoidal GSHE (heat basket) and drilling machine developments in WP2, the coaxial GSHE and installation machine developments in WP3 or the new water source GSHP in WP4 compatible with existing heating terminals.