Deliverable D1.3

Climatic classes report

WP1

Grant Agreement number	657982
Project acronym	Cheap-GSHPs
Project full title	**Ch**eap and **E**fficient **Ap**plication of reliable **G**round **S**ource **H**eat Exchangers and **P**ump**s**
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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 deliverable D1.3 “Climatic classes report” is a confidential document delivered in the context of WP1 Task 1.3 “Climatic data collection and processing” aimed at the identification of the climate classes’ representative of the European variety.

This document is mainly addressed to the developer of the Decision Support System (DSS), which is developed in WP5, as well as for the sizing tool (WP4), since it reports the information necessary to build up the climate database. This database will allow both expert and non-expert users to identify the climate category mostly similar to the studied location, as well as to estimate the potential energy demand for heating and cooling required by the building. For this purpose, the user will be able to select among different data sets (Test Reference Year of more than 300 locations; calculated degree-days for heating and cooling; Köppen-Geiger climate classification) or even introduce climate data by himself. Moreover, the tool will be implemented with an algorithm, mainly based on the lapse rates method, in order to predict monthly temperature values at unknown locations by using information of a nearby station and the altitude difference between the predictor station and prediction location.
The database has been used also in Task 1.4 for generating the equations for predicting the energy profile for heating/cooling of buildings.

In addition, the document provides also the results of the climate data collection over the last five years at the case study locations of both virtual and real demonstration sites of Cheap-GSHPs project. These data will be used further in the project to simulate in detail the building energy profiles of the buildings based on real and recent measurements and to validate the modelling tool as well (WP6).

Finally, a simple calculation tool has been provided to analyse the energy potential of micro-wind turbines at different European locations. The tool will be further used in WP4 for the evaluation of different setup of shallow geothermal plants in combination with other RES technologies.