Green Gown Awards 2013

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Winner's case study

University of Bradford

Facilities and Services

GLEE – Green Library Environment and Education

Green Library Environment & Education

Profile

- HEI
- 13,000 students (includes full and part time students)
- 2500 staff
- Urban

Category supported by

sodexo Making every day a better day

Section 1 About the project

Summary

GLEE is our latest Student Experience enhancement project that has not only radically improved the old, inefficient learning environment of the City Campus Library but also provided a low carbon refurbishment in tandem.

Project partners

University of Bradford and HEFCE/SALIX

Section 2 The results

The problem

The University of Bradford have long held a strong commitment to sustainability and sustainable construction and are in the forefront of pushing the boundaries in the sector including a collection of BREEAM outstanding developments. Originally built in the 1970s, by 2012 the JBP Library was inefficient in terms of energy use and the library facilities outdated. It provided a dark, stuffy environment which was old fashioned and expensive to run.

The approach

This initiative demonstrates how we can transform an aged library to become a modern, efficient building with an improved environment ready for future generations without significant construction work. This has been achieved through innovative refurbishment at a cost far less than a new build, whilst still maintaining an active service within the space. A high-profile user engagement programme was in place to influence user behaviour, as understanding how the building works is critical to its long term success.

A crucial aim of the project was to reduce the energy consumption of the build and bring the EPC from an E to A. Outdated energy inefficient mechanical cooling was replaced with new mixed mode natural ventilation system. Sustainable solar chimneys resembling glass roofed atria and new larger windows have significantly enhanced the natural light in this 1970's building.

Our goals

Within a challenging and compressed project duration, we decanted the library facilities, replaced the original 1970s energy-intensive mechanical ventilation, improved the fabric insulation, air tightness, created light wells for natural light and ventilation, installed substantial glazed areas, improved lighting and building layout to

move from an uncomfortable and inefficient library space to a modern flexible space that delivers an improved an energy efficient space to enhance the student experience.

The two floors have been organised into spaces for silent and quiet study, laid out so studying can take place in the lightest parts of the building. Other improved facilities include Wi-Fi printing, more power sockets, more indoor plants, more recycling points and re-cataloguing of books to make them easier to find.

The building user group acted as a conduit for the dissemination of key project information to staff and students using the library and sharing the environmental features and benefits of the new space through social media, web, road shows, user guides, signage and building tours.

This project demonstrates a collective approach around flexible use of space; better space utilisation and enhanced student experience whilst delivering excellent value for money. It shows that although the use of technology/building design heavily influences a buildings carbon performance it is how people use that space and how they are engaged which is critical to a low carbon building's success.

Throughout the construction period we were able to maintain a functioning library service, despite relocated stock and two floors out of use. Through careful management and excellent communication, staff were able to keep the library operating with minimum disruption.

Obstacles and solutions

Obstacle	Solution
Restricted by 1970s building	Added natural light, ventilation, significant insulation
Keeping service running during project	Smooth decant and signposting / collection service to books
Short timescale of project	Work as part of a very tight team of client, users and contractors

Performance and results

The refurbishment of the library has had positive effects on energy consumption. Over the past year, we have seen a 77% decrease in gas consumption and a 17% decrease in electricity consumption. Water usage in the past year was down by 55% on the previous year and 71% against 2010/11.

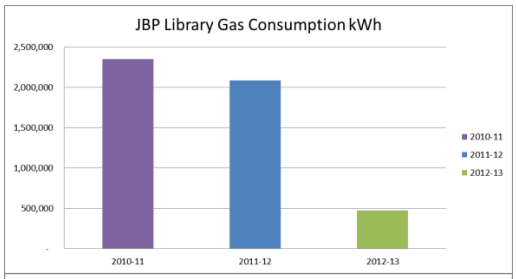
Annual Carbon impact prior for the building prior to the refurbishment was 1579 tCO2/year. Calculated carbon impact for the first year post refurbishment has turned out at 1141 tCO2/year, where the estimated carbon reduction benefit from the project was 500tCO2/year. The latest DEC for the building has gone from an E to a B, a vast improvement.

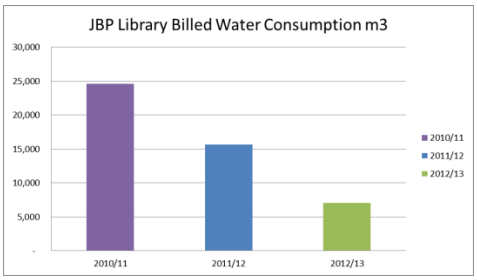
The total cost of the project was predicted at £1,535,930. The actual cost of the project was £1,665,930. £1m was awarded through the Revolving Green Fund grant, with the remainder funded through the University's maintenance budget.

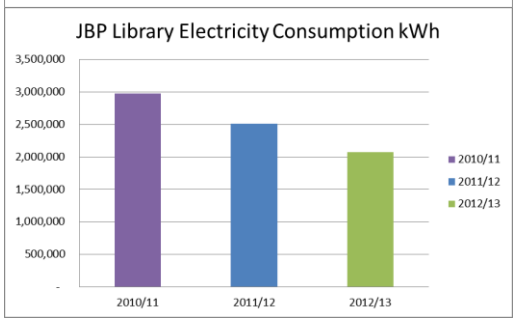
Pre and post project surveys of student users had the following results -

Factor	Pre Project	Post Project
Happy with library environment?	57%	79%
Enough natural light in the library?	35%	81%
Temperature right in the library?	44%	60%
Do you know how green the library is?	17%	25%
Does the library have a litter problem?	43%	29%
Is it now easier to find information and books you need?	-----	68%
Does the library now enhance you learning more?	-----	75%

Pre-construction air permeability air-test was 14 M3/50pa, post construction 2 M3/50pa (Building Regulations is 10)







Entrance Gate Data:
01 Aug 2011 - 25 May 2012 = 595498
01 Aug 2012 - 24 May 2013 = 617654
Refurbishment shut 2 floors of the building july to november 2012 meaning the usage improvements for 12/13 are significantly greater pro rata.

Section 3 The future

Lessons learned

This project has provided a 21st century library for the university and a vastly improved learning and student experience. The space is flexible and will cope well with changes to libraries use. Carbon and utility savings from are huge and overall we provide a very relevant template for the sector. We show that refurbishments can be delivered cheaply, quickly and with a minimum of disruption to service users. The GLEE programme put people at the centre of the process. The provision of a modern space has aided behaviour issues; a bi-product through a greater level of respect, less litter and noise issues. A key challenge for the project has

been delivering it in a very short timescale, with less than 1 year between confirmation of funding and handover which was carefully managed with contractors and University staff throughout.

An innovative element of this project was the GLEE engagement programme – a phased 2 way engagement with campus users as the building is only as green as the people –

- A building user group input into the design and requirements
- They created a communications strategy
- An informative leaflet explained the new space and facilities
- Social media used effectively to update users on the decant
- Sustainability focused building tours
- Surveys at beginning and end of the project raised awareness and measured change
- Pointer signs in new space highlight sustainability features
- A quiz with printer voucher prizes on questions about the improvements
- Students film making society produced a film on project shown on the web and display screen

This process allowed for feedback to be sought and built relationships between Estates and users giving an on-going feedback cycle into the future.

Sharing your project

This project demonstrates an excellent and very relevant case study for the sector. Using tried and tested construction principles we have transformed our library environment. We have been actively promoting this success both inside and outside the sector through AUE, AUDE, AECB, our contractors and awards such as Greenbuild and shortlisted for the prestigious Green Gown awards. All materials associated with the GLEE project are freely available online

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

Winning the Green Gown award would confirm our belief that this is an excellent case study for the sector. The scope is huge with many many buildings ripe for this type of refurbishment and improvements.

Further information

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http://www.bradford.ac.uk/library/glee/