

## Sustainable Construction Strategy for the University Estate

### 1 Strategy Statement

In common with the other Environmental Strategies, the Sustainable Construction Strategy (SCS) aims to fulfil the aims of the University of Bristol Environmental Policy by providing a mechanism for the reduction of the environmental impact and costs arising from construction of and in buildings through the better management of resources, meeting and exceeding the requirements of legislation.

Pervading the SCS is an understanding that the goal is to provide an appropriate living and working environment for staff and students. To this end, communication with stakeholders is deemed essential for the successful delivery of these goals.

The Sustainable Construction Strategy will work with energy, transport, biodiversity, water and waste strategies to assist with meeting their objectives and targets.

### 2 Drivers

#### 2.1 Relevant External Policy Drivers

- **Part L of the Building Regulations – Conservation of Fuel and Power** came into force in **April 2006** covering new and existing dwellings and non-domestic buildings. Whole building carbon emissions are looked at compared to 2002 building regulations. Target improvements over 2002 levels range from 25% to 28%.
- The Government aims to make all new dwellings zero-carbon by 2016. The **Code for Sustainable Homes** is the key instrument in achieving this (replacing the BRE's EcoHomes - BREEAM for dwellings).
- **PPS22** – planning instrument enables local authorities to demand a percentage of buildings energy is required to be generated from on-site renewables as a planning condition – this is already being used by North Somerset Council. This ties in with what is called the Merton rule.
- The **Energy Performance in Buildings Directive** will require all buildings over 1000m<sup>2</sup> to be given a publicly-displayed energy rating by September 2008. For new buildings asset ratings as well as performance ratings are required.
- The **Carbon Reduction Commitment** will oblige the University of Bristol to trade in Carbon Dioxide (CO<sub>2</sub>) at all sites from 2009. If emissions are reduced, there will be a net saving for the University; emission above thresholds will result in a net cost.
- The **Draft Climate Change Bill** commits the UK to reducing emissions on 1990 levels by 60% by 2050 with progress of 26-32% by 2020. The University seeks to be a leader in all aspects of its work and will achieve a stretching target of exceeding these reductions from buildings on a 2004/5 baseline of 41,000 tonnes. A Carbon Descent Plan is included as

Appendix 1 demonstrating that progress towards this over the next 5 years is achievable with not change to current plans.

- Water efficiency in buildings is likely to be included in a **Part G of the Building Regulations** seeking to set target reductions for new dwellings.
- **Site Waste Management Plans** are likely to be introduced as mandatory for developments over £300,000 from spring 2008.
- External Stakeholders – potential staff and students, funders and partners are looking for the University to lead by example and therefore want more sustainable buildings..

## 2.2 Internal Drivers

- **Cost** will be a driver, and the SCS will be used to minimize cost by reducing the requirement for energy, water, materials and so forth supplied from outside the University.
- The Estates Office **Environmental Management System** (EMS) requires continual improvement in environmental management and hence waste management.
- BREEAM is now used to direct capital projects over £1 million.
- Internal Stakeholders – staff and students are demanding greener buildings.

## 3 Key Objectives

The following are the key objectives of the sustainable construction strategy which respond to both the requirements of the EMS and needs of the university in delivering its teaching and research functions.

1. Future development planning should consider optimum use of space as well as reuse of space before embarking on new building programmes.
2. Provide buildings of high performance and comfort levels with scope for flexible use in the future.
3. Support other environmental strategies in being integrated into new building, extension and refurbishment projects. Ensuring that the finished development supports the other environmental strategies.
4. Maintain adequate funding of sustainable construction principles within capital projects.
5. Monitor and review all building projects in terms of design performance.
6. Sustainability principles to be applied to all design projects designed internally or externally, no matter the size.

The aim is to achieve these objectives going beyond current legislation and best practice where practicable, seeking best value for the University at all times.

## 4 Strategy Targets

The following targets have been set for the above objectives:

1. Space review???
2. Reduce carbon dioxide emissions by 10% above current building regulations for new builds and 7% for refurbishments.
3. Provide 10% of energy requirements from renewable and low carbon energy sources.
4. Provide a sustainable fund within each project of 5% of total build cost (excluding fees).
5. Use BREEAM on all projects over £1million, achieving excellent for new builds and extensions and very good for refurbishments. This will ensure that the key objectives are met.
6. Develop guidelines, targets and procedures for introducing sustainability issues into projects smaller than £1million by July 2010.

These targets are effective from the 1<sup>st</sup> January 2008 unless otherwise stated.

## 5 Monitoring, Reporting and Review

The key measures for this strategy are achievements under BREEAM and carbon dioxide emission reductions as set out in the targets 2 to 5 above. This will be measured by BRE certification at 'design' and 'post construction' stages, as well as using utility and University owned energy meters.

The Annual report for the Energy and Environmental Management to Estates Committee will contain details of progress against the strategy targets noted in section 4 above.

This strategy, and all others, will be reviewed on an annual basis.

The implementation of the Sustainable Construction strategy will also support the delivery of an Environmental Management System, which will ensure continual environmental improvement across the University.

## 6 Threats to Delivery of this Strategy

- Inexperience of internal and external designers with regard to sustainability principles and University standards. A lack of knowledge in this area.
- Other building priorities are given greater weighting above sustainability principles or sustainability principles are not given equal consideration to other priorities.
- Funding to achieve high environmental standards within projects is reduced from 5%.
- Senior managers do not support sustainability principles both generally and for specific issues.

**Authors:**

Martin Wiles

Energy & Environmental Manager

**Authorised by:**

Simon Britton

The Bursar

## **Appendix 1: Baseline Information**

The University is spending £250million over the next five years to achieve its objectives for teaching and research, renewing and upgrading its buildings.

A master plan has been produced for the precinct identifying potential sites, which has been accepted as planning guidance in July 2006 by Bristol City Council.

Similar master plans for Langford and the residences have been developed to draft form.

Full details can be found at - <http://www.bris.ac.uk/Depts/Bursar/masterplan.html>

To address the sustainability issues of the master plan – a range of sustainability objectives were identified as important within appendix 15 of the master plan.

The majority of these principles are met by the University's use of BREEAM.

Details found at <http://www.breeam.org/>

As of the start of 2008, one project has been assessed to BREEAM design stage, the Animal Welfare Building achieving BREEAM excellent. Six other new build and refurbishment projects are in the design phase, with three further projects about to start the process.