



UNIQUE FITNESS & LIFESTYLE

These briefing papers describe sustainability actions at the University of Bradford as part of the development of our Ecoversity programme.

These papers are developed through The Sustainable Education Directorate together with the University staff and students featured inside, and are part of our commitment to improving communication around Ecoversity.

Comments and feedback are welcome and should be sent to: ecoversity@bradford.ac.uk

Which building on Campus is the largest consumer of energy?

UniQue Fitness and Lifestyle (previously the University Sports Centre building) is the largest consumer of energy and emitter of building related carbon on a square metre basis on Campus. One of the reasons for this is the swimming pool which requires considerable energy for heating and ventilation.

How did the design and construction of the £5m development aim to minimise energy use?

The new facility as well as being a redevelopment of the existing centre also incorporates a range of new services including an extended state of the art health and fitness facility, climbing wall, social and meeting areas and additional changing provision. This expansion of services and increased energy requirement meant the design team needed to pay particular attention to energy efficiency and maximise existing University heating and cooling systems.

Features include:

- The sustainability specification required the building fabric to be upgraded/replaced and this was achieved by 25% more than actual building regulations required (building regulations set a standard that a new or refurbished building has to achieve) .
- Air-tightness of the building was improved by 50% over and above the required building regulations standard
- The atrium “cone” is entirely naturally ventilated, this required extensive thermal modelling to enable the design of the sophisticated computer operated window opening system to achieve this. Natural ventilation means using vents and windows to draw in cooler external air during the day and night to flush out warm air to maintain a comfortable ambient temperature. This is different to mechanical ventilation that uses pumps and hence electrical power to create the same effect.
- Rather than install new boiler plant the Sports Centre was connected to the University’s existing district heating system and designed to take advantage of central CHP [Combined Heat and Power] when installed.
- The whole building is now controlled by a state-of-the-art computerised building management system (BMS) allowing flexible use and control of the building including control of the natural ventilation. The BMS reads internal temperatures via a series of sensors within the building. These are fed back to a central computer

and adjustments are then made to heating and ventilation systems to maintain a desired temperature.

- Plant and equipment has been selected and installed on a life cycle cost basis and make use of features such as heat recovery and the use of chilled water, instead of refrigerant for cooling. Life cycle costing means looking at the costs of purchasing and running equipment or a facility over a long period of time rather than just looking at the up front purchasing cost. Often the cheapest equipment or design approach has much higher energy consumption and costs more to run over the lifetime of the equipment.

How will we know how effective these measures have been?

In relation to utilities UniQue is now separately metered and has targets in which to manage its energy consumption. We will be publishing data on the energy performance of the new facility which can be found on the Ecoversity website (www.brad.ac.uk/ecoversity)

How else will UniQue Fitness and Lifestyle contribute to Ecoversity principles?

UniQue has a clear objective of improving the health and wellbeing of students and staff by providing discounted memberships and a range of personalised fitness and health related services, classes and activities. Health and Wellbeing are core principle of sustainable development. (Defra 2008*)

UniQue is seeking accreditation for the Inclusive Fitness Initiative (IFI) which accredits facilities and services that provide dedicated access for people with disabilities.

Further Information

For further information or communication on Ecoversity or this briefing paper email ecoversity@bradford.ac.uk

For more detail on Ecoversity:
www.bradford.ac.uk/ecoversity

* Defra (2008) Sustainable Development indicator in your pocket 2008. Defra Publications, London.