



Energy audit delivers important savings for NHS Wales Hospital

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| The Client

Established in 2009, the Aneurin Bevan University Hospital Board (ABUHB) is an NHS Wales organisation based in South Wales.

The hospitals and services managed by ABUHB include Royal Gwent in Newport, Nevill Hall in Abergavenny, Ysbyty Ystrad Fawr in Ystrad Mynach and other general community care and mental health services.

The Health Board employs over 13,000 staff, two thirds of whom are involved in direct patient care.

There are more than 250 consultants in a total of over 1000 hospital and general practice doctors, 6,000 nurses, midwives, allied professionals and community workers.

Virtus Consult quickly analysed the energy consumption of ABUHB, and using their own knowledge and experience were able to establish key recommendations that yielded impressive energy savings, both short-term and long-term. Rather than adopting a 'one size fits all approach' they took the time to understand the unique requirements of our organisation, delivering an effective solution for the Trust.

Gareth Hughes, Division Director of Facilities

| The Project

The Aneurin Bevan University Hospital Board commissioned Virtus Consult to carry out an energy audit of 51 properties across the Trust Estate, from Acute Hospitals to community centres and everything in between.

Considering all supply and demand side opportunities, the main focus of the project was to help the Trust achieve a payback of less than

5 years, while causing minimal disruption to ongoing services.

Our immediate priorities were to establish recommendations that would offer a short-term return on investment, while identifying strategies to ensure the Trust achieved important long-term savings reduce backlog maintenance and improve compliance.

| The Assessment

Working closely with the Trust's management and facilities teams, our first task was to help them complete the baseline questionnaire. This is a detailed list of questions designed to build an understanding of the client's current operational structure.

The baseline questionnaire and property data matrix developed and refined over many years and many projects, helped us understand the client's existing knowledge and experience, whilst helping identify any gaps where additional investigation may be required.

The baseline information obtained is crucial to the success of the project, as it helps us identify a clear starting point and informs our key performance indicators.

Our experienced consultants break the wealth of information into easily managed sections to help shape our recommendations:

Roles & Responsibilities - Through discussion and consultation with the Client, we build an understanding of the organisation structure including roles, responsibilities and accountabilities, along with the governance process.

Base Line Information - We gained as much information about the energy consumption, building fabric, systems and operational processes as possible,

through consultation with the relevant personnel.

Targets & Aspirations – We gained an understanding of existing energy and carbon related targets and how they are being monitored and administered. We also discussed future targets using our detailed understanding of current legislation.

Business Continuity – In order to successfully complete the project, we needed to first understand the organisation, recognise the critical risk areas and ensure there was minimal impact on the Trust's day-to-day operations.

Finance & Funding – By understanding the client's financial model options and availability of capital and revenue funding, we were able to deliver an efficient, cost-effective project that satisfied the unique requirements of the Trust.

Timescale Targets & Constraints - Delivery timescales were driven by business engagement, current available information, targets, legislation, business continuity and risk as well as finance and funding model.



| The Work

This particular project, which focussed on the Trust Estate's 51 properties, required a broad range of initiatives to successfully identify effective energy saving strategies within the timescales outlined by the client.

Using our knowledge of current legislation, we were able to quickly identify specific targets and associated timescales, while considering and

successfully overcoming potential commercial, technical, corporate and political constraints.

Our experience of auditing and helping high-profile clients achieve their targets meant the procurement process was efficient, with an appropriately qualified candidate successfully securing the contract to implement a range of initiatives, as detailed below:

Initiatives		
TRV Replacement	CHP	External Lighting
BMS Overhaul	Condensing Boiler VT	Int. Lighting and controls
Chiller Sequencing	Condensing Boiler Non-VT	Roof Insulation
Pipework Insulation	Pump Replacement	Pump VSD's

| The Results

Through thorough analysis and careful investigation, we successfully identified ways to improve energy savings and reduce the Trust's carbon footprint – our proposed recommendations were accepted.

Delivering potential annual savings of £367k in the first year, with an estimated payback of time of just 4.4 years, our innovative approach exceeded the expectations of ABUHB.

Experience of similar projects allowed us to

identify long-term energy saving strategies, with the total saving after ten years estimated at around £9.5m – important funds that can be reinvested to improve other healthcare services.

Our unique approach offers continued improvement through the identification of new initiatives during the five years in the run-up to payback. Through a combination of experience, expertise and industry knowledge we have successfully delivered the energy saving project outlined by ABUHB.

0121 200 2855

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