



#### PROJECT SUMMARY:



**CLIENT**  
Barratt London

**PROJECT**  
Energy Centre to CIUs  
& HIUs

**TIMESCALE:**  
May 2015 -Ongoing

**CONTRACT VALUE:**  
£8.5m

#### THE BENEFITS:

- > Flexible energy solution allowed residents to move in earlier
- > Developing relationships with site contractors
- > Energy solution meets all of London's strict planning criteria
- > Future proofed for ease of connection to future heat networks
- > Continuity of workmanship and phased handovers.

## OVERVIEW

The Nine Elms development is one of the most exciting and largest in Europe, stretching over 3km along the south side of the Thames. At its heart is Nine Elms Point, a 645 home development, located on Wandsworth Road, sitting above the new Sainsbury's flagship superstore.

Barratt London have a commitment to create sustainable, low-carbon communities and Vital Energi worked with their professional team to deliver a complete energy system which would be resilient, meet all of London's strict planning legislation and be "future proofed" to allow easy connection to any nearby future heat networks which are being developed.

## SOLUTION

We're proud to have collaborated on several high-profile, London-based projects for Barratt London, which have included Hendon Waterside and the Stonegrove estate regeneration and in May 2015 we won the contract to deliver the energy solution for the Nine Elms Project.

The Nine Elms Point energy scheme will supply seven residential tower blocks, the highest of which are 37 storeys, with three of these blocks also receiving cooling services. In addition to the residential component, the energy centre will also service the Sainsbury's flagship megastore and 19 retail and office spaces. The scope of works included installing the main energy centre and substations, a chiller plant room with a cooling substation, low temperature hot water (LTHW) and chilled

water services with risers and laterals, Hydraulic Interface Units (HIUs) and Cooling Interface Units (CIUs) and a separate heat exchanger to supply the Sainsbury's megastore.

The main 6MW energy centre will be supplying 645 dwellings with heat, hot water and electricity and includes five 1200kw gas boilers and a 425kWe Combined Heat and Power engine (CHP) which will run constantly and supply electricity to Sainsbury's. The system also has two thermal stores with a combined capacity of 60,000 litres. In addition, the separate chiller plant room will include four 460kW water cooled chillers with a combined capacity of 1890kW and three roof-level 850kW dry air coolers and a 5000L thermal store.

▶ Nine Elms Point provided a great opportunity for Vital Energi to showcase their wide range of capabilities and deliver a complete energy solution, from generation to dwelling.



“ With quality, community and sustainability at the centre of our developments, Barratt London are very happy to work with Vital Energi to deliver these brilliant schemes. The focus on build quality is paramount in demonstrating the value of these low carbon systems to the residents and wider community for many years to come ”

VIMAL BHANA, HEAD OF ENERGY AT BARRATT LONDON

## SOLUTION

### Strong Client Communications to Overcome Challenges

Vital have faced several challenges on the project, but have worked with the client to provide practical solutions. A strong example of this is when the programme was changed to allow residents to move into the development in June 2016, which was earlier than the original date. Vital created a temporary energy centre solution to provide reliable heat and hot water to the residents. Despite the additional work, Vital Energi met the original “heat on” deadline for the permanent energy centre.

Additionally, the project team were faced with access and storage issues. While the site itself is large, the landing area for materials is relatively small in comparison and the project involved large pieces of plant and equipment. To overcome this, our team built strong lines of communication with other contractors to organise the storage of plant and equipment so that it would not affect their access or their ability to deliver work.

### Delivering the Complete Energy Solution

As well as delivering the heating, electricity and cooling generation scheme, Vital Energi also provided the distribution infrastructure, installing risers and laterals which would transport the heat and hot water from the energy centre to the individual dwellings. When complete, the tallest of the towers will be 37 storeys high and Vital Energi are currently working on lower storeys as additional floors are still being constructed above. High level access has, at times, been difficult but we have overcome these issues by liaising with the other contractors and by using lifts and highly skilled on-site operatives.

The final piece of the energy system was the installation and commissioning of the Heat Interface Units which provide the link between the energy centre and the in-home heating system. The commissioning process is a particularly important step which includes ensuring the correct temperature, circulation pump speed and differential

control valve settings within the unit. Commissioning engineers will also ensure the strainers are clear of debris, that air has been removed from the unit and filling loops and bypasses are closed. All of these can have an influence on the temperature of the water returning to the energy centre and if this is higher than anticipated it can result in inefficiencies in the primary operating system, bringing higher running costs.

Nine Elms Point marked the continuation of Vital Energi’s on-going relationship with Barratt London and their involvement in many of London’s major developments. Our experience of delivering the energy infrastructure for major projects allows them to anticipate many of the challenges they will face and implement solutions in the initial stages.

The new energy scheme at Nine Elms will now deliver low-carbon, reliable heat, hot water and electricity for the development and ensures the scheme can connect to any future heat networks developed in the area.