

Stepping Up in Sustainability 2011-12

Hartpury College case study



Title of project	RespECT: Responsible Energy Consumption through Teaching	
Lead partner organisation name and address	Hartpury College	
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1. Aims of the project	<p>The aims of the project are to:</p> <ol style="list-style-type: none"> 1. Encourage learners, staff, trade union green representatives and stakeholders to innovate and implement sustainable development principles as part of 'bottom up' development; 2. Reduce the College's energy usage via energy saving technology and behaviour changes amongst learners; 3. Use energy monitoring to support the outcomes of teaching and learning by providing understanding of energy consumption and approaches to reduce consumption; 4. Engage learners and the local community in sustainable development by raising awareness that each individual is responsible for energy usage and can make a difference. 	
2. Situation: Identify the situation or issue that faced you	<p>With high energy costs the College wished to seek opportunities to secure savings by reducing waste and introducing renewable energy. A new classroom building completed in 2011 provided the opportunity to erect an energy efficient building which included solar photovoltaic panels and rain water harvesting with electronic displays to inform students and visitors.</p> <p>The College then resolved to introduce measures to improve energy efficiency in existing buildings. Legal storage constraints meant that there could be no expansion in the use of LPG on Campus and any viable opportunity to reduce its use should be considered.</p> <p>Previous attempts to introduce energy efficiencies to existing building had encountered the following difficulties:</p> <ol style="list-style-type: none"> 1. Too little was known in respect of any particular building about the precise energy usage due to each meter serving many buildings; 2. Building users were not involved. Examples of waste were mentioned by maintenance staff but there was little or no attempt to involve either the staff or the students who were using the building; 	

	<ol style="list-style-type: none"> 3. Schemes to introduce energy saving investments were normally unable to demonstrate a sufficiently convincing business case to secure the necessary management commitment. The lack of accurate measurement meant that the savings estimates lacked credibility; 4. Residential students leaving home for the first time usually have limited awareness of energy usage and the need to avoid waste. <p>With the brief described above the problem was where to start given the limited resources available. The College spends most on electricity (£400k pa) and the residential properties account for a significant proportion of that total.</p> <p>This meant that in terms of the reduction of waste the students were key to progress but they had no information of what energy they were using and no incentive to avoid waste. What was not clear was the extent to which users could impact overall consumption.</p> <p>The cost of electricity had risen steeply and although prudent procurement had secured a competitive price this put pressure on budgets. Reports from maintenance staff made it clear that that students wasted energy, for example by opening windows when the room convactor heater was still on.</p> <p>This was the first time the College had involved students in energy management and the most important detailed measurement exercise undertaken so far on Campus.</p>
3. Task: Define the outcomes you needed to achieve	<p>Improve organisational capacity by reducing waste, and securing better energy use together with a reduction in the carbon footprint of the organisation and a reduction in greenhouse gas emissions.</p> <p>The consumption database produced by the project will be used to target building improvements that support energy efficiency, and provide an opportunity for senior management to visibly support the shared goal of energy conservation although the project will be student focussed.</p> <p>An awareness of sustainable development raised amongst learners:</p> <ul style="list-style-type: none"> • Learners will develop a clear understanding of how they can contribute to developing sustainable communities through responsible use of energy. <p>On-going organisational commitment to monitoring and reducing energy consumption:</p> <ul style="list-style-type: none"> • The devices once installed will continue to measure and record electricity consumption in each student hostel building on campus.

	<p>Future as well as current students will benefit from the project by engaging in the goal of energy reduction and encouraged to take responsibility for their energy usage.</p> <p>Improved partnerships to promote sustainable development</p>												
4. Actions that you took in order to achieve your plan, and your approach	<p>A project planning Committee was formed to decide on key elements of the project. This had both staff and student members. The Committee met regularly to determine the details and rules for an energy reduction competition, selecting residencies (hostels) for participation, deciding timescales and prizes and determining the advertising and marketing campaign. It was instrumental in suggesting ways to overcome the various issues which arose and how best to engage the students who participated.</p> <p>The College tried to make project student-led as far as timescales allowed</p> <p>The College worked closely with a specialist contractor to install the measurement devices to a strict timescale to facilitate the competition</p> <p>The experience of similar projects was reviewed and helped shape this project</p>												
5. Results that you obtained	<p>Electricity consumed (kWh) used in the 8 weeks of the competition.</p> <table><tr><th>Hostels in the Competition</th><th>Hostels not in the Competition Used as a control</th></tr><tr><td>Block 1 7,274</td><td>Average 8,379</td></tr><tr><td>Block 2 8,469</td><td>Highest 10,119</td></tr><tr><td>Block 7 9,589</td><td></td></tr><tr><td>Block 8 7,432</td><td></td></tr><tr><td>Block 9 6,250</td><td></td></tr></table> <p>The monitoring equipment required by the project remains in place and continues to function.</p> <p>It will enable the College to repeat the exercise next year with a new</p>	Hostels in the Competition	Hostels not in the Competition Used as a control	Block 1 7,274	Average 8,379	Block 2 8,469	Highest 10,119	Block 7 9,589		Block 8 7,432		Block 9 6,250	
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	<p>group of residential students.</p> <p>The following has been learnt:</p> <ul style="list-style-type: none"> • User behaviour is significant in determining waste. The electricity consumption of a typical hostel was 13% lower in the competition group than the modal average in the control group and the difference between the consumption of the winning hostel and the hostel with the highest use overall was 34%. It is estimated that £400 was saved over the 8 weeks. • Students enjoyed the challenge and are keen to see the initiative retained and developed. • Accurate data on electricity cost per room has been obtained which will assist in setting room rates. • We need to find an enduring incentive to avoid waste. <p>These lessons will be shared with the College's Sustainability Group to stimulate organisational change and improvement.</p> <p>The data provided by the project has helped in developing renewable energy plans for these buildings and helped to support the Grant applications already made to fund the implementation. If successful the expected annual saving from this investment will be £41k pa. Once the renewal energy investment has been made the monitoring equipment will provide accurate data to demonstrate the actual savings achieved which will give a firmer basis to similar investments on campus.</p> <p>Working to a common goal has been a positive experience for the staff and students involved and this plus the lessons learnt will help with repeat projects.</p>
<p>6. What made the project a success? What were the key ingredients?</p>	<ul style="list-style-type: none"> • The involvement of students in the planning process and the project team. • The support of senior management to the overall aims. • The selection of prizes was crucial given the project timescales which limited the time available to inform and engage the participating students. • The help received from academic management • Deciding on the communication strategy was crucial. • In the absence of a Block representation for each hostel the use of social networking sites such as Facebook was crucial. An alternative would be to use the curriculum route but unfortunately in this case it was not practical given the different courses involved. • Weekly posters showing the competition results were posted prominently in each hostel and the prizes were kept at the

	<p>forefront of the publicity.</p> <ul style="list-style-type: none"> Using the experience of Bath University and others who published details of similar projects with some of the resources they had developed was an important help. The key ingredient is motivation since once motivated the students will find the information for themselves. 		
7. Any resources or tools produced by the project	<ul style="list-style-type: none"> Posters Video of students who helped organise the project and who participated in the project Power point presentation Publication giving details of the Seminar Spread sheet showing final monitoring results 		
8. Total costs of the project	<p>LSIS funding £7,500</p>	<p>Match funding £8,200</p>	<p>Total funding £15,700</p>

<p>Insert a high-quality version of your logo(s) here – your comms/marketing team should be able to provide this</p>	<p>Funded by LSIS through the Stepping Up in Sustainability Fund</p>	
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