



Building type:

15 residential properties built during the late 1980s-90s

Technology used:

15 x geoTHERM mini heat pump

150L standard uniSTOR hot water cylinder

150L pre-plumbed uniSTOR hot water cylinder

Housing association:

Bromford

Installer:

J Tomlinson Ltd
www.jtomlinson.co.uk

Project background

- 15 residential properties in Shropshire
- Decentralised district heating scheme
- Expensive electric storage heating replaced with sustainable and cost effective solution
- Vaillant geoTHERM mini ground source heat pumps

Savings per property:

Estimated RHI saving for complete project per annum*	£13,4881
Estimated lifetime (no inflation)	£3,373
Estimated KgCO ₂ saving (year 1)	2,234
Estimated payback period (years)	15
Estimate electricity saving per resident (year 1)	£253
Assumed ECO funding at £18.50 per tonne of CO ₂	£2,432

*based on 15 installs over a 20-year period

System specification

Bromford is a social enterprise dedicated to providing housing and housing support services, whilst inspiring customers to be the very best they can be.

In 2017, Bromford refurbished a number of properties across two sites in Shropshire, as part of a trial scheme to tackle fuel poverty for residents. Working closely with long-standing partner J Tomlinson, a comprehensive assessment and viability works were carried out on several heating products to source the best solution for the project. With no gas available in the village of Hodnet, a communal Ground Source scheme was suggested to replace the inefficient electric storage heating system. The Vaillant geoTHERM mini ground source heat pumps were deemed the most sustainable and cost-efficient option for these properties. The system was installed for 15 homes across Hodnet and Cleobury Mortimer, near Market Drayton.

The ground source heat pumps use thermal energy from the ground via boreholes approximately 110m deep. The energy extracted from the boreholes is then passed through the compressor of the geoTHERM mini and turned into efficient heating and hot water for the 15 properties.

Each property was fitted with an individual heat pump and a new, wet central heating system. To minimise the carbon impact on the site, three properties feed from one shared collector. This is known as a Micro District ground source heat pump system, which ensures maximised efficiency.

The new, highly efficient system will help the residents at the Cleobury Mortimer and Hodnet sites significantly reduce their heating bills. The Social Landlord, Bromford, will also be eligible for RHI repayments for 20 years on a deemed tariff.



geoTHERM mini heat pump

Outcome

The wall-hung geoTHERM mini heat pumps are as discreet in appearance as a traditional boiler, offering quiet and efficient heating. The decentralised system enables the end user to be responsible for their own heating bills and choose their preferred energy supplier.

Feedback from Bromford and the end users has been very positive, with one customer already reporting savings of **42%** in comparison to last year's electricity bill.

The success of this pilot scheme has led to plans to extend it to another 12 properties earmarked for geoTHERM mini installation. In addition, 25 Bromford flats will be fitted with a 200kW centralised ground source heat pump system.



geoTHERM mini heat pump



150 litre uniSTOR hot water cylinder



VRC 470 system control

Why Vaillant?

Martin Ardron
Operations Director of J Tomlinson

"Our working relationship with Vaillant has been very good from the start and we now consider Vaillant our manufacturer of choice. It is clear to see the quality of the products Vaillant manufactures, and their dedication to service and support means there is always reliable back-up should it ever be needed."

Nigel Gosling
Senior Contracts Manager of Bromford

"Bromford is committed to tackling fuel poverty for residents by ensuring customers have affordable warmth. We are very pleased to hear that this scheme undertaken by J Tomlinson has been recognised as 'Small Scale Project of the Year' in the West Midlands Energy Efficiency and Healthy Homes Awards 2017.

"Ground source heat pumps are an efficient energy system, especially for off-gas areas. Integrating renewable solutions within our housing portfolio addresses fuel poverty issues for our customers by offering a more affordable and efficient way to heat their homes. Vaillant were excellent in working with our customers to address any questions they had, as well as providing a demonstration vehicle that helped to show the heat pump in action. This was much better than just a leaflet for them to read."

For more information please contact Kevin Cox on **07872 912180** or **kcox@jtomlinson.co.uk**

For more information on Vaillant's range of energy saving heating systems, visit **www.vaillant.co.uk**