

case study

The Carbon Cutters: Saving Carbon, Saving Money

Measuring and reducing the carbon footprints of three organisations

Project Summary

Businesses are hunting for solutions to reduce their carbon footprint and energy spend. This project follows UEA Environmental Sciences undergraduate students in three organisations recording their experiences as they help overcome the challenges of auditing and reducing the organisational carbon footprint. A television company will produce a short documentary and an educational DVD that will be used to influence the practices of other organisations.

Partnership

- University of East Anglia, 5** rated School of Environmental Sciences
- CRed – carbon management experts based at the UEA
- Norfolk and Norwich University Hospitals NHS Foundation Trust - a tripartite arrangement between the Trust, Serco and Octagon. Over 5,500 staff, catchment area of up to 750,000
- Bayer CropScience - one of the world's leading crop science organisations in crop protection, seeds and plant biotechnology
- UCP Zeller – part of Global Closure Systems, an international company supplying quality closures across all markets worldwide

Aims

The film will document the implementation of technological and behavioural change carbon-saving initiatives by the students and the resultant carbon savings. The students will disseminate the findings to the organisations, the university and, indirectly, into the local economy.

Carbon Connections funded the project management support as well as the TV production costs and a small budget for each student to spend on carbon saving initiatives within their organisation.

Inspiration

In 2007, Suffolk brewer Adnams secured a UEA year-in-industry student, who produced and implemented a 5-year carbon reduction strategy underpinning their carbon footprint understanding and slashing carbon emissions by 10%. This earned Adnams the CRed Business Standard (a systematic framework for reducing carbon based energy costs in business). DEFRA estimates total annual carbon emissions for the East of England from industry and commerce as 6 tonnes of CO₂ per employee. The Carbon Trust estimates that UK businesses waste 30% energy through poor control of heating, air conditioning and leaving lights and appliances on unnecessarily.

Innovation

The final 30-minute documentary will be the first to document the carbon auditing process and will be made available to organisations to assist in tackling the issues of identifying and reducing their carbon footprint, including advice and information on establishing a baseline, monitoring, setting targets, pathways to carbon reduction, and reporting performance.



Development

UCP Zeller	NNUH	Bayer CropScience
Production and distribution losses are common when working with compressed air but UCP discovered that:	Replacement of lighting with LED versions saves 14 tCO ₂	Alterations to selected lights so that they are on for < 4 hours a day
90% production energy lost as heat	Upgrade to efficient dishwashers saves 22 tCO ₂	Installation of efficient motors in air compressors
25% distribution losses through leaks	Upgrade to efficient PCs saves 58.5 tCO ₂	Total saving of 59.43 tCO ₂
Leak detection kit purchased leading to saving of 45.9 tCO ₂ (payback period <6 months)	Large-scale staff engagement to continue	Significant staff engagement following awareness raising initiatives



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