

## Case Study - Energy Centres Grosvenor Waterside

### The Brief:

Grosvenor Waterside, a St James Homes mixed use development in the heart of central London has created a new quarter for Chelsea, comprising 620 contemporary residential units, with a gym, spa, juice bar and business centre, concierge and security services and underground parking.

With 25% of the apartments providing affordable housing, the development plays a key role in the regeneration of this important area of London. Built around a historic dock the development includes six individual, yet harmonious buildings; the result of collaboration between leading architects, artists and designers.

### Our Response:

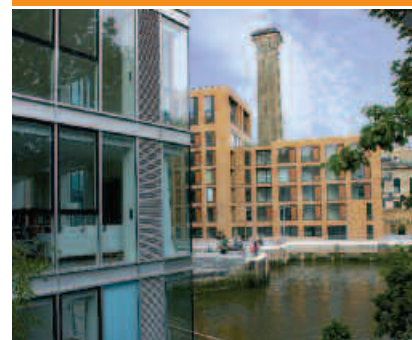
The original concept for the energy provision to the residents on this prestigious development was standard electric heating; however as the scope of the development grew to include additional homes, so did the requirement for more stringent energy efficiency targets and Vital Energi was brought in to revise the plans from scratch. Presented with the client's own design, Vital Energi worked in conjunction with the clients architectural and structural design team, proposing amends where necessary to produce an energy efficient design and construction solution as part of this £3 million project to serve the apartments of the Grosvenor Waterside with heating and hot water on demand. A significant and unique feature of Vital Energi's innovative design on this project is that it incorporates an unusual combination of energy efficient technologies involving biomass, CHP as well as gas.

Responsible for all elements relating to the design, supply, installation and commissioning of a new energy centre including the above and below ground heat distribution network, Vital Energi's solution incorporates CHP plant providing on-site generation and distribution of electricity for sales back to the grid, a wood chip fuelled biomass system to provide renewable energy to a level of 10% of the energy demand across the project) together with fuels storage and fuel handling system. The installation also includes gas boilers, thermal store and associated equipment, as well as all pipework distribution and hydraulic interface units, providing increased control over when and how much hot water can be used.

The Grosvenor Waterside project was particularly challenging due to the lack of space (land is of course at a premium in central London). Vital Energi advised the development team in order to produce a design in which space requirement was minimised while complying with all necessary efficiency targets; from fitting the necessary plant within a purpose built underground energy centre to resolving plant movement and positioning restrictions. Careful consideration was also taken to ensure that future maintenance could be performed with

### The Benefits:

- Utilising renewable energy to a level of 10% of the required development demand
- Use of energy efficient technologies result in lower CO<sup>2</sup> emissions
- Robust and reliable hot water and heating on demand
- Plant selection affording increased design life and flexibility to meet future demands.
- Vital Energi's solution reduces heat losses through the system by approximately 25-30% due to our extensive industry knowledge and ability to select alternative pipework materials, insulation and routes.



**Client:**  
St James Homes

**Contract Value:**  
£3 million

**Project:** Design, supply and installation of CHP and biomass fuelled energy centre



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minimal level of nuisance to residents. The use of wood chip in itself proved a particular challenge as the development is situated half a mile from Victoria Station. During the design process Vital Energi needed to consider the amount of wood chip necessary to fuel the biomass boiler, taking into account necessary storage requirements and the need to use as little valuable space as possible.

Noise was also a major consideration, and the location of the energy centre had to be carefully considered to ensure that any disruption to residents due to delivery of the biomass fuel was kept to a minimum.

### Key Achievements:

In spite of the challenges, and due to the high calibre of the team involved, the project continues to be delivered ahead of the programme in many areas. Of key importance to the scheme was Vital Energi's contribution to the design. The merging of technologies, the unique combination of gas, biomass and CHP, and our ability to provide a complete a turnkey package highlights the extensive expertise of the Vital Energi team, ensuring the very best output and maximum results for our clients.

