University of Lincoln

Carbon Reduction

Saving Space – The New Carbon Frontier

Profile

- Higher Education
- 12,883 students (includes full and part time students)
- 1,482 staff
- Urban

About the project

Summary

The University of Lincoln achieved a 63% reduction energy consumption and a 58% reduction in carbon emissions for its College of Art by consolidating down from nine buildings into two and by introducing a space charging scheme based on the energy consumption level and running costs of the space.

Project partners

The project was delivered by the Estates & Commercial Facilities Department of the University of Lincoln. The main contractor for the new building was Lindum Construction.

The results

The problem

In 2013 the College of Arts at the University of Lincoln was divided up into nine buildings across five different sites in and around Lincoln. The division of the College across the city created a lack of cohesion, which made it difficult to co-operate across the College and for the staff and students to link with other activities and programmes at the University. In addition, many of the buildings were old, had poor energy efficiency levels and were in need of significant refurbishment to bring them up to a satisfactory standard.

The approach

To consolidate the College on a single site a new £11 million building was constructed on the Brayford Campus. The new building opened in September 2013 and links with an existing College of Art building – the two buildings are joined by a covered walkway and a gallery / exhibition space. The new building provides purpose built studios, teaching space, offices, laboratories and exhibition space for the College. The building houses 1,050 students and 60 members of staff.

The new building allowed the University to exit the majority of the buildings that the College formerly occupied. The total space of the released buildings was 11,181 m2 and the new building occupies 6,129 m2. Therefore, the total space occupied was reduced by 45.2%.

In parallel to the campus consolidation project charging for the use of space was introduced across the University. The costs of using space were reflected in the management accounts of each College. This could

include costs such as energy, water, sewerage, rent, rates, insurance, maintenance, cleaning, security, mail room services and depreciation.

Performance and results

Overall the amount of space occupied by the College fell by 45% with the move to the new Arts Building. Electricity consumption fell by 42% with the move to the new building. The gas consumption for the new Arts Building is 70% below the consumption in the previous buildings. This is because the latest modular gas boilers have been used in the new buildings. The Cathedral Campus buildings had old inefficient boilers in many cases. The carbon emissions for the College have been reduced by over 284 tonnes per annum (58%) by the move to the new building. Therefore, the new building has been a significant success in energy costs and carbon emissions terms.

Overall space utilisation within the College has improved markedly since the construction of the new building and the introduction of space charging. Surveys in 2010 indicated a utilisation rate of 12% for the old College of Art buildings. The latest space utilisation figures for the College of Arts in 2015/16 show a space utilisation rate of 20%.

The new Arts Building was the first major construction project at the University following the introduction of space charging. The new charging policy had a significant impact on requests from the College for additional space. For the first time a clear cost for additional space requests was given to the management of the College. In previous new build projects there had been a tendency to overstate the amount of space required. The Design Team felt that the implication of a direct budgetary impact on the College of additional space requests significantly reduced the demand for space in the new building.

Lessons learned

The direct impact of space charging is that the senior management of the Colleges have a clear understanding of the running costs of their space. They also have a clear economic interest in ensuring a high space utilisation rate. The process should lead to a reduction in excessive requests for more teaching space.

Sharing your project

The results of the project, particularly the space charging, have been presented at various conferences and events. This has highlighted the benefits of charging Colleges and departments for their space costs.

What has it meant to your institution to be a Green Gown Award finalist?

Reaching the final of the Green Gown Awards has been important in the promotion of the project within the University. It has shown that we can deliver carbon savings and new buildings.

Further information

Dan Clayton environment@lincoln.ac.uk
http://estates.lincoln.ac.uk/facilities/campus-a-z/
Twitter: @GreenLincolnUni