SLC South Lanarkshire College
East Kilbride

**Universities & Colleges
Climate Commitment for Scotland**

**"Lowering energy use,
lowering carbon emissions,
and developing our curriculum"**

**Climate Disruption Action Plan 2010-2015
March 2010**

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Context

South Lanarkshire College moved to its new building in February 2008. It was assessed by BRE as having a "Very Good" BREEAM rating. On moving to the new campus, the Board of Management and Senior Management team developed a new strategic plan looking forward to 2012. This strategic plan connected with the Scottish Government's five key aims. One of those aims was for Scotland to become "Greener". There are various interpretations of what this means and how it should happen.

The education sector has a large task ahead to interpret scientific thinking about changes taking place in the environment, then reliably inform and influence behaviours in the UK and Scotland in a way that has a positive and lasting impact. At South Lanarkshire College we have thought carefully about our approach. We know that climate change has been occurring continuously for millennia and it is a natural process. However, some scientists are confronting us with evidence that suggests that social and economic behaviour in richer parts of the world may be contributing to a disruption to normal climate patterns that could have catastrophic consequences.

It is unquestionable that in the UK and in Scotland in particular, we use energy at a rate that is unacceptably high compared to almost all developing nations. Over the past three decades it is not unfair to say that we have been profligate in our use of energy. This has been based largely on the presumption of continuing abundant supplies of low-priced natural gas from the North Sea. These gas supplies have begun to diminish and it is predicted that they will continue to diminish in the coming decades. In both environmental and economic terms, it is probably a high priority for our country to consider the most effective ways of reducing our energy dependence on fossil fuels. This will involve adopting lower-energy approaches, developing alternative energy solutions and influencing economic and social behaviour in all sorts of ways.

Our specific role in education will be to inform people, influence understanding and behaviours and help develop skills and capacity to adopt lower-energy approaches and alternative energy solutions that reduce unsustainable dependence on finite energy resources. In reducing the over-use and over-dependence on fossil and biomass fuels, a secondary linked outcome will be a natural lowering of carbon emissions. Therefore this Action Plan is probably more accurately and honestly described as an action plan to lower energy use and educate people about lifestyles in keeping with sharing a planet with limited resources.

We recognise that as part of an educated society, we have a shared responsibility in terms of the consequences of our actions and our stewardship of scarce and diminishing resources.

Claims made about the impact of human beings on the world's climate as a result of greenhouse gas emissions are not easily quantifiable. They may or may not be overly exaggerated. However, whether or not this climate disruption is taking place, partly fuelled by man-made greenhouse gas emissions, the risk that it could be (the likelihood, which may be small, multiplied by the potential consequences, which may be catastrophic) is too significant to just ignore.

Angus Allan Depute Principal South Lanarkshire College   **March 2010**

Executive Summary

South Lanarkshire College, East Kilbride, signed the University and College's Climate Commitment for Scotland in February 2009. This committed the College to producing a five year Climate Change Action Plan (CCAP) that will reduce emissions and embed sustainability in the curriculum. We have an important role to play in achieving government targets to reduce emissions by 42% by 2020 and 80% by 2050. The Depute Principal, Angus Allan, has the overall responsibility for delivery of the CCAP and the college has employed a temporary climate change action plan co-ordinator until March 2010.

The College's carbon footprint is 1954 tonnes of carbon dioxide based on 2008/9 figures. If commuting is included, the footprint is 4189. Data was gathered on energy use and water use from suppliers and contractors. Work is ongoing to ensure that the waste data provided is accurate. Actual business mileage was calculated from staff expenses forms. Commuting mileage was estimated from a staff survey and First Bus data. The College has already started action to influence people to reduce energy use and emissions, most notably through the building management system, the construction of the Low Carbon House, through curriculum change and development and through encouraging the use of public transport and bicycles.

The College is working with The Carbon Trust to assess the best options to cut emissions and save money (Figure 1) in the operation of the college's estate. If all these energy saving measures (many at little or no cost) are introduced, it is possible to perceive a relative emissions reduction of 12% by 2013 (taking into account business as usual growth in emissions). This represents an annual reduction in carbon dioxide emissions of 1.84%. Additional projects on waste minimisation and recycling would increase cuts by 3% to 15%. Future renewable energy projects could help the cut emissions further. Work on the costs, benefits, payback and funding packages for renewable is ongoing.

Figure 1: Summary of South Lanarkshire College Climate Change Action Plan Investment & Savings

Timescale	Action	Investment	Annual Savings	% of emissions
		£	tCO$_2$	
2010/11	Optimising operating hours	0	49	1%
2010/11	IT Management Software	0	2.7	<1%
2010/11	Awareness Raising	£4,000	126.1	7%
2010/11	Waste reduction and recycling	0	1.2 + 39.8	3%
2010/11	Effective travel planning	1000	25.8	<1%
2010/11	Driver maintenance and training	0	1	<1%
2010/11	Heating control systems	3,000	0.28	<1%
2013/14	Virtualisation / thin client	£50,000 pa	11.3	1%
Total		**£54,000**	**257.18**	**15%**

We are building on South Lanarkshire College's good practice identified in the HMIE Aspect Review on Sustainability to ensure that the CCAP takes a whole college approach. The College recently held a 'Green Day' and a green survey has been carried out (January 2010) with staff and students. In January meetings were also held with Heads of Faculty and Curriculum Managers to further explore embedding sustainable development in the curriculum.

Energy Savings Trust (from left Lillian and Graeme) and Jess Bailey (Travel Plan consultant) brought their display and give-aways to the College Green Day, January 2010. Many staff and students received energy saving advice for their homes.

Introduction / Background

The UN Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report[1] confirmed climate change as a real threat and urged immediate action to reduce the projected impact.

The Stern Review on the Economics of Climate Change[2] reported that climate change presents the greatest market failure and recommends investing 1-3% of GDP annually to avert 20% losses per annum within a decade. The most recent United Nations conference on climate change (December 2009 – Copenhagen) agreed on the urgency of the situation and the importance of cutting emissions to a level that keeps global temperature increases to below 2 degrees Celsius, beyond which run away climate change becomes a problem.

Models[3] of future climate trends show that with 'moderate' climate change, South Lanarkshire is expected to experience an increase in average temperatures; increase in temperature in all seasons; an increase in maximum temperatures (particularly in autumn); a larger daily temperature range in winter; an increase in the length of growing season and decrease in length of winter cold spells; a reduction in air and ground frosts and in early and late season frosts; increases in amount of winter rain and the number of days and intensity of heavy winter rain; a possible reduction in summer rain and a decrease in spring and autumn snow cover. This may seem ironic given the winter we have just experienced. However, like most earth sciences, climate science is not 'exact', and these predictions are based on projected trends.

In the wider local environment, South Lanarkshire Council signed Scotland's Climate Change Declaration[4] and declared they will act on climate change in addition to producing a report on the likely impact of climate change on the local area;

The Scottish Government has signalled its undertaking to improving Scotland's natural and built environment by passing the Climate Change (Scotland) Act 2009. The Act creates the statutory framework for greenhouse gas emissions reductions in Scotland by setting an interim 42% reduction target for 2020, with the power for this to be varied based on expert advice, and an 80% reduction target for 2050.

To help ensure the delivery of these targets, this part of the Act also requires that the Scottish Ministers set annual targets, in secondary legislation, for Scottish emissions from 2010 to 2050. Part 4 of the Act places climate change duties on Scottish public bodies, **including universities and colleges**, and enables Scottish Ministers to impose further duties on public bodies in relation to climate change.

Sustainability remains one of the Scottish Government's five strategic objectives (*Greener Scotland)* and the Government has recognised the key role that universities and colleges have to play in achieving this goal:

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[1] http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf

[2] http://www.occ.gov.uk/activities/stern.htm

[3] http://climatetrendshandbook.sccip.org.uk/

[4] http://www.sustainable-scotland.net/climatechange/

- through their primary role as educators, skills trainers and researchers, institutions have the potential to make an invaluable contribution to the UN Decade of Education for Sustainable Development (2005-14);
- as owners and operators of large and complex estates, universities and colleges can lead on the delivery of sustainable, low carbon 21st century campuses; and
- as the focus of many local communities, institutions can influence and lead on wider community and social initiatives.

Scotland's universities and colleges recognise the scale and speed of climate change and the challenges facing us to address the impacts on our economy, society and environment. Through *Universities Scotland* and *Scotland's Colleges*, Principals have indicated their willingness to establish a framework for institutions to address those challenges. Therefore, in partnership with sector and government representatives, the Environmental Association for Universities and Colleges has developed the UCCCfS.

What is South Lanarkshire College currently doing on energy reduction?
South Lanarkshire College's vision for the next 5-10 years is that we achieve several aims:

- We aim to reduce our energy use in line with the targets set in the tables in this report.

- We aim to display best practice in minimising energy use in domestic housing. We will use our low-energy house as a key education tool both in knowledge exchange to companies and also curriculum change and development.

- We aim to educate students, business leaders, and private and public sector organisations in approaches that lower energy use and minimise dependence on fossil fuels.

- We aim to improve our management of waste streams to reduce unnecessary landfill and gain benefits from reusing and recycling.

- We aim to educate our students on the benefits of re-using and re-cycling.

This 5-year Climate Change Action Plan has been produced to support the delivery of our Climate Commitment, signed on 16th February 2008. We recognise that this will require the allocation of time and resources but will ultimately become part of our strategic planning process. The good thing is we've started already!

- Ethos: 'sustainability' is included in the published ethos of the college
- Our new college building achieved a 'very good' BREEAM rating
- We were the only college in Scotland to appoint a temporary climate change action plan co-ordinator in November 2009.
- A Steering Group has been set up, open to the key staff and also advertised openly to interested staff and students.
- Our Low-energy, low-carbon house was completed in December 2009 as a teaching facility, built in partnership with industry. It is now receiving a huge amount of interest from construction companies, architects, housing associations, councils, schools and others.

- We developed a new Estates Strategy in December 2009, and are currently working on a carbon management plan including energy policy. These identify the need to develop and manage the estate in an environmentally sustainable manner with sustainability as a key principle underpinning decisions.

- In the HMIE Aspect Report on Sustainable Education October 2009 – South Lanarkshire College was one of 10 colleges who were showcased as making a significant impact [5]

- We provide travel information encouraging students and staff to 'go green' by using public transport and walking or cycling to the college.

- Our high profile display on sustainability highlights opportunities for waste minimisation and recycling, particularly in the construction sector.

- Our whole-life costing exercise for equipment, plant and furnishings is planned to be completed by Nov 2010.

- We replaced environmentally unfriendly local printers in staffrooms, that used large numbers of ink cartridges, with more efficient multifunctional devices. We instruct all staff to carry out double-sided copying where practical. If print jobs are above a pre-set volume the job is automatically transferred to the large central photocopier which is more efficient that the local MFDs.

Human Resources staff display their Green Day prizes of an energy monitor and a powerdown plug.

[5] http://www.hmie.gov.uk/documents/publication/sscar.pdf

Project Management / Governance

South Lanarkshire College aims to manage and coordinate this action plan through a steering group who will keep the Board of Management informed of progress through the Development Committee. Survey returns have provided information on staff and students who are particularly interested in becoming engaged in promoting sustainability. The steering group will be called the Sustainability Group or SG for short.

Figure 2: South Lanarkshire College Sustainability Group

Role in CCAP	Name	Position
Advisory Committee.	Sharon McCarroll	Facilities Manager (Chair)
	Angus Allan	Depute Principal
	Keith McAllister	Finance Manager
	Kirsten Oswald	Human Resources Manager
	Linda Young	MIS Manager
	John Carr	Head of Faculty
	June McDonald	Head of Student Services
	Martin O'Donnell	Student representative

The SG should be responsive to internal and external drivers and change. The membership of the SG will be reviewed on an annual basis in the same manner as other groups and committees. The group will make recommendations to the SMT and CMT of the College regarding targets in annual strategic and operational plans and the monitoring of those targets.

Poster advertising College Green Day – this logo can be used for future awareness branding.

Baseline Carbon Footprint

This section calculates South Lanarkshire's College's major emissions. The Carbon Trust is working with South Lanarkshire College and has provided a spreadsheet that captures baseline information, calculates carbon emissions and enables comparison from year to year using the same methodology.

Data was gathered on energy use and water use from suppliers and contractors. Work is ongoing to ensure that the waste data provided is accurate. Actual business mileage was calculated from staff expenses forms. Commuting mileage was estimated from a staff survey and First Bus data.

A summary is presented here, with the greatest emissions by far from gas and electricity consumption. If commuting is included, the majority of emissions (54%) come from transport.

Figure 3: South Lanarkshire College Baseline Carbon Footprint

Baseline – financial year 2008/9		Units	Total used	Emissions kg CO2
Direct Emissions				
Stationary sources				
	Gas	kWh	2,793,716	516,754
Owned transport				
	Diesel	Km	4290	1174
	Petrol	Km	15784	1694
Imported Emissions (Scope 2)				
	Purchased electricity	kWh	2,391,609	1,284,294
Other Emission (Scope 3)				
Waste disposal		tonnes	728	119,099
Water use		M3	1400	566
Business travel				
	Travel by personal car	Km	68308	14,611
	Travel by taxi (est.)	Km	814	161
	Travel by rail (est.)	Passenger km	5138	309
Commuting	Travel by car (est.)	Passenger km	8,077,120	1,727,696
	Travel by bus (est.)	Passenger km	4,853,598	520,791
Travel by plane				
	Long haul (est.)	Passenger km	16696	2,013
TOTAL				**4,189,162**

Figure 4: South Lanarkshire College Baseline Footprint (excluding commuting)

Baseline CO2 emissions (tonnes)
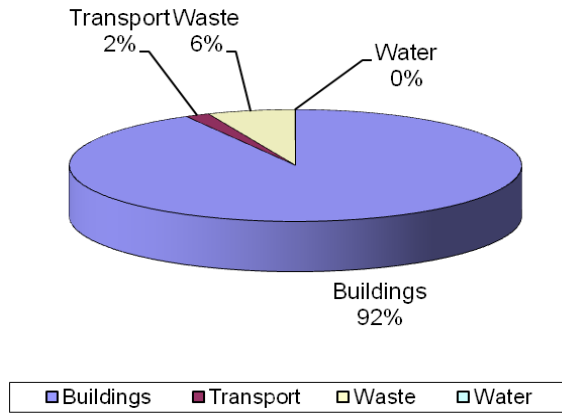
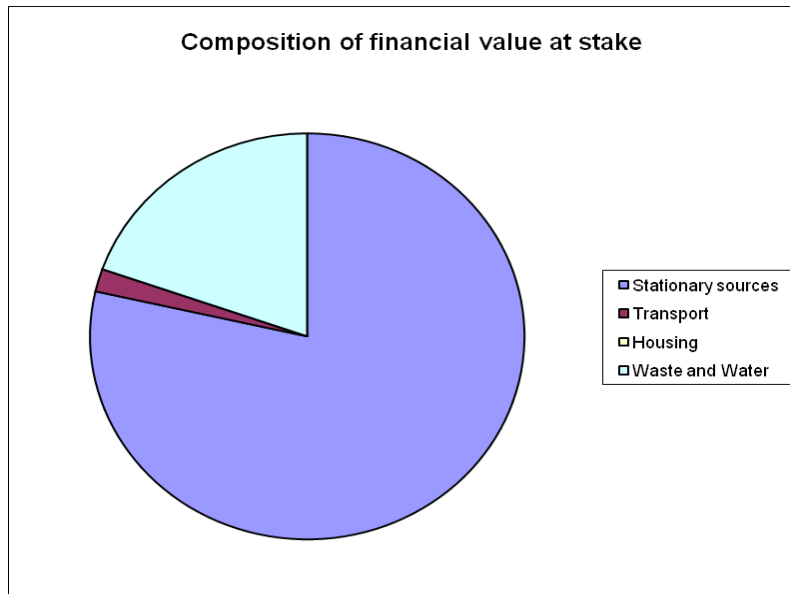**Figure 5: Financial cost of resource use (excluding commuting)**

Baseline CO2 emissions (tonnes)

Waste
3%

Water
0%

Buildings
43%

Transport
54%

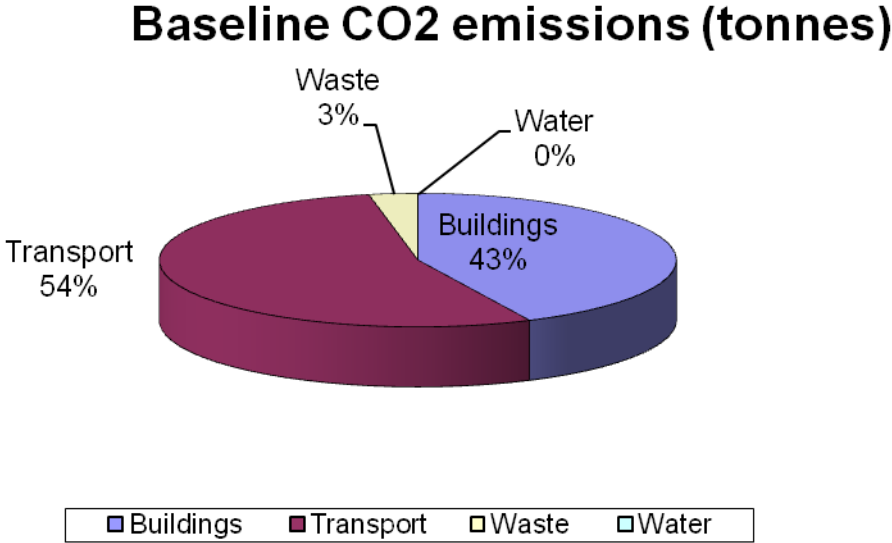☐ Buildings ■ Transport ☐ Waste ☐ Water

Figure 7 provides a set of Key Performance Indicators (KPIs) developed using methodology from the Sustainability Accounting Project Pilot[6]. The College may wish to consider adopting these to identify trends and help reporting and benchmarking with other Colleges who took part in the project. No travel KPIs have been included.

Figure 7: Key Performance Indicators from the Sustainability Accounting Group project

Total energy consumption		Baseline (2008/9)	2009/10	Trend
Total energy consumed	kWh	5,185,325		
Associated total carbon dioxide emissions	Kg	1,801,048		
Proportion of renewably sourced energy – all energy companies must increases their % renewable to 18% by 2010.	%	6.9%[7]		
Normalised energy consumption		Baseline (2008/9)	2009/10	Trend
Average energy consumption per m2 (18,000m2 is area of building)	kWh	288		
Average CO2 emissions per m2	Kg	100		
Average energy consumption for FTE of staff and students (232 + 2027 = 2259)	kWh	0.13		
Water consumption		Baseline (2008/9)	2009/10	Trend
Total water consumption	M3	1400		
Average per m2	M3	0.08		
Average per FTE	M3	0.62		
Proportion of water consumed by water source		Baseline (2008/9)	2009/10	Trend
Mains	M3	1400		
Abstraction	M3	0		
Grey	M3	0		
Harvested	M3	0		
Other	M3	0		
Consumption and Waste				
Total volume of waste generated (per FTE staff and students)	tonnes	728 (0.32)		
Volume of special waste generated	tonnes	2.88		
Waste routes used (% of waste that is recycled, recovered, reused or disposed of to landfill / incineration)		Landfill 36.6% Recycled 63.4%		

Main type of paper used	Total number of reams purchased			% of Total Reams with recycled content		
	Baseline 2008/9	2009/10	Trend	Baseline 2008/9	2009/10	Trend
FSC Mixed credit paper – around 31 pallets per year (per FTE staff and student)	6230 (2.76 reams pp)			0		

[6] http://www.jwheatley.ac.uk/documents/sustainability/UrsSagReport.pdf
[7] http://www.scottishpower.co.uk/Home_Energy/Customer_Services/Where_we_get_our_energy/

Business as Usual Emissions

This trajectory is calculated from Carbon Trust spreadsheets from the College's baseline data. It presumes an annual increase in gas, electricity, water and vehicle fuel costs of 8.4% and an annual increase in demand for commuting of 1%.

Figure 8 Comparison of actual emissions with BAU increases and reduction targets predicted (excluding commuting)

Comparison of actual emissions with BAU increases and reduction targets predicted
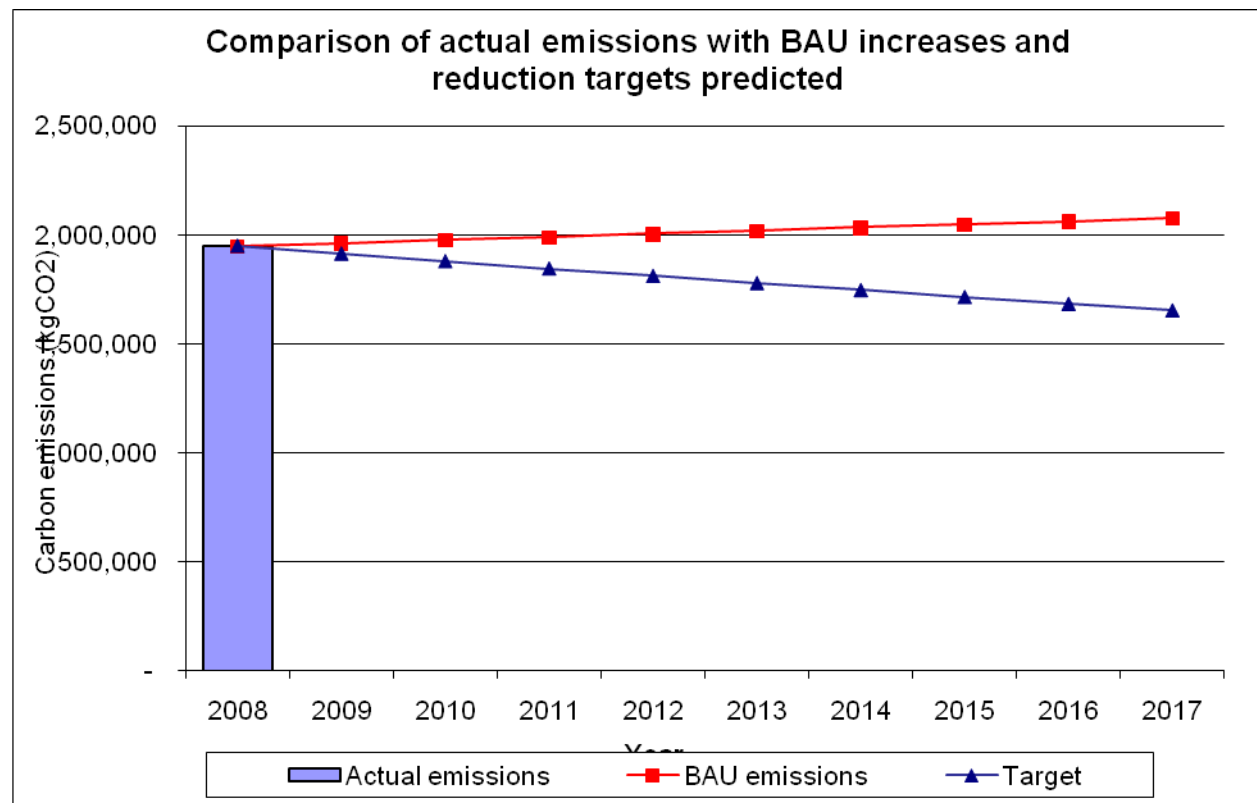
Baseline Data excluding commuting

Year	Predicted Business as Usual Emissions (tCO2)	Target Emissions (tCO2)
2008	1,954	1,954
2009	1,972	1,923
2010	1,986	1,888
2011	2,000	1,854
2012	2,014	1,820
2013	2,028	1,787

Absolute reduction target by 2013	9%	
Compound Annual Reduction Rate	1.81%	per annum
Final year footprint target	1,787	tCO2
BAU emission growth forecast	4%	per annum
2013 BAU Emission Forecast	2,028	tCO2
Relative emissions reduction	12%	

Baseline Data - including commuting

Paste data from baseline tool using 'paste special' function
and clicking 'values'

Year	Predicted Business as Usual Emissions (tCO2)	Target Emissions (tCO2)
2008	4,197	4,197
2009	4,227	4,121
2010	4,256	4,047
2011	4,286	3,974
2012	4,316	3,902
2013	4,346	3,831

Absolute reduction target by 2013	9%	
Compound Annual Reduction Rate	1.84%	per annum
Final year footprint target	3,831	tCO2
BAU emission growth forecast	4%	per annum
2013 BAU Emission Forecast	4,346	tCO2
Relative emissions reduction	12%	

Categories for Action

This section gives more detail on the key actions, investments and changes that will be introduced to reduce emissions. All categories have been considered for their potential to meeting the College's reduction targets.

A. **Energy consumption and source**
B. **Waste reduction, recycling and responsible disposal**
C. **Sustainable estate development – maintenance and capital programme**
D. **Sustainable (and active) travel planning**
E. **Responsible procurement of goods and services**
F. **Provision of skills training, modules and courses**
G. **Research capacity and knowledge exchange activity**

The main source of College emissions, aside from commuting, comes from our use of gas and electricity. Even in a new building there are technologies, management techniques and behavioural changes that can save energy and improve comfort. However, all the areas will be covered, particularly with reference to the awareness raising campaign.

The projects selected were chosen as follows:

- projects that will deliver "quick wins" for us in terms of carbon and cash payback periods;
- return on investment or financial impact;
- potential to create positive and/or negative social and environmental side effects; and
- potential to involve students and staff.

Due to major future restrictions in capital funding, the College may wish to consider establishing mechanisms to reinvest savings in the secondary and tertiary projects that may have higher upfront costs.

The Scottish Funding Council's *Sustainable Development Guidance for Estate Management*[814] provides a toolkit for incorporating sustainable development into practical, routine facilities management and also for embedding the principles of sustainability into estate strategies.

[8814] http://www.sfc.ac.uk/publications/Sustainable_Development_Guidance_March_2008.pdf

Summary of the 5-year Plan, Savings and Targets

South Lanarkshire College plans to lower our energy use and therefore reduce the emissions from our activities by 12% from our 2008 baseline by 2013 (absolute reduction of 9%). To do so we aim to deliver an absolute reduction in emissions of 1.8% each year starting from 2010. In support of this, we will deliver energy, travel and awareness projects to cut 167 tonnes. Through waste reduction and recycling, we could cut another 62.1 tonnes (3%) bringing the total absolute emissions cuts to 12% (15% in relation to business as usual forecast). Future projects on renewable energy would reduce emissions again and are being investigated further.

Figure 10: Summary of South Lanarkshire College 5-year CCAP Projects

Year		Project Title/Type and Category Reference	Expenditure	Annual Savings tCO$_2$		% of emissions
2010/11	1	Optimising operating hours	0	49		1
	2	IT Management Software	0	2.7		<1
	3	Awareness Raising	£1000	126.1		7
	4[9]	Waste reduction and recycling	0	1.2 + 39.8		3
	5[10]	Effective travel planning	1000	25.8		<1
	6	Driver maintenance and training	0	1		<1
2011/12	7	Heating control systems	2000	0.28		<1
2013/14	8[11]	Virtualisation / thin client	Being investigated	11.3		1
Total			£54,000	257.18		15%

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[9] This saving assumes a reduction of 1% of waste to landfill each year for five years and a cut of 20% in landfill cost saving due to a 20% increase in recycling, calculated using Carbon Trust baseline spreadsheet. We could save money on landfill tax if we increase recycling.

[10] Nominal costs included for specific projects, funding available from EST, SPT and Cycling Scotland

[11] Costs based on quote for pilot scheme from Linda Young, more accurate estimates of savings can be made from the financial and carbon cost benefit spreadsheet on the SusteIT project.

Climate Disruption Action Plan / GHG Emissions Mitigation

This section provides detailed, project-specific information, including timescales and targets. Projects that have been underway or completed since our baseline are also included in calculating carbon savings since the 2008 baseline year. Several projects have already been implemented or agreed since we started the planning process. These include several building management projects (e.g. optimal start times) and the purchase of a more efficient new van that can carry a larger group of people and their associated equipment.

A. **Energy Consumption and Source**
   - *Background/Trends:* Excluding commuting, energy consumption makes up by far the majority of CO2 emissions and holds most potential for financial, energy and carbon savings.
   - *Goal Statement:* We will promote energy efficiency through optimal management, control systems and changes in staff and student behaviour. We will also investigate opportunities for on-site micro-renewable energy.
   - *Current Programmes & Accomplishments:* The new single-campus building has a BREEAM 'very good' rating. It is well insulated with energy efficient lighting and movement sensors. The building is managed to minimise energy use by making optimal use of spaces. A low carbon house has been built on site as a training project.
   - *Challenges/Barriers:* Being a new building, there are fewer technical options available to save energy. However, further improvements can be made through more training on the BMS, other controls and through education and awareness raising. Consideration was given to daylight sensors in social spaces but rejected due to health and safety considerations. The maintenance company have suggested some equipment to cut energy use in the workshop area although this has been rejected as the payback time was too long.
   - *Monitoring/Tracking Progress:* Energy use will be monitored by the SG and compared to previous years.
   - *Support Mechanisms:* KPIs will be reported in an accessible format on an annual basis to the SMT, staff and students. The next stage of the Post Occupancy Evaluation for South Lanarkshire College will involve a Strategic Review of the building in the Spring of 2011, after approximately three years' of occupation to assess its performance in the longer term and inform any future estates planning decisions.

Figure 11: Optimising operating hours

Year	Project Title/Type and Category Reference		Expenditure	Annual Savings
				tCO$_2$
2010/11	1	Optimising operating hours	0	49

Project Reference	Optimising operating hours
Owner (person)	Sharon McCarroll / Craig Ferguson
Department	Facilities
Description	The number of evenings that the college is open for night classes will be reduced from 3 to 2 per week from August 2010. In addition, from January 2010, the air conditioning is programmed to come on at 9 am and off at 3.30 pm. People will also be able to switch it on and off manually if required, this will be linked to the awareness campaign. Some savings are expected from these changes but have not yet been quantified.
Funding	No funding required, only additional programming.
Resources	Delivered within current staff resources
Ensuring Success	Ensure procedures for shut down take place on newly closed evening. Ensure staff are made aware of the changes to air conditioning and are reminded to switch it off when they leave the room. Regular communication with maintenance company with the aim to maximise efficiency and reduce energy costs.
Measuring Success	Energy consumption data from BMS and energy bills will be monitored monthly.
Timing	Milestones / key dates: - start date: August 2010 - completion date (when it will deliver savings): Immediately Decision made in February 2010.
Notes	

Figure 12: IT Management Software

Year	Project Title/Type and Category Reference		Expenditure	Annual Savings tCO₂
2010	2	**IT Management Software**	0	2.7

Project Reference	**IT Management Software 2**
Owner (person)	Linda Young
Department	MIS
Description	Ensuring lecturers use Lanschool (allows lecturers to take control of all PCs in classroom and powerdown if required). Also 'MyPC' in Learning Resource Centre is used to powerdown the LRC at 9.15 pm each night.
Funding	No new costs as we have the software already
Resources	No additional resources
Ensuring Success	Lecturers may have a variety of reasons for not currently using Lanschool to its maximum benefit. There is likely to be a training needed here. Best to tie in training with other energy awareness activities being carried out in classrooms. Ensure powerdown times coincide with building operating hours.
Measuring Success	Do a survey in classrooms and LRC to identify number of PCs and monitors left on. Repeat survey after training and reinforcing the message. Depending on survey results, reinforce the message as part of the campaign and survey again.
Timing	Milestones / key dates: - start date: to be confirmed with IT and link in with awareness campaign - completion date : to be confirmed - interim deliverable/decision points: one week after training
Notes	

Figure 13 Awareness Raising Campaign

Year	Project Title/Type and Category Reference		Expenditure	Annual Savings
				tCO$_2$
2010	3	**Awareness Raising Campaign**	1000	126.1

Project Reference	**Awareness Raising Campaign 3**
Owner (person)	Sharon McCarroll
Department	Facilities
Description	A branded awareness campaign will focus on 4 quarterly 'theme' months encouraging action on energy, waste, travel and water resources over a whole year and beyond. Linked to each of these months will be practical improvements, whole college information and motivational events, curriculum projects and community links. Developing and supporting a network of 'green champions' across the college is a key to success. See appendix A for full details of an awareness campaign tailored to SLC.
Funding	Small amount of funding (estimated £1000 per year) for campaign promotional activity
Resources	Delivered within current resources although dedicated staff resources will need to be freed up to co-ordinate and monitor the success of the campaign and support the 'green champions'.
Ensuring Success	A sustained long term campaign is required to reinforce the messages and ensure behavioural change over the life of the CCAP.
Measuring Success	Monitoring energy bills, recycling rates, total volume of waste and water bills. Repetition of the Green Survey before March 2011 to determine behaviour and attitude change. Feedback from 'green champions'. Articles sharing success in the college and student media.
Timing	Milestones / key dates: - start date: April 2010 - completion date (when it will deliver savings): March 2011 - interim deliverable/decision points
Notes	

Figure 14: Heating Control Systems

Year	Project Title/Type and Category Reference		Expenditure	Annual Savings tCO$_2$
2010	7	Heating Control Systems	2000	0.28

Project Reference	**Heating Control Systems 7**
Owner (person)	Sharon McCarroll
Department	Facilities
Description	Fit thermostats to heaters in main entrance 'porch' to avoid overheating
Funding	£2000 to come from Facilities budget
Resources	Delivered within current resources
Ensuring Success	
Measuring Success	Energy consumption data from BMS and energy bills
Timing	Milestones / key dates: - start date: Autumn 2010 - completion date (when it will deliver savings): to be confirmed - interim deliverable/decision points

Figure 15 Virtualisation / thin computers

Year	Project Title/Type and Category Reference		Expenditure	Annual Savings tCO$_2$
2013	8	Virtualisation / thin computers	7500 on pilot then (50,000 pa)	11.3

Project Reference	**Virtualisation / thin computers 8**
Owner (person)	Linda Young
Department	MIS
Description	Consider a phased implementation of 'thin client'.
Funding	Allocate £7500 for a pilot phase only, the majority of which is to boost the server.
Resources	If pilot phase is successful then there should be net cost savings from this project.
Ensuring Success	Principal risks – technical (College software not supported by thin client) and financial
Measuring Success	Energy bills. Replacement PC costs reduced When success will be measured / evaluated: Annually
Timing	Milestones / key dates: - start date: April 2010, completion date (when it will deliver savings): April 2011 - interim deliverable/decision points: Whether the pilot should be rolled out or not
Notes	New Report on Sustainable ICT Procurement SusteIT have published a comprehensive guide to sustainable ICT procurement policy, guidance and tools http://www.susteit.org.uk/files/index.php Financial and carbon costs of thin vs thick client http://www.susteit.org.uk/files/index.php Sustainable ICT report - Pg 57 - good summary of actions http://www.susteit.org.uk/uploads/DOCS/55-SustainableICTreport_final.pdf

B. **Waste Reduction, Recycling and Responsible Disposal**

- *Background/Trends:* Disposal of College waste makes up at least 6% of our carbon footprint at a cost of around £60,000 per year.

- *Goal Statement:* SLC will reduce waste generated and sent to landfill, and recycle a greater proportion of waste. Through a new sustainable procurement policy we will also reduce waste and increase the proportion of recycled products used by the College. Waste is an area where we can make a big difference, both in terms of carbon footprint and education**.**

- *Current Programmes & Accomplishments:* Viridor data claims that around 60% of College waste is recycled, the majority of which is construction waste. General waste from offices and catering goes in to black bags with some separation happening on site but the majority being sent to landfill. The College also uses tablet PCs and 'Moodle' which reduces paper use.

- *Challenges/Barriers:* The results also show that the majority of staff and student respondents are unsure if they recycle at College. This is possibly due to the fact that the College does not have separate bins for waste whilst many people now have separate recycling bins at home. Behaviour change will take some time to achieve.

- *Action Step/Solutions:* Provide 2 separately branded bins for staff and students to recycle at source: **1** for recycleable plastic, cans, paper **2** for food scraps. A contract will be negotiated with a waste contractor to remove any non-recyclables from Bin 1. Facilities will also speak to the Catering Academy to reduce their use of non-recyclable containers and cutlery. This could involve encouraging people to use crockery and / or using biodegradable food containers (probably corn based packaging) that can be composted with the food waste. Incorporate waste action in awareness campaign.

- *Monitoring/Tracking Progress:* Viridor estimate that recycling could be increased by 20%. Waste bills, reduction in total waste generated, monitor recycling rates.

- *Support Mechanisms:* Develop waste and procurement policies to ensure waste reduction and recycling. EAUC produce 'Advanced procurement for Universities and Colleges' guidance. Publicise what happens to the College waste. Arrange trips to Viridor site at Bargeddie.

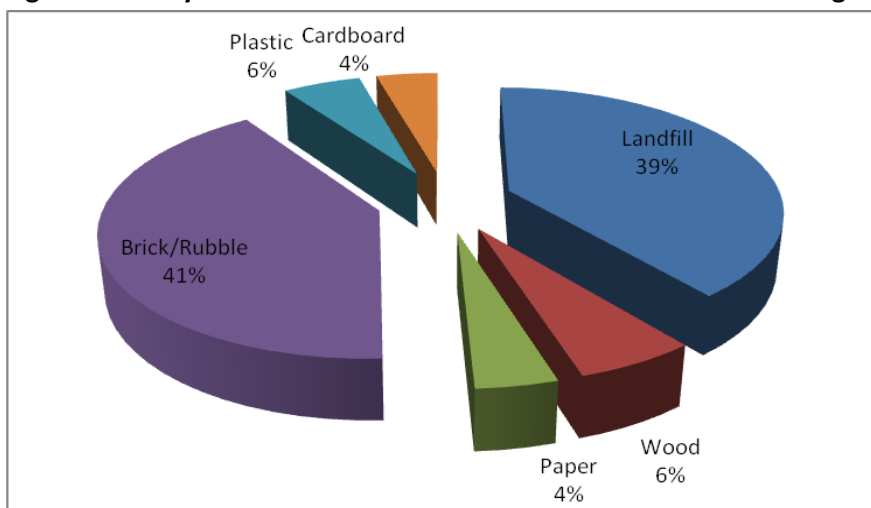**Figure 16a Recycled and land-filled waste at South Lanarkshire College**

Figure 16b: Potential for waste reduction / recycling at the College

RECYCLED	NOT RECYCLED	COULD BE RECYCLED / REDUCED
Wood, Sawdust	Food waste	Find a company who can
Confidential paper shredded (extra	Majority of cans, glass, plastic and	accommodate food waste recycling.
charge if contaminated with folders	paper	Introduce system of separating
etc.)	Paper towels	waste food/paper in all rooms.
Brick and rubble	Plastic cutlery	Remove paper towels and rely on
Plasterboard (unless contaminated)	Polystyrene takeaway food trays and	hand driers.
Cardboard boxes from kitchen	cups	Discourage takeaway packaging
deliveries		unless essential. Change to
Electrical items, special waste,	Plastic cups from drinking fountains	biodegradeable packaging.
paints etc. Disposed of according to	Coffee takeaway	Promote use of reusable 'thermo-
the law.		cups'
Lemonade bottles	Plastic food packaging	Some plastic s could be recycled or
Cooking oil	Other items in everyday use (would	have a 'salad bar' arrangement.
	need a detailed survey to determine	
	all waste streams – Envirowise)	
	Other waste streams from different	
	departments – still to be identified.	

Figure 17 Waste reductions / recycling

Year	Project Title/Type and Category Reference		Expenditure	Annual Savings tCO$_2$
2010	4	**Waste reduction / recycling**	0	41

Project Reference	**Waste reduction / recycling 4**
Owner (person)	Sharon McCarroll
Department	Facilities
Description	Introducing policy on waste reduction and recycling. Identifying waste streams through a detailed and free survey from Envirowise. Separating waste at source. Raising awareness of waste through the campaign. Reducing paper use through greater use of IT.
Funding	Viridor have said that these measures will have "little or no" cost to the College. Some potential savings could be made on reductions in landfill costs and reduction in paper use.
Resources	Within current resources
Ensuring Success	Principal risks – ensuring that the behaviour change happens, giving people the knowledge and convenient opportunity to help to form new habits. Keeping a close working relationship with Viridor requiring regular feedback on waste data. Regular feedback from the cleaners to identify problems / success with the new systems.
Measuring Success	Viridor data, waste bills
Timing	Milestones / key dates: - start date: Winter 2010 - completion date (when it will deliver savings): Spring 2011 - interim deliverable/decision points
Notes	http://www.envirowise.gov.uk/

C. **Sustainable Estate Development**

- The College Estate strategy has been written with sustainability and carbon reduction at the forefront. In our 'Future Plans' section we have included measures to address issues such as sustainable procurement, awareness raising, environmental policy, biodiversity, reduction in energy usage, waste management policy and green travel. We will aim to tackle these issues by:
  - **Using latest good practice**
  - **Promotion of environmental issues using posters, newsletters, group emails, presentations, and 'green' groups.**
  - **Reporting on performance**
  - **Support and advice**
- The goal is to incorporate low energy approaches in all aspects of building maintenance and development.
- We moved to our new build accommodation in March 2008. As we were heavily involved in the planning and design of the campus, we have managed to incorporate a number of initiatives such as an energy efficient lighting system, SUDS drainage system, on site bus stop, cycle racks, showers and water wastage reduction taps which helped to earn a 'very good' rating in our BREEAM report. We have also just completed the 'Aurora' which is the first affordable low energy, low carbon house built by a mass builder in Scotland. This house is one of the first in Scotland to be awarded an 'A' rating in energy performance certificate. We plan to use this valuable resource as a teaching and demonstration aid to show innovative practices and practical solutions to both students and various interested parties.
  We have strived to embed sustainability within our teaching curriculum and introduced initiatives such as an area dedicated to sustainability which showcases examples and best practice.
- We have some challenges to address in delivering our target of energy reduction. These challenges include the likelihood of future changing demands for our teaching services. For example, we have included in our savings figures the change from 3 evenings to 2 evenings opening per week, future demands may dictate that we re-open the omitted evening. Attitudes and behaviours are things people bring into the College. We have a great deal to do in respect of educating staff and students, but this should mainly be an exercise in awareness raising, as we have found most individuals to be very responsive to initiatives and advice when dealing with issues such as waste, travel, recycling and energy reduction.
  It will bea time consuming project to inform and have a positive impact on procedures and habits. In making the College estate more sustainable we aim to:
  - **Change people's behaviours –** Looking at the ways in which people use the existing facilities and giving them suitable and accessible alternatives for improving their own impact on energy usage within the building.
  - **Developing awareness-raising approaches –** By using poster campaigns, dedicated information days, embedding good practice and newsletter articles.

- **Recognising suitable opportunities –** Changing needs and demands will also show opportunities to make a difference to our sustainability performance.
- **Modify Existing Procedures –** Look at all existing procedure and look for opportunities to improve our carbon performance.

We have specific projects which we will implement to help us meet our targets.
These targets which are detailed in the Estates Strategy and which relate directly to carbon reduction are:-

PLANNED ACTION	ESTIMATED DATE OF COMPLETION
Develop an Environmental policy- This policy will set out the actions detailed within this plan, with specific actions and sponsors.	**May 2010**
Complete a College Garden- This garden will be created to grow vegetables and herbs for the College kitchens. A site has already been identified.	**September 2010**
Improve our Waste Management Policy- This will involve introducing food specific bins within each room to prevent contamination of recyclables such as paper. Also working together with our catering company to reduce packaging and use of plastics.	**October 2010**
Raise awareness of issues- to include sustainable diversity, biodiverstity, sustainable development, green travel, sustainable procurement and energy usage.	**June 2010**

Investigate Thin Client Technology- to reduce our carbon foot print and reduce energy consumption.	**June 2010**
Invest in Micro Renewables – look at new technologies at this time and see what affordable and suitable opportunities we could incorporate.	**January 2016**

- The college Sustainability Group shown in Fig 2 will as part of its remit, plan and monitor the implementation of this Climate Change Action Plan. They will report progress of this plan to the College Board of Management. The sustainability Group will meet quarterly and will monitor the effectiveness and delivery of the plan using the Summary of the 5-year CCAP projects, Fig 10, and the more detailed project references within the plan. They will implement the existing system of monthly recordings and readings to support the process of improving the environmental performance.
  The key outcomes will be evaluated on an annual basis. The purpose of this evaluation will be to assess progress against the Environmental Policy Benchmarking Data and Targets, recalculate the College's carbon footprint and determine changes to this Action Plan in light of performance and changed circumstances.
  The key out comes of this evaluation will be reported to the College's Board of Management.

D. Sustainable Travel Planning

- *Background/Trends:* If commuting was included in the College carbon footprint, transport would make up 54% of our carbon emissions (estimated from Green Survey). Excluding commuting reduced transport's contribution to 2% (business and fleet travel). The results indicate that 47% of students travel to College by non-car modes whilst just 15% of staff travel by non-car modes. The results also suggest that 76% of staff and 35% of students drive to the College. These are estimated figures.

    - *Goal Statement:* The College will reduce the need to travel and help staff and students shift their mode of travel. As well as reducing carbon emissions this may also contribute to improving health.
    - *Current Programmes & Accomplishments:* First Bus run a service direct to the College. An SLC minibus also picks up students in the morning in Cambuslang and drops them off at night. 28 bicycle racks are provided with adjacent showers and lockers. Some use is made of teleconferencing. Staff and students are also able to log on to the SLC network remotely. There is a buy a bike scheme run through Human Resources.
    - *Challenges/Barriers:* The Green Survey identified many opportunities to cut carbon emissions. It would be worthwhile doing more research to understand the opportunities on business travel with a College focus group (i.e. free coffee and cake session!) and if having an SLC 'pool car' would be operationally and financially viable and lead to any significant reductions.
    - *Action Step/Solutions:* It is likely that we will be able to cut emissions by a greater amount than that estimated by the Carbon Trust (Fig 22) as the Travel Plan will also cover commuting which has a large impact. See Appendix D.
    - *Monitoring/Tracking Progress:* Compare travel claims pre and post travel campaign. Re-survey staff and students in 2011.
    - *Support Mechanisms:* Business travel policy. Marketing of walking, cycling and public transport information.

Figure 18 Effective Travel Plans

Year	Project Title/Type and Category Reference		Expenditure	Annual Savings tCO$_2$
2010	5	**Effective Travel Plans**	1000	2

Project Reference	**Effective Travel Plans 5**
Owner (person)	Kirsten Oswald
Department	Human Resources
Description	Produce travel plan with business travel policy – see Appendix D. Trial of a liftshare scheme. Incorporate travel awareness, including more information on walking, cycling and public transport into campaign. Investigate opportunities to operate the College minibus from other major stations in South Lanarkshire (and indeed EK train station). Working with partners to improve access, information and safety leading in to the College. Monitoring of fuel use of minibus and van.
Funding	Strathclyde Passenger Transport will match fund College Travel Planning activity up to £1000 Cycling Scotland will provide grants up to £2000 to help SLC become a 'cycle friendly employer'.
Resources	Delivered within current resources
Ensuring Success	Principal risks – technical, financial
Measuring Success	Compare travel claims pre and post travel campaign. Re-survey staff and students in 2011.
Timing	Milestones / key dates: - start date: 23/08/10 – summer term / August start - completion date (when it will deliver savings): 23/08/10 - interim deliverable/decision points
Notes	

Figure 19 Driver training and maintenance

Year	Project Title/Type and Category Reference		Expenditure	Annual Savings tCO$_2$
2010	6	Driver training and maintenance	0	1

Project Reference	**Driver training and maintenance 6**
Owner (person)	Sharon McCarroll
Department	Facilities
Description	Providing training to regular minibus users and frequent business travellers to help people drive in a way that uses less fuel and causes less pollution.
Funding	Likely that we will be able to access this free or at a cost within existing training budgets. Energy Savings Trust Scotland has an 'eco-driving simulator' available for events.
Resources	Within current resources
Ensuring Success	Encouraging staff to take up the training opportunity
Measuring Success	Monitor the fuel efficiency of the fleet vehicles
Timing	Milestones / key dates: - start date: linked to start of travel campaign – likely in August / September 2010 - completion date (when it will deliver savings): December 2010 - interim deliverable/decision points:

E. Responsible Procurement of Good and Services

- *Background/Trends:* We have not measured the embodied energy (i.e. the energy taken to manufacture a product) of products that SLC purchases as this would be more complicated and would take longer to gather in data from a variety of sources. However, the carbon impact of SLC procurement decisions is likely to be significant and important from electricity source to cotton wool to re-use of construction supplies. Products and services also have a social and ethical impact, in terms of the conditions of those who produce it e.g. fair-trade.

- *Goal Statement:* To minimise the environmental, social and financial impact of SLC's purchasing decisions through a balance of sensible local and national procurement decisions.

- *Current Programmes & Accomplishments:* When lighting is replaced, more energy efficient bulbs are purchased. The Finance department is in control of purchasing decisions as they process purchase orders.

- *Challenges/Barriers:* Implementing and monitoring the policy if purchasing decisions are made in different departments. Ensuring suppliers are able to source eco-alternatives. Giving people information about what to look for in choosing alternatives.

- *Action Step/Solutions:* Prepare a procurement policy which applies the hierarchy of reduce, re-use and recycle to purchasing decisions. Buying or hiring products and services with little packaging, a low embodied energy, low operating costs and other environmental / social credentials such as recycled content.

- *Monitoring/Tracking Progress:* Reduction in waste.

- *Support Mechanisms:* Procurement policy and guide.

F. **Provision of skills training, modules and courses**

- *Background/Trends:* As an education institution SLC has already been making advances in education for sustainable development (HMIE Aspect review on Sustainability).
- *Goal Statement:* SLC aims to share information learned from its low-energy house project and further green the curriculum through embedding sustainable development into appropriate courses. We will also develop new courses in response to needs and demands from employers and the general public.
- *Current Programmes & Accomplishments:* Low Energy House completed, and three new courses in energy awareness and micro generation. The recent Green Survey was very useful in gathering ideas about how Education for Sustainable Development could be embedded. A new PDA will be offered in 2010-11.
- *Challenges/Barriers:* Providing training, support and encouragement to lecturers and students to embed sustainable development in the curriculum.
- *Action Step/Solutions:* This project will overlap with the Awareness Raising project. Use the process to embed quality and diversity in the curriculum. The theme months of the awareness campaign will also provide curriculum links.
- *Monitoring/Tracking Progress:* Uptake of new courses, number of units with sustainability embedded in them.
- *Support Mechanisms:* Identify the wider institution activities that will support the delivery of this project, the overarching category aims and objectives, and the CCAP target.

F1 New courses / initiatives

A member of staff was seconded to lead the Low-energy house project and to develop curriculum associated with low-energy approaches to construction and energy use in buildings. South Lanarkshire College is a BPEC approved centre for the delivery of training and assessment in the following micro renewable energies:

- Domestic Solar Hot Water Heating Systems
- Ground Source Heat Pump Installer
- Renewable Energy Awareness
- Part L Energy Efficiency

A shift in curriculum delivery will result from the interest generated in the low-energy house. The college will publish data and information on its sustainable house.

Already companies who employ large numbers of domestic heating engineers are contacting the college for training opportunities in micro-renewable installation and maintenance.

Following information-sharing with Lews Castle College, we intend to deliver a Professional Development Award in sustainability.

Life Options classes are considering how they can incorporate messages of sustainability into drama classes.

Sustainability will feature in student handbooks.

F2 Embedding process & guidance

Staff will be encouraged to embed sustainability in learning and teaching approaches. The HMIE Review on Sustainability recommended how this could be achieved:

- Develop College policies and strategies for sustainability to define the essential knowledge, skills and behaviours for learners to develop; (HMIE)
- The systematic embedding of sustainability within the design of programmes in all curriculum areas e.g. Introducing sustainable development: an outline for unit writing teams. http://www.sqa.org.uk/files_ccc/FF3392_Sustainability_flyer.pdf (HMIE)
- Develop and implement systematic approaches for embedding sustainable development within suitable programmes; e.g. SQA has developed generic units that colleges can incorporate and also a sustainability audit tool. *Teaching in Further Education: Sustainable Development Education.* (HMIE)
- Include sustainable development within existing strategies for learning and teaching; (HMIE)
- Encourage and support student associations to include events and activities, which contribute to sustainable development;
- Include sustainability issues within the induction programmes for learners and information as appropriate on the sustainable features within the design of college buildings;
- Integrate sustainability within learning and teaching processes across all curriculum areas. e.g. links to citizenship / core skills (see John Wheatley College);
- Include sustainability skills within appropriate programmes to develop learners' essential skills.

Curriculum Managers suggested ways that sustainability could be included: Student induction week and induction packs, Personal learning plan, build ESD into master folders under Citizenship, World of work, Prospectus, Guidance, Employability, Library displays. These will also be good tools for the awareness campaign.

F3 Community links

The College is also considering becoming a signatory to South Lanarkshire Community Planning 'climate change declaration' and will be hosting the South Lanarkshire Sustainability Partnership meeting on June 29th 2010.

Visits to Whitelee Wind Farm, Low Carbon House, Viridor recycling centre.

'Student Footprints' is a project run by the National Union of Students where students learn how to perform energy audits and complete these for local small businesses. Now running in its second year, SLC has signed up to be involved. The contact is Ruth Bush | Carbon Ambassador Project Officer, ruth.bush@nus-scotland.org.uk, 0131 556 6598; mobile: 07818 590 745, NUS Scotland, 29 Forth Street, Edinburgh EH1 3LE, http://www.nus.org.uk/footprints

G. **Research capacity and knowledge exchange activity**

- *Goal Statement:* As an education institution, SLC will maximise the research capacity and knowledge exchange on our low carbon initiatives.
- *Current Programmes & Accomplishments:* Low Energy House: Glasgow Caledonian University is monitoring information flows from probes in the house and will share data with universities, architects, builders, students and others. College plumbers have also incorporated low-energy learning into their courses already. Architects and construction companies are also using the house as a training tool. North and South Lanarkshire Council's housing departments have also used the low carbon house for learning about new and retrofit developments.
- *Challenges/Barriers:* Limited staff time to share knowledge more widely.
- *Action Step/Solutions:* The college has linked up with the EcoSchools programme (over 3600 schools are covered by this) with a view to providing curriculum learning materials to schools on low energy housing.
- *Monitoring/Tracking Progress:* Photos and press coverage. Development of inter-institutional links.
- *Support Mechanisms:* Some thought should be given and written up to maximise the potential of the low energy house. Freeing up staff time to develop some of these links.

Communications Strategy

The most important aspect of any policy on sustainability is the communication of best practice to our students. Key locations for information sharing are:

Sustainability corridor

The student handbook

The staff web portal

Staff and student newsletters

The electronic screens in the foyer

The college website

The college VLE

Local and national press for significant achievements

 'You said, we did' board

You tube (Business students would like to make a film about reducing energy use, recycling etc. at College)

Bebo

Facebook

Case studies on the 'SORTED' website

Awards – Green Gown, College to Business Award (Low Energy House)

Conclusion

In the context of this plan, there are two potential challenges facing Scotland, the UK and the world.

The first challenge is facing up to the fact that the world has a diminishing set of natural resources, including fossil fuels. Dr Anthony Cortese, co-founder of the American Colleges and Universities Presidents' Climate Commitment sums up the situation succinctly when he says that in the west we "need to learn to live off nature's interest, not its capital".

The second challenge is that there is evidence to suggest that the activities of humans, mostly in the richer western hemisphere, may lead to a potential *disruption* to normal climate change patterns and there is an associated risk that this could have a catastrophic impact on the world.

These two challenges are linked but are not the same. In managing the college's activities we plan to reduce our dependence on scarce natural resources by becoming more efficient and more effective in how we use these resources. Similarly we plan to reduce greenhouse emissions from the activities we are involved in. However, we fool ourselves if we think that these measures will have a significant impact on potential climate disruption. This will only have a significant impact if every organisation in the world takes appropriate action.

Perhaps as an educational organisation, it is much more significant and important for us to plan new curriculum and incorporate activities into existing curriculum that inform and educate people about the consequences of their actions within the above context.

Each year we have around 7000 enrolments on courses in the college. We plan to change our curriculum and embed matters to do with the environment and sustainability into student's curricular and non-curricular activities to influence both thinking and behaviours. By doing so we aim to ensure that we have the largest possible impact. We have begun this already. We are offering new courses next year. We are pleased to be involved in the NUS Student Footprints scheme. We are also encouraging staff to consider matters to do with sustainability as they plan their curriculum and course delivery.

We believe that we have only begun to make some hesitant steps on a critically important journey.

Angus Allan

Appendices:

APPENDIX A: Awareness campaign

Changing the behaviour of staff and students will be the major source of cutting costs and carbon emissions. Very importantly for an education institution, practical action to reduce the College's environmental impact will also reinforce existing and future education for sustainable development and improve the college experience.

This campaign has been developed with reference to the SLC Staff and student Green Survey, discussions with curriculum managers, HMIE aspect review on sustainability, Carbon Trust guidance on 'Creating an Energy Awareness Campaign' and recommendations from SLC's post occupancy evaluation report from the BRE. Comments from the staff survey are in *italics* – these are very important for giving direct feedback.

A1 Aims of awareness raising campaign

Cut carbon emissions
Reduce costs on energy and waste
Reinforce existing and future embedding of sustainable development in the curriculum
Improve the college experience for staff and students

A2 Key points for success

Top level commitment, co-ordination, engaging, positive, fun, incentivised, widespread
Sustained over a long period of time and encourage feedback
Regular reporting of progress and celebrating achievements

A3 Possible barriers to success (identified from the SusteIT project)

Time/staff resource constraints to enable a campaign over a sustained period
Lack of coordination between different parts of the organisation
Budgetary constraints
Lack of guidance on how to reduce environmental & social impacts
Lack of information on environmental & social impacts of equipment/services
Lack of choices on type of equipment / services

A4 Summary of relevant points from Green Survey

When engaging on a new campaign it is important to understand your audience. This was partly the purpose of the Green Survey. Some key points include:

Most people (staff 77% and students 63%) are switching off their computers, but there is still room for action that will reduce costs. More people did not switch off communally used items like printers, photocopiers and lights so there is certainly opportunity for a 'switch off' campaign.

On heating, 20% of staff and more of students did not know or were not sure about how to control the heating in their offices, workshops and classrooms. A suggestion was made to have simple instructions next to the air-conditioning unit. The majority of people were either 'too warm' or 'just right'. Particularly in cold weather, staff and students should be advised to dress warmly to avoid temperatures being set too high in offices and classrooms.

In terms of communication channels, the majority of staff use the College website and Intranet whilst the majority of students use social networking sites such as You Tube, Facebook & Bebo.

A5 Methods and tools

Top level commitment

- Develop environmental, waste and procurement policies

- Ensure other relevant policies are checked for fit with sustainable development aims and adapted if necessary

New staff

- Staff and student induction course on 'being green at SLC'. HMIE Aspect review on Sustainability said 'Provide guidance on college policies and strategies in sustainability within the induction programmes for new staff;' and also in annual development day for staff.

- Inclusion in job descriptions of responsibility to reduce waste, save energy etc.

Existing staff training

- Staff development day

- Champions group. There is already a group of interested people but we could have representatives in each office / department and they could provide updates on facebook, bebo, college website, intranet.

- Links to EUAC / ESD training for existing staff

- Specific training for staff on using equipment their specific equipment efficiently (e.g. lecturers on using classrooms and office staff for offices – especially heating controls, cleaners to check if lights, PCs and air conditioning is switched off)

A6 Reinforcing the campaign

Brief user guides for equipment – especially lighting and heating controls, particularly for staff not based there permanently. Also for more sustainable use of IT (from SusteIT project) - reduce energy consumption in use through configuring for energy efficiency when in active use (eg by minimising the number of items in the start-up menu and avoiding screensavers); powering devices down when not in immediate use (either via the network - Lanschool, or altering local settings); and switching off completely whenever possible

Short films on You Tube and 'The Portal'

Posters from Carbon Trust – in offices, classrooms

Switch off labels / instructions on lighting

Articles in newsletter

Freebies – recycled pads, pens, thermo cups, cinema tickets, meal vouchers

"Add a section to the newsletter, maybe once a month with factors that impact both the college and individuals."

"Maybe get some films on loops on the TV screens for every awareness events we organise in the college - as per previously highlighted we would need to have several to get the momentum going."

A7 Themed months in Year 1 to educate, engage and raise profile

A Green event to launch the CCAP with different stalls. We will share what we plan to do.

Followed by theme months on a quarterly basis over a year. Under each theme are comments and suggestions from the Green Survey. An example is below:

What information to give people in each month
- Tell people about the existing eco-features of the building and services
- Educate about the environmental and cost impact of leaving something on standby and support staff in the switch off campaign (e.g. if they pass a PC that has been left on for an hour, 'it's OK to switch it off).
- Develop a user guide for staff. This should be a simple non-technical guide that allows teaching and support staff to identify what systems are in place in the new building and how to monitor and operate them efficiently.
- Encourage feedback and reporting if people have questions or if something is broken

"Competition between faculties and departments - "what are you doing to save the planet kind of competition - with pointers such as recycling and a point/chart system that would make it easy for each dept/faculty to assess their carbon footprint ?"

"Consistent and sustained action with staff and students, regular awareness raising events and prominent signage, leadership by faculty heads, lecturers raising the issue with students."

A8 Energy – before summer
- switch off campaign – survey PCs left on before campaign starts, raise awareness provide stickers and info, then monitor results (e.g. leave stickers on monitors that are left on overnight)
- Ensure switch off campaign focuses on those areas without automatic lighting (including cafeteria)
- Catering Academy – switch off vending machines overnight, weekends and holiday times
- Ensure staff and students are aware of the over-ride switches for lights in offices and classrooms and are encouraged to use them.
- Ensure staff and students in rooms with no air con are aware of how to control the temperature (TRV, window opening and turn off monitors)
- Warmer uniforms/fleeces in place of using multiple heaters.
- See Cardonald College green guide – good on IT side of things

A9 Travel – new year – August / Sep – around national liftshare day

"More info on College website."
"Introduce targets for managers to reduce staff mileage"
"Improve the bus service to the town centre. The evening bus should clearly display the service - students have difficulty finding the shuttle bus in the evening."
See also Appendix D – Travel Plan report

A10 Waste – towards winter

"There is frequently not enough washed cutlery in the canteen (NB apparently students throw the metal forks away in their takeaway containers)- so we are forced to use plastic cutlery. Plastic packaging on sandwiches and cold pasta is unnecessary - there could be a cold buffet as well as a hot one and people could help themselves and use the china plates. Cafe on ground floor could encourage customers to take along their own thermo-cups rather than using take-away cups every single time."

"Information on what happens to the college waste
More recycling bins and / or info on recycled waste; - and information on recycling and location of bins
Reducing litter
more friendly and clever signage - what chance do we have if we don't start in the car parks sometimes littered with cigarette stubs, empty packets of crisps and empty plastic bottles?
Stop sending out the newsletter on hardcopy and colour, send it on a link in an email to access it from portal and / or provide a smaller number of printed copies (e.g. one per office)
Set all computers and printers to default doubled sided and black and white only.
Transfer more core work to electronic versions (while ensuring i have full access in construction workshops)
Have all the master folders scanned so that smart boards can be more efficiently used to portray information rather than handouts
Encourage all staff and all students to photocopy/print on both sides of paper.
allocation of quotas for printing by individuals
Encourage all staff to move towards uploading all course materials onto the VLE instead of supplying handouts where possible.
Poster recycling guide for college offices (see national galleries guide)
Use glasses instead of plastic cups or re-use cups during the day.

Use their own cups in cafes if not walking about with hot drinks

Prizes of thermo cups with lids for cafes

Staff newsletter – email link to staff, leave in public places, share between offices

Reduce number of general waste bins in offices

Give awards for teams recycling in offices and penalties for departments which produce excessive waste

In toilets people use far too many paper towels - maybe have a "Did you know?" sign - with advice on how much is needed to wipe your hands..."

"Encourage students to access files on the server.

Introduce recycling within classes

More use of VLE, Moodle etc. to encourage less printing."

A11 Water – spring

Install 'hippos' in cisterns if possible to reduce water use on each flush. Scottish Water provide packs of silica gel that will absorb cistern water. Contact is Lorna Hamilton on 07875879752.

APPENDIX B: Candidate Projects for Future Consideration: Renewable energy

Renewable energy generation has the potential to make a big difference to the College carbon emissions and energy bills. Particularly with the renewable energy generation feed in tariff coming in April 2010 and the renewable heat incentive coming in April 2011, renewable energy is starting to pay back far more quickly.

The initial capital outlay is the major hurdle although that too is not insurmountable. The Carbon Trust offer zero- interest loans and grants and a meeting should be set up with Brendan Reid of the Carbon Trust to explore this further. Other funding opportunities include working with a private investor to provide the upfront costs with them gaining income from the feed in tariffs.

Quotes have been obtained for solar PV, wind energy and solar thermal. Ground source heat pumps are also being investigated by a member of staff. Further investigation is required to determine the practical and financial feasibility of these projects.

Figure 24: Renewable energy options for South Lanarkshire College

Technology	Capital cost	Annual saving	Predicted pay back (yrs) with feed in / renewable incentive
Photovoltaics 2453m2 split between four roof spaces	£1,133,500	To be confirmed	11.5 years
Solar thermal 3x28m2 system to supply 40-50% of hot water heating for 3,600l/day. Each would require a 900l cylinder.	£69,000	6.4tonnes of CO2	10.5
Proven 15kw – need to also look at larger turbines. Ecotricity and Partnership for Renewables only consider turbines over 800kw and 2MW respectively. Contact is Fraser at Ventus Green Energy 07979771160.	£54,000	32,000kwh	6
60kw Ground source heat pump	£20,000 (with sponsorship)	To be confirmed	To be confirmed

Until the college starts to generate its own energy, it could be possible to consider Ecotricity who are a 100% renewable energy supplier, for electricity and 'green' gas (future project). They promise to price match the existing supplier.

APPENDIX C: Green Survey results

The Energy Saving Trust carried out a survey to find out how people travelled to the college. They received responses from 184 people, 78 of whom were staff, 82 students and 24 undeclared.

Q. How do you normally travel to and from College?

The results show in table 4.8 and figures 4.9 and 4.10 show the modes of the to travel by staff and students. The results indicate that 47% of students travel to College by none car modes whilst just 15% of staff travel by non car modes. The results also suggest that 76% of staff and 35% of students drive to the College.

Mode Of Travel	Staff	Students	All Respondents
Walk	2.6%	14.63%	8.15%
Cycle	2.6%	1.22%	1.63%
Bus	10.3%	31.71%	20.11%
Train	0.0%	0.00%	0.54%
Motorcycle/scooter	0.0%	0.00%	0.00%
Car passenger	6.4%	12.20%	8.70%
Car driver with others	12.8%	4.88%	8.70%
Car driver alone	62.8%	30.49%	45.11%
Other (please specify)	2.6%	4.88%	3.26%

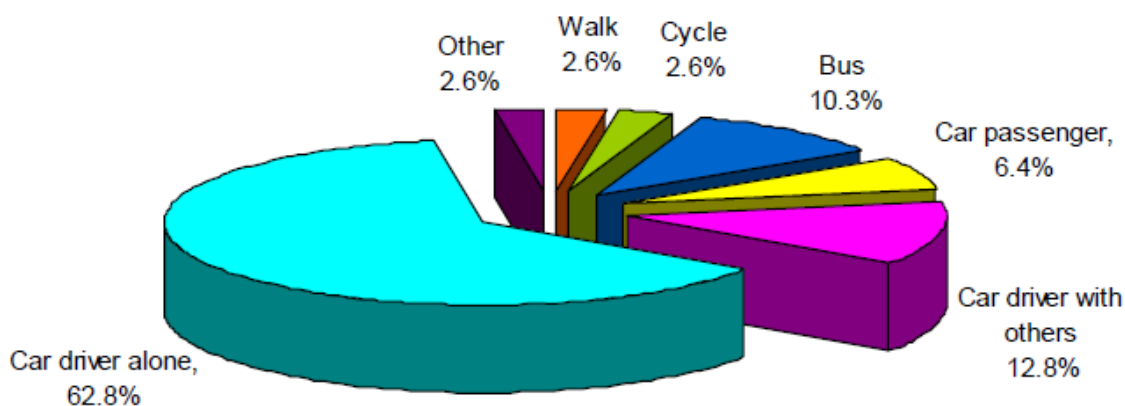Table 4.8 Mode of travel to College by respondents.

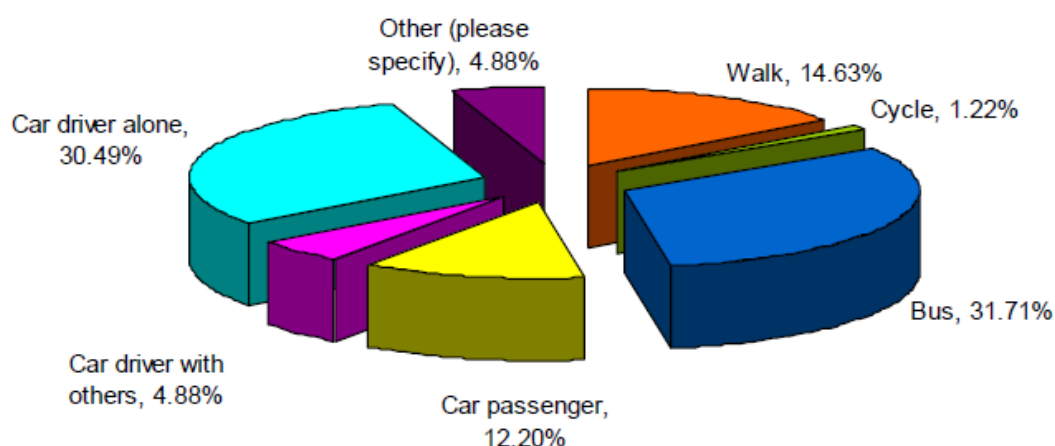Figure 4.9 Mode of travel to College by staff respondents

Figure 4.10 Mode of travel to College by student respondents.

Q6 Why do you choose that mode of travel?

Table 4.11 and figure 4.12 provides details of why staff and students travel to College by their chosen mode. The results indicate that convenience and practicality are the most popular reason identify by staff whilst speed, lack of alternative and convenience were identified by students.

Mode Of Travel	Staff	Students	All Respondents
Lack of alternative	29.5%	23.17%	23.37%
Quicker than other means of transport	30.8%	24.39%	27.72%
Health reasons	10.3%	7.32%	8.15%
Convenience	35.9%	23.17%	28.80%
Cheaper to use this mode	10.3%	18.29%	13.04%
Environmental reasons	5.1%	4.88%	4.35%
Drop off/collect children	19.2%	10.98%	13.59%
Most practical method of transport	34.6%	21.95%	27.72%
Difficulties getting parked	2.6%	0.00%	1.09%
Don't like alternatives	6.4%	6.10%	5.43%
Parking available	6.4%	7.32%	6.52%
To avoid congestion	3.8%	0.00%	1.63%
Good links to public transport from home	3.8%	10.98%	6.52%

Table 4.11 Reasons why staff and students travel by their chosen mode

Q7. If you sometimes travel by another mode of transport please indicate which ones?

Staff and students were asked if they sometimes travel by another mode of transport to their normal mode. 39% of staff and 49% of students indicated that they did. The results in the following tables provide details of the alternative modes of transport used by staff and students.

Staff Answer Options	Frequently (About Twice Per Week)	Sometimes (About Once Per Week)	Occasionally (About Once Per Month)
Walk	0.00%	6.41%	8.97%
Cycle	2.56%	0.00%	2.56%
Bus	2.56%	2.56%	5.13%
Train	2.56%	0.00%	2.56%
Motorcycle	0.00%	0.00%	0.00%
Car passenger	3.85%	5.13%	3.85%
Car driver with passenger(s)	1.28%	1.28%	2.56%
Car driver alone	3.85%	1.28%	1.28%
Other	0.00%	6.41%	8.97%

Table 4.13 Alternative modes of transport to College used by staff respondents

Student Answer Options	Frequently (About Twice Per Week)	Sometimes (About Once Per Week)	Occasionally (About Once Per Month)
Walk	12.20%	4.88%	3.66%
Cycle	0.00%	1.22%	1.22%
Bus	4.88%	10.98%	1.22%
Train	0.00%	1.22%	1.22%
Motorcycle	0.00%	0.00%	1.22%
Car passenger	8.54%	4.88%	7.32%
Car driver with passenger(s)	1.22%	1.22%	1.22%
Car driver alone	1.22%	0.00%	1.22%
Other	12.20%	4.88%	3.66%

Table 4.14 Alternative modes of travel to College sometimes used by student respondents.

Carbon footprint	A baseline quantification of GHG emissions, from which emissions reductions can be estimated/measured and progress towards GHG reduction tracked.
CO_2-e	Carbon dioxide equivalents.
The Commitment	The Universities & Colleges Climate Commitment for Scotland.
Commuting	Commuting is defined as travel to and from campus on a day-to-day basis by students and staff. It does not include student travel to and from campus at the beginning and end of term or during break periods.
EAUC	The Environmental Association for Universities and Colleges.
Fugitive emissions	Emissions that are not physically controlled but result from the intentional or unintentional release of GHGs. They commonly arise from the production, processing, transmission, storage, and use of fuels and other chemicals, often through joints, seals, packing, gaskets, etc.
IPCC	Intergovernmental Panel on Climate Change.
GHG Emissions Inventory	[see Carbon footprint]
Greenhouse Gas (GHG)	GHGs are the six gases covered under the Kyoto Protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).
GHG Protocol	The GHG Protocol is the most widely used international accounting tool for quantifying GHG emissions and it provides the accounting framework for nearly every GHG standard and programme in the world.
ISO	International Organisation for Standardisation.
Kyoto Protocol	The Kyoto Protocol to the United Nations Framework Convention on Climate Change is an international agreement ratified by over 170 countries that set targets and timetables for cutting the GHG of industrialised nations.
Scope 1	A reporting category that accounts for direct GHG emissions from sources the institution owns or controls.
Scope 2	A reporting category that accounts for indirect GHG emissions from the generation of purchased electricity consumed by equipment or operations owned or controlled by the institution.
Scope 3	A reporting category that accounts for indirect GHG emissions from all other sources that occur as a consequence of the institution's activities but are not owned or operated by the institution.
Signatory	Any Principal, Vice-Principal, Rector or Chair that signs the UCCCfS.
UCCCfS	The Universities & Colleges Climate Commitment for Scotland.

APPENDIX E: Acknowledgements

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