Ref. Ares(2021)2346605 - 06/04/2021

Deliverable D5.7

Evaluation of performance in real demonstration facility No 4 – Greystones, Ireland

WP5

Grant Agreement number	792355
Project acronym	GEO4CIVHIC
Project full title	Most Easy, Efficient and Low Cost Geothermal Systems for Retrofitting Civil and Historical Buildings
Due date of deliverable	30/03/2021 (M36)
Lead beneficiary	05 - GEOSERV
Other authors	R. Pasquali, K. Harlin (GEOSERV), L. Carnieletto, M. de Carli, G. Emmi (UNIPD-DG), G. Dalla Santa, A. Galgaro (UNIPD-DG), J. Vercruysse (GEOGREEN), D. Righini (HYDRA), L. Pockele, G. Mezzasalma (RED).

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

Deliverable D5.7 is a confidential document delivered in the context of WP5, task 5.3 and subtask 5.3.4: ‘Real case No.4 Historical Residential Building in Wicklow’ developed as part of the GEO4CIVHIC project.

The deliverable describes the design, installation and monitoring of three of the GEO4CIVHIC project technologies installed in a historical residential house in Co. Wicklow. The house from the 1860s is a historical building and has limited scope for retrofit intervention measures to be applied. The task has designed and will install a 15kW high temperature ground source heat pump developed by Galletti/Hi-Ref to displace the use of a gas fired central heating system. The heat pump and the ancillary supporting equipment are to be installed in a new plant room located in the garage adjacent to the building. The source side of the system comprises the installation of 3 No. stainless steel, high efficiency coaxial heat exchangers developed as part of the project.

The innovative Hydra-TKI roto-vibro method will be used for the installation process using a newly developed small-scale portable Joy 3 drill rig.

Due to the COVID-19 related restrictions, project implementation delays have been encountered in the installation activities of the proposed plant. The text of the deliverable provides a detailed overview of the design process for the system, the planning of the installation process and the implementation of the early works completed to facilitate the final implementation of the task.

A further update to this deliverable will provided once the system installation is completed and the system is operating and monitored over a full heating season.