



#### PROJECT SUMMARY:



#### CLIENT

Gloucestershire Hospitals  
NHS Foundation Trust

#### PROJECT

CHP, District Heating

#### TIMESCALE:

December 2014

#### CONTRACT VALUE:

£3.18 million

#### THE BENEFITS:

- > Significant financial savings of £577,000 or a 40% reduction on current energy bills
- > Peace of mind from a 18-year energy performance guarantee
- > Suite of self-funding and profit generating energy conservation measures
- > 30% Trust-wide Co2 emission reduction equating to 1,789 tonnes per year
- > Accelerated project delivery to deliver carbon reduction quickly

## OVERVIEW

The 200-year old Cheltenham General Hospital is part of the Gloucestershire Hospitals NHS Foundation Trust and has put sustainability at its heart; embracing the government's emission

reduction targets and investing in an energy system which will help it lower both CO2 emissions and its energy spend.

## CHALLENGE

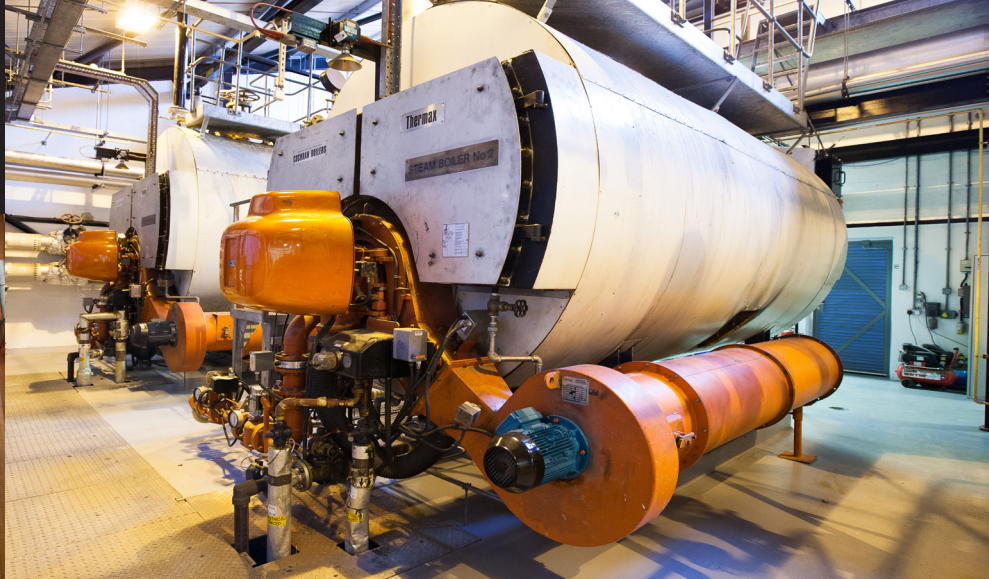
Gloucestershire Hospitals NHS Foundation Trust, has been set some challenging carbon reduction targets which see them required to reduce reach carbon emissions of 26% by 2020.

To do this the hospital needed to improve both its energy usage and generation and decided to procure this new solution through the Carbon and Energy Fund (CEF) framework. This allows for an accelerated procurement process and has a great track record of seeing Trusts realise large carbon savings quickly. Another

benefit is that CEF projects employ energy performance contracts which see the provider guarantee financial savings and carbon reductions over the term of the contract.

The project is being partially funded by a £960,000 grant from the Department of Health with the remainder of capital provided by Vital Energi which will be repaid over the contract term. This approach allows the Trust to achieve the savings without using any of its own capital and therefore it can make the savings from year one.

Ashley Malin, Project Development Director for Vital Energi with Professor Clair Chilvers, Chair of Gloucestershire Hospitals NHS Foundation Trust at the official opening ceremony of the Cheltenham General Hospital CHP Energy Centre



“ Providing the best patient care possible is something we are strongly committed to, so reducing energy costs and investing those savings into front line clinical services is hugely important for us. This energy scheme will allow the hospital to reduce energy usage, lower carbon emissions and create a more resilient energy and heating infrastructure and those benefits will be felt for the next 18 years. ”

TED ROGERS, ASSOCIATE DIRECTOR CAPITAL AND DEVELOPMENT, GLOUCESTERSHIRE HOSPITALS NHS FOUNDATION TRUST

## THE SOLUTION

Vital has taken a strategic approach to the project; initially focusing on developing self-funding energy reduction initiatives across the whole estate. This included major upgrades to the Building Management System (BMS) and upgrades to 646 light fittings which will lower the Trust's CO2 emissions by 116 tonnes per annum. Another significant addition is the design and installation of a site-wide automatic meter reading system which will allow accurate measurement and reporting, something which is essential when claiming incentives.

Once the hospital's energy usage had been reduced, Vital then focused on the energy generation solution, installing a 1.2MW Combined Heat & Power (CHP) Engine and buried district heating pipework to distribute hot water around the hospital's estate. Other plant and equipment included a 700kW CHP heat recovery steam boiler and 3 new heat exchangers.

One of the largest challenges facing

Vital was the speed at which the project would need to move to meet the Trust's deadlines. The project, which was procured through the Carbon and Energy Fund framework, would see progression from invitation to tender to contract signing in under 6 months, leaving a 27 week construction programme. This meant that the whole process from initial tender to project completion took less than 12 months, something which Vital was uniquely placed to meet due to the high levels of in house expertise they employ.

We have also entered into a comprehensive asset management agreement on the project which sees us responsible for the operation and maintenance of the entire system. This will see us ensure that the scheme is running at optimum performance, meeting all targets and also includes a replacement guarantee for the plant and equipment, further negating any risk the trust is exposed to.

## THE CONCLUSION:

By reducing their energy spend, Gloucestershire Hospitals NHS Foundation Trust will be able to spend that money on front line clinical services while achieving a 30% reduction on their carbon emissions.

**REDUCED CO2  
EMISSIONS BY  
1,789  
TONNES PA**

Due to the project being procured through the CEF and delivered by Vital Energi, the Trust enjoyed significant benefits. The project progressed at an accelerated pace, allowing the them to begin saving money sooner, and the savings and reductions were guaranteed by Vital Energi, negating any risk on the Trust's part.