

# Case study

## An Integrated Ultra Low Carbon Energy Solution: Nottingham University Hospitals NHS Trust, UK

### The project

Nottingham University Hospitals NHS Trust is one of the largest acute Trusts in the UK. The Trust faces unprecedented challenges associated with increasing energy costs; the pricing of carbon; the need for flexibility in building use in the face of changing healthcare provision; and the goal of a substantial reduction in CO<sub>2</sub> emissions. Another problem facing the Trust is that they have a number of older, energy inefficient buildings, some of which are of heritage status.

For the last 35 years the primary source of heat to the City Site has been a coal fired boiler which is now coming to the end of its useful life. The Director of Estates and Facilities saw this as an opportunity to fundamentally rethink the Trust's approach to energy and reduce the hospital's carbon intensity, and in doing so, reduce exposure to rising energy prices, the pricing of carbon, and the impact of future low carbon legislation.



*The need to replace the coal fired boiler presents an opportunity to fundamentally rethink energy provision and explore innovative technologies and services. The project is about much more than simply replacing the coal fired boiler.*

*"This is a fundamental re-think of our energy provision and we will step up to our role as an 'early mover' to deliver a sustainable, flexible, low-carbon healthcare future."*

**CEO, Peter Homa**

in his introduction to the market sounding prospectus

### A new approach to procurement - stimulating an innovative response from the supply chain

Initially the Trust commissioned consultants to advise on the replacement of the site's energy systems. The resulting recommendations, based primarily around large centralised energy generation on site, would deliver a significant one-time reduction in energy use and emissions, but would not necessarily achieve the long-term flexibility, carbon reductions, and reduced exposure to rising energy prices that the Trust required.

The project team agreed that new, more efficient Combined Heat and Power systems would only be part of the solution and that in isolation would not deliver the outcomes they were looking for. An innovative response was needed from the supply chain, and this meant that the Trust needed a new procurement approach.

Working with the support of the UK Department for Business, Innovation and Skills and the Department of Health, and with the backing of the CEO, the Trust decided that Forward Commitment Procurement was the most appropriate way forward.

The Trust have therefore set themselves the ambition to achieve more than a step-change reduction in energy demand and emissions; they want to reverse historical trends and deliver continuous efficiency improvements across the Trust over the next 20 years.

*"We need to ensure that the Trust's energy provision is fit for the future. The FCP approach enables us to test ideas with the market and stimulate an innovative response to the challenges we face."*

**John Simpson**

Director of Estates and Facilities

The first step was to identify the unmet need, in outcome terms:

**'The Trust needs to procure an innovative and integrated ultra-low carbon energy supply and management solution for the City site that is able to adapt to meet the Trust's power, heat and cooling needs now and in the future. The energy solution needs to be reliable, low maintenance, and flexible enough to meet the shifting demands of healthcare over the next 20 years. It should be cost effective, deliver progressive improvements and be future proofed; i.e. take advantage of new and emerging technologies and anticipate increases in the cost of energy and carbon and in emissions standards.'**

*Extract from the market sounding prospectus*

**'This market sounding exercise signals our intent to work with the supply chain to identify and overcome the barriers that currently prevent delivery of such an integrated, and holistic, energy solution.'**

*Extract from the market sounding prospectus*

The market sounding received an enthusiastic response from the supply chain, with over 120 people registering their interest and attending a Site Visit in January 2012. Over 65 high quality, and often detailed, responses to a market consultation questionnaire were received. These responses gave a highly informative snap-shot of the state of the market.

The Market Sounding was advertised in the Official Journal of the European Union in November 2011 and the 'call for innovative solutions' was pro-actively communicated to the market. It set out to get feedback from potential suppliers through a market sounding exercise.

A number of questions were put to potential suppliers in the market sounding process:

- Given the context we are operating in, does the supply chain believe a holistic approach to energy is the right solution?
- Does the supply chain have the appetite for, and it is capable of, delivering this approach?
- What technical and financing options are, or could be, available to enable the Trust to address its needs?
- What might the Trust do to support the delivery of an optimal solution?

### Next steps

The feedback from the supply chain has been invaluable in helping the project team to outline the options available to the Trust and these are now under consideration. Once the Trust has determined the most appropriate model to adopt the project team will undertake further market consultation with a cross section of the supply chain to inform a business case reflecting the whole-life costs and strategic implications of the different options.

A pro-innovation procurement strategy will then be prepared and invitations to tender advertised in 2013.

*"The energy market is changing rapidly and costs are increasing. This, together with anticipated changes in healthcare provision, means we needed to fundamentally rethink our approach and take a more strategic, long term view that enables us to be flexible enough to accommodate changing business needs and energy profiles."*

**Andrew Camina**

Assistant Head of Estates and Facilities, Nottingham University Hospitals NHS Trust, City Site

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