



PROJECT SUMMARY:



CLIENT
Miller Homes

PROJECT
ESCo Project

TIMESCALE:
25 Years

CONTRACT VALUE:
£1.7 million

OVERVIEW

Vital Energi has been appointed to deliver and operate a low carbon community energy scheme to new homes at the heart of the new Aire Valley “eco-settlement” area of Yorkshire.

The new development will include a mixture of two to five bedroom houses and one and two bedroom apartments. It is being designed to achieve Level 3 under the Code for Sustainable Homes and will incorporate a state-of-the-art sustainable energy system to provide low cost and low carbon heat and power.

Situated at Yarn Street on the Hunslet Waterfront in the centre of Leeds, the 220 new Miller Homes properties are being part-funded by a £1.7 million Low Carbon Infrastructure Fund (LCIF) capital grant provided through a partnership between the Department of Energy and Climate Change (DECC) and the Department of Communities and Local Government.

CHALLENGE

Yarn Street is situated within a part of the Aire Valley known as the Hunslet Waterfront and, together with the adjoining listed Hunslet Mills site, is one of the top regeneration priorities in the area.

The Homes and Communities Agency (HCA), which administers the fund, chose Yarn Street from a long list of candidates for its ability to deliver real energy improvements and also to set a precedent for positive change in the area.

As the appointed Energy Services Company (ESCo) for the development, Vital Energi is providing a complete solution from designing and installing to operating, maintaining and managing the energy provision. The Blackburn and London-based sustainable energy specialist is designing and installing the energy centre, pipework, Hydraulic Interface Unit’s (HIU’s) and a Smart Metering System.

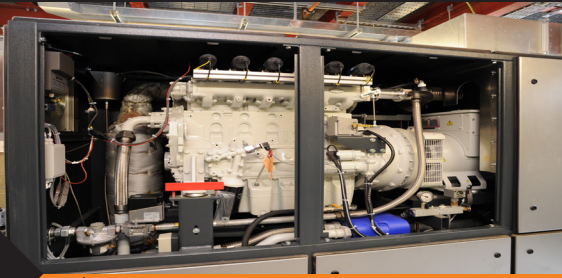
Vital Energi will also operate, maintain and manage the community heating network and procure and control the fuel supply, saving residents 15 per cent off their energy bills each year compared with gas.

Yarn Street will also play a key role in helping the UK Government achieve its target to reduce CO2 emissions by 34 per cent by 2020.

THE BENEFITS:

- > Guaranteed lower energy costs
- > Centralised back-up plant
- > CHP is very energy efficient and reduces the energy needed for buildings
- > CHP can be very cost effective and help alleviate fuel poverty
- > Central heating in each home is controllable by the occupants, who pay for the heat they use
- > CHP generates electricity at the same time as heat

- ▶ The energy centre has been installed with a 100kW CHP engine as well as three 595kW condensing gas boilers



“The H2O10 CHP scheme evolved from project conception to providing new homes with low carbon heating and cheaper energy costs within 2.5 years. This achievement is in no small part down to the considerable dedication and commitment of the team at Vital Energi. Its creativity ensured that any challenges encountered on the way were solved efficiently and effectively to deliver a fantastic project on time and on budget. The design, build and operate model employed by Vital Energi and its partners Miller Homes at H2O10, provides me with the comfort that the benefits of this project will endure long into the future.”

LUKE MCDONALD, LAND & REGENERATION TECHNICAL MANAGER, HOMES & COMMUNITIES AGENCY

▶ THE SOLUTION

Vital Energi has designed, supplied and installed, and is now operating and maintaining, a pioneering new Combined Heat and Power (CHP) energy centre for Phase 2 of the development. This will connect 80 houses to the energy supply with a further 141 homes being connected over the next three years.

Vital Energi will also operate the scheme for 25 years, providing a full service to residents, including energy metering and billing as well as related customer service.

The energy centre includes a 100kW Combined Heat and Power (CHP) engine and three 595kW condensing gas boilers, which at full capacity have the potential to provide all of the space heating and instantaneous hot water requirements for up to 315 dwellings. In addition to this thermal energy, the energy centre will have the potential to generate and export around 1.35MW

of electricity to the grid annually. The electricity will be fed into the grid and receipts used to subsidise heating bills for residents and the maintenance of the facility and network.

The network has been designed to enable extensions into the adjoining industrial estate and the Hunslett Mills site which currently has planning permission for around 900 units.

THE CONCLUSION:

Its ability to meet the HCA's requirements on previous LCIF projects and more than 25 years' experience of designing and installing decentralised energy networks, resulted in Vital Energi being chosen by Miller Homes as the Energy Services Company (ESCO) for H2O10.

CONTRIBUTING
TO REDUCING CO2
EMISSIONS BY

34%

One of the most remarkable achievements of the project was the efficiency that the Combined Heat and Power scheme evolved from concept to contract, with Vital Energi taking less than nine months to start on site.