
Retrofitting at Calderstones NHS Trust reduced disturbance

AN OVERHAUL OF THE LIGHTING IN NHS BUILDINGS MIGHT HAVE BEEN ON THE AGENDA LAST YEAR, BUT THE RECESSION MAKES IT FAR LESS PRACTICAL

With round-the-clock occupancy and the need for constant illumination, lighting costs are one of the largest outlays for any hospital. So this proved a key focus when Mountjoy looked into improving energy efficiency while keeping costs down at the hospital.

The retrofit saw 12 000 converters installed, with little disruption to the day-to-day running of the site due to the easy plug-and-play format of the units.

The estimated lifespan of the product is 8.5 years. This equates to an impressive 50 000 hours of lamp burn. Overall, the lifetime savings of the installation should total £400 000, or 4700 tonnes of CO_2.

The environmental efficiency of a retrofit solution also has a positive impact in terms of waste reduction. With Landfill Tax at £32 per tonne and set to rise, generating extra waste is both environmentally and economically bad news for organisations like the Royal Surrey. Replacing all the existing lighting fittings in order to adopt energy-efficient tubes would have meant a significant amount of plastic and metal being sent to waste. The retrofit solution overcame this problem, meaning this waste was diverted away from landfill.

The Royal Surrey is not the only NHS hospital to opt for the Save It Easy solution. Calderstones NHS Trust in the Ribble Valley and the Royal Liverpool NHS Trust's children's hospital in Alder Hey have also installed the product.

At Calderstones, an initial trial of the units converted some 850 lamps. This was a success, and the trust was able to secure funding for a hospital-wide installation of low-energy lighting.

The full fit-out included converting a further 1210 lamps. Energys Services carried out the installation work, which was completed within one month of being given the go-ahead.

Ron Bury, energy and environment manager at Calderstones, says:

"Completely removing and replacing all the fittings would have involved extensive noise, dust and interference for staff and service users at the trust. Retrofitting substantially reduced the disturbance caused, and we received very little in the way of complaints."

As a result of Calderstones' new lighting plan, an annual cost saving of £22 590 has been made, along with an annual CO_2 emission saving of 148 tonnes, although this may be difficult to see in practice, due to natural load growth at the site. However, this means that the installation's lifetime savings total £178 200 – or 1358 tonnes of CO_2.

While the Alder Hey Children's NHS Foundation Trust was being refurbished, facilities manager David Roberts was keen to implement measures that reduced the need for maintenance as well as increasing energy efficiency.

Included within the project was the Save It Easy conversion of 9700 older-style lamps to low-energy T5 versions. This was completed in just three months, with minimal hassle or waste.

"The energy saving on lighting was highly significant at 45%," says Roberts. "The maintenance cost saving was also great, as the lamp replacement time was increased from six months to two-and-a-half years. This makes a big difference in giving patients the most comfortable and non-disruptive stay possible."

With an unstable economic future ahead, new-build projects will become fewer and farther between. Refurb – including technologies such as Save It Easy – will undoubtedly play a greater role in getting the UK's building stock up to scratch in terms of sustainability.

PLUG IN AND PLAY

High-frequency fluorescent lighting ballasts give circuit power savings of some 10%. By combining high-frequency ballast with high-efficiency tubes, suitable luminaires can maintain existing lighting levels at up to 45% reduction in energy use and cost.

Most users, however, do not have suitable luminaires. The lighting world has a massive investment in conventional electromagnetically ballasted luminaires, which are also the wrong size to accept T5 and T8 high-efficiency tubes.

The expense and disruption of ditching that existing investment and installing a whole new generation of luminaires is the greatest single barrier to achieving the cost and environmental advantages now possible.

Save It Easy has been designed to remove that barrier and enable existing fittings to use latest technology. Its retrofit conversion units simply plug into existing Switchstart and Quickstart luminaires, transforming them electronically from conventional fittings to high-frequency ballast fittings of correct type and size to accept the new T5 and T8 fluorescent tubes.