Public sector showcases best practice in energy efficient lighting

Police stations, hospitals, schools and colleges – the buildings that form the fabric of our society are also making laudable attempts to improve energy efficiency, even when faced with stripped budgets. Nicola Martin reports.

Public sector buildings are expected to be exemplars of sustainability. Government targets are driving towards an 80% reduction in Greenhouse Gases by 2050, while legislation increasingly pushes for energy efficiency in the built environment. Display Energy Certificates (DECs) make a visible show of a public building's energy achievements – and its failings. For organisations that annually consume over 6,000 MWh of half-hourly metered electricity, the coming two years will mean adherence to the mandatory Carbon Reduction Commitment (CRC). For these reasons, many public institutions now employ a Sustainable Development Officer and have environmental strategies in place.

However, the expectation that public sector buildings achieve a high standard of energy efficiency best practice is frustratingly countered by tight budgets that restrict the amount of capital expenditure that can be laid out when 'greening' existing buildings. Energy efficient lighting is now expected as the norm, since a substantial 19% of global electricity generation is used for lighting, and of that percentage the biggest consumer is the fluorescent tube. Yet organisations often hit the hurdle of strict budgets when trying to implement even a simple sustainability solution such as this.

Ron Bury, Energy and Environment Manager at Calderstones NHS Trust, comments: "In our new buildings, we specify in-built carbon reduction measures from the outset, whilst also looking to continually improve the carbon footprint of the existing properties. Low-energy lighting was obviously something we wanted for our older buildings, but we couldn't afford to compromise, environmentally or financially, and we were looking for a cost effective solution."

The problem Mr Bury encountered was that the new-generation, low-energy lamps are shorter than their predecessors and require a different type of ballast. Thus, they do not fit into the luminaires that presently exist in most buildings. Previously, the move to energy-efficient lighting involved replacing both the tubes and the luminaires – an expensive task that had other huge drawbacks.

Aidan Salter, Manager Director of energy-efficient lighting specialist, Energys Ltd, comments: "Capital expenditure, plus the added disruption involved in ripping out and replacing all the lighting fittings, is obviously a worry for organisations. However we also find that clients have environmental concerns. Sending perfectly-serviceable light fittings to landfill is clearly wasteful. The manufacture and transport of new fittings means that extra CO_2 is released into the atmosphere – all in the name of reducing an organisation's carbon footprint."

This is the type of circumstance where the environmental technology sector has employed innovation to make a green solution even greener. Since Autumn 2007, Energys has offered its clients 'Save It Easy®', a retrofit e-ballast that allows conversion to low-energy lamps while retaining the existing fittings. Save It Easy has now surpassed sales of 500,000, helping organisations within both the public and private sectors to cut their energy consumption. Depending on the type of lamp used, Save It Easy can help cut energy consumption of lighting by between 34% and 56%.

Within the NHS, three of the UK's leading hospitals have retrofitted their lighting using Save It Easy. Calderstones NHS Trust in

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Lancashire secured funding for a site-wide retrofit programme, after a test installation proved extremely successful. The site will now save 1,358 tonnes of CO_2 over the lifetime of the installation, and is set to payback the investment made in less than eighteen months. The Royal Surrey Hospital, a centre for cancer care in the South, replaced nearly 12,000 lamps. This cut annual costs by £52,848 and, over the project's lifetime, should mean CO_2 savings of 4,700 tonnes. Finally, Alder Hey Hospital in Liverpool one of the busiest children's hospitals in Europe, installed Save it Easy in order to realise a £97,348 annual energy saving, with projected carbon savings of 4,090 tonnes.

Devon and Cornwall Police Constabulary is leading the way for the Home Office Forces, having set in motion a complete energy efficiency review for its various regional offices and police stations. The Constabulary is now in the process of retrofitting its lighting using Save It Easy, with installations already underway in Barnstaple, Sidmouth, Camborne, Bideford and Ilfracombe.

As part of a Salix/Learning and Skills Council programme to improve energy efficiency in schools, a project overseen by Mouchel FM has seen more than 70,000 Save It Easy units installed in colleges of Further Education across Hertfordshire and Oxfordshire. At one such college, Westfield Community Technology College in Watford, annual reduction in electricity consumption was cut by an estimated 84,000 kWh, with CO_2 savings of 36 tonnes.

Public sector buildings typically have considerable lighting needs. Hospitals like the Royal Surrey are used round-the-clock and community-use colleges like Westfield stay open in the evenings and weekends. This means a huge drain on energy if old-style fluorescent lamps are still in use. Use of technologies like Save It Easy has enabled public sector buildings to become exemplars of energy efficiency, despite restricted budgets.

More: *www.saveiteasy.co.uk*