

ENERGY EFFICIENCY CASE STUDY: SU LIGHTING

The Challenge

- The lighting used within the ground floor retail unit and 2nd floor offices at Keele Student's Union were examined during a routine energy audit and determined to be inefficient and close to the end of their useful life.
- The old fluorescent tube fixtures produced a dull orange light which was found to be unacceptable in comparison to what would be expected for the purpose of each room.
- Fluorescent tube fixtures also use considerably more energy than modern LED alternatives and manual switches for control were used in many areas of the Student Union.

The solution

- A detail design was undertaken by internal University Engineers who identified a total of 162 fixtures that could be replaced.
- Each of the office spaces were considered suitable for proximity sensors which allowed for the replacement of the manual switches.
- The additional savings from lighting not being left on unnecessarily was projected to be more than 20% of the overall project electricity savings.

The outcome

- Keele University obtained 100% grant funding from Salix Finance Limited through the public sector Decarbonisation Scheme and the project was completed in March 2021.
- Since installation, the electricity usage of the building has decreased by more than 38,000kWh per year leading to an ongoing annual saving of more than 8.5tCO₂e.
- Satisfaction has improved considerably since the new lights were installed. Fay Harris who is the Deputy Chief Executive for the SU commented on the new installation and said 'we are delighted with the new lighting, not only has it created a much better atmosphere to work in, but it also meets our obligation to take urgent action to combat climate change and its impacts, goal 13 of the UN's sustainable development goals'.

SOME FACTS

Total project costs:

£21,700

Total annual energy savings:

38,000kwh

Payback period:

3.8 years

Total annual carbon savings:

8.8tCO₂e



Before



After