CARBON REDUCTION STRATEGY

The University of the West of England, Bristol is committed to a range of actions that address climate change through its Sustainability Strategy, 2008 -2012. The Strategy may be seen at http://www.uwe.ac.uk/environment/documents/Strategy.pdf where you will see that we have actions designed to improve our management of activities contributing to climate change. These include action to reduce our carbon emissions from the University's estate.

UWE's Carbon use has been reduced from 82.6 kg/sq.m to 61.2 kg/sq.m (63.6kg/sq.m weather compensated) over the two years 2005/6 to 2006/7, a reduction of more than 23%. The recent 46% gas savings on the Frenchay Academic Campus helped the University Buildings total carbon emissions to reduce despite opening the 1950 bed Student Village.

The UWE Carbon Management Plan, developed in partnership with the Carbon Trust, contains specific objectives and targets to reduce carbon emissions. It sets out an absolute target of 30% reduction in buildings carbon emissions (kg/m^2) from 2001/2 levels by 2011/12 based on an average year's weather. Sections 3.2 and 3.3 of the Sustainability Strategy outline the aims and objectives for Sustainable Travel and Natural Resource use, which also link to carbon and air quality management. Our energy use and carbon emissions are reported publicly on the internet: http://www.uwe.ac.uk/estates/energyInfo.shtml

The aim of the Carbon Management Plan is to use energy more efficiently to progressively reduce dependency on fossil fuels and contribute to achieving the UK target of 80% reduction in carbon dioxide emissions (as compared with a 1990 baseline) by 2050. Key objectives are to:

- Calculate UWE's carbon commitment.
- Reduce energy use in buildings, including residential buildings.
- Implement an energy awareness campaign.
- Implement 80% of the technical carbon saving measures (where cost effective)
- detailed in the Carbon Management Plan.
- Aim to achieve BREEAM rating of at least "Very Good" for energy aspects of new buildings.
- To consider the procurement of a proportion of electricity from renewable sources where economic to do so.

KEY AREAS OF ACTIVITY

Key improvements that have helped achieve our carbon emissions from buildings include:

- Replacement of old boilers with high efficiency condensing boilers
- Behaviour change campaign on student residencies
- Improved heating system controls
- Presence detection lighting controls and upgrades
- Voltage optimisation on Bower Ashton site
- Use of natural ventilation where possible
- Draught proofing of older buildings

We have also introduced some renewable technologies on site:

- Photovoltaic panels
- Solar hot water

Plans for the future carbon saving initiatives include:

- An increase in on site renewable technologies, including wind and biomass
- A behaviour change campaign on staff
- Voltage optimisation units fitted to refrigeration units across site
- An automatic PC Switchoff program to be rolled out across all computers
- Further boiler upgrades and free cooling
- All new buildings to be high specification and energy efficient

The University Energy manager continues to work with the Carbon Trust to improve performance in our existing and new buildings. The award winning Bower Ashton redevelopment and the Architecture Building incorporate advanced features which reduce energy demand and therefore carbon emissions. The University has recently purchased land adjacent to the campus at Frenchay and will embark upon a decade of development on this site. This will be done in accordance with the principles set out in the Sustainability Strategy. The University has also announced its intention to expand R block, already this

is the cheapest building to run because of its sustainable design and we expect the extension to be as good if not better in its performance.

The University has an award winning Travel Plan through which it is seeking to reduce car journeys to the University estate. A key part of this plan is the development of the U Link bus network. A recent press release reports that the University bus fleet has seen a 100% increase in patronage with daily passenger numbers now exceeding 6000 and bus fleet numbers have increased again in November (see http://info.uwe.ac.uk/news/UWENews/article.asp?item=1393&year=2008)

The University's environmental management has been assessed by People and Planet; a student led pressure group, who has identified us as the third best University in the UK for environmental management (see http://peopleandplanet.org/gogreen/greenleague2008 for details. We hope to improve on this performance.

As part of our Sustainability Strategy we review progress through the Sustainability Board, chaired by the Deputy Vice Chancellor, on a quarterly basis and we are held to account for any lack of action! We expect that in the January meeting of the Board we will review our actions in section 3.2 of the Strategy now that the Government has announced an intention to seek an 80% (rather than a 60%) cut in carbon dioxide emission.

EDUCATION AND RESEARCH

As an educational provider the University has a range of undergraduate, postgraduate and short course provision covering causes and mitigation of climate change, carbon management, adaptation to climate change and related matters. The University is developing new provision at BSc and MSc level which will focus on climate change and carbon management. The University's short course programme includes a range of energy management, land use planning and transport courses which seek to ensure that future development activities contribute to climate stability, whilst providing the essential resilience needed to the impacts of inevitable climate change. The recent Sustainable Urban Mobility seminar is a good example of this activity (see: http://aqmrclatestnews.blogspot.com/2008/10/sustainable-urban-transport-seminar.html)

The research activities of the University also contribute to work mitigating and adapting to climate change. The Institute for Sustainability, Health and Environment (http://www.uwe.ac.uk/ishe/index.shtml) provides a focus for a range of cognate activities including PhDs exploring co-management of carbon with air pollutants (see a poster at: http://www.uwe.ac.uk/aqm/files/Simon_Baldwin_HERDA_Poster_A1.pdf) and an exploration of the carbon futures for Bristol (see http://www.uwe.ac.uk/aqm/files/Rose_carbon%20management%20poster.pdf).

Professor Jim Longhurst
July 2009