



**PROJECT SUMMARY:**



**CLIENT**

Taylor Wimpey and SSE

**PROJECT**

CHP, District Heating

**TIMESCALE:**

August 2010 - June 2014

**CONTRACT VALUE:**

£4.8 million

**THE BENEFITS:**

- > Site-wide district heating using CHP system providing a low-carbon supply
- > CHP is energy efficient & reduces the energy needed for buildings
- > CHP is cost effective and helps alleviate fuel poverty
- > Central heating in each home is controllable by the occupants, who pay for the heat they use
- > CHP generates electricity which is fed back into the grid
- > Centralised back-up plant

**OVERVIEW**

Vital Energi is providing two of the most rundown estates in London with a brand new affordable and sustainable heating and hot water solution.

The Blackburn and London-based sustainable energy company is working with Scottish & Southern Energy (SSE), Taylor Wimpey and London & Quadrant Housing Association on the £150 million regeneration of the Haggerston West and Kingsland Estates which are situated on either side of the Regent's Canal in Hackney, London.

The redevelopment will see a complete restoration of the area which formerly consisted of tower blocks with a total of 400 dwellings that were in an extremely poor condition. Crime

and disrepair were a continual issue for local residents, some of whom had been campaigning for improvements on the estates since the 1980's.

As the homes could not be economically refurbished to Decent Homes Standards, due to their poor condition, Hackney Council asked London & Quadrant to demolish the 480 interwar and post war flats, over two phases, and build 761 new quality homes. More than half of the homes will be affordable housing and 248 will be for social rent. The new development will also incorporate open spaces, children's play areas and commercial space.

**CHALLENGE**

The high density scheme includes 95 three and four storey town houses for larger families, as well as significant levels of public realm and contemporary streetscape, generous provision of private and communal gardens and new community facilities.

With a greater focus on safety and security, the scheme will deliver improved car parking facilities, new pedestrian streets, a multi-storey community centre and a new public square.

- ▶ Each one of housing estate energy centres contain a 200kW CHP engine, a 25,000 litre thermal store and 3 back up gas boilers which would consist of 3 x 850kW in Haggerston and 3 x 700kW in Kingsland



“Regeneration of run down estates is essential and at the core of those projects is the energy strategy. We work closely with the developer and ESCo provider to provide sustainable, affordable energy and projects like Haggerston and Kingsland are opportunities to demonstrate how effective CHP and District Heating technology can be.”

IAN WHITELOCK, JOINT MANAGING DIRECTOR, VITAL ENERGI

## ▶ THE SOLUTION

Vital Energi is working closely with the schemes developer, Taylor Wimpey, and ESCo (Energy Services Company) SSE, to ensure that all of the key requirements and deadlines for the project are met.

It has been contracted to design, supply, install, operate and maintain two CHP Energy Centres and two separate district heating networks. A single energy centre would have been the preferred option but was not possible due to the estates being separated by the canal.

Pre-insulated TwinPipe is being used for the district heating networks because it is the most thermally-efficient type of district heating pipe and significantly reduces heat loss.

Each of the estates' energy centres will contain a 200kW Combined Heat and Power (CHP) engine, a 25,000 litre thermal store and three back up gas

boilers (3 x 850kW in Haggerston and 3 x 700kW in Kingsland), to act as back-up during peak periods of demand.

Vital Energi is also installing Hydraulic Interface Units (HIU's) and heat meters to provide instant heat and hot water to all 761 new dwellings, the new community centre and the children's nursery.

The provision of fuel will be carried out by SSE. It has awarded the operations and maintenance contract for the energy centre and heat network to Vital Energi.

Vital Energi is also installing pre-payment meters and a fixed meter reading network which will allow residents to pay for the heat and hot water they use and help them control consumption.

## THE CONCLUSION:

Vital Energi is bringing affordable and efficient heating and hot water to a rundown area of London that has been blighted by crime and poverty. Its sustainable energy solution is integral to this regeneration scheme and will help improve residents' lives by cutting fuel bills and reducing fuel poverty.

REDUCED CO<sub>2</sub> EMISSIONS BY  
**34%**

It will also save the estates an equivalent of 233 tonnes of CO<sub>2</sub> each year. That's a 34 per cent saving compared with conventional gas boilers and equivalent to the annual electricity use of 26 homes.