working with

Sussex Downs College

Carbon Management Plan

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Contents

Foreword from the Principal, Melanie Hunt

Climate change is one of the most significant challenges facing mankind and carbon dioxide is one of the main contributing causes. We recognise the scale and speed of climate change, and its potential adverse effect on our economy, environment and local community. Therefore as a college we are delighted to present this Carbon Management Plan. The Carbon Trust offers us a combination of support and expertise to help us to reduce our energy use, whilst limiting our impact on the environment.

As an integral part of our vision for the future the College is committed to developing sustainable practices that will continue to demonstrate our commitment to reduce carbon emissions and remain efficient and effective in our operations. The College is thus setting itself a challenging carbon reduction plan which will not only help the environment, but also help with the management of our financial resources in these difficult economic times.

Melanie Hunt

Principal and Chief Executive

Foreword from the Carbon Trust

Cutting carbon emissions as part of the fight against climate change should be a key priority for Universities, Colleges and Schools - it's all about getting your own house in order and leading by example. The UK government has identified the Education sector as key to delivering carbon reduction across the UK in line with the Climate Change Act targets, and the FE Carbon Management programme is designed in response to this. It assists Further Education institutions in saving money on energy and putting it to better use elsewhere, whilst making a positive contribution to the environment by lowering carbon emissions.

Sussex Downs College partnered with the Carbon Trust on this ambitious programme in 2011 in order to realise substantial carbon and cost savings. This Carbon Management Plan commits the College to a target of reducing CO2 by 25% by 2016 and underpins potential financial savings to the institution of up to £159,401 per year by that date.

There are those that can and those that do. Further Education institutions can contribute significantly to reducing CO2 emissions. The Carbon Trust is very proud to support Sussex Downs College in their ongoing implementation of carbon management.

Tim Pryce
Head of Carbon Management

Executive Summary

This Carbon Management Plan sets out Sussex Downs College's strategy and action plan for reducing carbon emissions over the next five years. It identifies the tangible and intangible benefits of Carbon Management and describes the governance arrangements to keep the programme on track. The College has already implemented successful carbon management initiatives in the past and we will continue to build on this success.

Our vision for the College is to:

- **Help with world-wide carbon reduction and environmental protection**
- **Reduce energy costs as part of our response to reducing Government funding**

There are a range of reasons for the College to take action on carbon. These include:

- Contribute to the worldwide drive to reduce carbon emissions and thus help protect the environment.
- Educate our learners about the importance of carbon management in their daily lives – and for their futures
- Reduce the College's energy costs and to help achieve an overall balanced budget.
- Provide a sustainable learning environment that meets the environmental expectations of staff and students.

The Carbon Management Plan supports other key programmes and initiatives in the College:- Reducing our energy consumption not only reduces harmful greenhouse gas emissions, but also delivers tangible cost savings. Therefore, this Programme contributes directly to our goals of carbon reduction of 25% and achieving a balanced budget against a backdrop of a public sector efficiency squeeze of 25%+ over the medium term.

Our current carbon position and where most of our emissions come from: in 2010/11 the College emitted 3685 tonnes of CO_2 at a total cost of £554,945. These emissions are generated when we use 3667 tCO_2, of utilities consisting of gas (44%), electricity (46%) and oil (10%), predominantly for heating and lighting, and to power all college equipment and systems. The College also emitted 14 tCO_2 on fuel for running our transport fleets, and 3 tCO_2 on refrigerant gas leaks.

Over the last few years our emissions have remained stable, mainly because the College has not increased in size.

Costs have fluctuated in recent years due to changes in our energy procurement companies, and the volatility of the utilities market. Each campus has had a different energy procurement company, and differing contract dates, which raises difficulties when comparing data from previous years. Following harmonisation, in October 2011, all campuses now have their utilities procured at a standard rate. The increase in cost from 2010/11 to 2011/12 is 15% for gas and 20% for electricity.

We have also set an ambitious carbon reduction target for the next five years, supported by confirmed technical projects and embedding actions set out in this Plan. The Plan identifies the tangible and intangible benefits of Carbon Management and describes the governance arrangements to keep the programme on track. The College has already implemented many successful carbon management initiatives in the past and we will continue to build on this success.

There are a range of reasons for the College to take action on carbon. These include:

- Utilities cost savings and energy efficiencies
- CRC - Carbon Reduction Commitment Scheme
- DECs - Display Energy Certificates
- Reputation of the College
- Staff concerns
- Student concerns

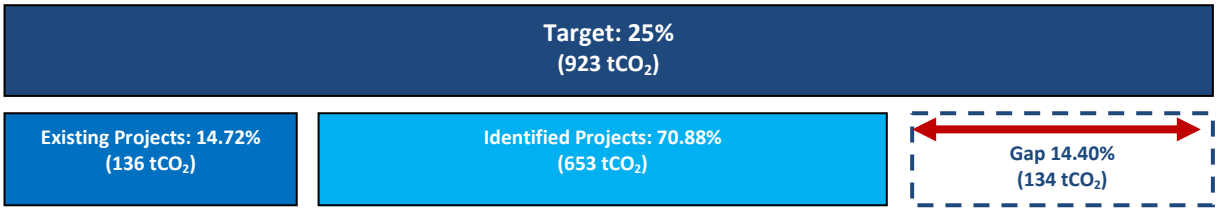
Reducing our energy consumption not only reduces harmful greenhouse gas emissions, but also delivers tangible cost savings. Therefore, this Programme contributes directly to our goals of using our resources efficiently and reducing our operating costs.

Sussex Downs College will reduce the carbon emissions from its activities by 25%, from a 2010/2011 baseline of 3,685 tonnes CO_2, by 2015/ 2016

We have identified carbon reduction projects and activities in the following areas:

- Good housekeeping – improving our metering, campaigns to change student and staff behaviour
- Invest-to-save projects - lighting upgrades and replacement, installing motion detectors and improving insulation in ceilings and walls, replacing windows and replacing boilers systems.
- Research into voltage optimisation and power saving devices for PC equipment.

The projects identified in this plan have the potential to reduce our emissions by 788 tCO_2 and achieve 86% of our targeted reduction measured against the 2010/2011 baseline.



This means that we will need to identify projects to make up the further 14.40% and to compensate for any 'business-as-usual' growth. To achieve this we will consider opportunities, run identification workshops, commission surveys, as well as work with other organisations and other local stakeholders to identify and implement best practice solutions.

The total investment to implement identified projects is estimated at £68,000.
The identified projects will deliver annual savings of approximately 788 tCO_2 and £159,401.

The majority of these works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore there will be minimal capital costs in implementing the plan. This results in a low total payback period of 0.44 years.

We have secured funding from the SFA's (Skills Funding Agency) Renewal Grants Programme for various essential maintenance works across the College. This funding is on the basis of 1/3 from SFA matched 2/3 by the College. To secure this funding certain energy efficiency criteria had to be met for the identified works. The College contribution is being funded from College's planned maintenance budget.

To date we have identified savings of an estimated 21%. Over the programmed 5 year period we are confident that further capital funding will be made available. The projects that will be undertaken, as a result of this funding, should allow us to exceed our targeted savings of 25%.

To deliver this plan, we have set up a Carbon Reduction Project Team that will ensure successful implementation. The Project Sponsor, Jonathan Morris (Deputy Principal Corporate Services), has the overall accountability for the delivery of this plan and the achievement of our targets.

Progress against this plan will be reviewed annually in November and a report will be provided to the College Leadership Team, the Corporation, and made publically available on our website.

1 Introduction

What has the College achieved before signing up to the Carbon Trust?

The College has recently completed the construction of a two storey extension to the Construction Centre. The brief was to achieve a BREEAM rating of 'very good'. Although the College were not successful in attracting the SFA funding, the College continued to maintain the 'very good' rating. The extension includes the first solar panels to be installed at the College, providing hot water within the building.

Recently the College embarked on a "Printing Challenge" across a number of departments. The project was designed to encourage a reduction in printing, and raise the awareness of printing volume. As part of the challenge, cash prizes were awarded to those that reduced printing on a volume basis. The cash prizes are to be spent on technologies that will reduce carbon emissions and become even more efficient.

LSIS awarded the College a grant of £30,000 towards the green agenda. Initially £25,000 for 'stepping up in sustainability' and then a further £5,000 to help with capital expenditure to support the former. A competition was organised aimed at both staff and students. Successful projects were:

- the design of an App. that calculated your personal carbon emissions
- a recycling campaign by Business students
- the purchase of digi pens that enhance the enrolment process

College Management have been encouraged to reduce commuting between the two main campuses. The introductions of webcam and video conferencing facilities have not only reduced travel claims by staff, but also staff are able to do more work instead of travelling for 30 minutes between the campuses.

1.1 Purpose & Background to the Carbon Management Programme

Sussex Downs College is one of the biggest and best further education colleges in the country.

The College established in 2001 by the merger of Eastbourne College of Arts and Technology and Lewes Tertiary College. A second merger with Park College in 2003 made us the biggest College in Sussex and one of the largest colleges in the South East.

We now have approximately 6,000 mostly full-time students under the age of 19 and around 10,000 adult learners. The College has 1400 staff and an annual turnover of around £44 million.

Our very good Ofsted inspection in 2007 was followed in May 2008 by the awarding of Beacon status by the Government, the ultimate accolade for an FE college. Beacon status means we will have the opportunity to share our good practice with other colleges and schools and work directly with other providers who would benefit from our support.

The College has a commitment to provide centres of excellence in education and training extend lifelong learning and raise skills and qualification levels in the local population. We offer over 750 qualifications ranging from entry level to Higher Education, embracing an exciting and diverse portfolio of courses and qualifications. The College is also a member of the prestigious 157 Group.

The College's estate is divided between three campuses in different local authority areas with 17 buildings comprising of over 43,000m2 of property, including 57 bed spaces in Caburn House student residence.

Sussex Downs College recognises that climate change is a real and growing threat and acknowledges that we have the responsibility to ensure environmentally and socially responsible practices in all its activities.

Over the last year Sussex Downs College has undertaken a number of initiatives to underline its commitment to sustainability including a printing challenge encouraging staff to reduce their carbon footprint, a solar panel installation in a new extension, the development of areas using digital pens and development of mobile phone applications by students to increase awareness of sustainability matters. Most recently the College has been successful in its bid to develop an “eco shed”.

The Carbon Trust's Further Education Carbon Management Programme (FECMP) aims to provide technical and change management support to help Further Education Colleges realise carbon emissions savings. The aim is to reduce emissions under the direct control of Colleges - whether linked to energy use in buildings, campus facilities, waste management or vehicle fleets.

Sussex Downs College’s key objectives for participating in the Further Education Carbon Management Programme are:

- To understand and fully quantify the carbon footprint of the College and determine a carbon emissions baseline (using data from the 2010/2011 academic year)
- To produce a fully-costed Carbon Management Plan reducing this carbon footprint by 25% (in absolute terms) by the end of the 2015/16 academic year
- To link future carbon reduction target setting into the College strategic planning process
- To raise awareness of climate change and carbon management practice across the College at all levels, and to encourage all staff and students to act on this issue
- To build on the previous work of the Carbon Management Reduction Group (formerly known as the Sustainability Group).
- Recognising that we advocate a global perspective and sustainability within the curriculum, to demonstrate to students and staff that the College takes its responsibility for sustainable development seriously.

The process used to develop the Carbon Management Plan is provided by the FECM and follows the Carbon Trust's five-step process:

Step 1: Mobilise the Organisation
Step 2: Set baseline, forecast and targets
Step 3: Identify and quantify options
Step 4: Finalise Strategy and Implementation Plan
Step 5: Implement Plan

The first four steps are being completed over a ten month period from May 2011 to March 2012, culminating in the College publishing this Carbon Management Plan setting out our strategy for managing carbon emissions over the period 2011 - 2016, with an ambitious reduction target and details of specific actions which will make a significant contribution to ensuring that target is met.

This programme builds on the already established work of the College’s Sustainability Group to reduce the environmental impact of the College's operations and ensure continuous improvement in its approach to environmental management.

Key landmarks have included:

- College Travel Plan first published in 2005 and revised in 2009.
- Environmental Policy first published in 2007. The Policy was reviewed in 2011.
- Appointed an Environment Co-Ordinator in 2007.

- Sustainability Group established in 2010. Now changed to Carbon Reduction Management Team.
- College joins “Green College’s” declaration in 2010.
- College joins EAUC (Environment Association for Universities and Colleges) in 2011.
- Significant improvements to recycling campus generated waste in the last 2 years.
- Successful Environment Week and Green Travel days run in April and May each year since 2008.
- College awarded funding for Eco Pledges, resulting in a competition for all students to submit projects with a focus on being green. The College arranged a major event to celebrate this run during National Climate week 2010.
- Participation in the FE Carbon Management Programme in 2011.

1.2 Project Timeline

Sussex Downs College has followed the project timeline, identified in Appendix A, which was developed by the Carbon Trust. The actions identified in this Carbon Management Plan will be carried out between 2010 and the end of the 2015/16 academic year (the target period).

The College is one of 45 Further Education Colleges in England taking part in the first Carbon Trust Carbon Management programme focused directly on this sector. The programme has supported the College through a structured and supported five step process to:

Mobilise: identify the individuals and groups in the organisation who can provide the information, ideas, drive and direction to set the scope and target for the College and to create a relevant challenging and justified plan

Baseline and Forecast: seek out and analyse data on the activities leading to the emissions of greenhouse gases

Identify and Quantify: identify and quantify technical projects and initiatives to embed carbon management within the culture and working practices of the College

Approve Plan: have the plan accepted, endorsed and promoted by senior management in the College

Implement the Plan: begin to implement initiatives as early as is feasible to start to reap benefits and to build up a track record of delivery that will give momentum.

2 Carbon Management Strategy

This section describes why Sussex Downs College is engaging in carbon management and the targets and objectives we have set.

2.1 Our drivers and priorities for reducing carbon emissions

Sussex Downs College recognises the scale and speed of climate change and is committed to developing sustainable practices that will generate financial savings and create an energy efficient culture. Our main drivers for reducing carbon emissions include:-

Leadership

- A genuine desire to be leading from the front, encouraging our staff and students to work with us to develop our environmental credentials

Reputation

- Improved employee, student and stakeholder satisfaction- our staff and students have shared their concerns with us and we are now acting upon this feedback

Energy Cost Savings

- Achieving energy cost reductions, creating financial savings through good housekeeping

Government regulation

- Recognising that policy and legislation is likely to change and evolve and that we need to be ready for such changes

Climate Change is globally recognised as the greatest environmental and economic threat faced by national governments and individuals, and Sussex Downs College is determined to play a full part in delivering on our collective responsibility to reduce carbon emissions. The rising cost of energy also creates a shorter term opportunity to create financial savings through energy efficiency actions. Below we set out, in priority order, the main drivers for taking action to reduce our carbon emissions / energy consumption.

The broad context for this Carbon Management Programme is the mountain of evidence for global climate change and that greenhouse gases are the primary driver of that change. Against this background, concerted action is required to reduce the emissions of CO2, and other greenhouse gases.

The Climate Change Act 2008: commits the UK to a legally binding reduction in CO2 emissions of 34% by 2020, and an 80% reduction in greenhouse gas emissions by 2050, both compared with 1990 levels. Sussex Downs College is expecting to lead the way towards meeting the targets.

CRC Energy Efficiency Scheme (CRC): the CRC is a mandatory 'cap and trade' emissions trading scheme for organisations whose total half hourly electricity consumption is greater than 6000MWh. However this figure may be reduced in the coming years. At present the College does not fall within the CRC scheme (3900MWh). Should the consumption limit reduce the College's entire energy and fuel consumption, and their relative performance, would be included in a league table. The CRC will then act as a financial driver, although there will also be reputational implications.

Energy Costs: investment in energy saving reduces future costs and risk of budget variance as well as carbon emissions. Sussex Downs College has experienced steep increases in gas and electricity prices over the past years, in common with many other organisations.

Awareness: many staff and students have become increasingly aware of global warming and the environment, through engagement campaigns and will respond positively to the College's efforts to reduce carbon emissions.

Competition and Brand: the marketing position and increasing appeal for future staff and students is important for the College. We know that our environmental credentials impacts on our ability to attract potential students, both from this country and overseas, and prospective employees. A greener environment also brings local communities together and can attract more local business.

Existing objectives, plans and policies: the College will need to integrate carbon management within existing development plans and policies, including the Strategic Statement, the Accommodation Strategy, the Environment Policy, the ICT Strategy and the College's SAR (Self-Assessment Report). Integration will ensure that carbon reductions and costs savings are maximised and that carbon management continues to be implemented.

Some of the benefits the Carbon Management Programme will bring are as follows:

- Embed low carbon thinking throughout the College.
- Reduce the College's carbon emissions.
- Contain the rising costs relating to gas and electricity, followed by water, waste and recycling and vehicle use.
- Create a more comfortable environment for staff and students.
- Enhance the College's reputation by promoting a sustainability agenda and implementing it.

Other benefits which are not as obvious:

- Become more environmentally friendly, which can prepare the College for future legislative change to keep a step ahead and potentially help shape that legislative change.
- Improve staff and student motivation and retention, involving staff and students in devising and implementing the Carbon Management Programme, giving them the opportunity to 'make a difference', as well as benefiting from their personal insight.
- Enhance curriculum development. Integration into current courses and the possible creation of new courses.
- Help provide students with the required knowledge and skills to contribute to climate change and guide our transformation to a more sustainable future.
- The Carbon Management Programme will work towards greening the College's supply chain. The College has a diverse supply chain, procuring sustainability particularly in reference to low carbon solutions will encourage suppliers to be innovative and reduce their own emissions and waste.

2.2 Our low carbon vision and target

Sussex Downs College recognises that its activities have an impact upon the environment at local, regional, national and global levels and acknowledges its responsibility for environmental protection.

The College is committed to act in a responsible manner in relation to carbon emissions and will continuously review and seek to reduce its carbon footprint across all of its operations to meet challenging national targets. The College is also committed to ensuring its work in reducing its emissions is communicated effectively to all internal and external stakeholders and best practice is shared with its partners.

2.3 Objectives & Targets

Sussex Downs College will reduce the CO2 emissions from it's activities identified in the scope of the Carbon Management Programme by 25% in 5 years from the 2010/2011 baseline of 3685 tonnes CO_2 by 2015/2016.

2.4 Strategic Themes

The key strategic themes that will ensure that Sussex Downs College continues to increase energy efficiency and reduce carbon emissions and its contribution to global climate change are:

Integration of carbon reduction strategy: the College will aim to ensure that carbon management principles are integrated into the culture and practices of the College and link future carbon reduction target setting into the College strategic planning process.

Strategic investment: the College will make sufficient resources available to meet its objectives and targets relating to carbon management, and apply for external funding as appropriate.

Policy review: Sussex Downs College will continue to review and develop the Strategic Statement, the Accommodation Strategy, the Environment Policy and the SAR to ensure that the underpinning policy context supports on-going reductions in carbon emissions.

Monitoring and Targeting: the College will continue to ensure that its monitoring and targeting systems are fully utilised to achieve greater understanding and control of energy usage and to ensure that robust data is available to fulfil our obligations.

Technical Measures/Infrastructure Improvements and Awareness Raising/Behavioural Change: the College commits to ensure that carbon savings are achieved through technical improvements, infrastructure improvements and behavioural change programmes.

Benchmarking Performance: the College will continue to actively contribute to benchmarking activities, in order to demonstrate progress and learn from best practice within the Sector.

The College has targeted scopes 1 and 2 for Gas and Electricity respectively. **The cumulative Co2 reduction over the 5 year period has been identified as 2878 tCo2**, relating to a baseline year of August 2010 to July 2011, which is the College academic year.

3 Emissions Baseline and Projections

Our emissions baseline will be used to monitor and measure changes in emissions resulting from the carbon-saving initiatives identified in this plan.

Targets and performance in reducing emissions are measured against this figure as a percentage of the baseline value. This section outlines what parts of our College's emissions are included in the baseline, what year we have chosen as our baseline and how we have calculated that baseline.

3.1 Scope and data sources

The scope of the College's baseline emission calculations covers all college buildings at the three campuses, namely Eastbourne (26,000m2), Lewes (18,000m2) and Newhaven (1400m2). The following buildings have not been included:

- Uckfield – a building in partnership with four Community Colleges in the north of our sector. The building is managed by the Community Colleges.
- Hailsham – a partly leased building, shared with others. The building is managed by a third party. The College ended the lease and vacated the building at the end of July 2011.
- The Foyer – the College lease part of the Ground Floor, which is managed by a third party. The remainder of the building is used as residential accommodation for young people, many of whom study at the College.
- 5 Langney Road (Eastbourne Works) – a guidance, advice and drop in shop in the Town Centre.

The College pays a rent on all of the above buildings. The buildings are managed by a third party, and the energy costs are built into the leases and paid on a quarterly basis. Because the College does not have any power to influence the carbon emissions of these buildings they have been excluded from our baseline.

The emission sources the College included in the baseline are listed below. These are divided into Scopes 1, 2 and 3, in accordance with the World Resources Institute standards, to enable comparisons with other organisations. The emissions volumes identified are approximate, and limited by the accuracy and completeness of available data. However, the College is confident the raw data collected is accurate, as this is calculated from monthly meter readings.

Scope 1 Emissions (direct emissions) – included in this programme are all direct emissions from sources directly controlled by the College and fuels consumed on site and from owned vehicles.

- Gas and Fuel Oil (in all College buildings)
  Readings are taken, by Facilities staff, from all gas meters on a monthly basis. This data is then collated onto a utilities spreadsheet by the Finance Team.
- Fleet Transport Emissions - fuel for College vehicles (diesel)
  Information is provided by East Sussex County Council Transport Division, from whom we procure our diesel, detailing quantities and costs.
- Refrigerant Gas Loss - leakage of refrigerants; from air-conditioning units, commercial fridges and freezers, which are greenhouse gases
  Information is provided by the College's air conditioning and catering equipment contractors,

Scope 2 Emissions (indirect emissions) – included in this programme are all emissions from purchased energy produced off site.

- Generated from electricity consumed in College buildings.
  Readings are taken, by Facilities staff, from all electricity meters on a monthly basis. This data is then collated onto a utilities spreadsheet by the Finance Team.

Scope 3 Emissions (all other) - sources of emissions in this scope are NOT included in this programme, but may be considered for future inclusion:

- Waste to landfill (and recycling) – the College has 2 separate contracts for the 2 campuses. The waste disposed of is difficult to quantify, but there is a greater need to recycle. A new contract will be procured for the campuses incentivizing both staff and students to improve on recycling initiatives.

- Water use – the most likely source to be added to the scopes. Additional water metering of buildings will be required to provide a more detailed analysis of buildings performance.

- Commuter and Business travel – the most difficult to quantify, as college financial systems are not geared to providing suitable data for staff. The College will consider a survey and/or questionnaire for both staff and students to complete.

- Procurement – the College has only recently introduced a new procurement process in conjunction with an external consultant. New contracts will be subject to questions on sustainability.

3.2 Baseline

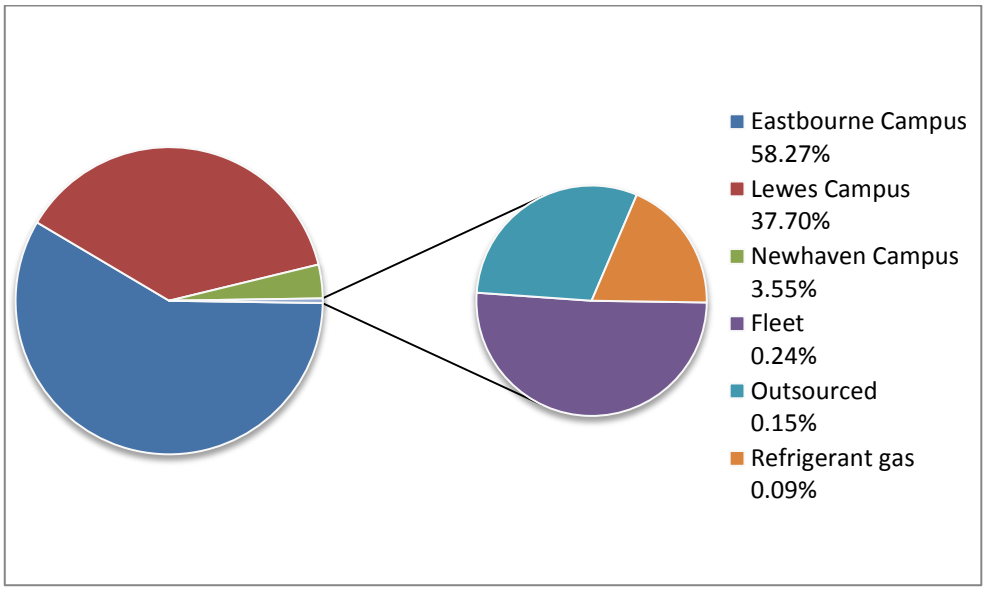
The College has chosen the 2010/2011 academic year (1st August 2010– 31st July 2011) as the baseline year.

The following tables identify emissions sources relevant to our Plan's scope.

Table 1 Breakdown of baseline CO_2 emissions for 2010/11

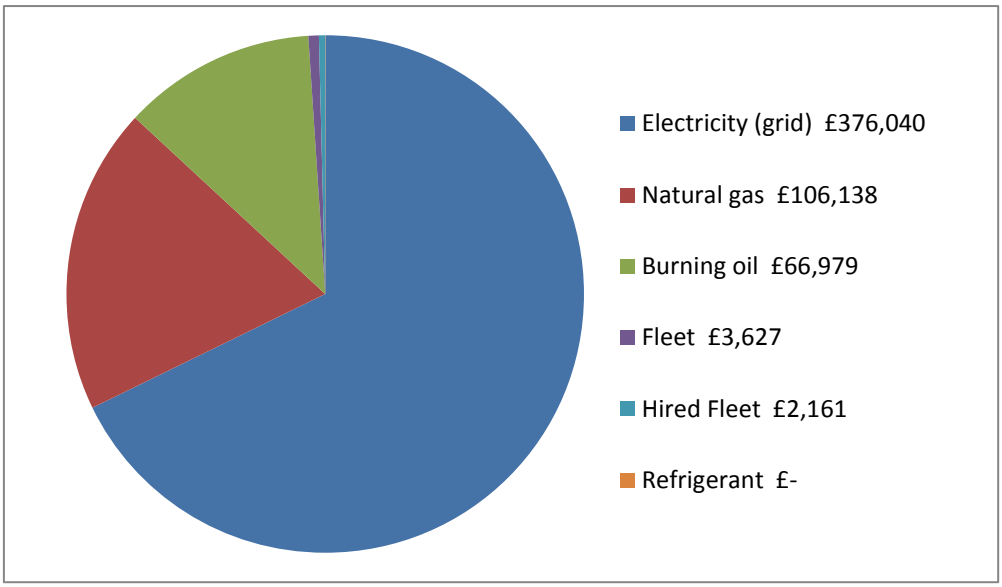
	CO2 (tonnes)	Cost (£)
Stationary	3,667	549,157
Transport	14	5,788
Further Sources	3	0
	3,685	**554,945**

Figure 1 Summary of emissions for baseline year 2010/11



As can be seen nearly all the emissions are from the two main campuses. This doesn't mean that Newhaven, vehicle fuel or refrigerant gas loss can be ignored.

Figure 2 Cost breakdown for baseline year 2010/11



The total cost, in the baseline year, of the CO_2 emissions included in this programme is £554,945. As can be seen the majority of this cost is for utilities. This doesn't mean other emission sources can be ignored

3.3 Projections and Value at Stake

The potential cost to Sussex Downs College of taking no action on carbon reduction, compared to achieving the target in this plan, is a cumulative sum of £637,666 by 2015/16.

The business-as-usual (BAU) scenario shows the calculated growth in carbon emissions and related costs that the College would experience if we do nothing to reduce consumption. The BAU scenario includes assumptions on how our consumption might increase and also what increases in energy tariffs we are likely to experience:

- BAU Increase in Demand for all stationary sources, 0.7%, source DTI/DBERR EP68
- BAU increase in demand for Fleet, 0.7%, source DTI/DBERR EP68
- BAU increase in demand for Commuting, 1%, source 2005 and 2006 internal commuting survey
- Price increases in the first year are confirmed by the College's energy procurement consultant to increase by 15% for gas, and 20% for Electricity. After this period the increase will be 7.8% as per the DECC (Department for Energy and Climate Change) energy cost projections.
- The reduced-emissions-scenario (RES) shows what the yearly carbon emissions would be if we hit our target and also what the yearly energy costs would be. The capital costs of projects required to meet the target are not included in this analysis.

If we do nothing, our emissions are likely to increase over time, as our activities become more energy intensive. This increase in the BAU scenario is based on the following assumptions:

Since the baseline year, an extension has been added to the Construction Centre at the Eastbourne Campus, resulting in the removal of 3 temporary classroom huts. Moving from unfit for purpose accommodation into a "very good" BREEAM rated, energy efficient building will have a positive impact on our target.

In addition, the College has been fortunate to attract partial funding from the Skills Funding Agency to improve building accommodation both externally with roofing, windows and cladding being replaced. Internally, boilers and air conditioning have been replaced and many teaching rooms have been refurbished.

The Value at Stake (VAS) is the year-on-year difference between the BAU and RES. The Value at Stake shows us the potential savings, or avoided cost, from implementing our plan and hitting our target against the alternative of doing nothing (BAU). The capital costs of projects required to meet the target are not included. The Value at Stake is a useful high level analysis, as it can be produced early on in the process of developing the carbon management plan and helps make the case for action. However the detail we have developed on savings and costs from specific projects supersede this analysis.

Figure 1 (below) shows the VAS in terms of carbon emissions. The College is not expecting any expansion over the next five years, resulting in no increase in BAU.

Figure 2 (below) shows the VAS as the difference between the BAU scenario (our costs if we take no action to reduce our carbon emissions) and the RES (our costs if we meet our reduction target). It can be seen that is a slight upward trend, this is due to the effect of increasing energy costs and an upward energy consumption drift, if we take no action. The VAS can be seen as cost savings or avoided costs.

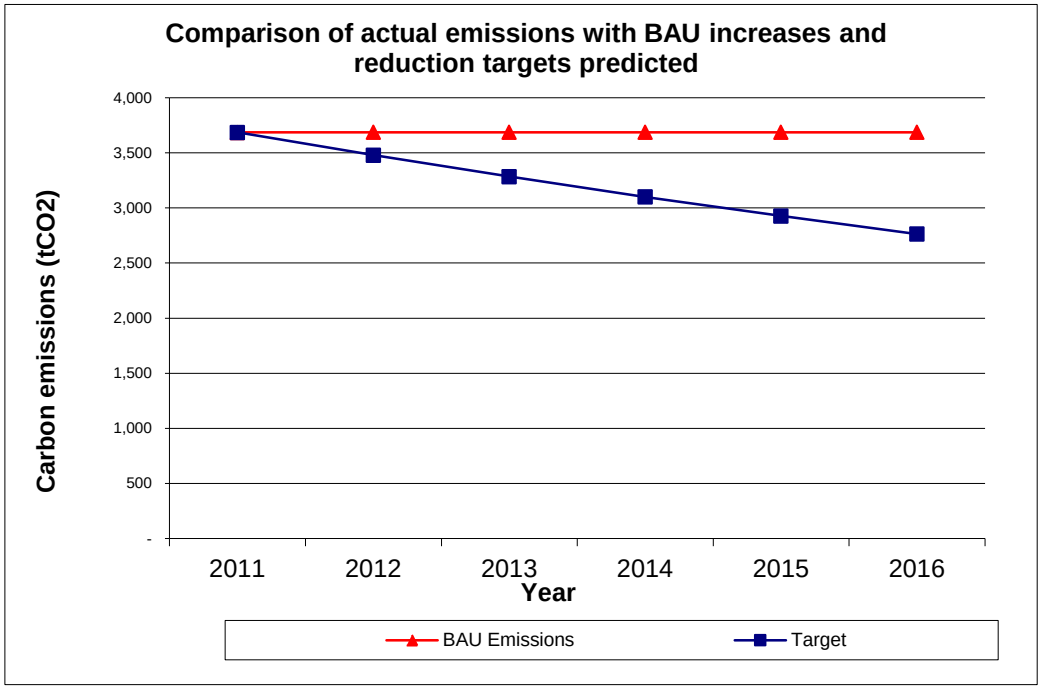


Fig 1: Example Carbon Value at Stake

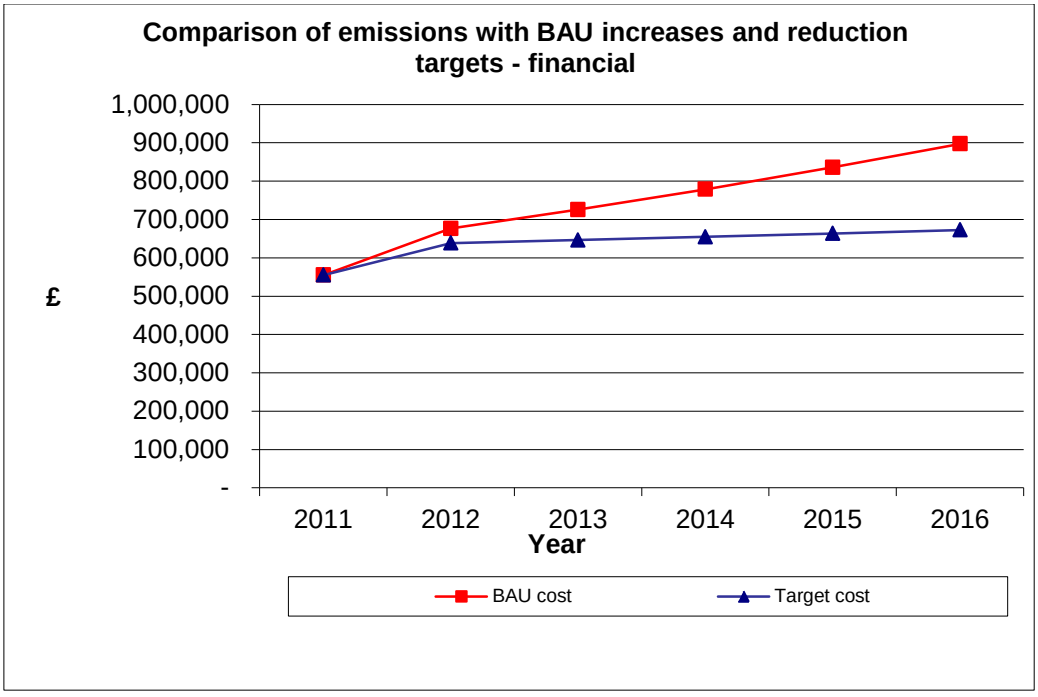


Fig 2: Example Financial Value at Stake

Under the BAU scenario our energy costs could rise from the current £554,945 to approximately £900,000 by 2015/16. Our emissions are projected to be comparable in 2015/16 to 2010/11 at 3685 tCO2. However **if we meet our 25% target we could save a cumulative total of 2,878 tCO2, this equates to a cumulative value at stake of £637,666 over five years**.

3.4 Display Energy Certificates

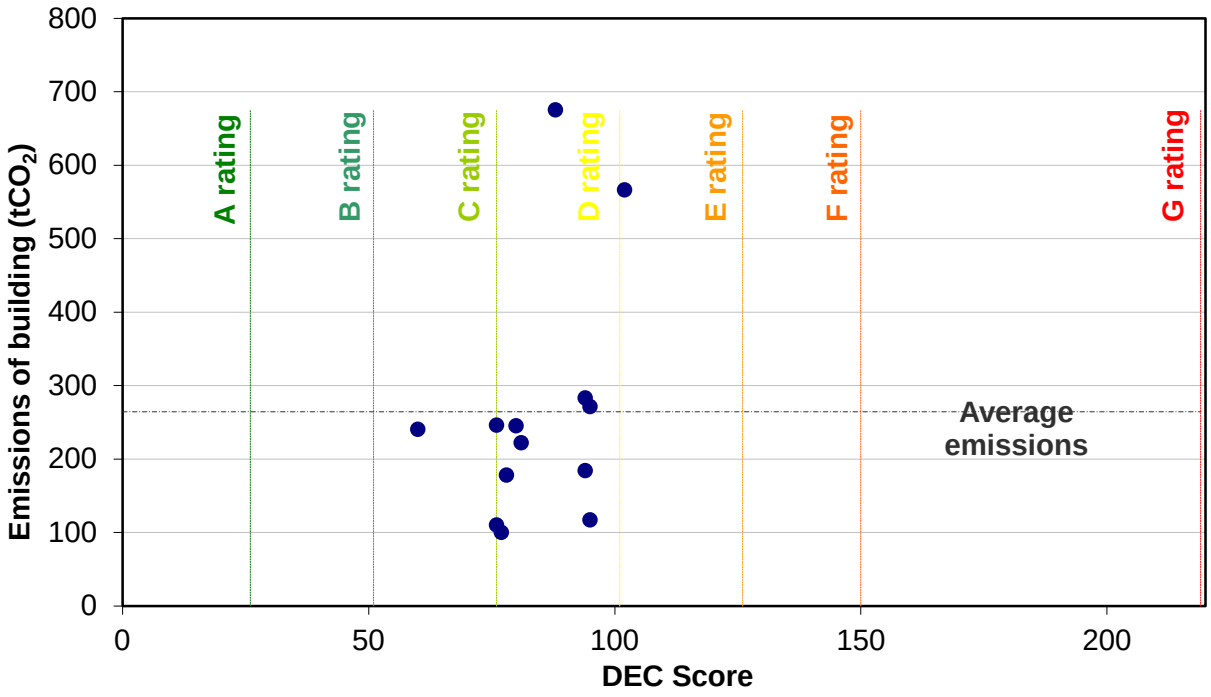


Figure 3: Distribution of DEC score vs. tCO_2

All public buildings with a total useful floor area greater than 1000m2 must display a Display Energy Certificate (DEC). The Operational Rating is an indicator of the actual annual carbon dioxide emissions from the building. This rating is shown on a scale from A to G, where A is the lowest (best) and G is the highest (worst).

Sussex Downs College have 13 buildings with DEC ratings.

Figure 3 above shows the DEC ratings and emissions for our portfolio of buildings. When prioritising which buildings we should focus on to reduce emissions, we should start with the buildings with the worst DEC ratings, but also the largest buildings. Our worst performing building is Park College at the Eastbourne Campus, rated as 'E', but with not too much additional work could move towards a 'D' rating.

The majority of the buildings at both campuses are graded as 'D', with one building, Southover Building at the Lewes Campus rated as a 'C'.

The buildings with the lower DEC ratings will have greater potential to reduce emissions, but it is important to prioritise the larger consuming buildings as the impact of effort will be greater. DECs make energy performance visible on a building by building level and allow benchmarking of properties against each other.

Many of our buildings are close to the next rating. With improved housekeeping and implementing behaviour changes, this can be achieved.

Where buildings are the main component of the baseline, using DECs as a primary driver for carbon reduction can cut down on duplication of initiatives (i.e. if DECs have to be used anyway, make best use of them).

4 Carbon Management Projects

Projects have been identified that could achieve 85.6 % of our 25 % target with an overall payback period of 0.44 years.

This section of the plan lists and prioritises the opportunities identified for carbon emissions savings and sustainable practices that are critical to ensuring the college achieves the five-year reduction target.

The projects were identified through meetings with the Carbon Management Team, knowledge of the age and condition of various aspects of the estate and tools provided by the Carbon Trust as part of the FECM programme. We quantified the projects to understand the cost and benefits of each of them. We then prioritised them based on agreed planned projects, costs, savings and relative ease of implementation.

A Carbon Management Projects Register will be maintained by the Projects Leader to record, quantify and evaluate projects on an on-going basis. The projects are split into the following sections:

- Existing projects: those that are being implemented or have been implemented since the baseline year and will therefore deliver savings with respect to the baseline
- Planned / funded projects: those that have already been approved and have funding allocated
- Planned projects requiring funding: planned projects that have been quantified, but funding has not yet been allocated.
- Potential future projects: further opportunities identified, where emissions reductions and savings have been estimated, but further work is needed to firm up the numbers.

The headings in the project tables below refer to:

- Ref – a unique reference for reporting purposes that corresponds to the Project Definition Template in Appendix A
- Project - short title for the project
- Lead– this is the individual lead / owner of the project.
- Costs – financial figures for:
    - Capital - the investment or implementation cost
    - Operational – revenue/running costs
- Payback period – the overall cost divided by the annual saving
- Net Present Cost (£) – future costs discounted to represent their value in today's money
- % of target – the percentage of your CO_2 saving target that this project will annually contribute

Note that the cost figures represent the marginal cost of the carbon / energy saving, rather than the full cost of the project i.e. the additional cost of choosing an energy efficient option beyond what would have had to have been implemented anyway. For example, where a boiler replacement project is necessary (e.g. as part of routine refurbishments) only the difference in costs between an energy efficient option and the basic alternative that would have been chosen is included. The savings likewise are the difference in energy savings between the energy efficient and basic version.

Planned projects are described in more detail in Appendix B.

4.1 Existing projects

This section details projects that are already underway or have been completed since the baseline year. As such, these numbers are actuals rather than estimates and thus have a very high degree of confidence.

Ref	Project	Lead	Capital Cost (£)	Operational Cost (£)	Annual Savings (yr 1)		Pay Back (Years)	Net Present Cost(£)	% of Target	Implement-ation Year
					Financial (Gross) (£)	tCO_2				
1	Southover Building – phase 1 - replace windows, cladding and roofing	Graham Hardy	0	0	1,084	4.56	0	-17,861	0.50	2011
5	Park College – replacement of boilers	Paul Standen	0	0	24,116	86.19	0	-342,745	9.36	2011
7	Tyler House – replacement of boilers	Paul Standen	0	0	342	1.44	0	-4,863	0.16	2011
8	ECAT House – replace air conditioning chillers	Paul Standen	0	0	1,065	6.24	0	-15,133	0.68	2011
9	Brickwork Centre – replace heaters	Paul Standen	0	0	10,005	37.01	0	-142,192	4.02	2011
		Totals	0	0	36,612	135.44	0	-522,794	14.72	

working with

4.2 Planned / funded projects

This section details projects that are definitely planned to take place and have funding allocated. These figures were determined with the help of a Carbon Trust technical advisor and thus have a high degree of confidence.

Ref	Project	Lead	Capital Cost (£)	Operational Cost (£)	Annual Savings (yr 1)		Pay Back (Years)	Net Present Cost(£)	% of Target	Implement-ation Year
					Financial (Gross) (£)	tCO_2				
3	Southover Building - phase 2 replace windows, cladding and roofing	**Graham Hardy**	**0**	**0**	**1,084**	**4.56**	**0**	**-17,861**	**0.50**	**2011**
6	Park College – phase 1 replace windows	**Paul Standen**	**0**	**0**	**678**	**2.85**	**0**	**-9,628**	**0.31**	**2011**
2	Cliffe Building – South Elevation - replace windows and cladding	**Graham Hardy**	**0**	**0**	**452**	**1.90**	**0**	**-7,442**	**0.21**	**2012**
10	Park College – phase 2 replace windows	**Paul Standen**	**0**	**0**	**678**	**2.85**	**0**	**-9,628**	**0.31**	**2012**
4	Cliffe Building – Guidance entrance and curtain walling	**Graham Hardy**	**0**	**0**	**452**	**1.90**	**0**	**-7,442**	**0.21**	**2012**
11	Kings Building – upgrade Restaurant lights	**Paul Standen**	**8,000**	**0**	**3**	**0.02**	**n/a**	**7,974**	**0.01**	**2012**
12	Raising Awareness Campaign	**Anit Chatrath**	**0**	**1,000**	**47,852**	**252.47**	**0**	**-211,538**	**27.41**	**2011**
14	Lighting Project	**Paul Standen**	**0**	**4,000**	**13,781**	**85.56**	**0**	**-112,655**	**8.77**	**2012**
13	Heating Controls Project	**Paul Standen**	**0**	**0**	**20,325**	**80.79**	**0**	**-234,089**	**9.29**	**2012**
15	Voltage Optimisation	**Paul Standen**	**60,000**	**0**	**37,485**	**219.76**	**1.6**	**-557,816**	**23.86**	**2014**
		Totals	**68,000**	**5.000**	**122,789**	**652.68**	**0.57**	**-1,160,125**	**70.88**	

4.3 Planned projects requiring funding

This section lists projects that we plan to do but are not yet funded. We will seek funding for these projects from within the maintenance budget, but will also look for grants or other funding such as that from the SFA, Salix funding and borrowing. All of these projects require feasibility studies and further work to quantify costs and savings.

- Communicating the Carbon Management Plan – a sub group will be formed. Chaired by the Communications Manager, the group will handle all communications with staff, students, visitors and stakeholders. A Communications Strategy will be introduced using media such as Apps, Facebook, Twitter, plasma screens, College Website and Intranet.

- Rationalisation of photocopiers and printers – led by the Network Services Manager, a strategy will be developed to reduce the number of printers and photocopiers. Decisions will also be considered to:
  - defaulting copies to double sided and change the mode settings
  - removing the facility to print A3 and colour copies
  - reducing the number of printers in staff rooms and offices
  - turning computers and printers off in holiday periods

- Install E cube devices to fridges and freezers – in conjunction with Chartwells (College Catering company) and the College catering curriculum team, inventories will provided to determine quantities and costs to procure E cube devices.

4.4 Potential future projects

This section lists further projects under consideration, which are not yet funded.

The College will be carrying out feasibility studies on various other carbon reduction measures, a list of which are detailed below. This is not exclusive and further opportunities will be investigated.

- Hammond House – install photovoltaic cells. The project would provide the College with the potential to move into the Renewables market. Hammond House has a 30 metre long roof facing south. Eastbourne has been described as the “Sunshine Coast” with the highest number of recorded sunshine hours.

- Sub metering – the College does not have individual building meters. Consideration will be given to sub metering on appropriately sized buildings. Priority will be based on building size, long term future and type of activity.

- Cliffe Building - all the boilers in the Cliffe Building are of a reasonable age and will need replacing and updating in the foreseeable future. In total there are 5 boilers serving the building from two locations.

- Eastbourne Campus – currently does not have a centralised BMS (Building Management System). A feasibility study will be carried out to determine whether a BMS would be beneficial to the campus.

- External streetlights converted to LED with time switches and or daylight sensors. The external environment will be examined to improving safety and security of the campuses for staff, students and visitors.

- PC Power Management Software - the objective is to introduce significant power savings on computers that are idle for a period of time within the college, but with the option of overriding settings on staff and student computers. Network Services will have full central control and monitoring with detailed automatic reporting.

Projects by Project Status Table

Project Status Category	Cost		Annual Savings (yr 1)		Pay back (yrs)	% of Target
	Capital	Operational	Financial (Gross)	tCO_2		
Existing	£0	£0	£36,612	135	0.8	56.62%
Planned/Funded	£68,000	£5,000	£122,789	653	0.2	28.94%
Near Term	£0	£0	£0	0		0.00%
Mid-Long Term	£0	£0	£0	0		0.00%
	£0	£0	£0	0		0.00%
	£0	£0	£0	0		0.00%
Totals	**£68,000**	**£5,000**	**£159,401**	**788**	**0.44**	**85.56%**

As shown in the above table, to implement the projects defined in this plan capital investment of £68,000 and in operational costs of £5,000 for each year thereafter is required. This equates to a total programme cost to the college of £88,000, this would yield an annual savings of 788 tco2 and £159,401.

4.5 Projected achievement towards target

The figure below shows how far the existing and identified (planned and potential) projects take us towards the target. If all these projects are implemented, we expect to achieve 85.56 % of our targeted savings. We will need to identify further 135 tCO2 savings to fill the gap and make up for the BAU upward drift. The following mechanisms were put in place to ensure sustained project pipeline:

- suggestions sought from the Carbon Reduction Management Group, Management Teams, Facilities Team and Network Services Team
- suggestions from staff and students and networking with other colleges to identify best practice.

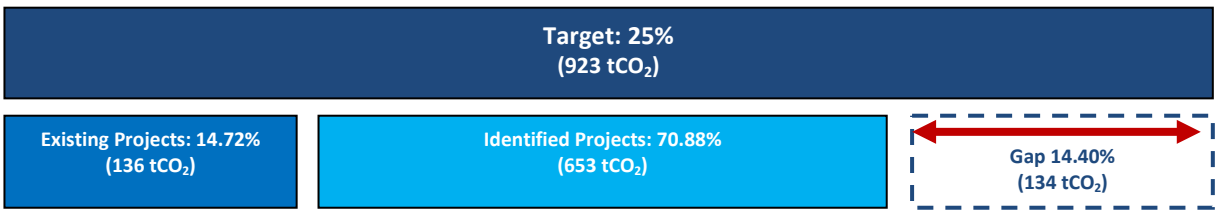


Figure 5 below shows predicted business-as-usual (BAU) emissions and the target emissions. The 'emissions in chosen plan' plot shows the emissions reductions from the projects scheduled in the duration of this plan. This plot includes the effect of BAU forces, so for example if in year three no additional projects were implemented the emissions would then trend back along the BAU line. Also the impact of project life is included, so if a short life project is finished (e.g. awareness raising) before the end of the programme (and not maintained or repeated) the trend would show a stepwise increase in emissions. Finally a degradation factor is included. This assumes that over the life of a project its carbon saving impact will decrease due to factors such as business focus being diverted to other initiatives, projects not being maintained and also percentage savings becoming smaller as a building becomes more efficient.

By including these effects we are trying to model some of the real life factors that may impact on our ability to meet our target. Because of these additional factors the plot does not directly agree with a simply summed list of the carbon saving impact of the projects.

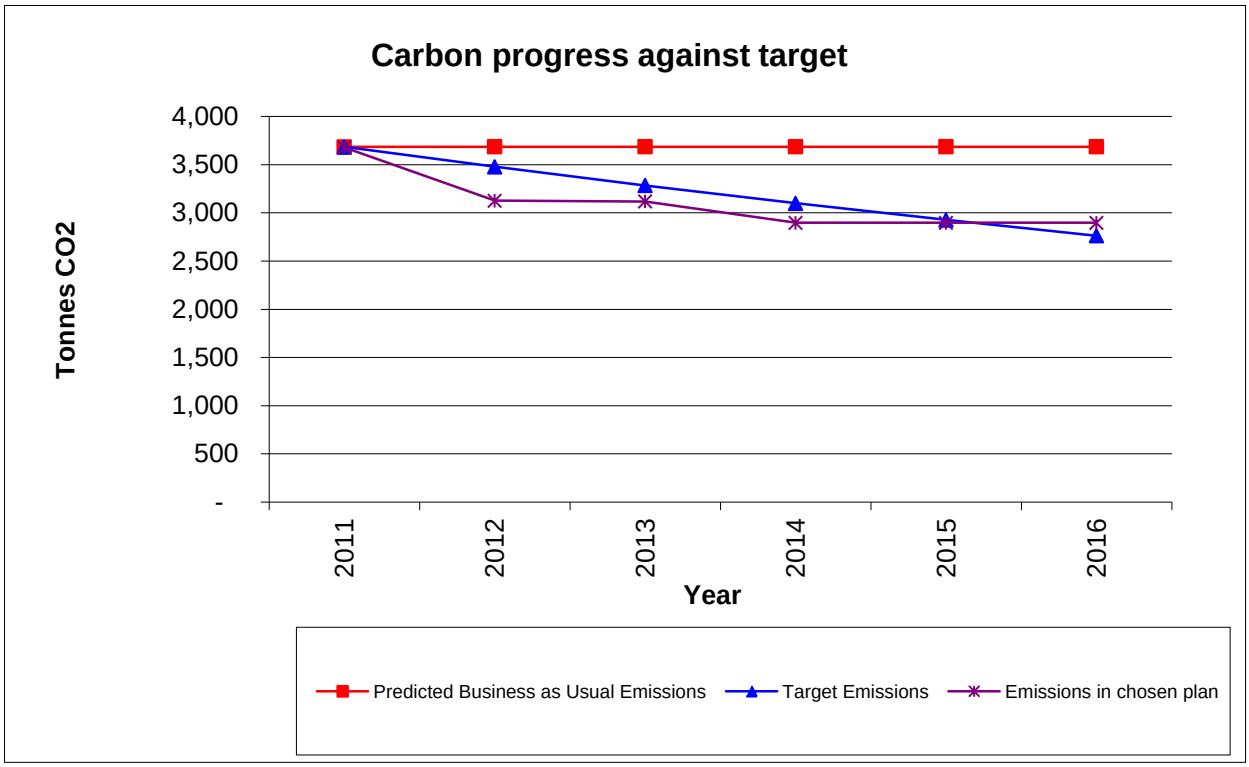


Fig 5: Projection of impact of projects on meeting carbon target

5 Implementation

This section covers the main elements required to move from planning to implementation. This includes our financing strategy, governance structure, monitoring and reporting mechanisms. We also describe the activities that will help us embed carbon management within the College and drive the changes in behaviour that will lead to long-term, sustained savings and low carbon practice.

5.1 Carbon Management Plan Financing

This section summarizes the business case for implementing this plan. It states:

- the overall cost of implementing the projects identified above - how much is already allocated and how much is yet to be found
- the annual cost and carbon savings from implementing these projects
- the total payback period of the projects in this plan
- how the projects will be financed.

In Section 4 we have described the projects we will implement to achieve our target; we have also identified capital and revenue costs for these projects. This section summarises the funding required

year by year, describes where it will come from and identifies any gaps where funding may not yet be secured.

To implement the projects defined in this plan will require a capital investment of £68,000 and in operational costs of £5,000 for each year thereafter. This equates to a total programme cost to the college of £88,000, the funding for which has already been fully allocated.

When all these projects are implemented it will result in estimated annual financial savings / cost avoidance of £159,401.

The total Payback Period of these projects is 0.44 years.

Financial costs and sources of funding

We have secured funding from the SFA's (Skills Funding Agency) Renewal Programme for various essential maintenance works across the College. This funding is on the basis of 1/3 from SFA matched 2/3 by the College. To secure this funding certain energy efficiency criteria had to be met for the identified works. The College contribution is being funded from the College's planned maintenance budget.

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Annual costs:						
Total annual capital cost (£)	**0**	**0**	**8,000**	**0**	**60,000**	**0**
Total annual revenue cost (£)	**0**	**0**	**5,000**	**5,000**	**5,000**	**5,000**
Total costs (£)	**0**	**0**	**13,000**	**5,000**	**65,000**	**5,000**
Committed funding:						
Committed annual capital (£)	**0**	**0**	**8,000**	**0**	**60,000**	**0**
Committed annual revenue (£)	**0**	**0**	**5,000**	**5,000**	**5,000**	**5,000**
Total funded (£)	**0**	**0**	**13,000**	**5,000**	**65,000**	**5,000**
Unallocated funding						
Unallocated annual capital (£)	**0**	**0**	**0**	**0**	**0**	**0**
Unallocated annual revenue (£)	**0**	**0**	**0**	**0**	**0**	**0**
Total unfunded(£)	**0**	**0**	**0**	**0**	**0**	**0**

Assumptions

Key assumptions underlying our financial projections are:

- Electricity cost averaged 7.9p per kWh for the baseline year 2010/11.
- In 2011/12 there is an increase of 20 %. After this period the increase is assumed to be 7.8% as per the DECC (Department for Energy and Climate Change) energy cost projections
- Electricity HH rates for 2011/2012 are as follows:
    - Eastbourne day rate (per kWh): 9.407p. Eastbourne night rate: 5.550p
    - Lewes day rate (per kWh): 9.621p. Lewes night rate: 5.542p.

- Gas cost averaged 2.34p per kWh for the baseline year 2010/11.
- In 2011/12 there is an increase of 15 %. After this period the increase is assumed to be 7.8% as per the DECC (Department for Energy and Climate Change) energy cost projections

If the DECC energy cost projections vary significantly, the financial savings of the College will alter.

Benefits / savings – quantified and un-quantified

	2011	2012	2013	2014	2015	2016
Annual cost saving	**£1,084**	**£119,654**	**£121,915**	**£159,401**	**£159,401**	**£159,401**
Annual CO_2 saving	**4.56**	**558.83**	**568.35**	**788.12**	**788.12**	**788.12**
% of target achieved	**0.50%**	**60.67%**	**61.70%**	**85.56%**	**85.56%**	**85.56%**

Unquantified benefits:

- Support the fight against Climate Change.
- As a large organisation the College should be leading by example and be a positive influence to its staff, students and the local community.
- Communications: a positive PR position and increasing appeal for prospective learners, guardians, current and future staff and other stakeholders is vital if the College is to thrive and survive.

5.2 Embedding Carbon Management across the College

Beyond the set of initiatives identified above, it is important that organisational changes are put in place to maintain a focus on carbon management over time. The Carbon Management Maturity Matrix at Appendix A shows the different areas of embedding, our current level and what we plan to achieve during the next 5 years.

This section describes the main activities and changes that will help us achieve this.

- Since appointment in December 2010, our new Principal has created a culture of environmental awareness and in creating our new strategic statement has included actions relating to carbon reduction: '*Reduce the College's carbon footprint and encourage greater care for our environment through the development and maintenance of our campuses'*

- The Principal sits on the Carbon Reduction Management Group, facilitating, and steering actions and targets.

- The Carbon Management Plan has been endorsed by members of the Carbon Reduction Management Group which includes senior managers.

- The Carbon Management Plan will be cascaded to staff, students and stakeholders through team meetings, Intranet, plasma screens, College website, social media, i-Learn (College Moodle system), and through a continued series of awareness raising campaigns.

- The Carbon Management Plan will inform future revisions of existing plans and strategy documents including the Accommodation Strategy, Environmental Policy and the ICT Strategy.

- Teaching staff will be encouraged, through the implementation of a new i-Learn module, to incorporate key themes in lesson plans and schemes of work.

- The Environmental Co-Ordinator will raise awareness with teaching and support staff teams, delivering the message to show how good carbon management will support existing policies and priorities.
- Targets will be set for different departments mainly focusing on how behaviour can be changed.
- Human Resources and Professional Development colleagues will explore the opportunities for raising awareness through job descriptions, new staff inductions, staff handbooks and staff training.
- The College's Communications Manager will lead on an internal and external awareness raising campaign making best use of social media, existing resources and case studies. Materials will be utilised from the Carbon Trust to support this campaign.
- Best use will be made of specific external webinars which will be cascaded to relevant staff e.g. Facilities and Network Services.
- The College will continue to utilise Survey Monkey to complete an annual staff survey – survey topics include staff and student attitudes to sustainability.
- Through a discrete project the College invited stakeholders to an awareness-raising morning on World Water Day, March 2011. We are seeking to replicate this on an annual basis.
- Through the Carbon Reduction Management Group we will consider non-financial criteria for measuring our project outcomes e.g. feelings, attitudes and behaviours
- The College has developed a set of Procurement processes.
- The Carbon Reduction Management Group will review the Carbon Management Plan on an annual basis.

Ref	Change Action	Owner	When complete
	Procurement process on waste and recycling management will include data monitoring and an encouragement to increase recycling initiatives	Facilities Management	2013
	Requirements will be made of the outsourced contract in catering. Turning down appliances that are not required and turning lights off.	Facilities Management	2012

5.3 Programme Management of your carbon management programme

In this section our governance structure for carbon management is shown. The following sections provide further detail of who is responsible for which areas of work and how progress is reported.

The Programme Board – strategic ownership and oversight

There are two members of our Executive Team (Principal, two Deputy Principals and Clerk to the Corporation) who are also senior members of the Carbon Reduction Management Group. The Executive Team will report to the Finance and General Purposes Committee of the Corporation, three times per year.

Carbon Reduction Management Group Membership

Name	Position	Contact Details
John Bassett	Financial Controller	(01323) 637185 john.bassett@sussexdowns.ac.uk
Anit Chatrath	Communications Manager	(01323) 637135 anit.chatrath@sussexdowns.ac.uk
Tami-Mari Davis	Financial Accountant	(01323) 637664 tami.davis@sussexdowns.ac.uk
Melanie Hunt	**Principal and Chief Executive**	(01323) 637270 melanie.hunt@sussexdowns.ac.uk
Eve Johnson	Head of BISLI **Deputy Project Sponsor**	(01273) 402585 eve.johnson@sussexdowns.ac.uk
Lizzie Kemp	Project Delivery Manager	(01323) 637190 elizabeth.kemp@sussexdowns.ac.uk
Joss Moon	Secretary to the Head of Employability Programmes	(01323) 637489 joss.moon@sussexdowns.ac.uk
Jonathan Morris	Deputy Principal Corporate Services **Project Sponsor**	(01323) 637271 jonathan.morris@sussexdowns.ac.uk
Jonathan Pennick	Network Services Manager	(01273) 402377 jonathan.pennick@sussexdowns.ac.uk
Alison Plaumer	Environment Co-Ordinator	(01273) 402257 alison.plaumer@sussexdowns.ac.uk
Paul Standen	Facilities Manager **Project Leader**	(01323) 637206 paul.standen@sussexdowns.ac.uk
Clare Westbrey Tong	Development and Project Manager **Deputy Project Leader** **Chair - Carbon Reduction Management Group**	(01323) 637252 clare.westbrey-tong@sussexdowns.ac.uk

Carbon Reduction Management Group - Terms of Reference are as follows:

The group will meet six times a year with a designated chair, an agreed agenda and set of minutes. Joss Moon, Secretary to the Head of Skills and Employability will be the main communication channel for organising meetings:

- The steering group members will be jointly responsible for the effective realisation of the group's objectives working extensively with internal and external colleagues and partners.
- The former Sustainability Steering Group will now act as the Carbon Reduction Management Group for the purposes of the College's Carbon Trust strategy and associated operational plans.
- Other representatives can be invited to join the Steering Group as appropriate and as agreed by the chair.
- The agendas will include feedback and reviews on the progress in establishing sustainable projects across the College, progress towards Carbon Trust objectives and opportunities for external funding and any other matters as appropriate.
- The Carbon Reduction Management Group will meet six times a year through the Academic Year.
- The Project Leader will report on progress of the carbon management programme to the Carbon Reduction Management Group at each meeting.
- The Carbon Management Programme will be a standing item on the agenda.
- Any decisions to be made will be agreed on a majority basis with the final vote resting with a member of CLT (College Leadership Team) if necessary.

Succession planning

Role	Name	Successor's name
Project Sponsor	Jonathan Morris Deputy Principal Corporate Services	Eve Johnson Head of BISLI
Project Leader	Paul Standen Facilities Manager	Clare Westbrey-Tong Development and Project Manager
Finance Champion	John Bassett Financial Controller	Tami-Mari Davis Financial Accountant

Key information, including the Carbon Management Plan, Carbon Management Plan Register, the Baseline data and the RAP Tool will be stored on a shared college drive that is available only to the Carbon Reduction Management Group.

5.4 Monitoring and Reporting

This section describes actions we will take to improve the quality of carbon emissions data and the data gathering process, and how will we report on our progress. Robust data will provide us the basis to monitor and report on the results of our actions and it will help to drive behaviour change.

Data and monitoring

The following actions have been agreed with regards to data and monitoring:

Ref	Change Action	Owner	When complete
	Finance Department to ensure that data regarding gas and electricity consumption is made available to Project Leader	Finance Dept	End of 2012
	Ensure that ESCC (East Sussex County Council) provide data relevant to fleet transport fuel emissions to the Project Leader	ESCC Transport	August 2012
	Enable Project Leader to analyse other sources of emissions, specifically refrigerant gas loss from air conditioning units.	Facilities Dept	End of 2012

Regular progress reporting

The Project Leader will report on progress of the carbon management programme to the Carbon Reduction Management Group, six times a year. The regular progress report will cover:

- The progress of projects that have been funded and their status i.e. being implemented or completed and how they are impacting on our target (RAG rated).
- Progress on all projects that are being planned i.e. being developed and how they will be funded.
- A list of projects that will require funding in order for our target to be met.

Annual reporting

The Project Leader will compile an Annual Report each November to report on progress of the Carbon Reduction Management Programme. The report will be signed-off by the Project Sponsor and submitted to the Corporation, College Leadership Team, College Carbon Reduction Management Group, College Management Team. The report will also be made available to staff and students and will be placed on the college's website.

Communication of progress to stakeholders

Sussex Downs College will communicate progress on this project to staff, students, employers and other stakeholders using this as an opportunity to promote its work with The Carbon Trust and the carbon implications of their behaviour.

A College Communications Plan has been developed. The aims of this campaign are to influence a change of behaviour in staff and students to help meet the target of a 10% reduction in the College's carbon emissions.

The campaign will utilise electronic media to disseminate messages.

The campaign will also require effective communication by all members of the CMT (College Management Team) with their staff to explain the work that is planned and the rationale behind it. Staff will be asked to volunteer ideas on how the project's aims and objectives can be met, and these will be integrated into the campaign and ensure 360 degree communication.

A survey will be undertaken from February 2012 to ascertain the views of staff and students on matters relating to sustainability and how they would like to be involved.

Communication forums that will be utilised include:

- Staff newsletters
- News section on internal portals
- Messages on salary slips
- CMT (College Management Team)
- Social and online media
- Media relations and Communications
- Marketing publications
- Face to face

The Communications Plan will be reviewed and updated on a regular basis throughout the duration of the project. The Carbon Reduction Management Group meets six times a year and will be informed of progress at each meeting.

Follow up by the Carbon Trust

The Carbon Trust will follow up annually with the Project Leader to measure the level of progress against the projects defined in this plan.

Appendix A: Carbon Management Matrix – Embedding

	POLICY	RESPONSIBILITY	DATA MANAGEMENT	COMMUNICATION & TRAINING	FINANCE & INVESTMENT	PROCUREMENT	MONITORING & EVALUATION
5 **BEST**	SMART Targets signed off Action plan contains clear goals & regular progress reviews Strategy launched internally & to community	CM is **full-time** responsibility of a **few** people CM integrated in responsibilities of **senior** managers VC support Part of **all** job descriptions	Quarterly collation of CO2 emissions for all sources Data externally verified M&T in place for: • Buildings • Waste	All staff & students given formalised CM: • Induction • Training Plan • Communications CM matters **regularly** communicated to: • External community • Key partners	**Granular & effective** financing mechanisms for CM projects Finance representation on CM Team Robust task management mechanism Ring-fenced fund for carbon reduction initiatives	Senior purchasers consult & adhere to ICLEI's Procura+ manual & principles Sustainability comprehensively integrated in tendering criteria Whole life costing Area-wide procurement	Senior management review CM process Core team regularly reviews CM progress Published externally on website Visible board level review
4	SMART Targets developed but not implemented	CM is full-time responsibility of an individual CM integrated in to responsibilities of department managers, not all staff	Annual collation of CO_2 emissions for: • Buildings • Transport • waste Data **internally** reviewed	All staff & students given CM: • Induction • Communications CM communicated to: • External community • Key partners	Regular financing for CM projects Some external financing Sufficient task management mechanism	Environmental demands incorporated in tendering Familiarity with Procura+ Joint procuring between HEIs or with LAs.	**Core** team **regularly** reviews CM progress: • Actions Profile & Targets • New opportunities quantification
3	Draft policy Climate Change reference	CM is part-time responsibility of a few people CM responsibility of department champions	Collation of CO2 emissions for limited scope i.e. buildings only	Environmental / **energy** group(s) give ad hoc: • Training • Communications	Ad hoc financing for CM projects Limited task management No allocated resource	Whole life costing occasionally employed Some pooling of environmental expertise	CM team review aspects including: • Policies / **Strategies** • Targets • Action Plans
2	No policy Climate Change aspiration	CM is part-time responsibility of an individual No departmental champions	No CO2 emissions data compiled Energy data compiled on a regular basis	Regular poster/awareness campaigns **Staff** given ad hoc CM: • Communications	Ad hoc financing for CM related projects Limited task coordination resources	Green criteria occasionally considered Products considered in isolation	Ad hoc reviews of CM actions progress
1 **Worst**	No policy **No** Climate Change reference	No CM responsibility designation	Not compiled: CO_2 emissions Estimated billing	No communication or training	No internal financing or funding for CM related projects	No Green consideration No life cycle costing	No CM monitoring

Line showing where SDC rates at start of Project in 2011

Appendix B: Definition of Projects

Project: **Reference:**	**Southover Building – phase 1 - replacement windows, cladding and roofing** SFA1 - A211.90.870 FAC002
Owner (person)	Graham Hardy (Deputy Facilities Manager) in conjunction with Mackellar Schwerdt Architects
Department	Facilities Department
Description	Replace Crittall metal single glazed windows with upvc double glazed windows. Replace gym windows with insulated metal cladding, and replace flat roofing areas, including insulation in roof void.
Benefits	• Financial savings: £ 1084 per annum • Payback period: 0 years • CO_2 Emissions reduction: 4.60 tonnes of CO_2 per annum • Annual gas saving: 24,631 kWh • 0.50% of overall CO2 target These costs have been identified following a procurement process in conjunction with our architects, Mackellar Schwerdt Architects.
Funding	• £0 • These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero.
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in maintenance costs, reduction in energy costs, aesthetically improves the environment. • Principal risks: procurement of a suitably qualified contractor.
Measuring Success	• Improved comfort levels for students and staff.
Timing	• Milestones / key dates: o start date: July 2011. o completion date (when it will deliver savings): September 2011.
Notes	Cross referencing with the SFA (phase 1 files) held at the Lewes Campus will demonstrate the procurement process that has been followed.

Project: **Reference:**	**Park College – replacement of gas and oil boilers** SFA1 - A211.90.870 FAC006
Owner (person)	Paul Standen (Facilities Manager) in conjunction with Ian White Associates
Department	Facilities Department
Description	Replace the two old (gas and oil) boilers with two non-condensing boilers, and an upgrade to the gas supply serving the building. The new gas supply will provide gas for heating the building and the Brickwork Centre, gas for the Science Labs and the Kitchen. Gas pipes will be decommissioned for the removed Barracks building, and the redundant kitchen in the centre of the building. The oil tanks will become redundant.
Benefits	• Financial savings: £24,116 per annum • Payback period: 0 years • CO_2 Emissions reduction: 86.2 tonnes of CO_2 per annum • Annual savings : 221,417 kWh • 9.36% of overall CO2 target • These costs have been identified following a procurement process in conjunction with our Consultants, Ian White Associates.
Funding	• £0 • These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero .
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in planned maintenance costs, reduction in energy costs, improved and more efficient equipment. • Principal risks: ensuring smooth transition from two fuels to one fuel, minimising the “down time” on the changeover. Procurement of a suitably qualified contractor
Measuring Success	• Reduced energy (gas) consumption and reduced maintenance costs for the buildings. • All costs associated with oil, including delivery, storage and supply to the boiler.
Timing	• Milestones / key dates o start date: 1 September 2011 o phased completion` date (when it will deliver savings): 3 January 2012 following installation of first boiler, and 16 April 2012 following installation of second boiler, and removal of the oil tanks.
Notes	Cross referencing with the SFA (phase 1 files) held at the Eastbourne Campus will demonstrate the procurement process that has been followed.

Project: **Reference:**	**Tyler House – replacement of gas boilers** SFA1 - A211.90.870 FAC007
Owner (person)	Paul Standen (Facilities Manager) in conjunction with Ian White Associates
Department	Facilities Department
Description	Replacement of inefficient gas boilers with Broag condensing gas boilers.
Benefits	• Financial savings: £342 per annum • Payback period: 0 years • CO_2 Emissions reduction: 1.4 tonnes of CO_2 per annum • 0.16% of overall target • Annual gas savings : 7779 kWh These costs have been identified following a procurement process in conjunction with our Consultants, Ian White Associates.
Funding	• £ 0 these works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in planned maintenance costs, reduction in energy costs, improved and more efficient equipment. • Principal risks: procurement of a suitably qualified contractor.
Measuring Success	• Reduced energy (gas) consumption and reduced maintenance costs for the building.

Timing	• Milestones / key dates:
	  • start date: April 2011
	  • completion date July 2011

Notes	Cross referencing with the SFA (phase 1 files) held at the Eastbourne Campus will demonstrate the procurement process that has been followed.

Project: **Reference:**	**ECAT House – replacement of air conditioning chiller units in roofspace** A211.90.870 FAC009
Owner (person)	Paul Standen (Facilities Manager) in conjunction with Ian White Associates
Department	Facilities Department
Description	Replacement of the original Frimair chiller units with new Carrier chiller units on the air conditioning system
Benefits	• Financial savings: £ 1065 per annum • Payback period: 0 years • CO_2 Emissions reduction: 6.2 tonnes of CO_2 per annum • 0.68 % of overall target • Annual electricity savings: 11,450 kWh These costs have been identified following a procurement process in conjunction with our Consultants, Ian White Associates, and Contractor, Southern Climate Solutions.
Funding	• £0 • These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in planned maintenance costs, reduction in energy costs, improved and more efficient equipment. • Principal risks: appointment of the College's Mechanical Contractor to carry out the replacement of the chillers will enable continuity to be maintained, and avoid financial risks from the Funding Agency.
Measuring Success	• Reduced energy consumption and reduced maintenance costs for the building. Improved control systems managing the environment of the building.
Timing	• start date: July 2011 • completion date (when it will deliver savings): August 2011
Notes	Cross referencing with the SFA (phase 1 files) held at the Eastbourne Campus will demonstrate the appointment process that has been followed.

Project: **Reference:**	**Brickwork Centre – replacement of defective oil heaters with gas heaters** A211.90.870 FAC010
Owner (person)	Paul Standen (Facilities Manager) in conjunction with Booker and Best
Department	Facilities Department
Description	Replacement of two oil boilers with two gas boilers
Benefits	• Financial savings: £ 10,005 per annum • Payback period: 0 years • CO_2 Emissions reduction: 37 tonnes of CO_2 per annum • 4.02 % of overall target • Annual saving: 118,492 kWh These costs have been identified following a procurement process in conjunction with our Service Contractor, Booker and Best.
Funding	• £0 • These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero.
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in planned maintenance costs, reduction in energy costs, improved and more efficient equipment. Removal of oil from the site. • Principal risks: appointment of the College's Mechanical Contractor to carry out the replacement of the oil heaters will enable continuity to be maintained.
Measuring Success	• Reduced energy consumption and reduced maintenance costs for the building. Improved control systems managing the environment of the building.
Timing	• start date: November 2011 • completion date (when it will deliver savings): December 2011
Notes	Cross referencing with the SFA (phase 1 files) held at the Eastbourne Campus will demonstrate the appointment process that has been followed.

Project: **Reference:**	**Southover Building – phase 2 - replacement windows, cladding and roofing** SFA1 - A211.90.870 FAC021
Owner (person)	Graham Hardy (Deputy Facilities Manager) in conjunction with Mackellar Schwerdt Architects
Department	Facilities Department
Description	Replace Crittall metal single glazed windows with upvc double glazed windows. Replace entrance doors to the building, and replace flat roofing areas, including insulation in roof void.
Benefits	• Financial savings: £ 1084 per annum • Payback period: 0 years • CO_2 Emissions reduction: 4.6 tonnes of CO_2 per annum • 0.50 % of overall target • Annual gas saving: 24,631 kWh • These costs have been identified following a procurement process in conjunction with our architects, Mackellar Schwerdt Architects.
Funding	• £0 • These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero .
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in maintenance costs, reduction in energy costs, aesthetically improves the environment. • Principal risks: procurement of a suitably qualified contractor.
Measuring Success	• Improved comfort levels for students and staff.
Timing	• Milestones / key dates: o start date: December 2011. o completion date (when it will deliver savings): March 2011.
Notes	Cross referencing with the SFA (phase 2 files) held at the Lewes Campus will demonstrate the appointment process that has been followed.

Project: **Reference:**	**Cliffe Building – replacement windows and cladding to the south elevation** SFA1 - A211.90.870 FAC030
Owner (person)	Graham Hardy (Deputy Facilities Manager) in conjunction with Mackellar Schwerdt Architects
Department	Facilities Department
Description	Replace Crittall metal single glazed windows with upvc double glazed windows. Replace all timber cladding under windows, with insulated panels.
Benefits	• Financial savings: £ 452 per annum • Payback period: 0 years • CO_2 Emissions reduction: 1.9 tonnes of CO_2 per annum • 0.21 % of overall target • Annual gas saving: 10,263 kWh • These costs have been identified following a procurement process in conjunction with our architects, Mackellar Schwerdt Architects.
Funding	• £0 • These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in maintenance costs, reduction in energy costs, aesthetically improves the environment. Principal risks: procurement of a suitably qualified contractor.
Measuring Success	• Improved comfort levels for students and staff.
Timing	• Milestones / key dates: o start date: July 2012. o completion date (when it will deliver savings): August 2012.
Notes	Cross referencing with the SFA (phase 3 files) held at the Lewes Campus will demonstrate the appointment process that has been followed.

Project: **Reference:**	**Park College – phase 1 - replacement windows** SFA1 - A211.90.870 FAC022
Owner (person)	Paul Standen (Facilities Manager) in conjunction with Mackellar Schwerdt Architects
Department	Facilities Department
Description	Replace Crittall metal single glazed windows with upvc double glazed windows and insulated cladding panels.
Benefits	• Financial savings: £ 678 per annum • Payback period: 0 years • CO_2 Emissions reduction: 2.85 tonnes of CO_2 per annum • 0.31 % of overall target • Annual gas saving: 15,398 kWh • These costs have been identified following a procurement process in conjunction with our architects, Mackellar Schwerdt Architects.
Funding	• £0 • These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in maintenance costs, reduction in energy costs, aesthetically improves the environment. • Principal risks: procurement of a suitably qualified contractor.
Measuring Success	• Improved comfort levels for students and staff.
Timing	• Milestones / key dates: o start date: August 2011. o completion date (when it will deliver savings): April 2012.
Notes	Cross referencing with the SFA (phase 2 files) held at the Eastbourne Campus will demonstrate the appointment process that has been followed.

Project: **Reference:**	**Park College – phase 2 - replacement windows** SFA2 - A211.90.870 FAC036
Owner (person)	Paul Standen (Facilities Manager) in conjunction with Mackellar Schwerdt Architects
Department	Facilities Department
Description	Replace Crittall metal single glazed windows with upvc double glazed windows and insulated cladding panels.
Benefits	• Financial savings: £ 678 per annum • Payback period: 0 years • CO_2 Emissions reduction: 2.85 tonnes of CO_2 per annum • 0.31 % of overall target • Annual gas saving: 15,398 kWh • These costs have been identified following a procurement process in conjunction with our architects, Mackellar Schwerdt Architects.
Funding	• £0 • These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in maintenance costs, reduction in energy costs, aesthetically improves the environment. • Principal risks: procurement of a suitably qualified contractor.
Measuring Success	• Improved comfort levels for students and staff.
Timing	• Milestones / key dates: o start date: August 2011. o completion date (when it will deliver savings): April 2012.
Notes	Cross referencing with the SFA (phase 2 files) held at the Eastbourne Campus will demonstrate the appointment process that has been followed..

Project: **Reference:**	**Cliffe Building – Guidance Entrance and Curtain Walling upgrade** SFA1 - A211.90.870 FAC031
Owner (person)	Graham Hardy (Deputy Facilities Manager) in conjunction with Mackellar Schwerdt Architects
Department	Facilities Department
Description	Replace Crittall metal single glazed windows with upvc double glazed windows and replace timber curtain walling with insulated cladding panels.
Benefits	• Financial savings: £ 452 per annum • Payback period: 0 • CO_2 Emissions reduction: 1.9 tonnes of CO_2 per annum • 0.21 % of overall target • Annual gas saving: 10,263 kWh • These costs have been identified following a procurement process in conjunction with our architects, Mackellar Schwerdt Architects.
Funding	• £0 • These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in maintenance costs, reduction in energy costs, aesthetically improves the environment. • Principal risks: procurement of a suitably qualified contractor
Measuring Success	• Improved comfort levels for students and staff.
Timing	• Milestones / key dates: o start date: July 2012 o completion date (when it will deliver savings): August 2012.
Notes	Cross referencing with the SFA (phase3 files) held at the Lewes Campus will demonstrate the appointment process that has been followed.

Project: **Reference:**	**Kings Building – upgrade Restaurant lights** SFA1 - A211.90.870 FAC033
Owner (person)	Paul Standen (Facilities Manager) in conjunction with Eastbourne Electrical
Department	Facilities Department
Description	Replace current ineffective Restaurant lighting with new mains voltage lights, 100watt wall lights mounted on the columns around the restaurant, complete with dimmable switches, and 4no.additional high level 2no. x 42 Watt dome shaped lights**.**
Benefits	• Financial savings: £ 3 per annum • Payback period: n/a • CO_2 Emissions reduction: 0.02 tonnes of CO_2 per annum • 0.01 % of overall target • Annual electricity saving: 34 kWh • These costs have been provided by our Electrical Contractor.
Funding	• £8,000.00 (incl. VAT) • 1/3 of the funding is provided by the Skills Funding Agency, the remaining 2/3 funding is from the college's long term maintenance programme. Source of funding: internal, external, investment criteria to be met etc. • Funds have already been made available.
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: approved level of funding. • Principal risks: incorrect choice of lighting design and specification.
Measuring Success	• Reduced electricity consumption. • Improved light levels (lux) and light efficiency (W/m2). • Improved lighting control.
Timing	• Milestones / key dates: o start date: February 2012 (Half term week). o completion date (when it will deliver savings): February 2012.
Notes	Cross referencing with the SFA (phase3 files) held at the Eastbourne Campus will demonstrate the appointment process that has been followed..

Project: **Reference:**	**Hammond House – install photo voltaic panels on roof** SFA1 - A211.90.870 FAC035
Owner (person)	Paul Standen (Facilities Manager) in conjunction with Eastbourne Borough Council
Department	Facilities Department
Description	Install photo voltaic panels on the south elevation of the two storey building
Benefits	At this stage, the project is in jeopardy due to the recent announcement on cutting FIT (Feed In Tariffs) being cut by 50%. Discussions will be held with Eastbourne Borough Council.
Funding	£0 These works would have been carried out irrespective of the College making our carbon reduction commitment. Therefore the cost of this CM Project is zero
Resources	• The project will be delivered using existing resources and the funding has been identified.
Ensuring Success	• Key success factors: reduction in maintenance costs, reduction in energy costs, aesthetically improves the environment. • Principal risks: selection of a consultant to advise on the specification of the panels, and the procurement of a suitably qualified contractor. •
Measuring Success	• Improved comfort levels for students and staff.
Timing	• Milestones / key dates: o start date: March 2012. o completion date (when it will deliver savings): April 2012.
Notes	Cross referencing with the SFA (phase3 files) held at the Eastbourne Campus will demonstrate the appointment process that has been followed.

Project: **Reference:**	**Communicating the Carbon Management Plan. Raising awareness and creating behavioural change**
Owner (person)	Communications Department in conjunction with the College Carbon Reduction Management Team (CRMT)
Department	Sub group of the CRMT lead by the Communications Manager
Description	To promote the Carbon Management Plan
Benefits	• Financial savings: £ 47,852 • Payback period: 0 • CO_2 Emissions reduction: 252 tonnes of CO_2 per annum • 27.41% of overall target • Annual saving: 717,892 kWh • These estimated benefits are from the RAP Tool.
Funding	• Funding will be made available from College Revenue Budgets, and possible grants from external sources.
Resources	• The project will be delivered via a sub group of the CRMT, and lead by the Communications Manager. • Additional technology resources being used will be the College Intranet, plasma screens, I Learn, Facebook, Twitter, E mail, College E newsletters to both staff and students.
Ensuring Success	• A communications brief will be produced. This will cover the communications for the project including target audience, objectives, key messages, communications channels to be used, tactics, considerations, risks and timing.gs that will need to happen for this project to succeed.
Measuring Success	• Make carbon management a responsibility of all staff and students across the college. • Reduce energy consumption. • Increased staff and student awareness and engagement
Timing	• Milestones / key dates: o start date: January 2012 - launch of the project through various communication channels, described above. o 2012 -2016 regular updates throughout the five years of the project.
Notes	Target is to achieve 10% savings through behaviour change and changing culture.

Project: **Reference:**	**Voltage Optimisation (Power Perfector)**
Owner (person)	Facilities Management
Department	Sub group Facilities Management in conjunction with the College Carbon Reduction Management Group (CRMG), and an external consultancy
Description	Voltage Optimisation - the College will consult with specialist suppliers of voltage optimisation equipment. Surveys will be carried out using data loggers to measure voltage use and consumption. Depending upon the outcome, the College will seek funding from possibly the Salix fund or other borrowing institutions.
Benefits	• Financial savings: £37,485 • Payback period: 1.6 years • CO_2 Emissions reduction: 219.76 tonnes of CO_2 • 23.86% of target • These estimated benefits are from the RAP Tool
Funding	• £60,000.00 (incl. VAT) • Funding will be made available, from the College's budget, in future years.
Resources	This project will be linked to our 3 HH meters. It will be designed in conjunction with the manufacturer and will be installed by external contractors.
Ensuring Success	• This type of project has been carried out by other HH Electric Meter users and is proven to deliver savings.
Measuring Success	Reduced electricity consumption for buildings where units installed
Timing	• Milestones / key dates: o start date: 2013/14
Notes	