

SABHAL MÒR OSTAIG

Carbon Management Programme 2011

Carbon Management Plan (CMP)



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Foreword

I am extremely pleased to be able to present the 2011 Carbon Management Plan for Sabhal Mòr Ostaig (SMO). The college as an organisation must address the way we conduct our activities in order to reduce our carbon footprint. This plan provides us with the opportunity to put formal measures in place to reduce our impact upon the environment. There is also an increasing recognition that good environmental performance makes good business sense and I welcome the opportunity to bring in a plan which is likely to realise efficiency savings for the college.



The Climate Change (Scotland) Act 2009 provides the legislative driver for our Carbon Management Plan. Outlined within the plan is our progress in relation to energy and emissions reduction along with an insight into our future objectives, plans and projects.

Developing the Carbon Management Plan commits SMO not only to the practical target of a 20% reduction over 5 years in our carbon (CO₂e) emissions between 2009 and 2015 but also to the Climate Change Act's long-term aim of an 80% reduction by 2050. The plan covers this year 2011 and the next three years, however this is only the start of the journey. Our plan provides a clear demonstration that we are prepared to lead by example and we shall commit to freeing-up funds released by the forecast reduction in our energy consumption to invest in future carbon reduction initiatives. Over the forthcoming years we will report our progress on a regular basis and demonstrate our commitment by turning this plan into reality.



Professor AG Boyd Robertson
Principal, Sabhal Mòr Ostaig

Foreword from the Carbon Trust

Cutting carbon emissions as part of the fight against climate change should be a key priority for the public sector - it's all about getting your own house in order and leading by example. The UK government has identified the public sector as key to delivering carbon reduction across the UK in line with its Kyoto commitments and the Public Sector Carbon Management programme is designed in response to this. It assists organisations in saving money on energy and putting it to good use in other areas, whilst making a positive contribution to the environment by lowering their carbon emissions.

Sabhal Mòr Ostaig (SMO) was selected in 2010, amidst strong competition, to take part in this ambitious programme. The college partnered with the Carbon Trust on this programme in order to realise vast carbon and cost savings. This Carbon Management Plan commits SMO to a target of reducing CO₂ by 20% by 2015 and underpins potential financial savings to the organisation of around £160,000.

There are those that can and those that do. Public sector organisations can contribute significantly to reducing CO₂ emissions. The Carbon Trust is very proud to support Sabhal Mòr Ostaig in their ongoing implementation of carbon management.



Richard Rugg
Head of Public Sector, Carbon Trust

Management Summary

This Carbon Management Plan is the culmination of five months of work which has taken Sabhal Mòr Ostaig from having carbon reduction listed as a departmental objective to the production of this comprehensive five-year plan.

The purpose of the plan is to deliver a **20%** reduction in our carbon emissions by **2015 against the 2009 baseline**.

Such a reduction would result in **cumulative savings in the region of 320 tonnes CO₂ or £160,000**. Collaborating with the Carbon Trust and producing this management plan shows the commitment of the college to reduce emissions over the short to medium term and will require enthusiasm, commitment and investment if we are to achieve our target. The plan is consistent with the aims of the Scottish Funding Council for Higher and Further Education. Delivery of the plan will demonstrate the college's commitment to supporting the Scottish Government's Climate Change target of reducing greenhouse gas emissions by 42% by 2020 and 80% by 2050.

Sabhal Mòr Ostaig has set a target for reducing carbon emissions of 20% by 2015

A baseline carbon footprint for SMO for the calendar year 2009 was produced using data provided by the Finance & Planning Department. The figures listed in the baseline data provide the starting point for all future measurement of reductions.

Figure 1 shows the Sabhal Mòr Ostaig headline figures for 2009/10.

	Total CO ₂ Emissions	Buildings	Transport	Waste	Water
2009 Baseline Data (tonnes)	442.07	398.78	21.75	18.74	2.82

Baseline CO₂ emissions (tonnes)

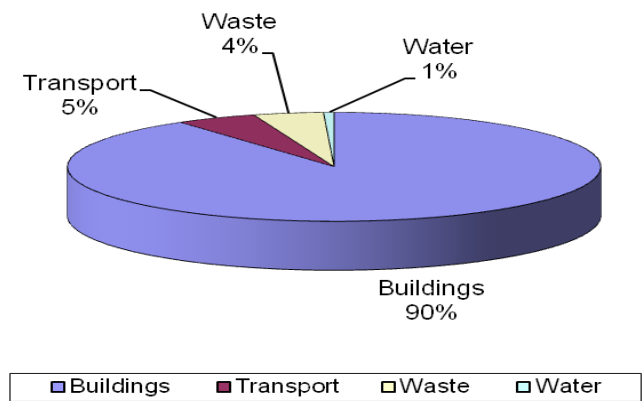


Figure 1 Headline CO₂ emissions for 2009

The college has established an Environmental Group to manage and drive forward the programme contained in Section 5 of this plan which will be led by the college's Head of Estates and Services. The Group will meet quarterly and additional meetings will be scheduled to identify projects that will deliver the 4% year-on-year savings in carbon emissions. Financial savings accrued from the early initiatives will be ring-fenced and reinvested in further carbon saving initiatives. A timetable has been set up for implementation. Projects will be evaluated using the tools made available by the Carbon Trust and will commence through:

- The introduction of a staff awareness campaign on energy reduction measures;
- A review of the college's current policy on reimbursing staff travel expenses with a view to reducing the 2009 benchmark of 56,000 staff miles travelled in private vehicles. This will include an expansion of the college's existing Cycle to Work scheme and its already significant use of videoconferencing technology for educational delivery and meetings. This will be part of a focus on reducing the frequency and number of journeys including a need analysis of vehicle travel and promotion of car and journey sharing so as to reduce mileage and journeys made in private vehicles;
- A review of the college's current waste disposal contract with Highland Council so that the type and quantity of waste is accurately measured, sorted and recorded ahead of disposal, with a new waste disposal contract to be costed on that basis. This will extend to each college department (education, arts and development, administration) being provided with quarterly data on their waste disposal and encouraged to compete against each other in a league table to achieve the largest reductions. This separation of waste may also introduce the potential for the college to generate revenue from selling valuable waste to recycle.

Over the five-year programme the intention is to embed carbon management into the normal activities of the college. This will be achieved by including carbon saving and investment as a standing item on agendas for meetings of the Senior Management Group which meets every six weeks, and into the annual budgets as submitted to the Scottish Funding Council. The Environmental Group will also be working with departmental managers who in turn will be made responsible for delivering environmental improvement and building a review of actions and results into the college's annual appraisal process for managers. The college will further communicate its commitment to its selected carbon reduction projects and report on progress against its targets via its annual report and new 5-year Strategic Plan which is currently being written.

A comparison of the likely increase in our carbon emissions if business carries on as usual, set against a forecast reduction of our emissions shows a cumulative saving of 320 tonnes over the five-year period of the plan. Similarly, the estimated cumulative saving over the same period is £160,000.

Governance of the programme will be the responsibility of the Project Sponsor Donnie Munro who is the college's Development Director. Programme Manager for the plan will be the college's Head of Estates and Services, Donald MacLennan.

1. Introduction

Sabhal Mòr Ostaig is committed to improving environmental performance and reducing its impact upon our climate. As an educational institution in receipt of public funding, students, staff and our wider community have the right to expect that SMO, acting alongside our key supporting agencies such as the Scottish Funding Council, Scottish Government and the Carbon Trust, will act to reduce our impact on the environment.

In order to achieve this aim a partnership was entered into with the Carbon Trust to take part in their Carbon Management Programme. This programme has five stages leading to the production of a plan which sets the agenda for five years of reduction measures.

The process is:

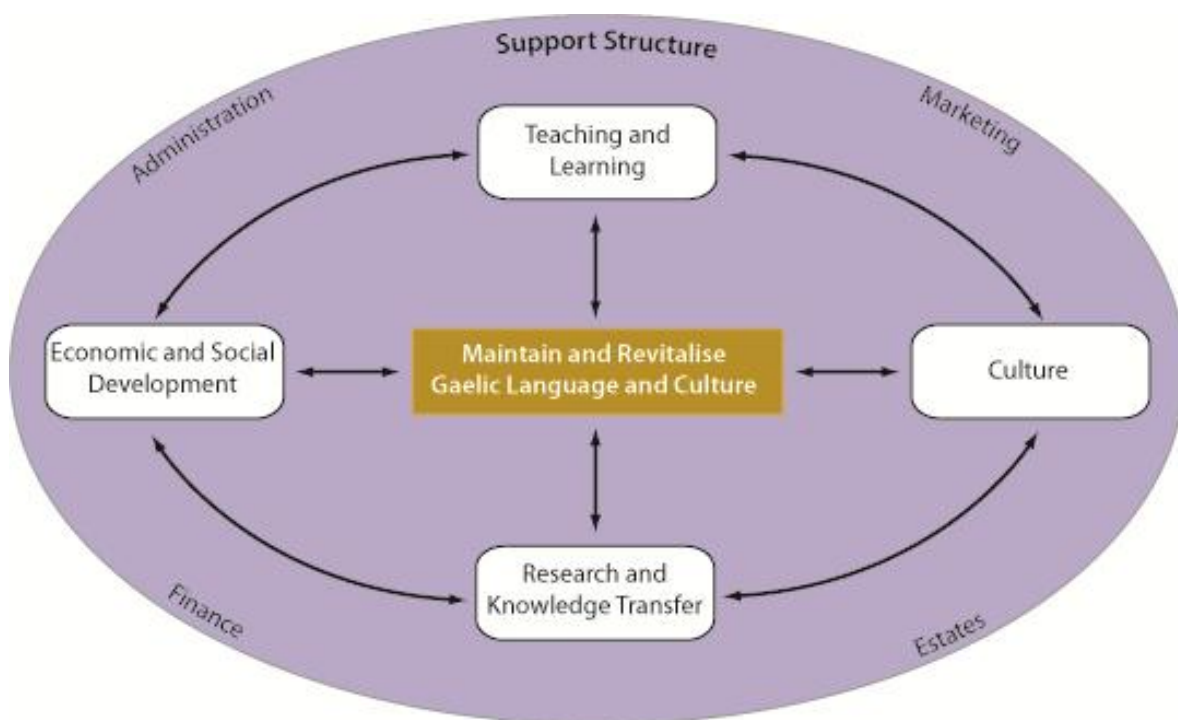


This plan now provides the structure and suite of projects that will help the organisation achieve the target of a 20% reduction in carbon emissions from the 2009 baseline by 2015.

2. Carbon Management Strategy

2.1 Our Mission

Sabhal Mòr Ostaig is committed to being a centre of excellence for the development and enhancement of the Gaelic language, culture and heritage, by providing quality educational, training and research opportunities through the medium of Scottish Gaelic; and by interacting innovatively with individuals, communities and businesses, to contributing to social, cultural and economic development.



In delivering its Mission, the work and priorities for the college are focused on the following key strategic goals:

- Lead, as the National Centre of Gaelic Language and Culture in order to enhance and develop the rate of Gaelic language acquisition, in support of the National Plan for Gaelic;
- Create a national centre of research excellence and lead in terms of knowledge transfer for the maintenance and revitalisation of the Gaelic language and culture;
- Make a transformational contribution to the economic, environmental and social development of the local area;
- Be the National Centre of Excellence for the development and enhancement of enhancement of Gaelic language, culture, heritage and the arts.



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In all areas of its work, Sabhal Mòr Ostaig strives to minimise the effect of its operations on the environment and is committed to reducing its carbon footprint. This will be demonstrated in Section 2.7 of this Plan by the existence of a number of key environmental initiatives having been implemented by the college over recent years, and in its engagement with both national and local bodies to contribute towards the Scottish Government's climate change objectives to reduce carbon emissions by 80% by 2050 as set out in the Climate Change (Scotland) Act 2009.

2.2 The National Environment

“Gaelic is a unique part of Scotland’s national heritage. It belongs to the people and it is our responsibility as a nation to maintain its existence in a modern, multilingual Scotland”.

[National Plan for Gaelic 2007-2012]

The launch of the first National Plan for Gaelic in March 2007 heralded a historic milestone for the development of the Gaelic language in Scotland. The plan provides a five-year route map to help secure the future of Gaelic and is currently being implemented by all the agencies and organisations working in the sector.

In addition to its strategic alignment with the National Plan for Gaelic, the work of SMO also fits well with the National Performance Framework of The Scottish Government focusing public services on creating a more successful country. Examples of how the work of the college helps achieve the Government's five strategic objectives underpinning that purpose - that Scotland should be wealthier and fairer; smarter; healthier; safer and stronger; and greener - include:



Gaelic and Scots Song Conference delegates, June 2010

Wealthier and Fairer

With the support of the innovation and knowledge transfer taking place at Sabhal Mòr Ostaig and in Fàs, its Centre for Creative and Cultural Industries opened in 2008, Gaelic is one of the few remaining areas in which the economy of Scotland is currently growing through new businesses, new jobs and increased research activity.

Smarter

The college is proud of the high level of achievement amongst both students and staff. The majority of academic staff are engaged in high-level research and 2010 saw the launch of a £2m multi-university research project based at the college. SMO also has a very favourable track record in the high percentage of graduates finding sustainable jobs through Gaelic in Scotland.

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Healthier

The College continues to engage in promoting the health and wellbeing of its students and staff. Recent examples include the introduction of the “Cycle to Work” scheme together with investment assisted through Sustrans in new cycle shelter and locker facilities, and partnerships with community groups in the development of sports and recreational facilities.

Safer and Stronger

SMO is continuing to make a significant contribution to sustain the fragile community of the south of Skye and beyond. This is being achieved by providing close-to-home access to further and higher education together with current facilities for up to 85 students living on-campus, as well as 120 year-round valuable jobs in the area as part of total annual turnover of £4.5m. This level of operation and opportunity has made the college the second largest employer on the Isle of Skye after Highland Council.

Greener

This Carbon Management Plan (CMP) details the college’s commitment to minimising the effect of its operations on the environment and to reducing its carbon footprint. The success of its ongoing environmental initiatives allied to the agreed actions of this document give confidence to the college achieving the central target of its CMP - a 20% reduction in its total carbon emissions by 2015.

2.3 Achieving the college’s ambitions for the Future

Since its inception in 1973, the college has forged a successful track record of phased expansion and growth to meet the growing demand for Gaelic-medium education at all levels. A number of key future developments are outlined below and, although they will not be fully achieved during the life of this Carbon Management Plan, they will each be progressed according to the Plan’s principles of carbon reduction and sustainable working practices leading to savings in both emissions and costs.

Based on the National Plan for Gaelic target that new Primary 1 Gaelic-medium education entrants will reach 4,000 annually by 2021, the College anticipates around 280 students on campus by 2017 and growing to 320 by 2021. Clearly, this level of projected growth in student numbers has significant implications for the future development needs of SMO with the main requirements summarised as follows to be designed, built and managed in accordance with the most appropriate environmental and sustainability guidelines:

- staff office and research accommodation for up to 50 occupants to be provided on-campus by 2015 - both for current staff currently based in unsuitable temporary accommodation, and to allow for the relocation of staff currently in the older part of the college estate ahead of its renovation as a new conferencing and management training facility;
- additional on-campus accommodation (incorporating a self-catering option) for 50 students required by academic year 2015;
- additional teaching spaces, social spaces and smaller seminar rooms for up to 50 additional students to meet the projected growth in numbers and course provision by 2017;
- purpose-built conferencing facilities and accommodation for up to 100 delegates as a key college income generation stream to be provided on-campus by 2017;



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- new community and college sports and recreational facilities by 2020 as a key strategic requirement in the future development of SMO - an indoor gym and changing facilities; a multi-use, all-weather floodlit sports surface; and a large central grassed area suitable for a range of field sports incorporating 100 and 200-metre running lanes.

2.4 Context and drivers for Carbon Management

2.4.1 Greenhouse Gas Emissions

Increasing levels of greenhouse gases are a major cause of global warming and climate change. Carbon dioxide (CO₂) is a significant greenhouse gas and is created primarily by the burning of fossil fuels. As global demand for fuel increases, so will the amount of CO₂ released into the atmosphere. The result of this is that the average temperature of the planet is expected to rise by as much as 2 to 3°C by the end of this century. This rise will create a greater change in our climate than has occurred for at least 10,000 years. Irreversible large scale changes to the planet's natural systems may occur which are likely to affect ecosystems and all of the life which our planet supports. Severe weather events, such as extensive flooding, large scale storms and heat waves are also likely to increase in frequency. Given its rural shore side location on the Isle of Skye, such events will have a major impact on the work of Sabhal Mòr Ostaig and its ability to deliver high-quality Gaelic teaching and related services to its student community, both on-campus and remotely. This Carbon Management Plan details the college's commitment to do its bit and to report on its progress as part of the global drive towards reducing carbon emissions.

The term 'carbon emissions' is used in this plan to describe 'emissions of carbon dioxide and other greenhouse gases into the atmosphere that have arisen as a result of human activity'. Additional factors relating to the above definition are:

- Carbon dioxide is one of a number of greenhouse gases;
- Greenhouse gases occur in the atmosphere as a result of both natural processes and human activities

The Scottish Government has asked "*..Scotland's universities and colleges to tackle climate change and in so doing raise Scotland's profile as a leading, learning nation, determined to make a positive contribution to one of the greatest global challenges*".

Fiona Hyslop, Cabinet Secretary for Education and Lifelong Learning, January 2009

This challenge to Scotland's universities and colleges is set within the context of the Scottish Government's climate change objectives to reduce carbon emissions by 80% by 2050 as set out in the Climate Change (Scotland) Act 2009.

2.4.2 Universities and Colleges Climate Commitment for Scotland

Scotland's universities and colleges have publicly declared their intention to address the challenges of climate change and reduce their carbon footprints by signing the Universities and Colleges Climate Commitment for Scotland (UCCCfS), with Sabhal Mòr Ostaig having been a signatory since September 2010.

The UCCCfS was developed with financial support from the Scottish Funding Council within the context of the Scottish Government's climate change objectives to reduce carbon emissions by 80% by 2050 as set out in the Climate Change (Scotland) Act 2009. Section 44 of the Act places a duty on public bodies to exercise their functions in a way best calculated to contribute to the delivery of the targets set out in the Act.



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To date, 58 institutions have signed the Commitment, constituting 92% of universities and colleges in Scotland. Signatories are committed to producing and publishing a 5-year Climate Change Action Plan (CCAP) which will include measurable targets and timescales to achieve a significant reduction in emissions from all business operations and activities, including:

- energy consumption and source;
- waste reduction, recycling and responsible disposal;
- sustainable estate development;
- sustainable travel planning;
- responsible procurement of goods and services (see Section 2.8.3).

As part of fulfilling its commitment, SMO will incorporate work on climate change into established improvement processes and will publish annual results on progress, detailing outcomes achieved and further actions required.

2.4.3 Reductions in Government Funding to Universities and Colleges

The Scottish Parliament has outlined £1.3billion in reductions to public spending for the financial year 2011/12, including a £200million reduction in the £1.8billion budget for further and higher education. Funding for Scottish universities is to be reduced by 6.4%, or £63million of the current £926.2million budget. It is also anticipated that a further 16.7% or £150million will be cut from the further and higher education budgets in 2012-13, as the UK Government's 80% cuts in university funding are passed on to Scotland and the other devolved regions.

Within this context of reductions to government funding of further and higher education in Scotland, Sabhal Mòr Ostaig is planning for an 8.6% reduction in its total income for the academic year 2011/12. A crucial part of this strategy, as detailed by this Carbon Management Plan, will involve measures to increase energy efficiency and reduce SMO's total energy costs of £143,000 in 2009. This work will become particularly important for the future given the predicted increases in energy prices and the reduction in revenue budgets. The college has experienced a dramatic rise in its energy and fuel costs in recent years, with energy prices increasing by well over 50% since 2004. This trend is not expected to change and SMO must accept that the unit price we pay for our energy will continue to increase in the coming years.

2.4.4 Energy Performance Certificates

Since 4th January 2009, the Energy Performance of Buildings (Scotland) Regulations 2008 make it a legal requirement for all public sector buildings, with a total useful floor area of over 1,000m², to show an Energy Performance Certificate in a prominent place, clearly visible to the public. Our newer buildings were graded in Band B with recommendations for potential improvement including draught proofing and automatic lighting controls, whereas the older buildings were graded Band C with enhanced insulation and renewable heating systems recommended for the college's stone-built steading buildings. All of these recommendations are covered in this Plan.

2.5 Headline Targets from the College's Carbon Management Plan

Using a baseline year of 2009, Sabhal Mòr Ostaig has committed to the target of a 20% reduction in carbon emissions by 2015

This reduction is forecast to be achieved in the main through 16% reductions in the space heating and hot water requirements of our college buildings which in total accounted for 90% of our carbon footprint in 2009. This is primarily explained by the heating and hot water to the older part of the college estate (2,294m² including 35 en-suite student bedrooms and showers) being provided entirely by electric storage heaters and immersers. As such, a staff awareness initiative coupled with an energy audit of these older buildings in particular will be a priority of this Plan as part of the drive to reduce our electricity consumption and associated carbon emissions. A detailed analysis will also be undertaken into the feasibility of renewable energy generation and heating options with a view to replacing the existing electric heaters and immersers as a key part of the future capital development programme outlined in Section 2.3 above.

Given the college's rural location, staff travel and the predominance of journeys made in private vehicles is also a contributing factor to our 2009 baseline carbon emissions as well as a significant recurring cost. As such, SMO's policy on reimbursing staff travel expenses will be reviewed with a focus on establishing more effective travel plans and fuel management, and it is anticipated that this work will contribute a further 1% reduction to our carbon footprint.



Àrainn Ostaig (photo by Màrtainn Dòmhnallach)

2.6 Our low carbon vision

Sabhal Mòr Ostaig is committed to achieving continuous improvement in our environmental performance, minimising our impact upon climate change and making the most effective use of our resources.

By working in partnership with the Carbon Trust and in fulfilling our obligations under the Universities and Colleges Climate Commitment for Scotland, we shall strive to deliver a reduced carbon future for the college and the wider community by embedding carbon emission reductions into both our planning process and our day-to-day operations.

Sabhal Mòr Ostaig firmly believes that our Carbon Management Plan will assist us in delivering this vision.

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2.7 Progress to date

Sabhal Mòr Ostaig has already implemented a number of initiatives which are having a significant positive impact on our carbon footprint:

2.7.1 Biomass woodchip boiler

In 2008, the college installed a 500kW woodchip biomass boiler providing heating and hot water to its four Àrainn Chalum Chille and Fàs buildings and secured the necessary project funding of £565,000. This continuing operation helps sustain four local jobs with the college purchasing £25,000 of locally sourced woodchip per annum and by the end of 2009, the first full year of the boiler's use and the benchmark year for this Carbon Management Plan, the college had offset 82.4 tonnes of CO₂ emissions by reducing its use of Liquid Petroleum Gas (LPG) by 55,300 litres¹. It has been calculated that SMO offset a further 104.3 tonnes of CO₂ emissions by the operation of its woodchip biomass boiler in 2010.



¹ conversion factors at:
<http://www.defra.gov.uk/environment/business/reporting/conversion-factors.htm>

2.7.2 Recycling of kitchen food waste

The college operates a policy whereby cooked food waste from its kitchen operations is mixed with cardboard to produce compost with which to encourage the growth of vegetables and flowers as the key products from its 3 geodesic domes. This project annually produces 4 to 5 tonnes of compost which in turn is used to promote the growth of 250kg of fresh vegetables each year (tomatoes, cucumber, rhubarb, courgettes, lettuce, beetroot, celeriac) which are then used in the college kitchen during the 4 months from June to September to make salads, soups and relishes. There is also a wide and brilliant variety of fresh flowers grown, which is used in hanging basket and ground container arrangements to greatly enhance the college campus annually during the same 4 months.

2.7.3 New college cycle storage facilities

In June 2010, the college secured grant assistance from Sustrans towards an investment of £10,500 to purchase and install three curved-roof bike sheds (one for each of the primary buildings on campus) with each shed containing Sheffield toast-rack style stands for up to ten bikes. This was complemented by 30 storage lockers (10 for each building) to provide bike users with convenient and secure clothes storage facilities. These new facilities, in helping to promote an increased uptake of cycling among college students and staff, will be highlighted as part of the awareness campaign towards achieving the college's target 20% reduction in CO₂ emissions by 2015.



2.7.4 A review of the college's refuse collection contract

The college currently operates a refuse collection contract with Highland Council which was re-negotiated in 2010 with the roll-out of the council's commercial recycling policy that provided SMO with blue bin recycling facilities for the first time. The current contract costs the college £12,000 per annum for a bin uplift every 2 weeks. Although our waste operations only comprise 1% of the total 2009 baseline CO₂ emissions, the College Environmental Group in working to deliver the targets of this Carbon Management Plan will recommend that all college refuse should be closely measured and monitored so that charges will be based on the amount of refuse produced (with staff and students being encouraged to minimise both general and re-cycling refuse) and not as at present on numbers of bins, their volume and frequency of collection. It is anticipated that the college could potentially realise significant financial savings through this shift in emphasis.

2.8 Strategic themes

The following strategic themes will underpin the objectives and targets detailed in section 2.9:

2.8.1 Awareness Raising & Behaviour

The college's Environmental Group will implement a programme of information sharing and target setting on carbon emissions and its main causes with its student and staff community. This will be designed to encourage energy saving and our fortnightly "Sgriobag" college newsletter will be used to promote an environmentally aware agenda, tying carbon savings to the required financial savings. Our energy performance figures broken down by the three principal college buildings will be published within its pages to benchmark the effectiveness of our initiatives and our collective energy saving efforts. Our staff shall be encouraged to share car journeys both to and from work and whilst travelling on college business, with such journeys only being made after consideration of the college's existing video and teleconferencing technology as an effective alternative to travel. The college will also continue its existing partnerships with local and national bodies to promote the use of cycling and healthier lifestyle choices, and our waste management practices and contract will be reviewed with a view to maximising recycling and reducing the amount of college waste to landfill.

2.8.2 Buildings

Energy costs for space heating, hot water, lighting and appliances have been identified as the college's biggest contributor of carbon emissions and so is the most significant area in which to work towards achieving savings in both emissions and costs. The college's Environmental Group will work with the Environmental Association for Universities and Colleges (EAUC) to have detailed energy audits carried out on all our buildings and in implementing their subsequent recommendations. Practical examples as have already been identified through the work of this CMP include installing automatic lighting controls where appropriate and enhanced draught-proofing measures to windows and doors. We will also progress a study into the feasibility and installation of roof-mounted solar thermal panels to complement the college's existing 500kW biomass woodchip heating system. A further priority will be to establish with our supplier Business Stream more localised metering of the college's annual water usage and to introduce modern water-saving technologies to our toilets, showers and laundries where appropriate.



Fàs Centre for Creative & Cultural Industries



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2.8.3 Procurement

Sabhal Mòr Ostaig is a member of the national co-ordinating body Advanced Procurement for Universities and Colleges (APUC) and will by 31 December 2011 produce a college procurement policy which will include the following environmental considerations:

- Compliance with environmental legislation such as import restrictions, restrictions on the use of certain materials, labelling requirements on services;
- Specific environmental objectives and targets such as energy efficiency of new buildings and equipment;
- Ensuring that the technical capability to meet environmental impact minimisation aspects within projects is demonstrated;
- Examining the whole procurement chain to ensure that environmental legislation is observed throughout and that environmental issues are not being “exported” to other countries;
- Ensuring that services are procured or manufactured from renewable resources or from recycled materials;
- Ensuring that services with reduced packaging, lower use of consumables during their operating life or reduced ‘end of life’ disposal problems are procured.



Àrainn Chalum Chille

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2.9 Targets and Objectives by College Building for the 4 years 2011-2014

The following targets and objectives have been identified by the college's Environmental Group by way of reducing its carbon emissions of 442 tonnes as measured in 2009 by 20% by 31 December 2014.

The Environmental Group realises that the biggest challenge lies in reducing the dependence on electricity for space heating and hot water in the older part of the college estate, Àrainn Ostaig. This part of the campus extends to 2,294m² (29% of the total college estate) and comprises office accommodation, teaching spaces, performance venue and social areas within a stone-built former farm steading dating back to the 1800s. Àrainn Ostaig also includes a more modern courtyard building built in 1993 with 35 en-suite student bedrooms, computer lab and teaching spaces, music recording and performance studio, and kitchen and dining area. Space heating and hot water to the Àrainn Ostaig campus is provided entirely by electricity (storage heaters and immersers) whereas the newer parts of the college estates (Àrainn Chaluum Chille built since 1999 with 3,427m² and Fàs built in 2008 with 2,135m²) are serviced by stored Liquid Petroleum Gas (LPG) complemented by a 500kW biomass woodchip heating scheme.

The Environmental Group, chaired by the College's Head of Estates and Services, will be responsible for implementing the following priority actions and achieving their associated targets to fulfil the 20% carbon reduction commitment of this Carbon Management Plan:

2.9.1 Àrainn Ostaig - 2,294m². Heating & hot water to these older buildings are 40% baseline CO₂ and 29% of target reductions

Objective	2009 Baseline	2011	2012	2013	2014	Total
Àrainn Ostaig - reducing emissions from storage heaters & immersers to reduce electricity usage by introducing an awareness raising campaign among students and staff in tandem with a detailed energy audit of buildings (by 31 December 2011), by installing automatic lighting controls (by 31 December 2011), and by identifying and implementing draught-proofing measures and repairs (by 31 March 2012);	335,568 kWh	-1%	-11%	-11%	-11%	-34%
to introduce a waste measurement and recording system and a new waste disposal contract on this basis so as to achieve reductions in the amount of waste to landfill (by 1 April 2012)	13,980 kg	-2%	-6%	-6%	-6%	-20%
to investigate with Business Stream appropriate water metering technology and water saving enhancements to toilet cisterns, showers, and laundry facilities (by 31 December 2011)	1,438,000 litres	-2%	-6%	-6%	-6%	-20%

2.9.2 Àrainn Chaluim Chille - 3,427m². Heating & hot water to these buildings are 28% baseline CO₂ and 44% of target reductions

Objective	2009 Baseline	2011	2012	2013	2014	Total
Àrainn Chaluim Chille - energy & waste reductions & rise in renewables to reduce electricity usage by introducing an awareness raising campaign among students and staff in tandem with a detailed energy audit of buildings (by 31 December 2011), by installing automatic lighting controls (by 31 December 2011), and by identifying and implementing draught-proofing measures and repairs (by 31 March 2012);	76,557 kWh	-1%	-1%	-1%	-1%	-4%
to introduce a waste measurement and recording system and a new waste disposal contract on this basis so as to achieve reductions in the amount of waste to landfill (by 1 April 2012)	22,710 kg	-2%	-6%	-6%	-6%	-20%
to investigate with Business Stream appropriate water metering technology and water saving enhancements to toilet cisterns, showers, and laundry facilities (by 31 December 2011)	2,934,000 litres	-2%	-6%	-6%	-6%	-20%
to undertake a feasibility study in association with the Environmental Association for Universities & Colleges (EAUC) and Energy Saving Scotland into the optimum roof location for a 50m ² solar thermal installation to complement the biomass heating plant thereby reducing further usage of LPG (study & recommendations complete by 31 December 2011)	-	-	install	-2%	-2%	-4%
to continue implementing the college's maintenance & repair contract so as to maximise the efficiencies of the woodchip biomass heating system, and to work closely with our woodchip suppliers in ensuring optimum woodchip moisture content of 25-30%	1.19million kWh	+5%	+2%	+2%	+2%	+11%

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2.9.3 Fàs - 2,135m². Heating & hot water to this newest college building are 22% baseline CO₂ and 24% of target reductions

Objective	2009 Baseline	2011	2012	2013	2014	Total
Fàs to reduce electricity usage by introducing an awareness raising campaign among students and staff in tandem with a detailed energy audit of buildings (by 31 December 2011), by installing automatic lighting controls (by 31 December 2011), and by identifying and implementing draught-proofing measures and repairs (by 31 March 2012);	52,386 kWh	-1%	-1%	-1%	-1%	-4%
to introduce a waste measurement and recording system and a new waste disposal contract on this basis so as to achieve reductions in the amount of waste to landfill (by 1 April 2012)	5,240 kg	-2%	-6%	-6%	-6%	-20%
to investigate with Business Stream appropriate water metering technology and water saving enhancements to toilet cisterns, showers, and laundry facilities (by 31 December 2011)	on same meter as ACC	included in 20% target reduction between both Àrainn Chalum Chille & Fàs				

2.9.4 College-wide Initiative. Staff travel (5%), waste (4%) & water (1%) contribute to baseline CO₂ and are 3% of target reductions

Objective	2009 Baseline	2011	2012	2013	2014	Total
College-wide Initiative to review the current policy on staff travel and reimbursement of travel expenses (by 31 December 2011) so as to achieve a reduction in the number of miles travelled in private vehicles	56,126 miles	-	-2%	-2%	-2%	-4%

3. Emissions Baseline and Projections

Scope

The scope of this Carbon Management Plan includes Liquid Petroleum Gas (LPG), electricity, waste and water usage within the college's principal campus buildings. It also includes staff business travel.

The scope of this Plan does not include staff commuting to and from the college or student travel to attend classes. The awareness raising campaign as a priority project of this Plan will measure staff and student commuting during its first year and the implications for carbon emissions with a view to achieving reductions in subsequent years.

The most widely accepted approach is to identify and categorise emissions-releasing activities into three groups. The three scopes are:

Scope 1 (Direct emissions): Activities owned or controlled by Sabhal Mòr Ostaig that release emissions straight into the atmosphere. They are direct emissions. Examples of scope 1 emissions include combustion of LPG to heat the college and emissions from college vehicles whilst travelling on college business.

Scope 2 (Energy indirect): Emissions being released into the atmosphere associated with the college's consumption of electricity. These are indirect emissions that are a consequence of the college's activities but which occur at sources we do not own or control.

Scope 3 (Other indirect): Emissions that are a consequence of our actions, which occur at sources which we do not own or control and which are not classed as scope 2 emissions. Examples of scope 3 emissions for the college are from staff journeys taken in private vehicles whilst on college business, student commuting, and waste disposal.

Initially, scope 1 and scope 2 emissions will be incorporated with some scope 3 emissions. In the future, scope 3 will be adopted as our recording process improves.

The scope of this Plan does not include staff and student commuting. The college over recent years has taken a number of initiatives to encourage increased travel by bicycle amongst staff and students, including becoming a member of the national Cycle to Work scheme and investing in new cycle shelter and storage facilities (see 2.7.3). The college has also participated in two annual Sleaford Bike Weeks with a local community initiative, Clean Sleaford, as part of its goal to reduce the community's total carbon emissions by a third between 2008 and 2011. As this work in promoting cycling continues, the first year of the CMP will measure current cycle usage and numbers of trips and will monitor progress over subsequent years as part of the central awareness raising work of the college's CMP.

Baseline

The college's baseline emissions - as measured for the calendar year 2009 of 442 tonnes of CO₂ - cost the college £185,592 in their production

The baseline figures in Figure 2 below are for the calendar year from 1st January until 31st December 2009. i.e. the year prior to the beginning of the Plan. They show our baseline carbon emissions for the 'Scope' activities listed in the section above. The Carbon Assessment Tool also allows us to determine the costs associated with creating this carbon, these are also shown in Figure 2 and amount to a total of £185,592 per annum.

2009	Total	Buildings	Transport	Waste	Water
Baseline CO ₂ emissions (tonnes)	442.07	398.78	21.75	18.74	2.82
Baseline Cost (£)	£185,592	£142,917	£27,226	£12,077	£3,373

Figure 2: Summary table of emissions & associated cost to Sabhal Mòr Ostaig in 2009

The summary above shows the amount of carbon created by Sabhal Mòr Ostaig and the underlying financial cost. When determining the most appropriate projects to reduce carbon emissions it is vital to identify where the greatest savings may be made and to target these areas accordingly, Figure 3 below gives an overview of the carbon emissions from our baseline year 2009 across the whole college campus.

Emissions (tonnes)

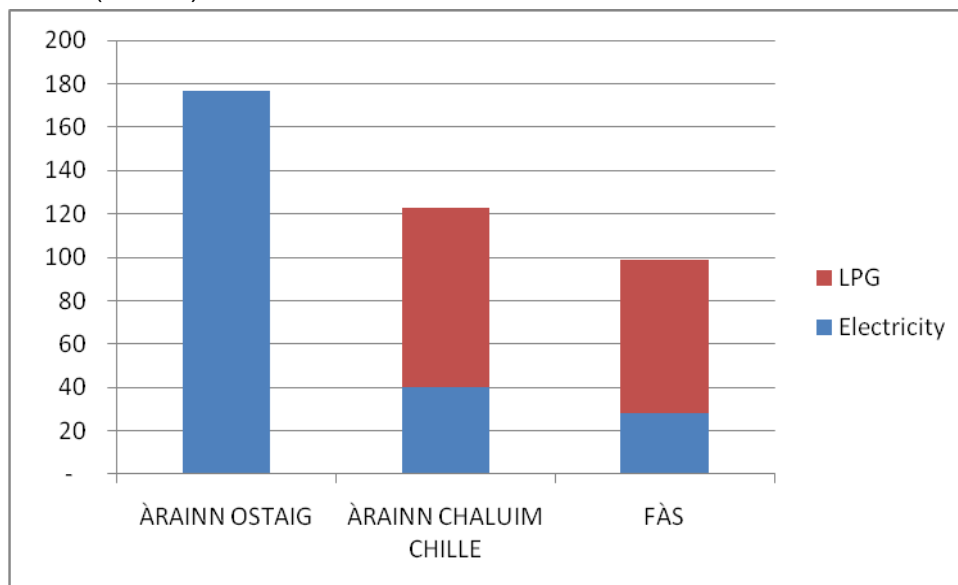


Figure 3: Baseline CO₂ emissions across principal college buildings

Figure 4 below shows how the majority of our emissions come from our buildings, followed by our staff travel, and then our waste.

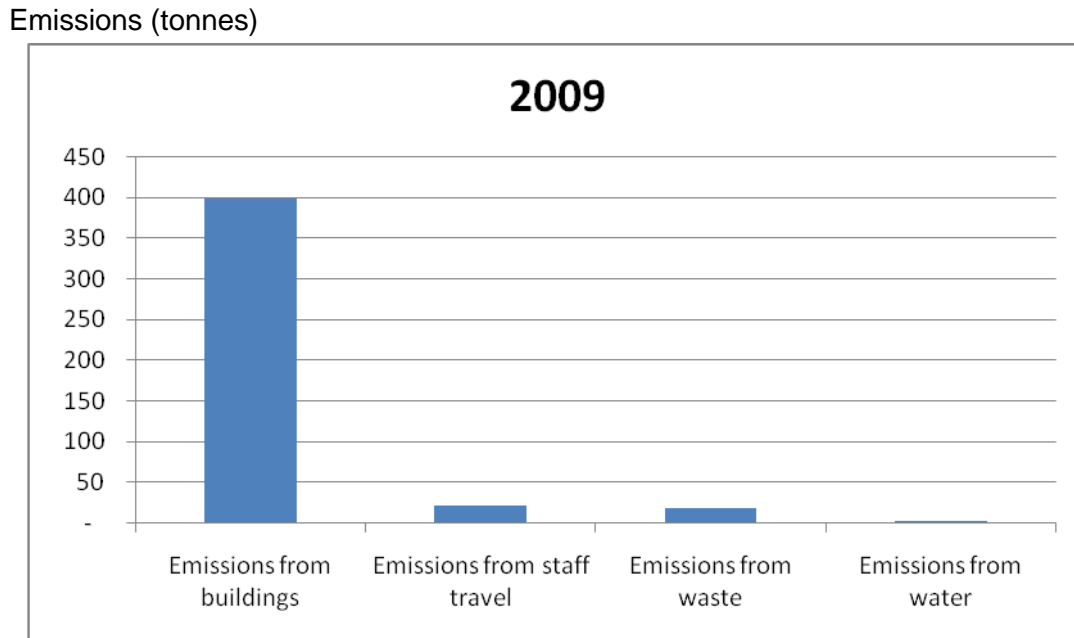


Figure 4: CO₂ emissions from buildings, staff travel, waste, and water

Figure 5 below shows a breakdown of our scope 2 CO₂ emissions from the college's electricity consumption.

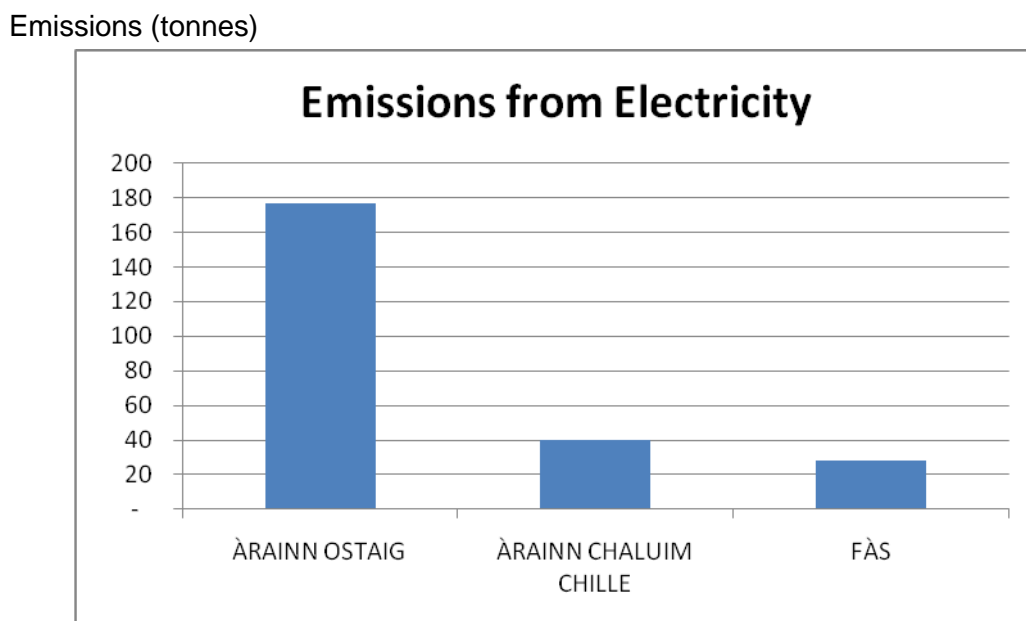


Figure 5: Scope 2 CO₂ emissions

Figure 6 below shows a breakdown of the scope 3 emissions resulting from college waste as included within the baseline.

Emissions (tonnes)

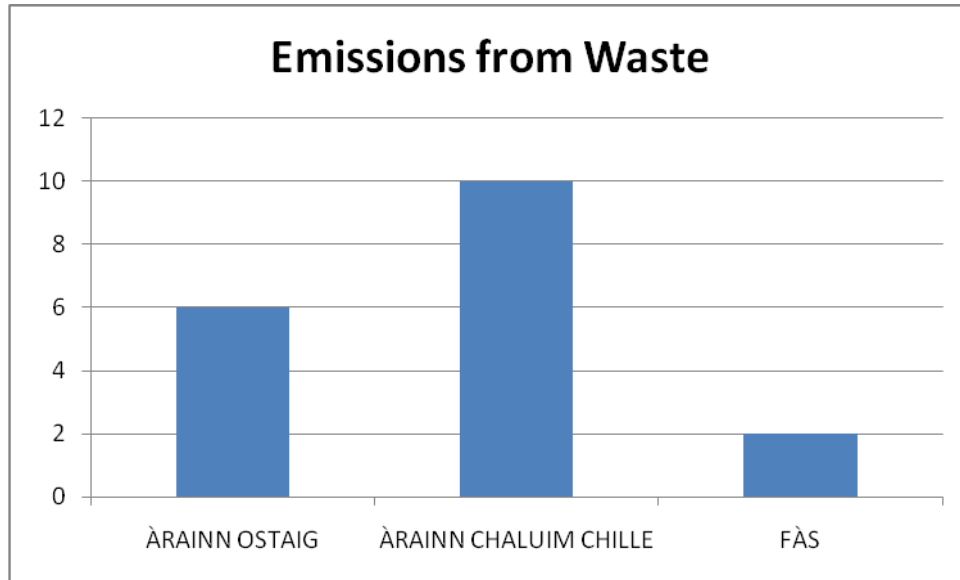


Figure 6: Breakdown of college waste CO₂ emissions

4. Projections and Value at Stake

The lifespan of the CMP is 5 years with the aim of reducing our CO₂ emissions by 20% in that time. The additional benefits of the CMP are that we will be managing our energy usage and moving towards more sustainable energy sources. This is important because according to the International Energy Agency everyone's energy requirements will increase in the next 20 years and the price of energy produced by fossil fuels will only increase over this time period as the reserves run low.

The Carbon Trust baseline tool helps show the difference between carrying on in the way we worked in our baseline year 2009 (Business as Usual BaU) for the next five years compared with the projected outcome of the CMP. This difference is referred to as the "Value at Stake". The Carbon Trust set the projections using the figures produced by The Department of Trade and Industry (DTI) and the Department of Business, Enterprise, and Regulatory Reform (DBERR).

The projections are a useful tool to explain why the CMP is important as they show not just the savings made each year, but the "Value at Stake" both in terms of CO₂ emissions and finance. Projections and Value at Stake figures are used to highlight the difference between the 'Business as Usual' scenario and the target of reducing our carbon emissions by 20% by 2015.

The cumulative CO₂ at stake over the 5 years of the CMP for Sabhal Mòr Ostaig and the community it serves is 320 tonnes

Figure 7 overleaf shows predicted carbon emissions over the period from our baseline year of 2009 to the end of our five-year Plan. It shows both 'Business as Usual' (BAU) and targeted emissions. Figures for BAU growth are shown as the red line and indicate an expected 0.7% year-on-year increase. These figures are taken from the Carbon Assessment Tool of the Carbon Trust. Our target to reduce our carbon emissions is shown as the blue line. This linear decline requires the introduction of constant year-on-year carbon savings initiatives if we are to be successful. Close monitoring and management of our projects and objectives will be required if annual targets are to be met. For each of the next five years we must achieve on average year-on-year reductions of 64 tonnes CO₂ per annum.

The difference between the BAU and predicted target figures gives the overall 'value at stake'. The cumulative effect of these savings can be seen more easily in the graphs overleaf. The "Total Value at Stake" is the area between the 2 lines.

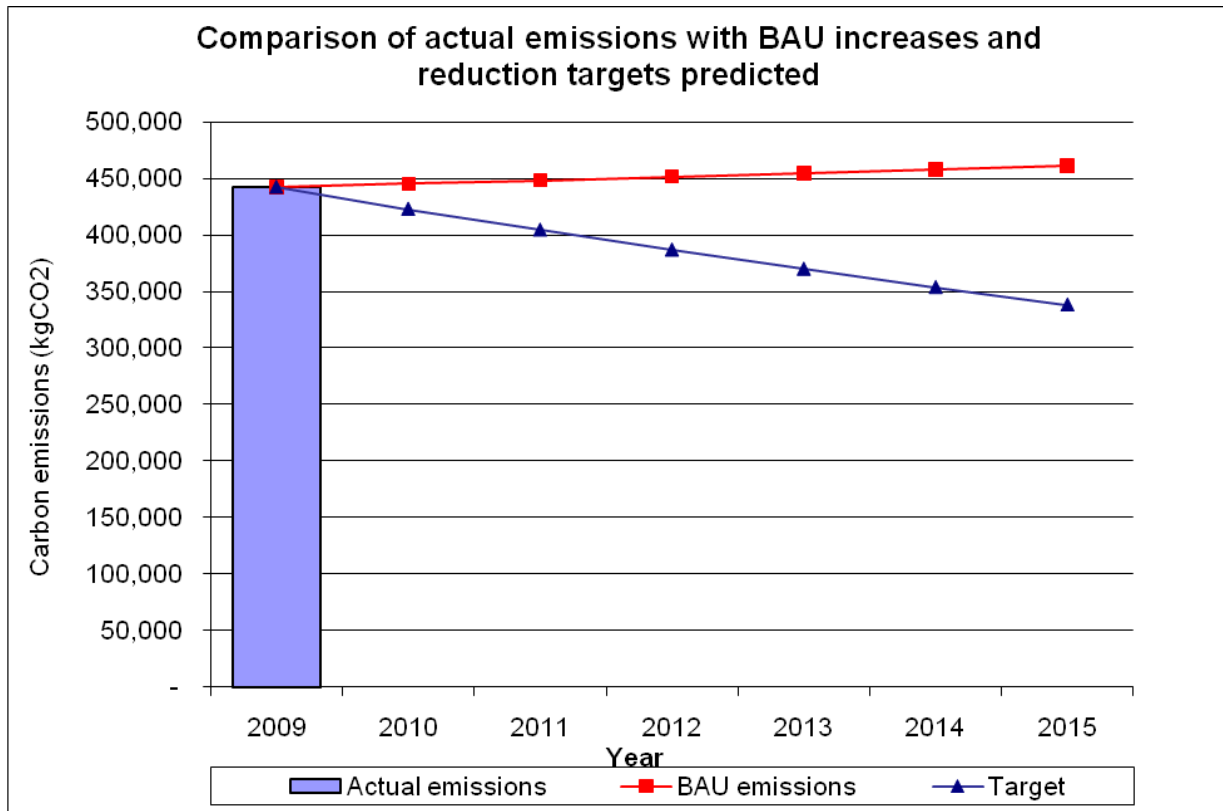


Figure 7: Predicted CO2 emissions over 5-year Carbon Management Plan

Table 1: The difference between the amount of CO₂ produced from BaU compared with the reductions estimated in the CMP

Year	2010	2011	2012	2013	2014	2015
Total value of kg of carbon dioxide emissions at stake	22,390	43,959	64,744	84,782	104,104	122,745
Cumulative value kg of carbon dioxide emissions at stake	22,390	66,349	131,093	215,875	319,979	442,724

319,979kg is the total cumulative CO₂ at stake to 2015 if we do nothing instead of implementing this CMP

Figure 8 below shows how the value at stake is spread, with college buildings making up 90% of the total.

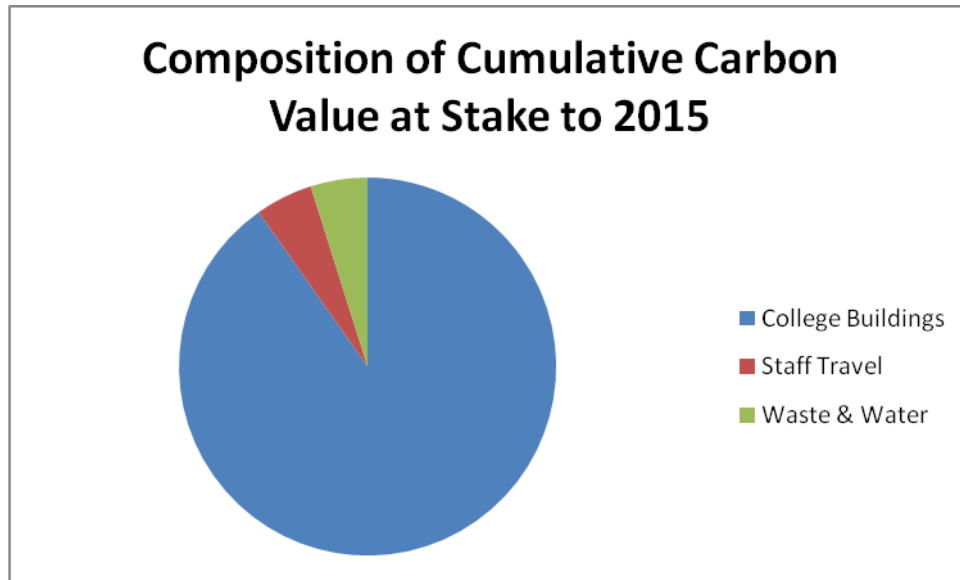


Figure 8: CO₂ Value at Stake

Figure 9 below shows the costs for the Business as Usual (BAU) scenario as a red line, and the targeted financial costs (blue line), associated with producing carbon emissions. BAU figures from the Carbon Assessment Tool state that the cost increase for all emission sources including energy consumption, staff transport, waste and water is 8.4% per annum.

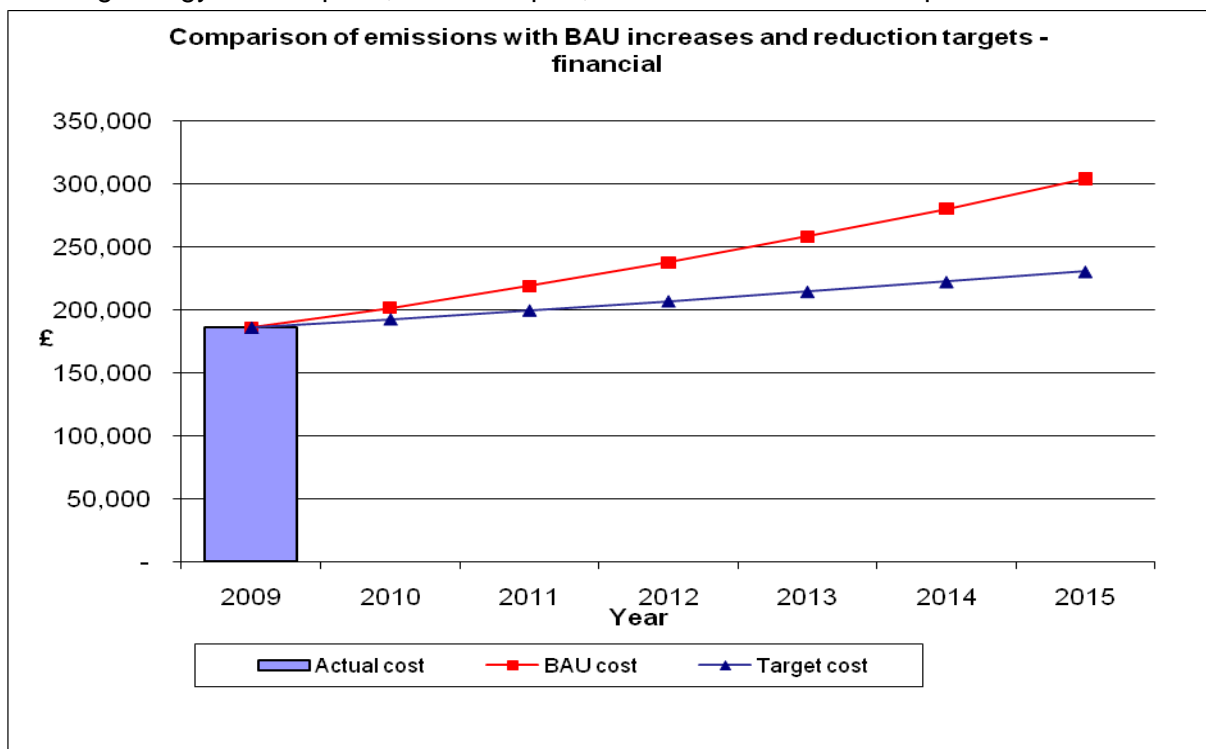


Figure 9: Financial Value at Stake

Of key interest to the college is the financial 'value at stake'. This is shown in Figure 9 as the difference between the 'BAU' and 'Target' lines.



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Table 2: The difference between the financial cost from BaU compared with the cost from the CMP

Year	2010	2011	2012	2013	2014	2015
Total value of financial costs at stake	£9,105	£19,326	£ 30,773	£43,562	£57,824	£73,697
Cumulative value financial costs at stake	£9,105	£28,431	£59,204	£102,766	£160,590	£234,287

£160,590, the estimated cumulative Value at Stake to 2015, is 26% MORE than the total college cost of £185,592 associated with its CO₂ emissions in the 2009 baseline year.

Were Sabhal Mòr Ostaig to implement no further carbon reduction initiatives we would have to find an additional £32,000 per annum in order to maintain a 'stand still' position by 2015. This highlights the financial benefits of completing our targets.

Figure 10 below gives significant information. It shows how staff travel and waste and water together make up 26% of our financial 'value at stake' despite, as Figure 8 shows, such travel, waste and water contributing to just 10% of our carbon emissions. It is therefore of financial benefit to the college to make reductions to staff travel in private vehicles and to our consumption of waste and water a higher priority than our emissions information suggests.

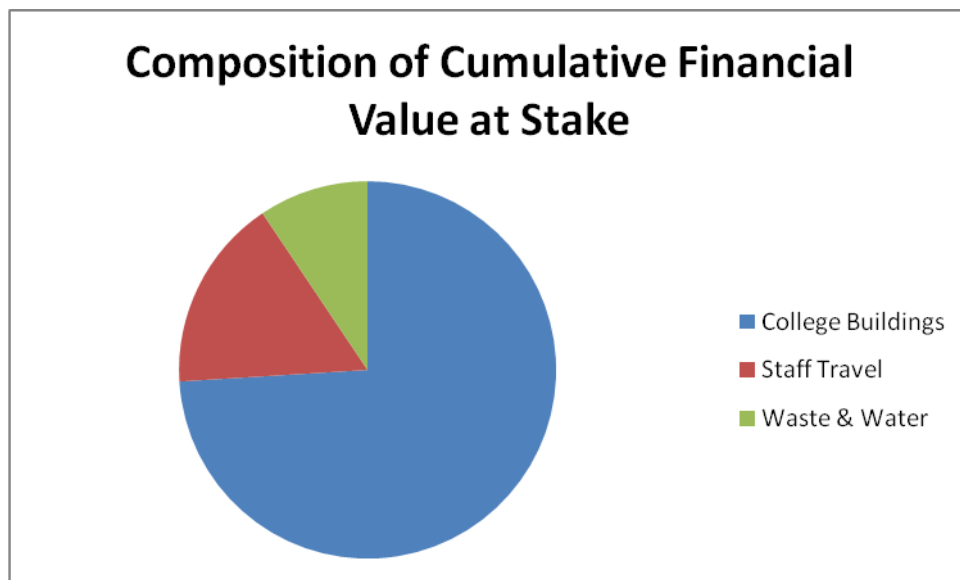


Figure 10: Composition of Financial Value at Stake

The prediction shows that the 5-year Business as Usual (BAU) cumulative cost to Sabhal Mòr Ostaig is £160,000. In facing a future of year-on-year reductions to public funding for higher education as a crucial part of our budget, it is plain to see that carbon reduction initiatives must become a key priority for the college.

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The outline costs in the following Section 5 and the figures quoted above take inflation in emission sources as 7.7% year-on-year. This is calculated from figures provided by the Carbon Trust who forecast an overall 8.4% rise including 0.7% in increased emissions. Our targets are based on carbon reduction rather than finance, and predictions are that the college faces a significant rise in fuel costs above the rate of inflation over the next few years. The rising blue line in the graph in Figure 9 illustrates this fact.

5. Carbon Management Projects

This section contains a summary of those projects which will help us meet our carbon reduction targets over the lifetime of our plan. It includes projects which are already underway as well as those yet to begin. As the document shall be 'live', further projects will be added over the life of the plan. The early initiatives have no introductory costs other than those which are already funded and it is anticipated that the savings realised shall be identified and invested in subsequent cost-carrying projects

Existing projects

Ref	Project	Lead	Funded	Cost		Annual Saving		Pay back	% Saving from 2009	Year
				Capital	Operational	Financial	CO ₂			
1	Improved efficiencies of woodchip boiler	Head of Estates	Yes	-	£5,000 p.a. maintenance	-	20 tonnes	-	4%	2011
2	Extend recycling of kitchen food waste	Head Warden	Yes	-	-	-	2 tonnes	-	0.5%	2011
3	Extend promotion of staff & student cycling	Enviro. Group	Yes	-	-	-	2 tonnes	-	0.5%	2011

Planned/Funded projects

Ref	Project	Lead	Funded	Cost		Annual Saving		Pay back	% Saving from 2009	Year
				Capital	Operational	Financial	CO ₂			
4	Awareness raising campaign	Enviro. Group	Yes	-	£21,058	£6,600	42 tonnes	3.2 years	10%	2011
5	Review business travel & expenses	Enviro. Group	Yes	-	£1,413	£1,170	3 tonnes	1.2 years	1%	2011
6	Enhanced water metering	Head of Estates	Yes	£500	-	£100	-	5 years	-	2011

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Near-term projects

Ref	Project	Lead	Funded	Cost		Annual Saving		Pay back	% Saving from 2009	Year
				Capital	Operational	Financial	CO ₂			
7	Automatic lighting controls	Enviro. Group	No	£7,635	-	£948	7 tonnes	8 years	2%	2011
8	Draught-proofing to college buildings	Head of Estates	No	£11,131	-	£3,145	19 tonnes	3.5 years	4%	2012

Medium/Long-term projects

Ref	Project	Lead	Funded	Cost		Annual Saving		Pay back	% Saving from 2009	Year
				Capital	Operational	Financial	CO ₂			
9	Roof-mounted solar thermal installation	Head of Estates	No	£42,080	-	£2,133	13 tonnes	20 years	3%	2013

Areas for future investigation

Given its recent experience with installing a renewable woodchip heating facility, the college, through its Environmental Group, is keen to explore the feasibility of generating its own electricity either through a photovoltaic installation or a wind turbine, or a combination of both. This would have the potential of reducing further the college's future energy costs and their associated carbon emissions whilst at the same time offering a potential income stream through the generation of electricity.

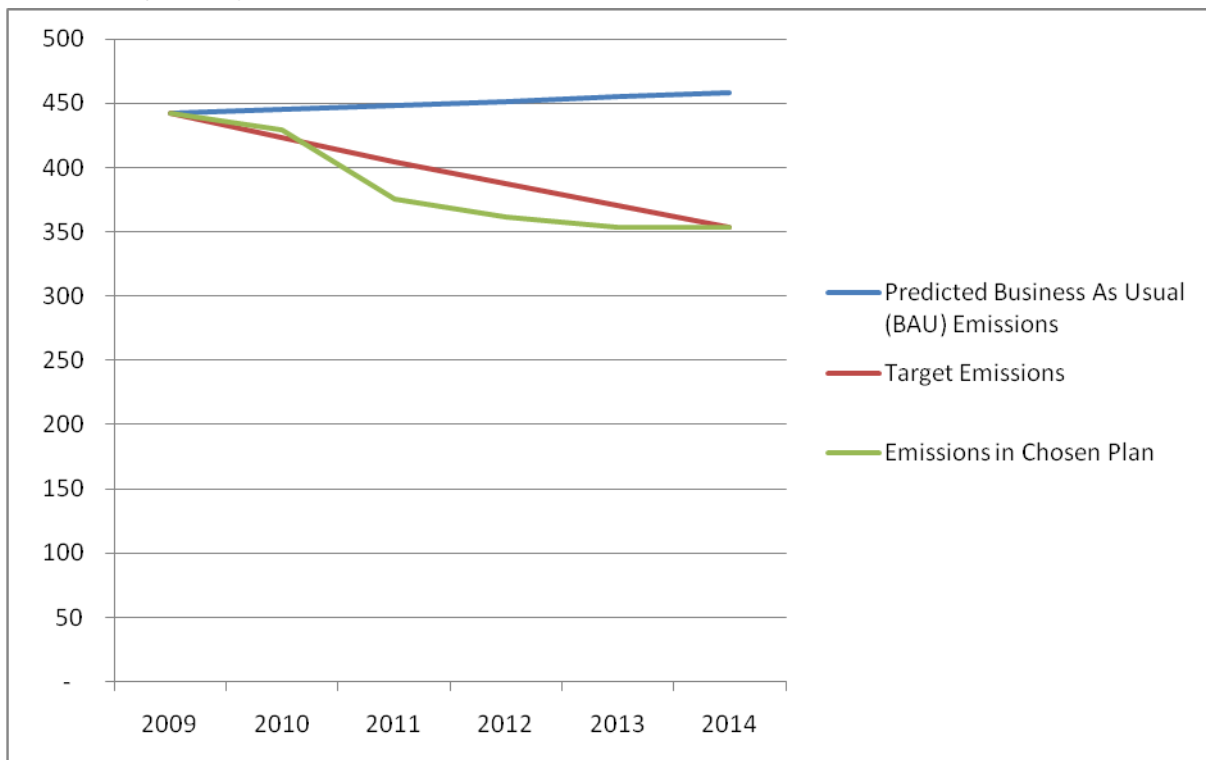
We will work closely with colleagues at both the Carbon Trust and the Environmental Association for Universities and Colleges (EAUC) in progressing a feasibility report on the various options. This exercise will quantify for each option their potential electricity generating capacity given the college's location, the likely capital costs, and potential savings and income streams as represented by the Governments Feed-in Tariffs scheme (FITs) and from the export of any unused electricity back to the grid. It is proposed to have the feasibility study complete including recommendations for future action by the end of 2012.

Projected achievement towards target

Figure below illustrates how the estimated emissions after implementing the proposed project list (**green line**) contributes to the 20% reduction target (**red line**) and how this compares to the Business As Usual (BAU) case (**blue line**).

Figure 11: CO₂ Savings of Selected Projects against 20% Target by 2015

Emissions (tonnes)



This represents an annual reduction rate of 4% reaching the target of 20% reduction from 2009 baseline CO₂ emission by the end of 2014. In addition the BAU case estimated a rise in emissions of 3.5% meaning that savings of 23.5% could be saved using the current reduction plan against the BAU emissions.

The 20% target reduction from 2009 baseline CO₂ emissions will be reached by 2015

6. Implementation

The new projects identified in the college's Carbon Management Plan will be implemented from June 2011 with ongoing projects started since 2009, such as the operation of the biomass woodchip boiler, being taken into consideration for the overall carbon reduction strategy.

The Carbon Management Plan will benefit Sabhal Mòr Ostaig by reducing its energy costs by 30% by 2015 or £42,782 as part of cumulative year-on-year savings of £160,590

6.1 Financing

The financing of environmental initiatives will be based on the principle of "spend to save". For each initiative a business case must be produced which demonstrates a return on the investment made based on a whole lifecycle approach. The two key financial measures that help form the business case will be the payback period and the discounted net present value. Initiatives will be prioritised based on these financial measures and the funding available.

Projects will be self-financing. Initial funding will be made available in the financial year 2011/12 for investment; future funding will be generated by the cash savings from these initial investments. The college's Senior Management Team has pledged that savings gleaned from such initiatives shall be ring-fenced. This will allow cashable savings to be gathered in the form of a spend-to-save rotating fund, where the savings from funded projects will pay back into the fund, thus enabling future initiatives to receive the funds required for implementation.

6.2 Assumptions

- The cost of LPG to electricity ratio will remain as a constant. However, it is not currently practicable to convert the existing electric storage heating system of the older part of the college estate to run on the cheaper LPG alternative. This is due to the very significant capital costs involved and because, in an effort to minimise the ongoing maintenance burden, major renovations are being planned for the Àrainn Ostaig campus within the next 5 years (see section 2.3);
- Feed-in Tariffs (for electricity generation) and the Renewable Heat Incentive (for renewable heating systems) will continue to be available over the next 5 years to ensure their benefits can be realised as an income stream to qualifying projects;
- The college's current capital funding mechanisms remain in place with little or no reduction in the financial allocation;
- The plan shall be self-financing - early initiatives must be self-funded within the same financial year or have no cost attached, such as improving the efficiency of the woodchip boiler and extending the promotion of cycling among students and staff;
- It is assumed that energy costs will rise significantly above inflation over the life of the plan;
- Initiatives shall be risk-assessed prior to implementation; in relation to finance this shall prevent any unexpected adverse effect on budgets;

- The college purchases LPG through Calor and electricity through Hydro Electric. Its two newest campus sites, Àrainn Chaluim Chille and Fàs, receive space heating and hot water from the woodchip heating plant as a 100% renewable energy source. The older part of the college estate, Àrainn Ostaig, receives its heating and hot water exclusively from electricity and, as outlined above, this Plan assumes no change to this arrangement by the end of 2014. However, a major renovation programme to the older part of the college estate is expected to commence in 2016;
- This Plan and certain figures as contained within it depend upon the calculations and carbon management tools provided by the Carbon Trust.

6.3 Benefits/savings – quantified and un-quantified

The benefits are listed in the Implementation Plan in Appendix 1. The un-quantified benefits may be described as follows:

- Meeting the requirements of the Climate Change (Scotland) Act 2009;
- Demonstrating the college’s commitment to protecting the environment to our students, staff, the public and our key partners such as the Scottish Government, the Scottish Funding Council, and Her Majesty’s Inspectorate for Education (HMIe);
- The possibility of embedding the practical implementation of the priorities and targets of the Carbon Management Plan into the college curriculum with a view to developing a certified qualification in Environmental Management;
- Demonstrating that the college is a sustainable employer;
- Reducing overhead costs, allowing more funds to be spent on the college’s core education services;
- Effective management within the college of the risk posed by climate change and that of escalating energy costs;
- The understanding of a common and serious challenge affecting all students, staff and departments within the college that can be used by the Senior Management Team to create a team spirit with everyone pulling together.

6.4 Figure 12: Financial costs and sources of funding

	2011/12	2012/13	2013/14	2014/15	2015/16
Total annual capital cost	8,135	11,131	42,080	200,000	200,000
Total annual operational cost	27,471	5,000	5,000	20,000	20,000
Total costs	35,606	16,131	47,080	220,000	220,000

The funding of the first year 2011/12 will be from the college’s existing revenue and capital budgets. The funding for year 2011/12 has been agreed with the Senior Management Team consisting of £8,000 as part of the budgeted capital spend on college property with a further £28,000 for project completion from within the college’s general estates costs.

The years from 2013 assume significant capital investment by the college in renewable heating plant (solar thermal) and electricity generating equipment (photovoltaic, wind turbine). This investment will only be undertaken after a thorough feasibility and options appraisal exercise into the likely costs, savings and funding opportunities.

Opportunities will be examined with a view to taking advantage of current Government support for renewable heat and energy generating technologies through the Renewable Heat Incentive and Feed-in Tariffs. It is also worth noting that universities, colleges and public sector bodies are being further encouraged to invest in renewable heat and energy generating technologies by the provision of unlimited interest-free loans repayable over four years, such as are currently being offered by Salix Finance.

6.5 Risks and Issues

None of the risks internal to the project are considered to require inclusion on the college's general risks register. This will be reviewed every six weeks at meetings of the Senior Management Team and reported to the Internal Audit Committee.

Figure 13: Internal risks associated with a project of this type are as follows:

Description	Impact	Prob'ly	Mitigating actions
1 The Project Lead (PL) has insufficient time, resulting in tasks slipping and the project not being completed on schedule	H	M	<ul style="list-style-type: none"> • PL to develop a robust Project Plan, clearly setting out milestones and resource requirements over the next 5 months; • Average 2-3 day resource for tasks to be signed-off by line management; • Look for a Deputy PL to be engaged from the start.
2 There is insufficient funding for the Programme	H	M	<ul style="list-style-type: none"> • Value at Stake (VAS) calculations should be presented as soon as possible to Programme Board and Senior Management Teams. Case for action should also include details of cost avoidance and necessary preparations; • Explore other funding options; • Seek examples of value from previous participants and share with key sponsors.
3 Project Sponsor (PS) has insufficient time or inclination to lead project	H	M	<ul style="list-style-type: none"> • Meet with PS to discuss role; • Ensure PS attends Launch and Conferences; • Ensure Programme Board meetings are in PS's diary; • Escalate during teleconferences to Project consultants seeking Carbon Trust support, if required.
4 Key parts of the organisation do not actively participate in the programme	M	M	<ul style="list-style-type: none"> • PL and PS engage formally with Heads of organisation; • PL seeks experience of similar functions from Carbon Trust alumni; • Escalate during teleconferences to Project consultants.

7. Governance for Implementation

7.1 Embedding Carbon Management

In order to build upon the commitment which Sabhal Mòr Ostaig has already demonstrated to help meet the targets of this Carbon Management Plan we intend to:

- Implement a training and awareness programme on carbon management to all college students and staff. This will highlight the reasons behind the Carbon Management Plan and its targets and practical measures to be taken in helping to achieve them. The college Students' Association will play a key role in helping to communicate this message and negotiations will take place around creating an incentive scheme whereby a proportion of realised savings from carbon reduction measures will be returned each year to assist with the work and projects of the Students' Association in return for achieving agreed targets on energy use, waste and recycling rates;
- Further embed carbon management into our strategic planning and priorities. To this end, progress against the targets of this Plan will be reported to each meeting of the Senior Management Group and at each quarterly meeting of the college Board of directors. Emphasis will be on highlighting energy cost savings as they are realised and on the Plan's Carbon and Value at Stake calculations to ensure continued commitment to achieving the stated targets;
- Introduce the topic of carbon management into our annual performance appraisal system with managers from each college department - Arts and Development, Education, and Finance and Administration - being made responsible for setting and reporting progress against specific targets with their staff teams within the context of the overall Plan. These will include measuring and monitoring on energy costs, and on waste and recycling rates;
- These departmental targets and progress against them will in turn be reported on a quarterly basis within the college's in-house newsletter, An Sgrìobag, and on the college website. Students and staff will at the same time be encouraged to suggest further carbon reduction measures to the Environmental Group for consideration, with examples of best practice to be implemented across all departments;
- A review of the current college policy on staff travel in private vehicles and reimbursement of associated expenses (currently 40p per mile) will be a priority. This will be led by the Environmental Group with a recommendation for action to be made to the Senior Management Group highlighting the potential cost and carbon savings from a reduction in the mileage rate. This will also include details on an incentive scheme to reward staff on a quarterly basis for the most miles travelled by public transport and for the most cycle commuting miles to and around the college covered by both students and staff.



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7.2 Data Management – measuring the difference, measuring the benefit

The college's Head of Estates and Services is responsible for gathering the required data on the college's key carbon performance indicators to be considered at bi-monthly meetings of the Environmental Group ahead of each quarterly meeting of the college Board of directors. The key data to be gathered, following the same process as used in establishing the baseline figures for 2009, will be:

- 7.2.1 Energy consumed - quarterly utility bills as verified by the finance department for each college building for electricity (kWh), LPG (litres), and water (m³). This will also include the quantity (m³) and cost of woodchip purchases to service the biomass boiler;
- 7.2.2 Monthly electronic heat data as verified by the biomass boiler plant on cumulative heat output (MWh), periods of operation, and trends for peak and minimum heat load through the month in question;
- 7.2.3 Quarterly statistics as verified by the finance department on the number and value of staff private mileage claims, engine size and fuel type, and journeys taken on public transport;
- 7.2.4 Monthly data from each department within the 3 principal college buildings and from the Students' Association on waste produced and uplifted from offices (type and quantity) and on recycling rates (quantity for each of wood, kitchen food waste, paper, cardboard, plastic, glass, and metal);
- 7.2.5 Monthly data as logged onto the college intranet for students' and staff cycle journeys both to and from, and around the college campus shown in a league table of participants and with a friendly focus towards staff v students.

This data will then be used to plot progress against each of the stated targets from section 2.9 above by each of the 3 principal college buildings and each department within them. The Carbon Trust baseline tool underlying this Plan will also be used to calculate and plot total college carbon emissions from each set of quarterly data which in turn will be plotted against the predicted carbon reduction targets shown in Figure 7 above.

These carbon reduction progress charts by building, department and as against the overall Plan will be collated by the marketing and communications team into a quarterly at-a-glance college postcard including a summary of key actions for the coming quarter. Each postcard will also be made available on the college website, to students and to visitors on campus. It is anticipated that this information will then form the basis of several news reports on the college's progress throughout the year giving the opportunity to publicise the bigger carbon reduction measures yet to come - a solar thermal installation and self-generating power through photovoltaic and wind turbine technology.

8. Resource commitment

The college Environmental Group will meet every two months in the initial stages of the Plan so as to make recommendations and report on progress to the Senior Management Team which meets every six weeks, and to quarterly meetings of the college Board of directors. Members from our college departments will be assigned responsibility as project leads on the initiatives relating to their respective areas of work and expertise as part of their annual performance appraisal. The following table lists the current members of the college Environmental Group, and membership will also be welcomed from other interested staff and students. To ensure for effective succession planning in meeting future CMP priority actions and targets, membership of the Environmental Group will be included in the responsibilities of each key post below.

8.1 Figure 114: College Environmental Group Members

Role	Name and position in the college	Contact details
Project Leader	Donald A. MacLennan Head of Estates & Services	01471 888325 sm00dam@uhi.ac.uk
Deputy Project Leader	Carlotta Graham Facilities Manager	01471 888251 sm00cmk@uhi.ac.uk
Service Representatives	Iain Gordon Head of Finance & Planning	01471 888211 sm01ig@uhi.ac.uk
	Martin MacDonald ICT Manager	01471 888341 sm02md@uhi.ac.uk
	Angela MacGillivray Marketing Manager	01471 888215 sm00ani@uhi.ac.uk
	Sheila Hamilton Head of Student Services	01471 888303 sm00smh@groupwise.uhi.ac.uk
Student Representative	Head of Students' Association	Appointed by election from among the student class representatives each September

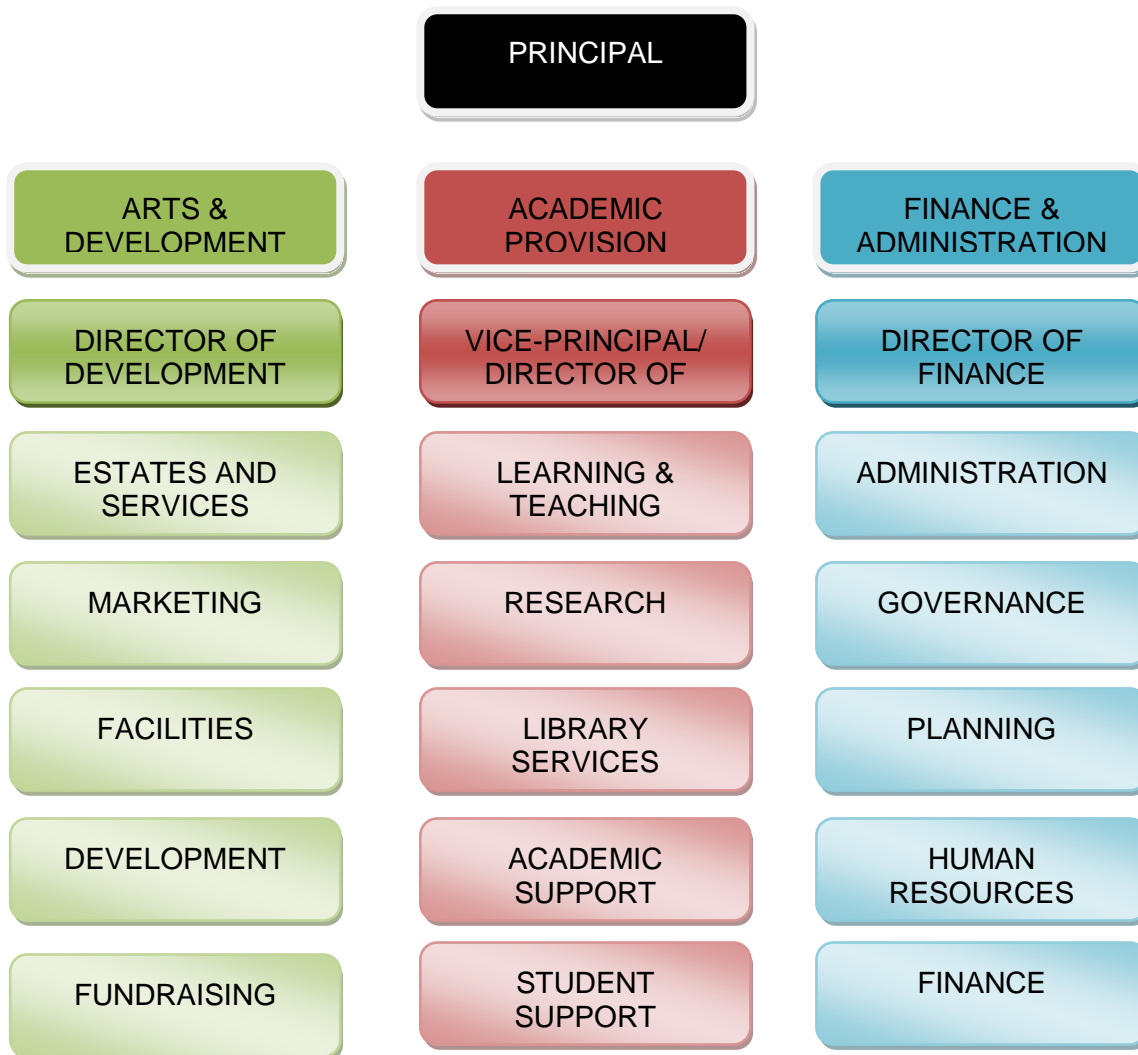
8.2 Stakeholder Management

The Environmental Group is key to identifying and communicating with the students and staff of the college. Its membership is drawn from the 3 college departments and from the student body and includes staff who work across all the key college sectors such as estates and energy management, facilities, finance, ICT, and marketing.

The Environmental Group will record and publish on the college intranet a note of all its meetings as well as the agreed action points and responsibilities, and will review the composition of the Group periodically to ensure key personnel and services continue to be engaged with the process.

The interaction between the Environmental Group and other college departments and staff is represented in Figure 15 below with an organisational structure. The college through preparing this Plan has made it a strategic priority to manage its carbon emissions as part of the vision for the future and the management of the key stakeholders below will be vital to ensure that this is embedded in the culture of the college.

Figure 15: Organisational Structure



8.3 Link to college corporate vision

The college’s 4-year Strategic Planning Framework is the structure which links every aspect of our planning process and from where our annual business plans emerge. These detail our strategic objectives and targets ensuring that every action we take is in pursuit of our Strategic Priorities and helps achieve our Vision. A new 4-year Strategic Plan for the years 2013-2016 is currently being prepared and the carbon reduction targets detailed here will form the cornerstone of the college’s environmental and sustainability priorities going forward.

8.4 Succession planning for key roles

The current college Strategic Plan 2009-2012 lists increasing the college's effectiveness in its use of resources, and reducing the environmental impact of its activities as two key strategic priorities. The strategic plan drives the strategic priorities through all levels of the college and this forms the focus for each of the three departments and therefore each individual within their respective department. Each individual has their own personal development plans and annually agreed goals working towards the college's strategic aims, and this plan stays with the post to ensure that departmental plans are achieved should the individual move post.

8.5 Maintaining quality over time

Sabhal Mòr Ostaig's Head of Estates and Services and the college's Environmental Group are committed to managing the reduction of our carbon emissions and to achieving the targets set out in this Plan. The college's Board of directors and Senior Management Team are similarly dedicated and will play a key role in future years in assisting us to deliver carbon emission reduction targets and securing ongoing financial efficiencies. Our Head of Estates and Services has overall responsibility for meeting the college's carbon emissions reduction targets and is also a member of our Senior Management Team and Estates and Finance Committee, tying the objectives and targets of this Plan into the highest level of management.

Sabhal Mòr Ostaig's Carbon Management Plan will be reviewed every 2 years with the first review being due in 2013.

8.6 Programme Management of the CM Programme

The college's Carbon Management Plan shall remain a 'live' document over the four-year period it is scheduled to run. It shall be overseen by the college's Director of Development and managed by the Head of Estates and Services. As a signatory to the Universities & Colleges Climate Commitment for Scotland, the Director of Development shall report to the Scottish Ministers on behalf of the college demonstrating progress through our Carbon Management Plan with our stated commitment:

- To harness our academic talents and expand Scotland's ability - through our research capacity, knowledge exchange activity and the provision of skills, modules and courses - to create solutions to the challenges posed by climate change;
- To demonstrate practical leadership in tackling climate change – by containing growing energy use and costs, protecting estates and buildings and promoting sustainability and social responsibility;
- To engage our students, staff, alumni and local communities with the challenge of climate change.

9. Implementation Plan

Ref	Specific Initiative	Lead Department/ Lead Officer	Predicted CO2e Saving (tonnes)	Costs (£)	Predicted Money Saving P/A	Year Benefits Start	Pay back time scale	Source of Finance	Remarks on Deliverability
1	Improved efficiencies of biomass woodchip boiler	Head of Estates & Services	20 tonnes per annum	£5,000 per annum	-	2011/12	N/A	Maintenance budget	Enhance current 6-month service schedule
2	Extend recycling of kitchen food waste	Head Warden	2 tonnes per annum	-	-	2011/12	N/A	N/A	Extension of existing practice as a staff KPI
3	Extend promotion of staff & student cycling	Environmental Group	2 tonnes per annum	-	-	2011/12	N/A	N/A	Capital investment already in place
4	Awareness raising campaign - staff & students	Environmental Group	42 tonnes per annum	£21,058 staff time & publications	£6,600	2011/12	3.2 years	Existing staff & marketing budgets	Priority to reduce electricity in older college buildings
5	Review college policy on business travel & expenses	Environmental Group	3 tonnes per annum	£1,413 staff time	£1,170	2011/12	1.2 years	Existing staff budgets	Take best practice advice from other rural colleges
6	Enhanced water metering	Head of Estates & Services	-	£500	£250	2011/123	2 years	Existing utilities budget	Water usage as part of 4 above
7	Automatic lighting controls	Environmental Group	7 tonnes per annum	£7,635	£948	2011/12	8 years	Existing capital works budget	Low-energy units to be used when renewing existing
8	Draught-proofing to college buildings	Head of Estates & Services	19 tonnes per annum	£11,131	£3,145	2012/13	3.5 years	Energy cost savings from above	Business case needed using VAS calculations

Continued over/

Implementation Plan (cont.)

Ref	Specific Initiative	Lead Department/ Lead Officer	Predicted CO2e Saving (tonnes)	Costs (£)	Predicted Money Saving P/A	Year Benefits Start	Payback time-scale	Source of Finance	Remarks on Deliverability
9	Roof-mounted solar thermal installation	Head of Estates & Services	13 tonnes per annum	£42,080	£2,133	2013/14	20 years	Interest-free finance, RHI payments	Feasibility study to be done in 2012
Totals			108	£88,817	£14,246	2011/12	6.2 years		

[ORGANISATION Name]
Carbon Management Plan 2011

