HOLISTIC APPROACH – THE KEY TO SURMOUNTING A UNIVERSITY'S ENERGY EFFICIENCY CHALLENGE

***James Thackrah**, green building segment manager at Schneider Electric, explains why higher education authorities need to act now to address issues and look to partnerships within the private sector.*

Long has the education sector been plagued with ageing estates, a backlog of maintenance, growing energy costs, pressure to provide safe campus environments and shrinking funding. With all UK universities signed up to save 38 per cent on carbon emissions by 2020 and 80 per cent by 2050, the days when each individual concern could be viewed and addressed in isolation are gone, as the need to act becomes increasingly critical. The only way to reach these targets is to take a holistic and innovative approach to tackling the issue.

Surprisingly, with a little help from the experts, these disparate challenges can be met with an elegant solution that harnesses the power of integrated technology and on-going energy efficiency services. The result is an efficient campus that becomes an optimal learning environment, saving money and protecting people, property and our planet.

Considering global energy trends – typically energy is the fastest growing expense in operating budgets. In the European Union, energy costs have increased 47 per cent since 2003 and are projected to grow another 30 per cent within the next five years. Energy costs are not simply rising, they are accelerating (by 14-16 per cent over the last year) due to increased global demand, declining energy availability, and the ever-looming threat of energy legislation.

So, how does energy conservation contribute to the financial bottom line? Energy is the largest controllable operating expense. As a variable cost on a university's balance sheet, the amount of energy used and resulting utility bills can be decreased by implementing energy efficiency and conservation measures – especially within a university environment in which some buildings are occupied 24 hours a day, seven days a week.

What's more – there is now the students to consider – as university fees have increased, so too have their expectations. Not only do energy efficient buildings save money, they are also more comfortable and can contribute to a more effective learning environment. One study by the International Centre for Indoor Environment and Energy at the Technical University of Denmark (DTU), showed that pupils' performance increased by an average of 15 per cent, and up to 30 per cent, with improved indoor climate conditions.

Moreover, a high-quality lecture environment captures the interest of students and parents alike, as they make their university selections from a highly competitive field.

James Thackrah

Improving energy efficiency also makes financial sense. Recently, a UK college underwent a full energy efficiency upgrade. The college invested in a range of lighting, heating and air conditioning controls, sophisticated metering, improvements to their building management system and equipment to smooth out and control the incoming electricity supply.

This resulted in a 25 per cent saving on their energy costs and a payback of less than two-and-a-half-years.

The college also wanted to free up budget to invest in other energy saving projects, so it chose to take a five-year finance deal. The savings from the college's energy bills pay for the cost of the loan and leave a cash surplus to use for other areas, such as college and student facilities. Indeed over the five-year loan period, the college will have at least £150k surplus to spend on other projects.

With energy bills forecast to rise steeply in the coming years, the college will also reap the benefits of reduced financial risk whilst enhancing the comfort levels for all building users.

This is where the value of partnerships with private sector, comes into their own – where the improvements are self-funding and the results guaranteed, with a long-term partnership. With so many financial restrictions facing some organisations within the education sector, working in partnership with the private sector is the only option to make a marked difference for many universities in the UK.

A holistic, integrated infrastructure approach provides an energy efficient, secure campus, thus helping universities meet their most difficult challenges all in one go. Students benefit from enhanced learning environments and improved performance due to a comfortable and healthier indoor climate, as well as peace of mind due to secure facilities. The university itself will benefit from increased profit due to reduced operating costs and capital expenditure, as well as protection of assets and property. Finally, reduced energy usage and CO_2 emissions and a measurable commitment to sustainability all combine to meet carbon reduction targets and improve the university's position in the Green League.

By partnering with an expert in energy management and security in the education space, universities can really tackle the long-term issues head-on to create an efficient campus that enables them to focus on their core mission – providing the best possible education for its students. ●

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