

Carwood Close, Sheffield: Biomass community heating serving 97 houses



SOCIAL HOUSING



Sheffield Homes was set up by Sheffield City Council in 2004 to manage the day-to-day running of council homes and deliver a major programme of Government investment. Sheffield Homes now manages approximately 42,000 homes



Client	Kier Sheffield LLP, for Sheffield Homes
Application	Existing development with 97 houses
Solution	A new build energy centre including the wood chip boiler, two peak / standby gas boilers and a 5,000 litre thermal store to minimise boiler start-stop cycles for maximum utilisation.
Boiler type	Fröling Turbomat 320kW boiler
Fuel reception	Underground fuel bunker, fitted with an rotary arm fuel extractors using a slide open woodfuel loading hatch to allow tipped delivery of wood chip fuel.
Fuel supply	The boiler uses just under c. 500 tonnes of locally sourced seasoned wood chip. The wood chip is supplied from Silvapower, and sourced from the local region.
CO2 saving	250 tonnes per annum
Start-up	September 2006



Manual slide back fuel reception bunker, for delivery into the underground fuel store

Project history

The Carwood Close project was the second Econergy biomass community scheme for Sheffield Homes.

The Carwood Close boiler room provides heating and hot water to 97 houses in the Bungereave area to the northeast of Sheffield City. The houses were built in the 1980s and were previously heated by two gas pressure jet boilers in a temporary boiler room.

Design, installation and operation

Econergy provided a complete solution including the detailed design, supply, installation, and commissioning of the energy centre.

The existing district heating scheme, delivering the hot water for heating and domestic hot water to the individual houses, was kept and connected to the new build energy centre.

Wood chip is delivered through the manual slide back hatch into the 67m³ concrete underground fuel store bunker.

The Fröling Turbomat includes an automatic ignition and self cleaning system disposing the ash into an ash can. The boiler can accept wood chip up to 50% moisture content.

Development work

Before this installation could take place there were a number of important areas that needed to be addressed. These included obtaining planning permission, complying with the clean air act and working out fuel delivery supply frequency.

Consultation was also undertaken by Sheffield Homes with the tenants to fully involve them with the project.

The installation was paid for by Sheffield City Council capital budget and supported by a Yorkshire Forward Grant and the Bioenergy Capital Grant Scheme.



Fröling Turbomat boiler



Inside of boiler

Similar case studies:

Sheffield Road Falts	Community heating, 166 flats Barnsley
Rocks Green	Community district heating, 91 houses Ludlow
Greenland Road	Community district heating, 380 flats Sheffield
Callow Mount	Community heating heating, 296 flats Sheffield

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