

Melin Homes, Crickhowell

Melin Homes, created in 2007, own and manage over 3,500 properties in South Wales. As well as homes to rent, Melin Homes are one of the major providers of affordable homes in South East Wales. It was near the market town of Crickhowell that they chose to build a community of 24 affordable houses.

The Problem:

To meet the carbon reduction targets imposed by the Brecon Beacons National Park Planning Department, Melin Homes needed to find a way of heating their new 24 home social housing project with a system that would significantly cut carbon emissions.

The Solution:

A district heating system. WDS Green Energy installed a 37kW Dimplex ground source heat pump in a bespoke plant room on the estate to supply the major heating load for the houses. The associated 100m deep boreholes for the powerful heat pump were connected to a radial district heating system.

Each property was equipped with its own heat meter for logging consumption which could be accessed remotely by the client.

Due to budgetary constraints the heat pump was coupled with two gas boilers to provide any energy shortfall that may occur during very cold weather conditions.

A data acquisition card on each heat meter and a data link card on the heat pump allow remote monitoring of the systems through the central computers at the client's offices some 40 miles from site.

The Benefits:

The ground-breaking district heating system precluded the need for individual units to be fitted to each home. Through under-floor heating in each house the owners benefit from the warmth produced by the heat pump while the consumption and performance of the heat pump is monitored from the comfort of the client's offices.

The project was the first of its kind in Wales and proved highly successful in advancing the use of heat pump systems in a bivalent format with a district heating system meeting both hot water and under-floor heating demands of every property.

