

Continuous Improvement

HIGHLY COMMENDED

A Shrinking Carbon Footprint at the University of Edinburgh



A CHP facility at the University

Edinburgh's improvement journey has a long history. "It began", says Energy and Sustainability Manager David Somervell, "in 1990 with a pioneering conference on Energy Management for Further and Higher Education, and continued in 1993 with adoption of one of the first university environmental policies. Since then we've invested over £15m in energy efficiency and related measures, and gained cumulative savings of £8m. This is partially financed by investing at least 5% of annual utilities spend on energy efficiency projects, and increasingly by the university's requirement for thorough whole life costing analysis of all investment and purchasing decisions."

These, and other initiatives on curriculum, research, procurement, transport and other areas, are co-ordinated by a Sustainability and Environmental Advisory Group (SEAG), convened by Vice-Principal Geoffrey Boulton. In 2003 the university formally adopted the following quantitative targets for improvement:

- Cut carbon dioxide emissions by 40% compared from 1990 levels by 2010 (30% achieved by 2006)
- Reduce water consumption by 20% by 2010 (2% achieved by 2006)
- Reduce waste to landfill by 5% by 2007 (stabilised by 2006, despite a campus 25% larger with double the students) and recycle 30% of all waste by the same year (achieved in 2007)
- Cut single occupancy vehicle (SOV) use by 5% over five years (achieved).

Measures to reduce carbon emissions have included:

- £12m invested in Combined Heat & Power installations in three Energy Centres - saving nearly £1m per year after loan repayments, and cutting emissions by over 4,300 tonnes CO₂/yr
- Over £500,000 invested in Building Energy Management Systems (BEMS), and over £400,000 in enhanced Metering Monitoring and Targeting, which will enable devolution of utilities budgets in 2008
- Procurement of 25m kWh/yr of certificated Green Electricity since 2000 - 40% of consumption
- Investment in proactive energy efficiency measures such as condensing boilers, and upgrading insulation values beyond building standards whenever roofs are re-covered.

Measures in other areas include:

- £500,000 invested in improved cycle facilities (which has contributed to a 40% increase in cycle use)
- First Fairtrade University in Scotland, in 2004
- Collaboration with People & Planet and Students Association to produce brochures on a *Climate Change Survivors Guide* and *Greening the University*
- Presentations by Energy & Sustainability Office to the monthly induction sessions for all new staff
- Introduction of a new cross-disciplinary undergraduate course on Sustainability, Society and Environment (180 students registered in 2007), and taught MSc courses in Sustainable Energy, in Sustainable Development and in Sustainability & Development.

Judges' Comments on Continuous Improvement (continued)

The University of Edinburgh was one of the first institutions in the sector to have an environmental policy, and has an impressive long-term record of success in reducing impacts. Its actions are wide ranging, and include the improvement of its own Estate, the development of teaching and research on the topic, and outreach activities both in the city and Scotland as a whole. Especially noteworthy are the University's 30% reduction in its energy-related carbon emissions since 1990 (which has been achieved despite a considerable increase in its estate), and its leading role in the adoption of CHP, BEMS, and metering, monitoring and targeting, within the sector.