

LEEDS BECKETT UNIVERSITY

ESTATES SERVICE

Carbon Management
Strategy

2012 - 2015

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CARBON MANAGEMENT STRATEGY 2012-2015

SIGNATORIES

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1 Introduction

Our university recognises that it has significant environmental impacts and an opportunity to be a sector leader in environmental management. Over the years we have worked hard to reduce our environmental impacts with some notable achievements being:

- Our first environmental steering group was set up in 1994
- Our first environmental report was produced in 1995.
- We implemented our 10 year transport strategy in May 2002,
- Became the first English Higher Education Institution (HEI) to achieve the international environmental standard (ISO 14001) in September 2003,
- Project managed the feasibility study for the Universities That Counts Index in 2005,
- Implemented our first Carbon Management Plan in 2006,
- One of twenty organisations to pilot the Salix Energy Efficiency Fund in 2006 which later became HEFCEs Revolving Green Fund,
- Came first in People and Planets inaugural Green League Table in 2007, and
- Achieved the Carbon Trust Standard in 2009.

The Department for Innovation, Universities and Skills' grant letter to HEFCE for 2009/10 required the higher education sector in England to implement a carbon reduction target of at least 80% by 2050 against a 1990 baseline. HEFCE has announced that, from 2011, capital allocations will be linked to carbon reduction. As a result institutions are required to develop individual carbon management plans and to report on progress and the results achieved (HEFCE 2010/01).

Guidance issued by HEFCE on carbon management strategies requires us to implement a carbon management strategy covering scope 1, 2 and 3 emissions as defined under the Carbon Reduction Commitment (see section 2), a market based tool designed to increase energy efficiency by charging £12 per tonne of carbon generated for everyone spending over £500,000 on their energy bills.

The Carbon Management Strategy is designed to fulfil the requirements listed above and to support effective implementation of the following key documents:

Strategic Plan

With specific emphasis on Theme 5 – ensuring financial and environmental sustainability and a high quality Estate

Estates Strategy

This has three key objectives to improve the condition of our estate, improve space utilisation and reduce carbon emissions.



2 Our Carbon Footprint

Carbon footprints for all organisations are broken down into three main areas. Scope 1, 2 and 3 emissions which are defined as follows:

- Scope 1 Direct emissions from sources owned or controlled by the organisation. Typically this will include onsite fuel use in boilers and fuel used for owned vehicles.
- Scope 2 Emissions resulting from the generation of electricity purchased and used by the organisation.
- Scope 3 Emissions cover all other indirect emissions. These emissions are often controlled and owned by a third party.

The tables below show carbon emissions for our baseline study in 2009 – 2010 compared to emissions for the financial year 2010 - 2011

Table 1 Comparison of scope 1, 2, and 3 emissions for 2009/10 and 2010/11 financial years

Emission Scope	Emissions 2009/10 (tCO₂)	Emissions 2010/11 (tCO₂)
Scope 1	4,027	4,233
Scope 2	13,704	12,525
Scope 3	25,586	25,870
Total	43,317	42,628

Table 2 Comparison of scope 3 emissions for the 2009-2010 and 2010-2011 financial years

Category	Emissions 2009/10 (tCO₂e)	Emissions 2010/11 (tCO₂e)	Variance (tCO₂e)
Procurement/supply chain	18,309	19,458	1,149
Staff/student commute	5,879	6,240	361
Waste	15	-1,331	-1,346
Business travel	1,320	1,388	68
Water	63	115	52
Total	25,586	25,870	284



3 Building on Success

The 2010 Carbon Management Strategy set targets (table 3) in line with a HEFCE recommendation of a 34% reduction in carbon emissions by 2020 based on a 2005 baseline. In July 2011 we reported our carbon footprint to the Environment Agency for the first time under the requirements of the Carbon Reduction Commitment (CRC), which imposes a financial penalty of £12 per tonne of carbon emitted by organisation captured by the scheme.

It should be noted that the table below follows the financial year of August – July.

Table 3 Interim targets and actual performance for scope 1 and 2 emissions 2010 to 2015

Year	2005 (baseline)	2010/2011	2011/2012	2012/2013	2013/14	2014/2015
Percentage reduction target (%)	0	5	10	15	20	25
Target emissions scope 1 & 2 (tCO ₂)	17,675	16,791	15,907	15,023	14,140	13,256
Actual scope 1 & 2 emissions (tCO ₂)	17,675	14,999	14,416	14,853	14,461	

Note: Carbon figures revised from previous versions of the Carbon Management Strategy to reflect changes in DEFRA conversion factors for the periods 2005 – 2006 and 2010 - 2014

Table 3 shows that we are on track to achieve our targets for July 2015. We have achieved significant reductions due to enhanced monitoring of our data and energy efficiency measures. Further reductions are likely to become difficult to achieve once all viable energy efficiency schemes have been identified and implemented.

Progress against the 2010 implementation plan

Out of the 28 projects identified in the 2010 Carbon Management Strategy 12 have been completed, 12 are in progress, 1 is on hold and 1 has not been achieved. Our 2010 Implementation Plan - Progress Report details achievements in a high level summary of each project.

Energy efficiency projects

Between April 2007 and Dec 2011 Estate Services have implemented 21 bespoke energy efficiency schemes on top of energy efficiency measures included in new build and refurbishment projects.

- The annual financial savings equate to circa £180,000
- Annual Carbon savings equate to over 1,100 tonnes
- Lifetime savings equate to over £2 million and 13,000 tonnes of Carbon.

Table 4 below shows the ratings our buildings have achieved over the past four years for Display Energy Certificates (DECs).

The most notable achievement being the number of buildings that have improved their rating from G, F and E despite an increase in the number of buildings included in the scheme.

**Table 4-** Number of buildings included in the Display Energy Certificate scheme and their ratings.

DEC rating	Number of buildings in each category year on year			
	2012	2011	2010	2009
A (0-25)	0	0	0	0
B (26-50)	8	6	5	2
C (51-75)	17	17	14	3
D (76-100)	18	21	10	14
E (101-125)	4	6	7	13
F (126-150)	2	1	5	1
G (over 150)	1	1	5	11
Total DEC	50	52	46	44
No Buildings	50	53	46	44

4 Key Performance Indicators

- 1) To reduce Annual Scope 1 and 2 carbon emissions from the University estate by 34% from the 2005/06 baseline value of 19,910 Tonnes to 13,140 Tonnes by 2020/21 (in line with HEFCE and Government guidance).
- 2) To measure emissions due to business travel, staff and student commuting by 2012 and set targets for their reduction by 2013.

Table 5 Interim targets for scope 1 and 2 emissions 2010 to 2015

Year	2005 (baseline)	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
% reduction	0	5	10	15	20	25
Carbon reduction target (tCO ₂)	17,675	16,791	15,907	15,023	14,140	13,256



5 Implementation Plan

The following table is from the original 2010 Carbon Management Strategy and is a list of all the projects that are either in progress, on hold or not achieved and as a result form the basis of the implementation plan for the 2012 Carbon Management Strategy.

The project numbers from the 2010 strategy have been maintained so progress can be cross referenced with the original plan (see 2010 Implementation Plan – Progress Report).

Table 6: Projects from the 2010 Carbon Management Strategy to be adopted in the 2012 – 2015 strategy.

Project No	Key action	Owner	Revised Target date	Duration of the initiative	Review period
Strategies, policies & procedures					
3	To integrate carbon management into all university policies, systems and procedures with specific reference to the financial regulations and the reporting of carbon alongside travel expenses.	Director of Finance and Resources	Aug 2012	Ongoing from Dec 2010	Annual
On site renewables (scope 1)					
5	Conduct a feasibility study into the effectiveness of Feed-in-Tariffs to increase on site renewable energy generation	Maintenance & Sustainability Team (Estates)	July 2012	20 years	Annual
6	Conduct feasibility study for renewable/highly efficient equipment as part of the boiler review.	Maintenance and Sustainability Team	July 2015	15-20 years	Annual
Maintenance/Projects (scope 2)					
7	Conduct an energy audit of all buildings across the estate	Sustainability Team	Audit 1/3 rd of the estate by July 2012	Implement actions over the next 5 years	Every 3 years
8	Review heating controls across the estate and link to timetabling and occupancy. Prioritise using energy data per building.	Maintenance and Projects Teams	July 2016	5 years	Annual
9	Install movement and daylight dimming in all lighting circuits across the estate. Prioritise using energy data per building.	Maintenance and Projects Teams	July 2016	5 years	Annual
11	Develop and implement a dedicated metering strategy	Maintenance Team	Aug 2012	5 year strategy	6 monthly



Project No	Key action	Owner	Revised Target date	Duration of the initiative	Review period
Supply chain (scope 3)					
13	Include carbon criteria into all tender requirements	Purchasing Team	Dec 2010	Ongoing from Dec 2010	Annual
Transport & travel (scope 3)					
15	Revise the university transport strategy and integrate carbon targets	Sustainability Team	June 2012	5 year strategy	Annual
18	Increased video conferencing	IMTS	July 2013	10 years	Annual
20	European Code of Conduct on Energy Efficient Data Centres	IMTS	July 2012	20 years	Annual
22	High efficiency UPS and transformers	IMTS	July 2013	5 years	Annual

The following projects will be added to the above list. The project numbers for new projects (Table 7) follow on from the 2010 implementation plan to avoid confusion.

Table 7: Table showing new initiatives to be added to the implementation plan.

Project No	Key action	Owner	Target date	Duration of the initiative	Review period
29	Install heating controls for remaining halls of residence	Estate Services	Phase 1 Summer 2012	20 years	Annual
30	Install efficient air handling units as part of the Woodhouse Lecture Theatre Refurbishment	Estate Services	Aug 2012	20 years	Annual
31	Revise heating system and controls in Bronte, Headingley Campus	Estate Services	Summer 2013	20 years	Annual



6 Governance and Reporting

The Director of Estates will be responsible for setting the strategic direction for the Carbon Management Strategy, agreeing the resources to be devoted to the Implementation Plan with members of the Corporate Management Team, reviewing progress against the Key Performance Indicators and reporting to the relevant group(s).

This strategy will be reviewed when there is any major change in government targets or policy change or a change in sector requirements.

Reports on progress towards the Key Performance Indicators and the Implementation Plan will be made to the university's Corporate Management Team as and when relevant.

The Sustainability Manager will be responsible for developing and implementing the Carbon Management Strategy and producing interim reports.

Progress towards the energy targets will be reviewed monthly by the Estate Services Leadership Team to discuss trends and take immediate action where increases have been recorded.

To monitor Scope 3 emissions the Sustainability Manager and the purchasing team will request monthly management reports from all relevant suppliers, contractors and consultants.

The environmental co-ordinators will assist in communicating the commitments of the strategy to the wider audience.

A performance report on the Carbon Management Strategy will be included in the Estate Services annual report which is a public document that is distributed to key stakeholders and interested parties.

7 Financing

- Small projects – each project will be costed in terms of the total capital expenditure required (CAPEX), as well as the ongoing operating expenditure (OPEX) and a life-cycle perspective applied.
- Larger projects – further assessment will be required where inflation and equipment amortisations are taken into account.
- Projects will be prioritised on the basis of cost/affordability, energy and carbon reductions.
- Projects will also be prioritised against the Estates Strategy, energy data and the university's condition survey.
- A dedicated energy budget will be included in the yearly financial planning cycle. This will be supplemented by in year loan repayments from existing energy projects funded through Salix. Loan repayments are the savings from previous energy efficiency projects which are reinvested into new projects.
- Refurbishment projects, implemented as a result of the conditions survey, will include the cost of energy efficiency initiatives.
- Energy efficiency will be built into maintenance budgets where relevant.
- All applicable capital projects will reach a BREEAM excellent rating which will require a dedicated budget to be spent on energy efficiency, good design and on site renewable energy generation where practicable.



8 Related Documents

2010 Implementation Plan – Progress Report

www.leedsmet.ac.uk/sustainability

Estate Strategy

Estates Financial Plan

ISO 14001 certification

Sustainability Policy

Leeds Metropolitan University Design Guide

Estate Services Request and Project Definition process

Space Planning Policy

Transport Strategy

Space Temperature Policy

Maintenance Strategy