

The Gurdon Institute

Cambridge University



“We wanted to reduce electricity consumption throughout The Gurdon Institute but we wanted to do this without affecting the ‘good science’ that is done here in developmental biology and cancer research.”

Kathy Hilton, building facilities manager at The Gurdon Institute.

Background:

The Gurdon Institute was identified by The University of Cambridge as one of five pilot departments for energy reduction, due to its high consumption levels. Alongside a behaviour change campaign, energy saving technologies were researched that would maximise savings with minimum disruption to the researchers and their work environment. To see the impact that lighting control could have in ‘unloved’ areas of The Gurdon Institute’s building facilities manager, Kathy Hilton, set up a trial in an equipment room; and a research laboratory.

The challenge:

As well as altering user behaviour to their surroundings, The Gurdon Institute still had a large number of spaces within the building that were termed ‘unloved’. These were the areas that were not the responsibility of any one person or research group and so energy consumption in these areas was not ‘owned’ by anyone. These areas involved a number of equipment rooms and general use laboratories.



The wireless nature of Lutron's Energi TriPak solution enables retrofits to be carried out with no disruption to staff.



Lutron's Energi TriPak solution delivers significant energy savings with short payback periods.



Lutron's Energi TriPak solution is able to control a wide range of loads.

The solution:

Energy monitoring and management company, Building Sustainability Ltd, installed Lutron's Energi TriPak® retrofit wireless lighting control solution in a room that houses scientific equipment. This met Kathy Hilton's classification of 'unloved' perfectly, as it had no 'owner' and individuals visited the room only sporadically throughout the day.

As part of the upgrade, the existing T8 36W fluorescent were changed to more efficient T5 lamps and ballast. Having installed a wireless Lutron Rania® RF switch and two Radio Powr Savr™ wireless occupancy/vacancy sensors in the 50m² equipment room, Building Sustainability Ltd. made the decision to fit a meter as well to allow them to monitor the results. Thanks to the wireless nature of Lutron's Energi TriPak solution, the retrofit was carried out with no disruption to the researchers' working day.

The light control trial also incorporated a laboratory. As well as occupancy sensors it was decided that daylight harvesting sensors would also be included. Lutron's EcoSystem Energy Savr Node™ addressable lighting control was installed, along with four occupancy and daylight sensors and a tracking meter. The T8 36W fluorescents were also changed to lower energy T5 28W alternatives.

The results:

The electrical consumption was monitored and in the equipment room an average of 6.45kWh was used per 24 hours during the sensor controlled phase and an average of 16.39 kWh was consumed when it was switched to manual control. This equated to a 60% reduction between manual switching and sensor control. In the laboratory, usage went from 360 kWh to 160 kWh, a 56% reduction between manual switching, as well as sensor and daylight control.

Following these successful trials, Lutron's Energi TriPak retrofit solution has been installed in a further 97 zones, including research support and equipment rooms, stores, toilets and some small office areas. Projected financial savings for these zones, based on the findings from the equipment room and lab trials, are as follows:

- £10,000 projected financial savings per annum
- 100,000 kWh electricity savings per annum
- 54 tonnes of carbon saved per annum
- Investment - £20,000 and payback – 2 years

Client:	The Gurdon Institute, Cambridge University
Lighting Project:	Lutron and P A Collacott & Co
Photography:	Lutron
Lutron Products:	Lutron's Energi TriPak retrofit solution

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