



Green Gown
Awards 2016



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Finalist's case study

Nottingham Trent University Built Environment The Pavilion

About the project

Summary

The Pavilion, which opened in September and is part of the Heart of the Campus development of the Clifton campus, is a central building for students providing a large IT rich space inside for meeting & working in a relaxing & social environment. It is the first NTU building to be given a carbon-negative Energy Performance Certificate (EPC) rating of A+. The major focus of the build was to incorporate sustainability, both throughout construction and in the optimisation of the energy performance of the building after completion.

Project partners

The cost of the project was entirely self-funded and cost approximately £10m. It was delivered within a 15 month programme, achieving budget and exceeding quality. The scheme is an exemplar of sustainable construction and showcases what can be achieved when engineers and environmentalists share a common goal; working together to enable man and nature to co-exist in a changing climate.

The results

The problem

The University's Clifton Campus required a central focus, and with an initial brief to demolish the main and central building on campus there was the desire and need to replace it with a new 'heart' for Clifton, to fully understand what students and staff required from their facilities.

The approach

As with all our previous regeneration projects, the student experience has been put at the very heart of the proposals and we're determined to raise the bar once again and create an environment which is both inspiring and sustainable. The way in which the Pavilion building has been designed highlights the University's commitment to become increasingly sustainable and demonstrates the ability to holistically encompass the various elements of sustainability whilst creating a central hub and landmark within.

Our goals

NTU has worked hard to improve its sustainability credentials and receiving an EPC rating of A+ for the new Pavilion building is an excellent achievement for the University. As part of the University's bold regeneration programme we're keen to provide the high quality estates that our students deserve. The design for the Pavilion building has adopted high standards with regard to energy performance and sustainability, which is a testament to the University's commitment to its environmental impact.

NOTTINGHAM
TRENT UNIVERSITY

Profile

- Higher Education
- **23,440** students
(includes full and part time students)
- **2500** staff
- Urban



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Obstacles and solutions

<ul style="list-style-type: none"> Justifying the huge upfront costs 	<ul style="list-style-type: none"> Research into the payback length of the energy costs.
<ul style="list-style-type: none"> Keeping a live campus beating whilst balancing the demands of a major development. 	<ul style="list-style-type: none"> Working collaboratively with key stakeholders to plan works around the academic calendar.
<ul style="list-style-type: none"> Ensuring any impact to the student experience was considerably minimised. 	<ul style="list-style-type: none"> A focused 15 month schedule coordinated and communicated effectively with a launch date set for the new academic year.

Performance and results

The Pavilion has been designed to be as sustainable and energy efficient as possible. It has energy efficient high spec window glazing and a huge 94kW array of solar panels on the roof. Renewable energy sources have resulted in a building emission rate of -3.94 kgCO₂/m² i.e. a carbon negative building which has exceeded the University's target from EPC A to A+ and is something the University is incredibly proud of. The building has been awarded BREEAM excellent status and has been officially verified Carbon Neutral. Running costs for the Pavilion are much cheaper than for our other buildings. We use LED lighting, which saves on energy bills, and utilise natural light. We have also designed the building to self-ventilate, and have not needed to install air-conditioning. The Pavilion is low maintenance and very easy to service.

The future

Lessons learned

The Pavilion is carbon negative – our most efficient building – and as such produces a surplus of electricity, which is then utilised in other university buildings. Because the Pavilion is so efficient we are able to keep it open for longer, and are looking to move more classes into the building in the winter to allow us to close the older, less efficient buildings earlier, which will save money. The Pavilion is leading the way for sustainable construction the University, with all new buildings required to achieve British Research Establishment Environmental Assessment Method (BREEAM) excellent or higher ratings.

Sharing your project

The physical and emotional environment created by the Pavilion has impacted positively by all those who have encountered it so far. Student feedback, visitations of neighbouring universities, comments collected via open days and university governance members have all concluded that the scheme is unique, clever, prominent, enriching and ultimately inspiring. It has been described as striking, beautiful, user-friendly, convenient, open and airy, a vibrant and cohesive environment and a huge success by our staff and students. One student said: 'Attaining a carbon negative rating for the new building shows how the university is totally committed to protecting the environment by ensuring that we do not add to our carbon footprint in any of our building or development projects'.



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

Being a Green Gown Award finalist is a great honour as it confirms that our work is worthy of recognition. While this project has been beneficial to our staff and students, we are elated to find that sharing our experience may be beneficial to other institutions.

Further information

Find out more about our Pavilion building at

https://www4.ntu.ac.uk/current_students/news_events/campus_transformation/clifton/index.html?utm_medium=short_url&utm_campaign=clifton&utm_term=IM&utm_source=short_url

Find out more about Sustainability at Nottingham Trent University at

<https://www4.ntu.ac.uk/sustainability/index.html>