



University of Strathclyde
Carbon Management Implementation Plan
2011

Version 1.0
March 2011



i. Forward by the Principal & Vice-Chancellor

As greenhouse gas concentrations continue to increase there is growing International agreement that the consequences of resultant climate change impacts will be adverse, irreversible and require immediate action. It is clear that business as usual is not an option. Delivering change has never been more pertinent.

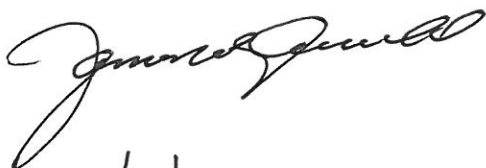
Cutting carbon emissions as part of the fight against climate change is a key priority for the University of Strathclyde. As a signatory of the Universities and Colleges Climate Commitment for Scotland we have demonstrated our commitment to address the causes of climate change, and to be an exemplar for Higher Education.

The Carbon Management Implementation Plan 2011 is an update of the Carbon Management Programme which has been in operation since 2006. Continued success will involve the participation of all members of the University community.

Name: Professor Jim McDonald

Position: Principal & Vice-Chancellor

Signed:



Date:

28/3/11

1.0 Executive Summary

This Carbon Management Implementation Plan (CMIP2011) provides a review of progress against the 2006 Carbon Management Plan (CMP2006) and sets out a revised programme of planned actions and priorities to 2015 which will allow the University to achieve specific carbon emissions objectives and targets.

The successful implementation of our carbon management strategy has achieved, cumulatively as of 2009/10, annual CO₂E savings of 1,500 tonnes. Relative to the 2009/10 CO₂E baseline these savings represent approximately 5% of annual emissions output. The utility expenditure savings associated with this programme are £350,000 per annum.

The CMIP2011 sets out additional mitigation projects which are anticipated to achieve annual savings of 1,800 tonnes of CO₂E by the end of the 2014/15 academic year. Funded largely from existing budgets, these projects will enable additional utility expenditure savings of £500,000 per annum by the end of 2014/15. The anticipated accrued savings from ongoing investment is projected to be £1.4M by the end of the 2014/15 academic year. This is based on a conservative estimate of the accrued savings resulting from the replication of proven successful projects. The ongoing investment in proven, practical, and prioritised energy efficiency projects is essential to the delivery of absolute CO₂E reduction targets for 2020, but will not achieve CO₂E reductions in isolation. Investments in core buildings must work in concert with the successful delivery of high quality refurbishments, as set out in Estates Development Framework (EDF2), and the behavioural change of staff and students.

The EDF2 sets out a multi million pound programme of construction and refurbishment which will transform the University of Strathclyde. The EDF2 offers a 'once in a lifetime' opportunity to deliver a high quality estate which is both financially sustainable and able to meet stringent standards for pollution minimisation and resources efficiency over the building lifetime. The University of Strathclyde Sustainable Design Quality Standard (SDQS) provides a framework to ensure that all new development continually meets high expectations for quality, performance, and best value. It is anticipated that the SDQS will deliver a 50% reduction in absolute CO₂E emissions over the lifetime of the EDF2 programme. In the short term the University aims to achieve an absolute CO₂E emission reduction of 10% by 2015, relative to the 2009/10 baseline, and a relative emissions performance of 95 tonnes CO₂E per m².

The CO₂E emissions baseline for 2009/10 is quantified entirely from scope one and scope two emissions sources i.e. purchased electricity and natural gas consumed in buildings, and petrol and diesel fuel consumed in fleet vehicles and equipment. Scope one and two emissions have significant short term legislative and financial implications for the University and the CMIP2011 focuses strongly on the abatement strategy for these sources. However, the University recognises the importance of understanding and managing scope three emissions sources, and as such the CMIP2011 sets out a programme of actions which will enable the quantification and reporting of emissions from business travel, student and staff commuting, and waste disposal over the next two years.

It is recognised that the successful implementation of the CMIP2011 is dependent upon senior management commitment and strong leadership. To this end CMIP2011 implementation will be monitored by the Environmental and Social Responsibility Working Group, led by Prof Phil Winn, Deputy Principal Strategy.

An annual progress report will be delivered to the Executive Team at the start of each academic year.

1.1 A Summary of Key Points

Looking back:

- The implementation of the 2006 CMP has reduced annual CO₂E emissions by **1,500 tonnes**. The associated utility expenditure saving from these investments is **£350,000 per annum**.

Our Current Position:

- The 2009/10 emissions baseline from scope 1 and 2 emissions sources is **32,690 tonnes CO₂E**.
- The relative carbon emissions performance of the university is **100 tonnes CO₂E per m² GIA**.

Looking Forward:

- The University aims to achieve an absolute emissions level of **28,500 tonnes CO₂E** by the **end of the 2014/15** academic year. This equates to a **10%** reduction from the 2009/10 baseline.
- The University aims to achieve a **relative carbon performance of 95 tonnes CO₂E per m² GIA** by the **end of the 2014/15** academic year.
- Planned mitigation projects set out in the CMIP2011 will reduce annual CO₂E, emissions by **1,800 tonnes**, with anticipated utility expenditure savings of **£500,000 per annum**, by the end of 2014/15 academic year.
- The CMIP2011, as programmed, is anticipated to deliver cumulative utility expenditure savings of **£1.4 M** by the end of 2014/15 academic year.

2.0 Background to Carbon Management at Strathclyde

The University of Strathclyde was the first Scottish University to complete the Carbon Trust Carbon Management Programme, producing a Carbon Management Strategy and Implementation Plan in 2006 (CMP2006). The CMP2006 established a carbon emissions baseline based on the emissions associated with building energy consumption in 2004/05 and set out a planned investment programme of more than 30 mitigation projects. It was anticipated that these projects would result in a 24% reduction in the carbon emissions associated with building energy use from the "business as usual scenario" over a 10 year period – to 2014.

In 2007 the University created the post of Energy and Environment Manager, within Estates Services, with the remit of managing the implementation of the CMP2006.

In 2008 the University partnered with SALIX Finance to create an energy efficiency investment fund to accelerate the implementation of the CMP2006. Financial contributions from SALIX, the Scottish Executive, and the University were combined to create a £750,000 ring fenced investment fund to be used exclusively towards energy efficiency investment and carbon emissions mitigation at the University of Strathclyde.

In February 2009 the University of Strathclyde became a signatory of the 'Universities and Colleges Climate Commitment for Scotland' (UCCCfS). As a part of the UCCCfS the University are committed to monitoring, reporting, and reducing carbon emissions associated with University operations. The University will encourage students, staff, and stakeholders to take a proactive approach to responsible carbon management.

In 2009 Estates Services produced the Sustainable Design Quality Standard (SDQS), which guides all new build and refurbishment projects on the University campus. The SDQS is designed to deliver energy efficient and low carbon buildings which meet or exceed current best practice and anticipated future requirements, with an emphasis on integrated design and demonstrable best value.

Through 2010 the University participated in the "Carbon Management Revisited" programme, a Carbon Trust initiative designed to refresh an organisation's Carbon Management Plan. The Carbon Trust provided a third party review of progress against the CMP2006 actions which included a gap analysis of our existing carbon management model, and a review of all commissioned and proposed projects. The gap analysis moved away from technical interventions and explored broader organisational issues such as awareness raising, staff motivation, governance, and accountability.

The Carbon Management Implementation Plan 2011 demonstrates the significant progress made to date by the University of Strathclyde and sets out, in detail, the actions which will be taken over the next five years to manage greenhouse gas emissions. Our actions support the delivery of the Universities and Colleges Climate Commitment for Scotland, signed on 21st January 2009.

Key Successes:

- The creation of a £750,000 ring fenced energy efficiency investment budget to accelerate the delivery of CMIP2011 projects and boost emissions abatement.
- Delivered greenhouse gas emissions reductions of 1,500 tonnes CO₂E per annum.
- Delivered utility expenditure savings of £350,000 per annum since 2006.
- An end to emissions growth – with an absolute CO₂E emissions reduction in 2009/10.
- The successful delivery of the new Sustainable Design Quality Standard (SDQS).
- A 100% green energy tariff policy which supports renewable energy development.

3.0 Vision, Objectives and Targets

3.1 Vision

The University of Strathclyde will make rapid progress towards reducing the greenhouse gas emissions associated with all University activities, and will contribute to the mitigation of climate change impacts through innovative teaching, research, and knowledge exchange.

3.2 Aim

The aim of the **Carbon Management Implementation Plan** is to communicate the key drivers, opportunities, delivery targets, and planned actions at the University of Strathclyde for mitigating and adapting to the impacts of climate change across all of its operational, academic and research activities.

3.3 General Objectives

The University of Strathclyde will:

- **Demonstrate a commitment** to the dual ethos of sustainability and responsible global citizenship by seeking to understand and minimise the adverse environmental impacts of its activities
- Maintain the University's international reputation as a **Centre of Excellence** through a commitment to exemplary environmental performance and transparent reporting.
- Publically report **specific time bound performance targets**.
- **Improve the carbon performance** of all building stock through the delivery of the Sustainable Design Quality Standards and the Carbon Management Implementation Plan.
- Make **rapid progress towards the delivery of a sustainable campus** that will benefit students and staff through the creation of a positive healthy built environment and an exemplary public realm that meets the needs of the community.
- **Maximise the benefits** of good building performance in relation to affordability, resource consumption, health and well-being.
- **Minimise the disbenefits** of direct and indirect environmental impacts such as inefficiency, waste and pollution.
- **Communicate** with students, staff, and the wider community and respond to their concerns about environmental pollution and unsustainable activities.
- **Encourage the supply chain** to develop the skills and processes needed to achieve best practice and best value.
- **Comply with all legislative and regulatory requirements** and stay abreast of all national, international, and sector objectives and targets.

The University of Strathclyde will pursue these objectives whilst facilitating exciting and enlivening educational opportunities.

3.4 Specific Objectives and Performance Targets

- Estates Services will monitor and report the absolute carbon emissions associated with building energy consumption on an annual basis, with the objective of¹:
 - A 10% reduction in absolute emissions by 2015.
 - A 30% reduction in absolute emissions by 2020.
 - A 40% reduction in absolute emissions by 2025.
 - A 50% reduction in absolute emissions by 2030.

- Estates Services will monitor and report annually the energy performance of all buildings, with the aim of:
 - Publishing building specific energy performance indicators through 2010/11.
 - Establishing building specific energy efficiency improvement targets through 2010/11.
 - Achieve a relative carbon performance level of 95 tonnes CO₂E / m² GIA by 2014/15.

- Estates Services will improve monitoring and reporting of carbon emissions associated with business travel and student and staff commuting, with the objective of:
 - Improving data collection and baseline emissions indicators through 2010/11
 - Reporting baseline emissions associated with travel activities by 2011/12
 - Reducing single occupancy vehicle use to 10% by 2011/12.

- Estates Services will improve monitoring and reporting of carbon emissions associated with waste arising from University operations, with the objective of:
 - Publishing a waste and recycling baseline through 2010/11.
 - Estimate the carbon emissions associated with waste arisings through 2011/12
 - Achieving a recycling and recovery rate of 50% by 2012/13.
 - Achieving a recycling and recovery rate of 80% by 2019/20.

- Estates Services will improve the monitoring and reporting of the carbon emissions impact of procurement activities, with the objective of:
 - Producing a publically available Sustainable Procurement Strategy through 2010/11.

The specific actions which will be undertaken to achieve these targets, with named responsibility and anticipated delivery dates, are contained the “CMIP2011 5-year Action Plan” which supports this document.

¹ The emissions baseline for the CMIP2011 is the 2009/10 academic year.