

UNIVERSITY OF BIRMINGHAM

CARBON MANAGEMENT IMPLEMENTATION PLAN

Hospitality and Accommodation Services (HAS)

1. Introduction

The University produced a Carbon Management Implementation Plan in 2006 as part of the first phase of the Carbon Trust's Higher Education Carbon Management Programme. The original plan covered the period 2006/7 to 2010/11 and set a target of 6% reduction in absolute terms (or 10% versus business as usual) compared to the 2005/06 baseline. In terms of scope 1 and 2 emissions this target has been exceeded for the period to 2009/10 with an absolute saving of 10%.

The University's Strategic Framework, "Shaping our Future: Birmingham 2015" has identified carbon management as a key priority. The University has made a clear commitment to an absolute reduction in carbon emissions of 20% by 2020 whilst sustaining our position as a leading global university and expanding our research base.

Environmental sustainability is identified as an underpinning principle of our 'Strategic Framework to 2015. We will continue to support the University's reputation for taking action to reduce carbon emissions which will be promoted through effective communication of our strategy. This will allow the University to leverage action through its students, staff and the wider community¹

The principles are set out in the University's Carbon Management Strategy which is supported by the Carbon Management Implementation Plan¹. Each College and division within Corporate Services have been tasked to outline carbon management plans which set a target for a 20% reduction in carbon emissions by 2020.

It is intended that the Carbon Management Implementation Plan (CMIP) is communicated to all residents and across all staff within HAS to raise awareness ensuring that all stakeholders within HAS understands the importance of carbon reduction and the positive and negative impact of their actions.

2. Scope of the CMIP

The plan covers Scope 1, 2 emissions and estimates for Scope 3 emissions of CO₂ which are defined as:

¹ http://www.climatechange.bham.ac.uk/documents/CMIP_2011_Final.pdf

- **Scope 1**

Direct emissions that occur from sources that are owned or controlled by the University, for example emissions from combustion of fuels in boilers, the Combined Heat and Power Scheme (CHP), University vehicle fleet, and fugitive emissions such as leaks of refrigerants from air conditioning systems

- **Scope 2**

Indirect emissions from the generation of purchased electricity from the Grid

- **Scope 3**

Covers all other indirect emissions which are a consequence of the activities of the University, but from sources it does not own or control. For example waste disposal, water supply, business travel, staff/student commuting and procurement of goods and services.

The physical environment and age of the numerous buildings in which HAS operates presents us with many challenges in terms of energy consumption, insulation, solar gain with the real opportunities relate primarily to behavioural changes and replacement of equipment or efficient use of existing equipment. A number of the HAS buildings are pending future refurbishments and therefore any payback for measures put in place would be limited.

There is a clear commitment to improve our environmental performance, sustainability and the reduction of our carbon footprint through the CMIP.

HAS occupies or part occupies a number of buildings on the main campus, Selly Oak campus and on the periphery of the main campus, including student residences on the three Student Villages, as detailed below:

- Staff House
- University Centre
- Munrow Sports Centre
- Security – Aston Webb
- Terrace Huts
- Transport
- Old Gymnasium
- The Elms Day Nursery
- The Oaks Day Nursery
- The Acorns Pre-School Unit
- Lucas House
- Peter Scott
- Garth House
- Hornton Grange
- Winterbourne House and Gardens
- Staff / Postgraduate Accommodation
- Pritchatts Park Village
- Selly Oak Village

- The Vale Village
- Priestley Centre, Consiton

Energy Use and CO2 Emissions for HAS 2009/2010

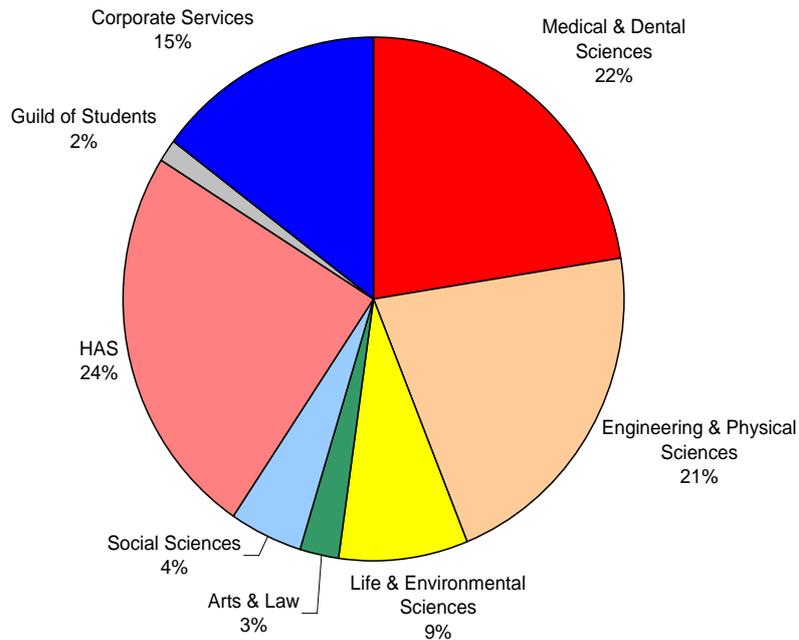
The following table sets out the energy consumption and resulting CO2 emissions for the majority of HAS buildings for 2009/2010. Those buildings highlighted in yellow are estimated due to metering issues.

Building	Total Energy (kWh)	Total CO₂ (Tonnes)
Main Campus/Off Campus		
Old Gymnasium	296,759	71
Staff House	759,425	206
University Centre	2,174,019	743
Elms Day Nursery	185,438	49
Munrow Sports Centre & Track	4,753,364	1,326
Winterbourne House and Gardens	894,731	213
Transport Services	5198	1
Post Room – Terrace Huts	41,682	11
Security Section – Aston Webb	118,676	51
Conference Park		
Garth House	302,255	89
Hornton Grange	742,230	190
Lucas House	806,389	221
Peter Scott House	449,118	137
Selly Oak Campus		
Summer School	29,974	8
The Oaks Nursery	176,172	66
Staff/PG Accommodation		
1A/1B/2 The Close	135,165	34
3A/3B The Close	87,132	20
4/5a/5b The Close	152,790	34
10/11 the Close	74,204	16
Elmfield Cottage	56,321	12

Pritchatts Park Village		
Ashcroft	897,476	223
Oakley Court & Pritchatts Park Social Centre	985,704	537
Pritchatts Park inc 3,7,9 & 11	1,438,476	595
Spinney	828,039	205
Selly Oak Village		
Jarratt Hall	2,984,934	1,627
The Vale Village		
Aitken	402,421	219
Chamberlain - Eden Tower and Hampton	2,933,933	776
Eden Wing – Staff Accommodation	2,146	1
Elgar Court	911,509	497
Maple Bank	2,207,693	530
Mason Hall	5,528,338	1,539
Shackleton Hall	3,528,350	1,401
Centre Court	709,104	176
Tennis Court	2,337,905	608
Squash Courts Laundry	51,222	15
Central Kitchen (Chamberlain)	809,162	277
Priestley Centre- Coniston	144,534	63
Total	38,941,988 (kWh)	12787 tonnes

Estimated due to metering issues

The University of Birmingham CO₂ Emissions by College 09/10



3. Environmental Principles

The general principle for implementation that the University will focus on, in priority order, is projects that:

- Reduce energy consumption through:
 - Improvements to the fabric of buildings (reducing air leakage and solar gain)
 - Ensuring efficiency of energy using equipment
 - Ensure efficient operation of energy consuming equipment (correct control, maintenance, training and awareness of the energy implications of its use)
 - Reduce emissions from University vehicles¹

The majority of the buildings occupied by HAS with the exceptions of student residences, Winterbourne House and Gardens are old and have been identified for refurbishment, improvement or other use. There are further constraints to implementing environmental improvements to some of the buildings HAS occupies brought upon by virtue of their “listed” status.

¹ http://www.climatechange.bham.ac.uk/documents/CMIP_2011_Final.pdf

As the future life and occupancy of these buildings is uncertain any investment in improvements to the fabric, heating or energy improvements are unlikely to be approved due to the outcome of full life cycle costing and payback periods.

Indeed a range of carbon reduction projects have been identified across the University Estate as retrofit changes to the buildings and none of the buildings occupied by HAS have been identified. However, there are two buildings occupied by HAS that have been identified by Estates Office as requiring feasibility checks and these are the Old Gymnasium and the Munrow Sports Centre.¹

The Munrow Sports Centre is currently exploring specific measures such as:

- Energy Management System; and
- Changes to the lighting and cleaning of the swimming pool

An environmental working group is due to be established to contribute to the development of plans for the new sports centre.

HAS will concentrate efforts on reducing its impact on CO2 emissions through working to reduce energy and water usage, travel (including commuting and business travel), waste, and primarily behavioural change programmes, such as Green Impacts and environmental campaigns in Student Accommodation and the replacement of equipment or more efficient use of existing equipment.

4. Methodology

Caroline Radnor, Sustainable Travel Coordinator and Peter Larkin, Policy and Environmental Services Manager were approached to prepare this CMIP by the HAS Senior Management Team.

A full energy audit of all buildings occupied or partially occupied by HAS was carried out in April 2011. Each location was inspected with the audit focussing on:

- Heating/Cooling
- Lighting
- IT Equipment
- Network Multi Function Printers/Photocopiers
- Catering equipment
- Drinking water
- Recycled Paper/Duplex

5. Current Actions and Achievements

HAS have been supporting the reduction in carbon emissions through various projects and initiatives over the last year or so. There are a number of projects that HAS is leading on which provide benefits to the wider University community. Through these projects HAS is aiming to create a better working environment and improve wellbeing for its staff and students. In addition the aim is to attract high quality staff and student and enhance the experience of all members of the University community. HAS is working with other departments in Corporate Services and the Colleges to get sustainable behaviour engrained

in University life. This work will have a positive impact on reducing the overall University carbon footprint.

Listed below are details of initiatives and examples of where HAS have supported sustainable development and working to support the University's commitment to reducing carbon emissions (Scope 1,2 and 3 emissions are included).

In respect of student residences all refurbished or new build schemes are compliant with Building Regulations, BREAM etc and indeed the recent development of Mason exceeded the minimum standards on insulation.

The new Sports Centre will be developed with the aim of achieving and 'A' rated Energy Performance Certificate.

Current Projects and Achievements

Project / Initiative	Impact / CO2 Saving	Division
Introduction of Paper and Cardboard Recycling Schemes	Scope 3 Reduced emissions from disposal	Environmental Services
Zero Waste to Landfill All general waste to Energy from Waste Incinerator facility generating electricity and district heating	Scope 3 Reduced emissions from disposal and increased avoided direct CO2 emissions	Environmental Services
The use of 3 Electric Vans around campus	Contribution to direct emissions reduction. Opportunity for raising awareness and enhanced image	Environmental Services Cleaning Services Student Accommodation
Mason New Build	Reduced direct emissions (see Table 1)	Student Accommodation Vale Village
Introduction of Mixed Recycling Scheme	Scope 3 Reduced emissions from disposal Opportunity for raising profile	Environmental Services
Skip Contract	Up to 98% of contents recycled	Environmental Services
Appointment of Sustainable Travel Coordinator	Focus for Scope 3 baseline and reductions related to travel	Support Services
Implementation of Sustainable Travel Plan Measures include: <ul style="list-style-type: none"> • Pocket Travel Guide • Travel Website • Cycling Roadshows • Cycle Parking • Lunchtime Walks • Discounted public transport 	Scope 3 reductions related to travel	Support Services

season tickets		
Winterbourne House and Gardens refurbishment	Contribution to direct emissions reduction (see table 1) Opportunity for raising awareness and enhanced image	Support Services
Winterbourne House and Gardens Travel Plan	Scope 3 reductions related to travel	Support Services
Hydrogen Postal Van	Contribution to direct emissions reduction. Opportunity for raising awareness and enhanced image	Support Services
Electric Smart Car for Hire	Contribution to direct emissions reduction	Support Services
Staff and Student Shuttle Bus	Scope 3 reductions related to travel	Support Services Student Accommodation
Fuel Efficient Driving Course	Contribution to direct emissions reduction via fuel reduction	Support Services
Fleet Vehicle Selection Strategy Review of fleet vehicles with the aim of reducing the number	Contribution to direct emissions reduction	Support Services
Green Impact Scheme	Contribution to direct emissions and Scope 3 reduction, via various criteria	2 x HAS Teams
Appointment of Sustainable Projects Coordinator to deliver student behavioural projects and 5% reduction in energy usage	Contribution to direct emissions and Scope 3 reductions. Enhanced reputation.	Environmental Services

6. Future Plans

HEFCE is currently producing methodology and defining definitions for data collection for monitoring Scope 3 emissions over the next 12 months.

To enable Scope 3 emissions to be measured as accurately as feasibly possible a baseline needs to be established. In terms of travel a method for setting the baseline for both commuting and business for the whole University is currently being developed.

Additionally Environmental Services have been working with the University waste and recycling contractor, Veolia Environmental Services, on a greenhouse gas tracking tool, which enables more accurate carbon foot-printing.

Travel

- Implementation of a car parking management system that will more effectively manage those driving to and parking at the University. Along with other aspirations the aim of this project is to reduce the number of vehicles travelling to and parking at the University.
- Ongoing implementation of key measures.
- Develop a visitor and contractor car parking policy.
- Business Travel Management System
- Enhancing the use of technology such as videoconferencing to reduce the need to travel.
- Working with academic projects and links to research into the psychology of travel behaviour.
- Work collaboratively with UBSport on initiatives which promote active travel as a way of improving health and fitness.

Waste Management, Recycling and Energy

- Develop and implement a Waste Management and Recycling Strategy to include targets and plans for more efficient handling of waste resources
- Embark on an innovative behavioural change programme and (incentivised) campaigns to engage student residents on sustainability to reduce energy usage and carbon emissions by 5% in student residences and increase recycling in the Villages

7. Actions to Embed Carbon Management

Embedding the principles of carbon management within HAS policies, strategies and day to day operations is essential to ensure the success of the Carbon Management Implementation Plan.

Following approval of the CMIP the Plan will be communicated across the whole of HAS along with individual reports on the findings of the energy audit carried out in April. Staff will be issued with guidance and advice on implementing behavioural changes and measures recommended from the audit to reduce emissions in each of the locations listed above.

The Sustainability Task Group, working with Estates, HAS, Campus Services, IT Services and Marketing, will set targets for carbon reduction and these targets will be reviewed annually.

A University wide Sustainable Communications Working Group has recently been established and HAS is well represented on this group with three stakeholders and a Sustainable Communications Plan has been implemented to disseminate information across HAS.

In addition to this, since membership of the Green Impacts Scheme this initiative has been used to communicate sustainability and top tips across HAS to reduce carbon emissions

through the intranet, targeted emails, carbon management posters/stickers tips on energy using equipment and notice boards.

8. Conclusions

As a result of the CMIP, HAS have identified that with the introductions of behavioural changes and other initiatives that it could contribute a saving of around 5% in 2011/2012 against a baseline of 2010/2011.

The Travel Plan aims to achieve a 5% reduction in the proportion of staff and student single occupancy journeys to, between and from all University sites in 2012/13 against a baseline of 2011/2012.

We will continue to work on initiatives to help reduce the Universities carbon footprint from waste and recycling.

14 July 2011

Peter Larkin, Policy and Environmental Services Manager

Caroline Radnor, Sustainable Travel Coordinator