

Deliverable D4.11

Optimised BEMS for GSHP and other RES control in historical and civil buildings and Application for a friendly and easy management of the energy systems

WP4

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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 D4.11 “Optimised BEMS for GSHP and other RES control in historical and civil buildings and Application for a friendly and easy management of the energy systems” is a confidential document delivered in the context of WP4, Task 4.6: “Development of BEMS for GSHP integration with multiple renewable sources and of an Application for easy management of energy” with regard to the implementation of a smart BEMS system that enable the integration of Ground Source Heat Pumps (GSHP) with other renewable energy sources and its associated App for easy energy management.

The objective of the document is to summarize the development and implementation of the smart software for the optimisation of the integration of geothermal energy with other renewable energy sources and of the user-friendly application for the management of energy.

The document presents the implemented architecture and the integration of the HP and the management system in a Digital Twin. It also presents the process and implementation of the smart management system, which aims to satisfy the maximum building heating and cooling load using renewable sources. The BEMS enables and optimises the coupling of a GSHP with other renewables energies. The document also includes a study of the replicability of the developments. Finally, it presents the implementation of the user-friendly application that allows user to easily manage their energy consumptions.