

**F**ancy cutting 25% off your carbon footprint and saving £920,000 on your energy bill at the same time?

Just over a year after contract signing Royal Berkshire NHS Foundation Trust is already reaping the benefits of a 15-year carbon and energy saving deal with health sector energy specialist Dalkia. Even at this early stage it is on target to achieve the massive 25% carbon reduction by 2015 and is already enjoying the impressive annual energy savings - all at no cost to the trust.

Phil Holmes, the trust's estates director, told *Hospital Bulletin*: "3,841 tonnes of carbon savings per year puts us ahead of the game. We're in a good place as we move towards 2015. It's allowed us to put our finite amount of money into other areas of the trust

"Our overall aim with the scheme has been to drive a step change in the hospital's carbon footprint by the most cost-effective means. We left the

provision of how to do that - the solution - to the experts.

"We were clear in the briefing process that we were not being prescriptive. We were



**Energy saver:** the waste heat recovery boiler arrives on site

interested in a range of mechanical, electrical and cultural initiatives. The scheme includes a £3.2m investment that we have not paid out and we're saving almost £1m a year. That's got to be good news.

"It's not very often that you have a project that's great for the patient, the finances and the community."

Working under the Carbon and Energy Fund (CEF) Royal Berkshire chose Dalkia as its energy partner in the spring of

# Trust's massive scheme has £1m a year

## In a fast track Carbon and Energy Fund scheme the trust is reaping the benefits of a 15-year deal with



**Power plant:** the 2MWe CHP unit

2012.

"We've worked very hard to achieve this project. Dalkia invested about £3.5 million in the hospital in lighting upgrades, plus combined heat and power (CHP), so we are now generating a significant amount of our own electricity."

Phil explained: "There were two key drivers that led us to join the Carbon and Energy Fund. The first was access to funding - what we have wanted to prioritise to patient care. The second was the central solution, the CHP.

"All aspects of a scheme such as this can have great risks. The Carbon and Energy Fund with their framework suppliers has

designed over 30 schemes. And Dalkia has already done 50 CHPs. This gave us comfort that this was the right way to proceed and deliver the carbon initiatives.

"As part of the mobilisation of the tendering of the project we decided the selection criteria - technical approach and communication. The NPV (net present value) calculation demonstrated that the Dalkia submission was head and shoulders above the others.

"The trust felt that the need to simplify delivery of the scheme was key to meeting the Carbon Reduction Requirement. Joining the CEF allowed the trust to complete the short-listing,

technical analysis, contract negotiations and final signature within nine months, which is unknown for a contract like this. It would normally take two years."

The 15-year contract has already seen Dalkia design, build, fund and operate a 2MWe Cogenco CHP unit, a 1MW waste heat boiler, and install hot water mains and a plant management system to control the energy centre. Downstream energy management, including new lighting, improving insulation and optimisation controls and heating systems is also included in the contract which will be repaid through guaranteed performance savings.

Initially, 1,500 low energy lights were installed during the three months before practical completion of the scheme. Fitted in wards and circulation areas, these are saving £30,000 a year alone.

Now the scheme is up and running, Phil outlined the various key moments: "We had the high profile contract signing in May 2012, following which Dalkia's regional operations director has kept a close eye on the scheme which has now gone into operational mode.

"I found Dalkia very professional to deal with. They stuck to their word and were quick to get started. Indeed within 48 hours of them signing the contract and taking over the keys to the energy centre they had cleaned it, painted it and put a sign up. That impressed me.

"They got a big engine on order relatively quickly. There was a redundant boiler in the energy centre which was removed. This created the space for the CHP unit with the waste heat boiler located just behind it.

"The CHP unit arrived on site last September. While this was being installed there was a



# carbon reduction bonus

## Royal Berkshire NHS Foundation Trust energy specialist Dalkia

period of re-piping across the site generally for the low temperature hot water system. There was a month's running in July and the system went live in August.

"In terms of some of the associated carbon reduction measures, there were around 1,500 light fittings early on. While these may have made less of an impact outwardly, such a larger number of lights, re-fitted in a short space of time, added to an improvement to the hospital interior. It's more economical in terms of electricity consumption and gives a much better level of lighting for the hospital environment."



"From start to finish Dalkia were efficient and clean on site. They have produced a good, high quality project."

Phil said: "The commissioning was an important process as well as the technical and mechanical aspects of the scheme. We were looking to understand the performance reporting and performance monitoring. Dalkia has responsibilities and the trust has responsibilities.

"Right now we're looking at



our return temperatures and making sure they're within tolerance. To date, and it is still early days, we are achieving our anticipated savings.

"The gross saving is almost £1m and as the Carbon Tax increases we will avoid some of the increases as our carbon footprint has reduced dramatically."

Looking to the future, Phil explained: "One of the key areas for continued future focus is the close monitoring of the system's quality initiatives. This is done on our behalf by the CEF team based in Milton Keynes using remote monitoring.

"We will be designing a new decontamination unit on site and the steam capacity we now have available will allow us to operate the new facility more economically.

"At the time of the scoping of



**Sound attenuated:** the CHP unit is housed in an acoustic enclosure

the project with the Carbon Energy Fund we did de-select the option to install PV panels and this site based on the MPV calculations. However, the Royal Berkshire is currently



mobilising its real estate strategy and will see a number of buildings being re-clad or rebuilt and we are now reviewing the ROI for PV on a project by project basis. So we're thinking is it might now be a practical alternative on some of our larger schemes."

Phil added: "Our next big focus with our Carbon Champions is to maintain the good practice around self-responsibility, good housekeeping and reducing unnecessary inefficiencies, following the Good Corporate Citizen Guide. We're planning a Carbon Awareness Day which Dalkia will assist us in."

At last year's official signing of the contract, Edward Donald, chief executive of Royal Berkshire NHS Foundation

Trust, explained: "When Phil Holmes told me we need to reduce our carbon footprint, he said we need to go to tender and appoint the top company in the exercise. We've learnt that it's Dalkia and we know our carbon reduction future is in safe hands."

Luis Pais Correia, Dalkia CEO North Atlantic, Middle East, Asia - Pacific, said: "For us it's a great opportunity. The 3,800 tonnes of carbon that we'll save each year for the trust will add to the 7.1 million tonnes of carbon we already save worldwide. We will do our utmost to deliver your expectations."

Richard Pearson, of WT Partnership, the Carbon and Energy Fund project manager of the Royal Berkshire scheme, said: "This has been an extremely fast tracked approach to reaching contract close with Dalkia, a first rate organisation. The trust will significantly reduce its carbon footprint, save money, and reduce their backlog, without committing any capital expenditure."

Phil Holmes added: "Our energy partners, CEF, project manager WT Partnership and energy specialist Dalkia, have all gone over and above expectations.

"I'd urge other trusts that may need to refurbish or upgrade their energy facility to consider working with the CEF. It has real strengths in terms of carbon surveys and tendering. Its expertise and established framework facilitated the overall speed of the scheme.

"To date we have been achieving our forecast contracted utility savings and we've every reason to believe this will continue."

For more from the trust email philip.holmes@royalberkshire.nhs.uk

For more from Dalkia, call 01784 496200 or visit www.dalkia.co.uk



**Signing-up:** Edward Donald, right, chief executive Royal Berkshire NHS Foundation Trust, put pen to paper with Luis Pais Correia, Dalkia CEO North Atlantic, Middle East, Asia - Pacific

**ENQUIRY NO. 500**