Stepping Up in Sustainability 2011-12

South Staffordshire College case study

Title of project	Sustaining Carbon Reduction Strategies	
Lead partner organisation name and address	South Staffordshire College Rodbaston Campus Penkridge ST19 5PH	
Contact details (lead organisation)	Name: Mark Phillips Email: mark.phillips@southstaffs.ac.uk	Phone: 0797 079 4520
1. Aims of the project	The major aim of this project is to collaboratively identify and implement effective cultural change agents, projects and processes which will deliver a 5-10% reduction in its energy use and move the college towards its longer term target of a 25% reduction in its carbon emissions by 2016.	
2. Situation: Identify the situation or issue that faced you	The College has a target to reduce energy consumption by 25% by 2016. In order to do this we have identified that we need to reduce the carbon emissions by 996 tonnes per year, thus saving £177,833 per year. The project was required to help to achieve this. The College used its baseline emissions of 2009/10 in order to take into account the energy reduction work done to date e.g. over £70k spent on voltage optimisation. The main issues faced by our organisation are: • how best to spend the relatively small amount of capital funding available in order secure the largest carbon reduction for the shortest payback period; • how to identify and quantify the highest energy consuming areas and how can we tackle them; • how do we change the behaviour of our staff and students in order to bring about cultural change. The current energy consumption has been measured through half hourly data over the last two years and we can measure our peak and baseload consumption at all our main sites which would assist us when analysing the effectiveness of our campaigns, metering, targeting and investment in energy reducing technologies.	

3. Task: Define the outcomes you needed to achieve	Objective 1) To undertake a trial of new technologies that will permit effective management of existing systems in order to arrive at a best value recommendation for the limited capital investment available. Objective 2) To research and identify projects and processes undertaken elsewhere (public and private sector) which could be transplanted at low or zero cost and compile a prioritised plan of action. Objective 3) To plan and implement effective carbon saving campaigns. Objective 4) To generate a carbon management index which will enable us to monitor the impact of actions we undertake and progress towards achieving our goals.
4. Actions that you took in order to achieve your plan, and your approach	Objective 1) Sub metering was installed and monitored at key areas across the College with an emphasis at Rodbaston due to it having a base-load three times higher than the other sites. A portable sub meter was purchased to provide more detailed data of suspected high energy using areas. In addition to these technologies the application of thermal cameras was investigated and the possible use of SABIEN devices to reduce gas consumption in older boilers (thus extending their life and saving the expense of replacement). Objective 2) This was achieved and fed into the College's Carbon Management Plan across all campuses. Objective 3) Following advice from our Critical Friend we have broken the campaigns into various stages so we have identified the issues and are now starting to raise awareness action will take place during the spring term and evaluation over the summer. We expect to bring the student/ staff volunteering days in line with the carbon reduction campaigns next year. Objective 4) We explored several tools available through the Carbon Trust (free under the FECMP), the tool provided to us by EcoCampus (free for scheme members) and a variety of other carbon management tools offered commercially.

5. Results that you obtained	Objective 1) The installation of sub meters in suspected high energy areas at the Rodbaston Campus (which delivers a landbased curriculum), whose base-load is three times larger than other sites. We have now identified that our zoo consumes 30,000 to 40,000 kWh per month and fish hatchery around 25,000 kWh per month. In addition we have invested in a portable sub meter which will enable us to further drill down on high energy using areas to identify specific issues. The portable meter can further assist us since we move it from site to site to investigate a variety energy consuming issues. Through acquiring robust area specific energy data this enables us to form objective fact-based arguments when attempting achieve behavioural change and raising funding for capital projects. Objective 2) Through researching a number of energy case studies, attending workshops and conducting the sub metering exercise above we have identified a number of energy saving projects with largest carbon savings and shortest payback periods (see appendix). We found that it was difficult to get most projects to comply with the SALIX loan criteria so we will need to find alternative methods of funding. We also investigated a variety of low cost technologies: Sabien devices for older boilers for reducing gas consumption thereby providing a real alternative to replacing older boilers. Also we recognised the potential of thermal imaging cameras for identifying heat loss issues and insulation improvement projects. Objective 3) The major progression in is this area was to start the awareness raising campaign which involved the following: Campaigns aimed at achieving sustainability and carbon reduction have been restructured to follow recommendations made by the Critical Friend and will follow a format of: 1. Identify the issues for awareness raising 2. How individuals and groups can effect a positive change 3. Implementation of actions and activities 4. Monitoring and Evaluation. This will have its largest influence next year after we have trialled the format this year (awareness raising started with students and staff at the beginning of Climate Change Week) • A survey (ran over a week) of the PCs being left on at the Tamworth Campus enabled us to prove to ICT Department that this was occurring which led to a full investigation and interrogation of the number of PCs across the entire College and the reinstatement of auto shutdown of all PCs after 20

	minutes of no use and a 10 pm curfew for all College computers that commenced on the 12th March to coincide with Climate Change Week following a trial on the 8th (see appendix 1). From the software we have identified that over 325 devices were left on as following auto shut down this went down to 100 which includes mostly devices which cannot be turned off. The curfew programme will save in the order of £6000 pa and the 20 minute shutdown will further increase these savings. • All departmental areas are required to report on the carbon saving actions and these are now incorporated into the SAR system and monitored through the Quality Department. In addition the Head of Sustainability periodically attends department meetings to support progress on carbon reduction and sustainability. • Awareness campaigns have started with a poster competition that was launched during Climate Change Week. • A presentation was made by the Head of Sustainability on the current carbon footprint (business as usual concept) and the 25% reduction target by 2016 to the SLT/ ELT of the College. This had such an impact that the CEO has requested that a similar presentation be made during his spring term address to all staff at all campuses. Objective 4) We have trialled a number of Carbon Indexing Software tools and the conclusion is that those available through the Carbon Trust (which are free to the public sector) are more than adequate for most FE colleges requirements. The only possible exception is those that are required to be part of CRC.
6. What made the project a success? What were the key ingredients?	The key point for the success of this project was getting the ELT/ SLT on board through a presentation illustrating the College's Business As Usual scenario. This clearly illustrated in graphical form (see appendix) that the College would be required to find an extra £300k a year by 2016 to pay its energy bills (around £1.2 million pa). The success was due to focusing on the financial aspects of good carbon management and then linking this back to resource efficiency and good environmental practice. The other factor for making this project a success was we had good in-house knowledge and issues were debated openly and supported by external consultation from the Carbon Trust before implementation. Finally the need to have robust data to produce accurate baseload and peak consumption figures was essential to providing an accurate basis for comparisons, monitoring performance and target setting.

7. Any resources or tools produced by the project	We have attached PDFs of some of data graphs and the College Carbon Management Plan.		
8. Total costs of the project	LSIS funding	Match funding	Total funding
	£5,000	£4,362	£9,362

South Staffordshire College Lichfield • Cannock • Tamworth • Rodbaston	**Funded by LSIS through the Stepping Up in Sustainability Fund**	LSIS LEARNING AND SKILLS IMPROVEMENT SERVICE