EA Technologies - Energy Performance Trial for Solar Thermal and Combi Boiler Systems

Background

Solar thermal systems are well proven and easily fitted with potential carbon and financial savings relatively easy to quantify. This makes them one of the most popular forms or renewable energy technologies to be considered for installation in buildings with hot water tanks.

However, integrating solar heat into buildings with instant hot water from combi boilers is proving to be technically challenging in the EU.

Project outline

Narec and EA Technologies worked together to investigate the performance of two types of solar thermal systems.

Narec conducted a side by side field trial; comparing the energy performance and reliability of three combi boiler systems.

The project assessed the performance of two different types of solar thermal systems, compared with the performance of a similar boiler not connected to a solar thermal system.

All three systems had a control system to simulate the hot water demand cycle of typical housing across the EU.

A sophisticated data logging system was used to record the system temperatures, solar irradiance and energy consumption. Analysis paid particular attention to the management of any freezing and bacterial growth issues.

Project Outcomes

The results of this trial have provided EA Technologies with an informed understanding of the technical and commercial potential of these systems.

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