



University of Salford
A Greater Manchester University



Carbon

Management Summary

2010 - 2015

The University has calculated its emissions baseline in 2005/6 was 20,000 tonnes of carbon dioxide equivalent.

Our target is to reduce these emissions by 30% by September 2015 and 43% by September 2020.

www.estates.salford.ac.uk



Management Summary

The drivers

This Carbon Management Plan (CMP) has been prepared as a result of University of Salford's participation in the Carbon Trust Higher Education Carbon Management programme. The purpose of this CMP is to inform and direct the actions taken by the University in embedding carbon management in order to reduce carbon emissions over the next 5 years and beyond.

Global climate change is recognised as the key environmental threat facing the world. Along with the volatility of energy prices, HEFCE sustainability policy and carbon reduction targets, Government policy and student pressure, this is driving the University to reduce carbon emissions. This plan, in line with the recent Environmental Sustainability Policy approved by the Sustainability Programme Board and Vice Chancellor in October 2010, demonstrates that we are committed to positive action to address our environmental sustainability.

Our new Strategic Plan aims to transform the University in six strategic goal areas, which includes engagement, our people and infrastructure and services. We recognise that environmental sustainability has not been a priority in the past but as part of the transformation of the University, we hope to take the opportunity to embed environmental sustainability and subsequently improve our performance.

Where are we now?

Our carbon emissions baseline for 2005/6 is almost 20,000 tonnes of carbon dioxide equivalent.

This baseline includes emissions from buildings, refrigerant gas leaks, waste to landfill and the University fleet.



Figure 1 In 2005/6 the University of Salford emitted enough carbon dioxide to fill 4 **thousand** hot air balloons!

Energy consumption accounts for nearly all the University's measured carbon emissions (94%) and the majority of costs (84%). The cost analysis shows that, although water only accounts for a small percentage in terms of carbon, for costs it is 11% so there are financial benefits to reducing water consumption.

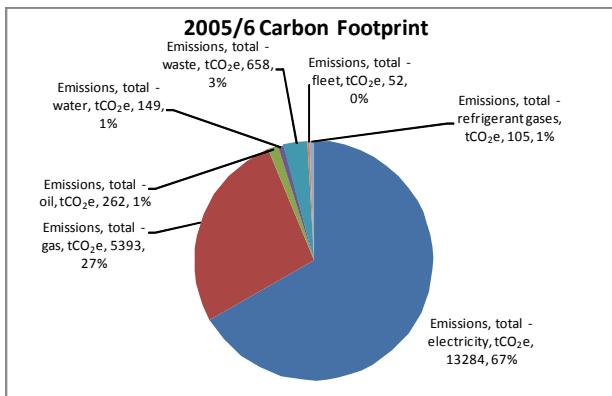


Figure 2 Carbon emission baseline 2005/6

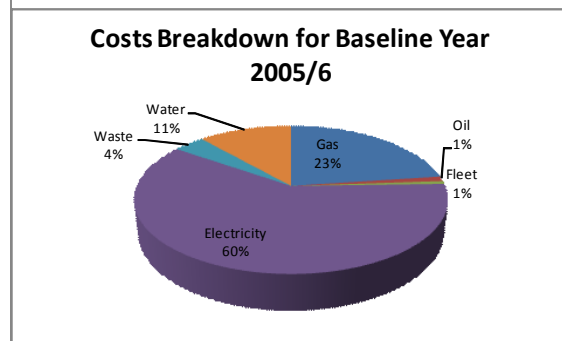


Figure 3 Costs breakdown for emission baseline 2005/6

Where do we want to be?

The objectives of this carbon management plan are;

- To establish a better understanding of the University's carbon footprint
- To manage and reduce overall energy consumption and expenditure
- To develop and implement a monitoring and targeting strategy for reducing energy consumption
- To contribute to the National and Local carbon reduction objectives
- To embed carbon management consideration within University overall strategy, policy and decision making
- To raise awareness of carbon management issues amongst University students and staff

The targets of this plan

University of Salford will reduce the carbon emissions from its activities by 43% from the 2005/6 baseline, by September 2020
An intermediate milestone is to reduce emissions by 30% by September 2015 from the 2005/6 baseline

Where could we be?

A Business as Usual scenario has been calculated for energy consumption for carbon and costs. Planned changes in the University estate have been taken into account in addition to predictions of increased energy consumption due to degradation of equipment and increased occupancy and hours of use of buildings. Predictions have also been made for energy costs; however, it should be noted that these are likely to be conservative estimations and some variance is expected due to the volatile nature of energy prices. These costs have also been applied to the Reduced Emissions Scenario where carbon emissions are reduced by 30% from the 2005/6 baseline over the next 5 years in line with our target.

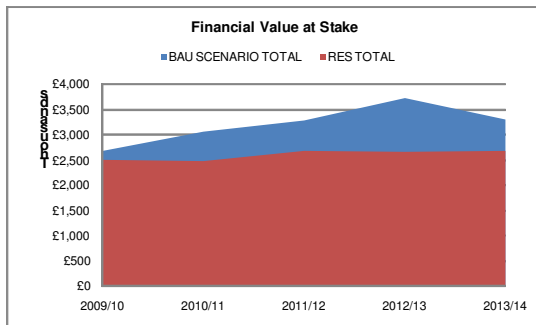


Figure 5 Financial Value at Stake

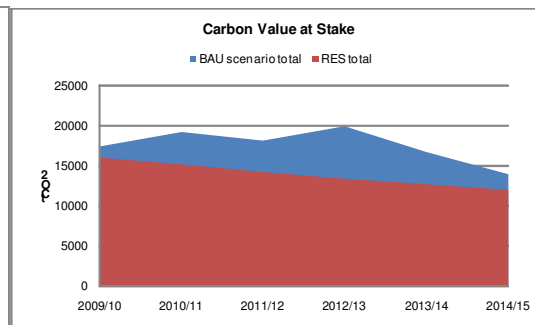


Figure 4 Carbon Value at Stake

The value at stake is the difference in emissions or costs (the blue area) between the two scenarios representing the total savings that can be expected in financial and carbon terms if the CMP is successfully implemented. The value at stake comprises of the savings in increased energy efficiency, Climate Change Levy costs, CRC Efficiency Scheme costs and energy price increases. From the assumptions and predictions made the total aggregated values at stake from 2009/10 to 2014/15 are:

The total aggregated Value at Stake from 2009/10 to 2014/15 in energy related costs is £3 million and in carbon emissions is 22,000 tCO₂e

How will we get there?

To achieve our carbon reduction and environmental sustainability aims, we will concentrate on the following strategic themes;

- ▶ Embedding carbon management throughout the University community
- ▶ Energy and water efficiency in buildings - space management and retrofit
- ▶ Building for energy efficiency – new builds and refurbishments
- ▶ Onsite energy generation
- ▶ Waste reduction and recycling
- ▶ Sustainable procurement
- ▶ Low carbon fleet
- ▶ Promoting and facilitating greener travel by staff and students

Projects have been identified and evaluated for their expected carbon and financial savings. For existing projects, already evaluated and part-implemented, annual carbon savings of 420 tonnes and cost savings of £75,000 have been identified from an investment of £300,000. In total, projects have been identified that, if implemented, will achieve around 120% of our target carbon reductions. This allows for some loss of projects or less carbon reductions than expected but will also contribute to the stretch target of 43% reduction by 2020. If implemented, these projects could save over 4500 tonnes of CO₂e and £800,000 in 2014/15.

Financing the programme

Initially, many projects will be funded through the Salix 'Revolving Green Fund' that the University successfully received in 2009. For projects not eligible for this funding, efforts will be made to finance through existing programmes, such as the Estate Campus Plan and ITS Strategy, and from the existing energy budget.

Each project will be assessed on a case by case basis with respect to expected carbon savings and payback periods. When considering these options it is recognised that a longer term, or whole-life costing approach where capital expenditure is analysed alongside operational savings and expenditure, is required to better assess our carbon reduction options. This will be particularly important as we get closer to our target emissions.

In addition, it is recognised that the best time to implement carbon management measures, especially energy and water related projects is at the time of major refurbishment and new build when they can be incorporated into the design phase. This should be incorporated into the Capital Project and Minor Works budgets.

The University Executive Committee has agreed to ensure that the University's prioritisation of funding proposals is consistent with its commitment to the Carbon Management Plan. External funding opportunities will also be explored.

Embedding carbon management

In order for this CMP to be successfully implemented and the objectives and benefits for the University to be realised it will be necessary to embed carbon management into the day-to-day operation of the University – particularly the infrastructure and our people; in line with the University Strategic Plan. The CMP will also contribute to the interdisciplinary themes, particularly Energy, as identified in the research and innovation strategy, by showcasing carbon management in action on campus.

The Environmental Sustainability Policy and Carbon Reduction Target will be specifically referred to within future Strategic and other high level plans and embedded, by way of local objectives and targets, into local business plans. It will be recognised that the whole University community has a responsibility for their environmental impact, as such objectives and targets will be reflected in personal objectives where relevant and eventually all job specifications.



New frameworks will be developed to ensure we can evaluate the carbon and wider environmental impacts of our strategic decisions, particularly in business travel, construction and procurement. A whole-life costing approach will be embedded as much as possible especially with respect to capital projects.

Environmental sustainability will be embedded into all teaching programmes that the University provides as and when opportunities arise.

We will become better at the way we collect and manage our data with regards to carbon emissions. A metering strategy is being implemented so that we can see building by building, as a minimum, what is being consumed and when for electricity, gas and water. This will support identification of energy intensive areas and subsequent energy reduction projects.

This will also support communication programmes by enabling information to be displayed and reported for every building user at the entrance encouraging ownership. It is recognised that behaviour change is more than just awareness; a strategy to raise awareness by improving communication but aligning this with infrastructure improvements to encourage behaviour change will be implemented as part of this plan. An important component of this will be to establish a network of green representatives across the University to support communication and encourage behaviour change.

Programme management

Good Programme Management is essential to achieve the ambitions of this Carbon Management Plan. The Carbon Management Plan will have senior, strategic ownership through the Strategic Plan, specifically Goal 3 – Transforming Engagement. This will be supported by the Sustainability Programme Board, who report directly to the Executive Committee, to ensure it is aligned with the University Strategic Plan and receives appropriate priority and drive.

In addition to Senior Management, project owners and other stakeholders are identified in a Carbon Management Projects Team. This team will bring together the diverse set of projects across the University to ensure coherence and coordination of carbon reduction activities and to demonstrate results.

There will be quarterly reporting to the Sustainability Programme Board of carbon emissions from energy (once data management allows) and progress of projects. Progress towards embedding carbon management will be reviewed every 6 months. Key performance indicators have been established through the Executive Committee for a number of metrics including carbon emissions. Progress on these will be reported quarterly, along with a progress report on the embedding carbon strategy.

The CMP will be fully reviewed on an annual basis. This will include a review of emissions profile, targets and projects as well as the identification of new opportunities. The annual review will be reported to the Executive Committee via the Sustainability Programme Board and externally to the Carbon Trust.