

# Deliverable D4.3

## Guidelines for the combination of different renewable systems

### WP4

**Grant Agreement number** 657982

**Project acronym** Cheap-GSHPs

**Project full title** Cheap and Efficient Application of reliable Ground Source Heat Exchangers and Pumps

**Due date of deliverable** 30/11/2017 (M30)

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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**

Deliverable D.4.3 “Guidelines for the combination of different renewable systems” is a confidential document delivered in the context of WP4, Task 4.3: “Combination of shallow geothermal energy systems with other renewable energy systems”.

In this document a summary of the information collected about the renewable system that can be combined with the shallow geothermal energy systems is performed. Moreover, the combination of solar thermal panel, photovoltaic, wind turbine and hybrid system with the shallow geothermal system is described. Even if the tank is not a renewable system, its integration has been considered in the system in order to improve the energy efficiency of the system.

Also the costs of the technologies for the different EU countries involved in the project has been collected and elaborated for integration in the DSS. Finally, the equations implement for the costs of technologies has been developed and finalized for being introduced in the DSS.

Considering that this deliverable will be a base for a public deliverable in the document, the description of the renewable systems is targeted at non-expert end users.