

TITLE:

Saving money and energy at Pembroke College

DATE:

November 2009



INSTITUTION PROFILE

Further Education College

3 sites

On the main site in Haverfordwest -
320 FTE staff, 9,000 students

SUMMARY

Pembrokeshire College has reduced its environmental impact and its bills by targeting energy consumption and waste in a long-term programme of improvements. Staff and students are encouraged to make suggestions about how to save energy and create less waste. The college is careful to implement these and to invest back into the college in a visible way to maintain enthusiasm and support.

EAUC COMMENT

Pembrokeshire College offers an exemplary model of best practice through their cross-college, long term approach to sustainability. By investing in their sustainable future, the college has reduced its costs and energy and water usage as well as affected positive behavior and attitude change.

THE PROBLEM

An energy audit in 2003 prompted Pembrokeshire College to consider its wider environmental impact. Cost reduction was a particularly strong driver, but the college was mindful of the environmental benefits of reducing energy consumption and waste. The audit revealed just how much energy could be saved and the newly-appointed Director of Estates was tasked to implement the actions from the audit and devise an on-going improvement programme.



THE APPROACH

The college realised it needed to prioritise actions in order to make any significant progress. It also realised that sustainability was a huge issue which would need a long-term commitment, so set about creating a five year continuous improvement plan.

The college established a Sustainable Development and Environmental Committee which was chaired by the college principal and contained representatives of staff, including other senior managers, and learners. This wide membership helps embed sustainable development across the whole institution.

The committee is supported by an operational sub-group, the Sustainable Development and Environmental Group (SDEG), which meets on a monthly basis to monitor progress on initiatives and develop staff and learner ideas.

In addition, to cement its commitment to the subject, the college decided to include environment and sustainability as standing items on all meeting agendas.

The group has developed a range of initiatives such as the staff journey to work mini bus scheme, duplex printing, charging for printing and a programme which automatically shuts down computers if they have been unused for 45 minutes.

Staff and students are involved with the college's activities on ESD through talks and presentations from external speakers. As part of this involvement they were encouraged to make suggestions about improvements so that there is a continuous programme of change. The college makes sure it implements ideas quickly in order to maintain the enthusiasm of the college community and reinforce the message that the environment is important. Initiatives are also periodically reviewed and, if necessary, re-launched or promoted in order to remind staff and students of the benefits.

OUR GOALS

- Reduce energy consumption – gas by 40 per cent, electricity by 10 per cent over a five years
- Reduce waste to landfill by 60 per cent over 10 years
- Reduce water consumption by 20 per cent over five years
- Design and build a building to BREEAM excellent standard to provide a sustainable learning environment and use this as a benchmark for future site developments

OBSTACLES AND SOLUTIONS

Obstacles

- Funding – many of the initiatives needed large capital input to get started
- Changing the culture and attitudes to waste management
- Getting staff to buy into the changes in the control of heating from locally to centrally via a building management system (BMS)
- Justifying the cost increase for a BREEAM excellent building

Solutions

- All initiatives were analysed to calculate payback periods and environmental benefits. Once this information was produced it wasn't difficult to justify the initial capital injection
- A programme of awareness-raising seminars for staff over a year coupled with careful monitoring and enforcement meant an eventual change in culture
- Staff were shown the financial and environmental benefits of the new control system. Most importantly, the savings were visibly reinvested in other environmental initiatives so staff could actually see the benefits of the change
- The college undertook detailed capital investment appraisals and looked at pay-back periods of the design. In the event, the success of the project has reached far beyond initial expectations due to the increased profile the college has received, along with the awards and the additional funding it has been able to secure using the building as proof of its commitment to sustainability

PERFORMANCE AND RESULTS

- The college built the first ever further education building to be awarded BREEAM excellent at both design and post construction assessments
- Substantial reductions in energy and water usage – 54 per cent reduction in gas use, 51 per cent reduction in water use and 20 per cent reduction in electricity use over five years (2002-2007). This amounts to CO₂ savings of more than 2,000 tonnes and around £65,000 each year compared to 2002/03 costs, despite the college expanding in this time
- The college's total energy consumption of 159kwh per square metre and water consumption off 0.4m³ per square metre is among the lowest of any further education institution in the country
- The staff mini bus which brings staff to and from work has been a great success and five further routes are being investigated, giving the potential to save 70 car journeys a day
- The college has increased its recycling rates from nothing to 33 per cent in four years
- Introducing double-sided printing has resulted in a reduction in paper usage of 48 per cent over three years

LESSONS LEARNT

- Don't try to do everything at once. A better approach is to phase initiatives over a few years
- Maximise your initial quick wins and promote the results, as this will help others to come on board
- Ensure the financial savings made are reinvested in other environmental improvements so staff and students can see real benefits. Without this you risk it just being seen as a financial saving for the organisation
- Promote what you are doing and provide statistical information on achievements to raise awareness
- Use eMandate benchmarking data to show progress and performance against others in the sector
- Look at best practice elsewhere

FURTHER INFORMATION

Steve Jones
Director of Estates and Facilities
Email steve.jones@pembrokeshire.ac.uk

Pembrokeshire College
www.pembrokeshire.ac.uk

BREEAM, the environmental assessment method for buildings around the world
<http://www.breeam.org/>

eMandate benchmarking
<http://www.emandate.co.uk/>



**The Environmental and Sustainability
Champion within Further and Higher
Education in the United Kingdom.**

The EAUC provides training, advice and support to our members as well as providing a forum for best practice in the sector.

To join phone **01242 714321**

Disclaimer:

Although every reasonable effort has been made to ensure that the information contained in this document is accurate the EAUC, the contributing institutions, the funding and the endorsing bodies do not warrant its accuracy and disclaims any liability for its use.

www.eauc.org.uk
info@eauc.org.uk