

2013

College of Social Sciences  
Carbon Management  
Implementation Plan  
Update and Progress



**EMBEDDING THE CARBON MANAGEMENT IMPLEMENTATION PLAN within  
THE COLLEGE OF SOCIAL SCIENCES**



**1. Introduction**

This update to COSS Carbon Management Plan originally published in 2011 provides:

- 1) A report on progress to date in achieving the 10% reduction targeted for 2020 against the 2009 baseline; a reduction of 5% has been achieved to date.
- 2) An update on the actions and proposals for development since publication which identifies further measures to meet the 10% reduction target.

The University's Strategic Framework, Shaping our Future: Birmingham 2015<sup>1</sup> made reducing our carbon footprint one of its priorities. The University has approved a Carbon Management Strategy<sup>2</sup> which sets a target for a 20% reduction in carbon emissions by 2020. Each College has been tasked with drawing up a carbon management plans to 'best fit' their own needs.

In drawing up the Carbon Management Implementation Plan (CMIP)<sup>3</sup> the College recognises the positive impact its research and teaching has in this area. In teaching for example, via the masters module on Transforming Development for Sustainability and research on carbon capture via community development through mangrove conservation, carbon markets and development in coastal regions.

Raising awareness through the CMIP will help to ensure that every member of staff and every student is a sustainability practitioner equipped to understand the consequences of their actions. The CMIP focuses on mitigation of carbon through the corporate performance of the College.

The environment in which the College of Social Sciences operates presents us with many challenges and opportunities. As we address and pursue these we will pay close attention to the environmental impact of our work. We are committed to environmental sustainability and the reduction of our carbon footprint through the CMIP.

It is the culmination of work to scope and reduce the impact of the energy and water usage, travel (including commuting and business travel) and waste, associated with the delivery of College business over the next 3 years.

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<sup>1</sup> <http://www.birmingham.ac.uk/university/about/2015.aspx>

<sup>2</sup> [http://www.climatechange.bham.ac.uk/documents/Carbon\\_Management\\_Strategy\\_2010\\_FINAL\\_COUNCIL.pdf](http://www.climatechange.bham.ac.uk/documents/Carbon_Management_Strategy_2010_FINAL_COUNCIL.pdf)

<sup>3</sup> <http://www.business.bham.ac.uk/news/climate-change-leadership.shtml>

<http://www.idb.bham.ac.uk/degree/pg/modules/transforming-development-sustainability.shtml>

## 2. SCOPE OF THE CMIP

The plan covers initiatives related to Scope 1, 2 and 3 emissions of greenhouse gasses and these are defined as follows:

**Scope 1:** These are direct emissions that occur from sources that are owned or controlled by the organisation, for example emissions from combustion in boilers, turbines or fleet vehicles.

**Scope 2:** These are emissions from the generation of purchased electricity consumed by the organisation.

**Scope 3:** These are all other indirect emissions which are a consequence of the activities of the organisation but occur from sources not owned or controlled by the organisation – for example, commuting and procurement.

**Scope 4:** Is the impact of goods and services provided when they are outside of the control of the provider. For example the impact of the research and education undertaken of the University on the wider community. Scope 4 emissions are extremely difficult to quantify however the benefits of education and research are expected to result in a reduction in emissions.

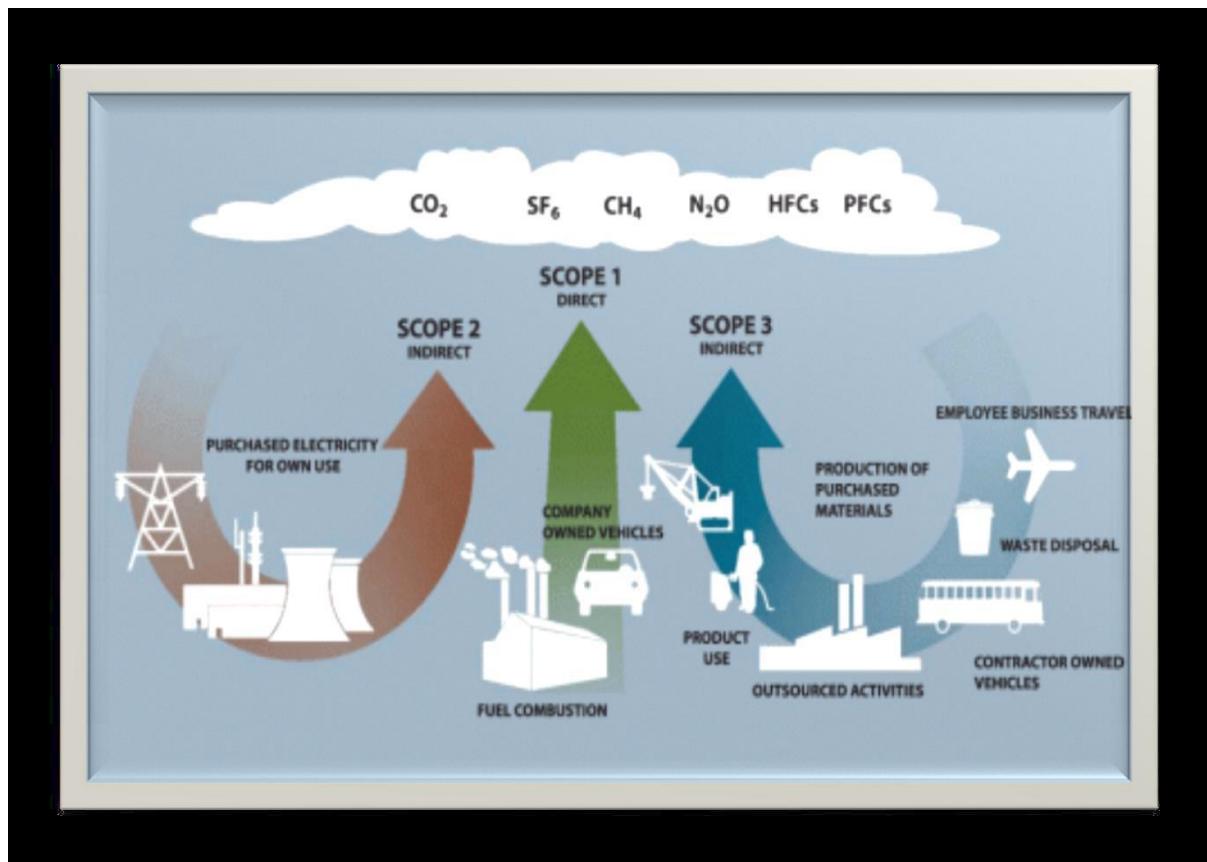


Figure 1: GHG Emissions Categories: Scope 1, 2 & 3

Initial targets relate to Scope 1 and 2 emissions which are related to energy use. It should be stressed that many of the initiatives have added benefits other than reducing carbon emissions, such as cost savings, resource efficiency and enhanced profile of the College.

### 3. Progress to Date

Since 2009/10 the CO<sub>2</sub> footprint of COSS has reduced by 5% (Table 1 below) which is half way to the declared reduction by 2020.

| Building                                | CO <sub>2</sub> Emissions [Tonnes] |              |              | Change in emission<br>(increases +ve) | % change since 09/10 |            |
|---|------------------------------------|--------------|--------------|---------------------------------------|----------------------|------------|
|   | 09/10                              | 10/11        | 11/12        |                                       | 10/11                | 11/12      |
| Muirhead Tower (ex Special Collections) | 877                                | 1,018        | 1,026        | 149                                   | 16%                  | 17%        |
| University House                        | 646                                | 542          | 542          | -104                                  | -16%                 | -16%       |
| Education Building                      | 348                                | 347          | 358          | 10                                    | 0%                   | 3%         |
| Park House                              | 275                                | 191          | 167          | -108                                  | -31%                 | -39%       |
| J G Smith Building                      | 95                                 | 92           | 82           | -13                                   | -3%                  | -14%       |
| Priorsfield House                       | 74                                 | 62           | 32           | -42                                   | -16%                 | -57%       |
| <b>Total</b>                            | <b>2,315</b>                       | <b>2,252</b> | <b>2,207</b> | <b>-108</b>                           | <b>-3%</b>           | <b>-5%</b> |

Table 1 CO<sub>2</sub> footprint 2009/10 to 2011/12 by building.

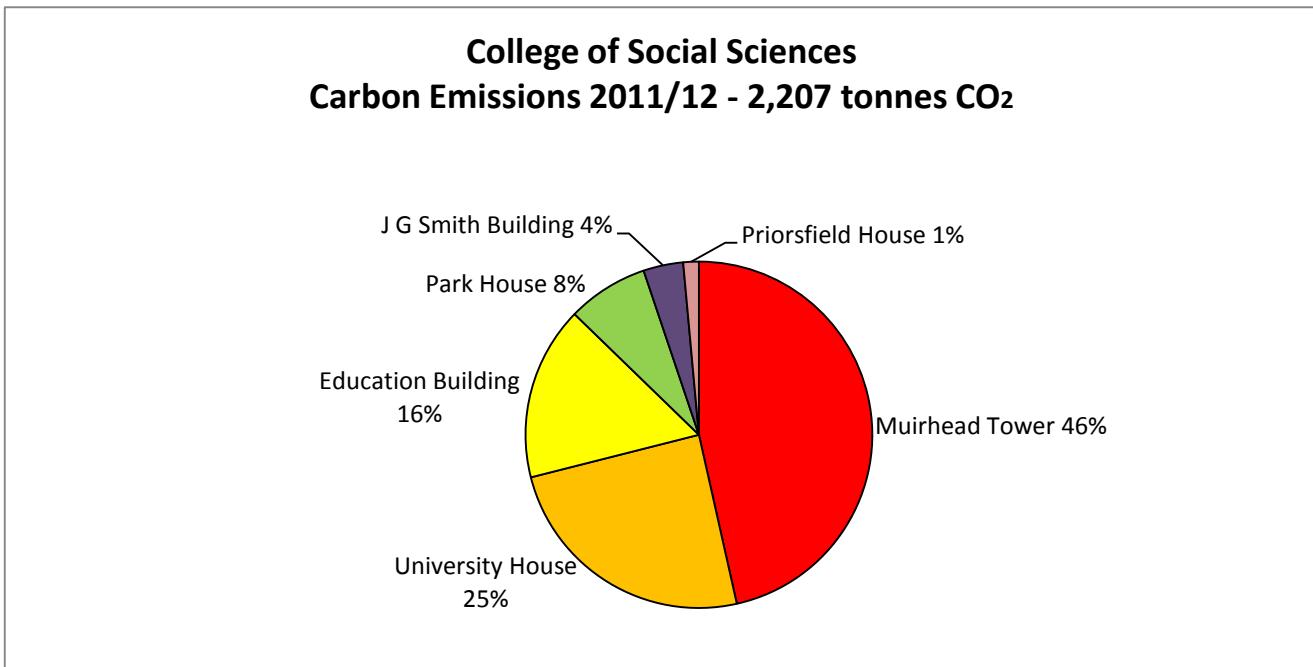


Figure 2 Carbon Emissions by Building.

This reduction has been achieved by consolidation of space, achieved by moving out of Priorsfield and the reduced use of Park House and J G Smith Building and the increase occupancy of Muirhead Tower. In addition energy reduction projects including zoning of the ventilation system in University House together with careful management of room bookings, improvements to lighting control and draught stripping of buildings and the consolidation of ICT have all contributed. A further contribution has been made by extending the campus's district heating system to connect the Medical School to the Combined Heat and Power (CHP) station. This results in improved utilisation of heat from the CHP station and a lower carbon intensity of the heat supplied, thus reducing the carbon footprint of the College's buildings connected to the district heating system; namely Muirhead Tower, Education and J G Smith.

**Carbon Reduction Projects:** The following projects were presented in the original plan and are represented below together with their status.

| ITEM NO. | DESCRIPTION OF WORKS   |  | CO <sub>2</sub> IMPACT OF CHANGE | Status    |
|----------|--|--|----------------------------------|-----------|
| 1        | Increase space utilisation of Muirhead Tower.                                    | Improve the quality of teaching stock available through the closure of Priorsfield as a teaching centre and remodel 4 <sup>th</sup> floor of Muirhead Tower to replace teaching provision. | 8 tonnes <sup>4</sup>            | completed |
|          |  | Create more intensive use of PGR study space on 10 <sup>th</sup> floor of Muirhead Tower by releasing 4 <sup>th</sup> floor for PG teaching activities.                                    |                                  | completed |
|          |  | Larger offices utilised more efficiently through the principle of shared academic offices.   |                                  | completed |
| 2        | Release of Priorsfield back to the University.                                   | Release of 623 m <sup>2</sup> of space.  | 74 tonnes                        | completed |
| 3        | Reducing waste to landfill, reducing general waste and increasing recycling.     | Introduction of the Mixed Recycling Scheme across the remaining College buildings. Recycling substations on order.   | Reduction in scope 3 emissions   | completed |
| 4        | Switch from bottled water to plumbed in units.                                   | All free standing bottle water coolers to be replaced with plumbed in mains fed machines in all College buildings.   | Reduction in scope 3 emissions   | completed |
| 5        | Increased number of network printers, reducing the need for individual printers. | As individual printers fail, they are no longer replaced.  |                                  | On-going  |
| 6        | Heating Controls.  | Reduction of building temperatures by 0.5°C in some buildings.   | 15 tonnes <sup>5</sup>           | completed |
| 7        | Increase utilisation of Muirhead   | Utilisation of 5 <sup>th</sup> floor for further expansion of Government and   | Accommodating expansion of       | completed |

|    |   |  |                                    |   |
|----|---|--|------------------------------------|---|
|    | Tower   | Society and Social Policy with the relocation of Education to the Education building.  | College                            |   |
| 8  | Increase utilisation of University House                | Utilise larger office spaces more efficiently through the introduction of the shared office principle.   | Accommodating expansion of College | completed   |
| 9  | Increase utilisation of space in Education Building.    | Creative use of former Education Library space.  | 0                                  | On hold pending new library                       |
|    |   | Utilise larger office spaces more efficiently through the introduction of the shared office principle.   | Accommodating expansion of College | Underused meeting room converted to office space. |
| 11 | J G smith Building                                      | Release of J G Smith building.   | -91 tonnes                         | Completed - Lower floor occupied by CAL           |
| 12 | New build Business School Post Graduate teaching Centre | Create a modern Post Graduate Teaching Centre for Business School.   | +200 tonnes <sup>6</sup>           | Carried over                                      |
| 13 | Embedding Carbon Management.                            | Formalise communications between Sustainability Task Group and School Advisory Groups.   | -20 tonnes <sup>7</sup>            | Ongoing   |
| 14 | College wide  | Involve marketing department and web team to improve student and staff engagement through effective communication strategies.  |                                    | Ongoing   |
| 15 | College wide  | Continue to appoint local champions to raise awareness and help to reduce overall carbon footprint and increase staff involvement in Green Impact to improve on awards already achieved across the College |                                    | Ongoing   |
| 16 | IT projects.  | Power management of servers, printers and monitors, energy efficient procurement.  | TBD                                | Ongoing working with IT                           |
| 17 | Reduce electricity use.                                 | Time controls on drinks machines, photocopiers and office equipment throughout the College.  | Small                              | Most vending machines removed                     |
| 18 | University House.                                       | Consider lighting controls in toilets, corridors, common rooms in  | TBD                                | Under investigation                               |
| 19 | Education Building                                      | Installation of Thermostatic Radiator Valves (TRV's) and draught proofing of windows.  | Completed                          | completed   |
| 20 | University House  | Check TRV's  |                                    | Carry forward                                     |
| 21 | University House  | Remove portable heaters from   | Large                              | ongoing   |

|    |   |   |                   |                                 |
|----|---|---|-------------------|---------------------------------|
|    |   | offices where possible.   |                   |                                 |
| 22 | College wide                                    | Produce energy display certificates for all buildings.  |                   | Ongoing (renewed annually)      |
| 23 | Park House                                      | Boiler replacement in Park House.   | TBD               | completed                       |
| 24 | University House                                | Zoning of ventilation system.   | 100               | completed                       |
| 25 | University House                                | Draft Stripping of sash windows in University House   |                   | Rejection on cost grounds       |
| 26 | Muirhead Tower                                  | Evaluation for the need for cooling in Muirhead Tower in the winter.                                    | TBD               | Carried forward                 |
| 27 | College wide                                    | Investigate overnight electricity consumption in all buildings.   |                   |                                 |
| 28 | Move towards more sustainable travel practices. | Make business travel 'greener' by reducing business travel carbon footprint.                            | Scope 3 emissions | Working with Transport Services |
| 29 | Transport                                       | Implement 'smartmover' strategies for example, encourage car sharing and use of bikes.                  | Scope 3 emissions | Working with Transport Services |
| 30 | Muirhead Tower                                  | Lighting control of 1 <sup>st</sup> floor seminar rooms.  | 5                 | Completed                       |
| 31 | Muirhead tower, Education and J G Smith         | Reduced Carbon Intensity of steam to campus with extension of district heating system to Medical School | 75                | Completed                       |

<sup>4</sup> [Based on the increased IT load from 90 people moving from Priorsfield House](#)

<sup>5</sup> [Based on 0.5° C reduction in heating across all buildings within college](#)

<sup>6</sup> [Based on estimated 1% for Staff engagement – results may improve on this](#)

#### 4. FURTHER ACTIONS TO EMBED CARBON MANAGEMENT IN THE COLLEGE

Embedding the principles of carbon management at the heart of the College of Social Sciences policies, strategies and projects is key to ensuring the success of the Carbon Management Implementation Plan. This includes COSS's participation in Green Impact for the last three years and last year we received 4 silver and 1 bronze awards in addition to a second mini wellbeing day which coincides with World Environmental Day.

The Sustainability Task Group, working with the Estates Office, Campus Services, IT Services and Marketing, will set targets and review them annually. Schools will be required to implement the CMIP and policies relating to climate change legislation.

A College communications strategy for dissemination of information will be developed, building on a number of initiatives already being used for communication within the University including the intranet, targeted emails and posting carbon management saving tips on start up of computers. Carbon champions will be chosen for each building and regular group meetings held to help disseminate information through Schools and departments.

The University Procurement Office has developed a sustainable procurement policy<sup>8</sup> and the Sustainable Travel Plan<sup>9</sup> is in place supported by the University Sustainable Travel Plan coordinator. Waste and energy audits of all buildings will be carried out on a regular basis.

The proposed carbon reduction projects for the coming period are:

| No           | Building            | Measure  | Carbon Saving<br>[Tonnes / Year] | Notes / Comments   |
|--------------|---------------------|--|----------------------------------|--|
| 1            | University House    | Install LED <sup>4</sup> lighting in corridor areas of new part of building.   | 8                                | Project raised   |
| 2            | University House    | Installation of LED lights in Common Room, Library and Marjorie Fry Room   | 4                                | Completed  |
| 3            | University House    | Increased insulation levels in roof as part of upgrade works.  | 5                                | Project to be raised   |
| 4            | University House    | Improved control of ventilation in computer clusters   | 5                                |  |
| 5            | Education Building  | Installation of LED lighting in corridors and new lights in reception.   | 36                               | Trail in progress with a view to wider roll out                      |
| 6            | Education Building  | Creative use of Education Library space.   | TBD                              | On hold pending new library  |
| 7            | Muirhead Tower      | Evaluation for the need for active cooling in the winter.  | 20                               |  |
| 8            | Muirhead Tower      | Lighting – Improve control of stairwells and removal of lights on top of book shelves  | 7                                | To be evaluated  |
| 9            | Muirhead Tower      | Further consolidation of space.  | -                                | Enables expansion of activities within existing footprint.           |
| 10           | J G Smith           | Improvement efficiency and control of corridor lighting  | 6                                |  |
| 11           | Priorsfield House   | Release of Priorsfield House.  | 32                               | Completed  |
| 12           | J G smith           | Release of <sup>1</sup> / <sub>3</sub> of J G Smith  | 27                               | Completed  |
| 13           | Teaching activities | Reducing paper use and need for copying by use of ICT (WebCT), and electronic submission of assignments, feedback and handbooks. | Scope 3                          | Scope 3 emissions. Actions have been implemented or are in progress. |
| 14           | Staff engagement    | For example via participation in Green Impact, Environmental Day   |                                  | Ongoing process  |
| <b>Total</b> |                     |  | <b>150</b>                       | <b>7%</b>  |

<sup>8</sup> [http://www.environment.bham.ac.uk/documents/Sustainable\\_Procurement\\_Policy\\_Dec\\_2010.pdf](http://www.environment.bham.ac.uk/documents/Sustainable_Procurement_Policy_Dec_2010.pdf)

<sup>9</sup> <http://www.bham.ac.uk/travel/>

<sup>4</sup> LED Light emitting diodes