

## UNIVERSITY OF STIRLING

### Safety Health and Environment Committee: 1 May 2014

## Environmental Management System (EMS) Objectives 2014 - 2018

1. The purpose of this paper is to provide members of the University Safety, Health and Environment Committee (SHE) with a draft set of environmental objectives for 2014 – 2018 for consideration, discussion and endorsement.
2. The Environmental objectives 2014 – 2018 result from the environmental impact assessment i.e. where the University's environmental impact was assessed as significant, an environmental objective has been proposed to manage that impact.
3. The environmental objectives 2014 - 2018 are to:
  - Implement key objective action points of the University Biodiversity Plan.
  - Reduce the University's energy consumption by 38% by 2020, based on its 2007/08 baseline.
  - Aim for the highest practicable BREEAM rating for all new construction projects and ensure that a minimum of 10% of the value of materials used on construction projects over £1m is derived from recycled and re-used sources.
  - Embed the principles of sustainable procurement within the University to ensure that the University meets its sustainable procurement duty.
  - Promote the minimisation of waste and provide an infrastructure for re-use and recycling to achieve a 30% reduction in overall waste generated by the University and 90% recycling of waste by 2018.
  - Promote the responsible use of water on campus through better monitoring of water usage patterns and targeted campaigns to reduce water consumption in identified areas of high usage.
4. The detail of each objective is provided below with information on the relevant area of University policy, lead responsibilities, supporting indicators, programme outline and the actions and timescales required to meet the objective.

<b>Objective</b>	<b>Ref: Biodiversity</b>	Implement key objective action points of the University Biodiversity Plan
<b>Relevant area of sustainability policy</b>		Where possible, integrate the principles of biodiversity in the management of the Estate
<b>Lead Responsibilities</b>		Director of Estates and Campus Service  Director of Property Management
<p><b>Supporting indicators</b></p> <ul style="list-style-type: none"> <li>• Finalised version of the Biodiversity Action Plan available on University portal</li> <li>• Notes taken from the Biodiversity Steering Group</li> <li>• Grounds Maintenance &amp; Management Plan: A written document, with accompanying plan clearly detailing and scheduling maintenance and management operations.</li> <li>• Follow up records of ecological surveys and research projects</li> <li>• User perception: information gathered through student research projects into the perception of biodiversity on campus.</li> </ul>		
<p><b>Outline of programme</b></p> <p>A Biodiversity Policy was published in 2008, committing the University to protect, maintain and improve the biodiversity of its estate. The Policy aims to:</p> <ul style="list-style-type: none"> <li>• Ensure that the University complies with current legislation relating to the conservation of biodiversity and habitats on campus, and where possible set its own higher standards.</li> <li>• Maintain and update the Ecological Baseline Report for the University campus.</li> <li>• Develop a Biodiversity Management Plan, which sets objectives for maintaining and improving biodiversity on campus whilst recognising the importance of the Historic Garden and Designed Landscape.</li> <li>• Where appropriate, create new habitats on campus.</li> <li>• Work with local and national partners to promote and enhance biodiversity on the campus and in the wider region.</li> <li>• Encourage consultation between relevant academic staff and management on biodiversity issues.</li> <li>• Enhance staff, student and community awareness of biodiversity issues on campus, and promote the campus as an educational and recreational resource.</li> <li>• Set and review targets for maintaining and improving biodiversity on campus, and report these annually to the Safety, Health and Environment Committee.</li> </ul>		

A review of the Stirling Campus biodiversity was undertaken in 2012 by Ian Whyte Associates Landscape Architects in association with Direct Ecology. A draft action plan report was provided in October 2012.

The aims of the Biodiversity Action Plan are:

- To identify the current habitats present on the University campus as a baseline for future change;
- To make proposals for improved biodiversity where appropriate;
- To inform maintenance practice so as to use resources more effectively, whilst achieving improved biodiversity;
- To provide a long-term aspiration for development of the campus, against which progress can be measured.
- To inform and provide evidence for BREEAM assessments undertaken for University building projects.

<b>Actions to meet objective</b>	<b>Responsibility</b>	<b>Target</b>	<b>Documentation</b>
Review the Biodiversity Action Plan and finalise; place document on University portal	Director of Property Management	June 2014	Finalised issue of the Biodiversity Action Plan
Establish a Biodiversity Steering Group with representation from Gardens and Grounds, specialist interest groups (Bat Group, Nature Society), Natural Sciences	Director of Property Management	February 2015, ongoing	Invitation emails;
Hold initial meeting of Biodiversity Steering Group to agree on the membership of the group, the remit of the group, meeting frequency, and initial aims	Director of Property Management	August 2015	Notes from meeting; documented membership and remit of the group
Prioritise the key action points from the Biodiversity Action Plan and develop a further action schedule	Biodiversity Steering Group	October 2015	Notes from Biodiversity Steering Group meetings
Implement the key action points of from the Biodiversity Action Plan schedule	Director of Property Management	January 2016 – ongoing	Notes from Biodiversity Steering Group meetings
Annual review of progress	Biodiversity Steering Group	January 2016 - ongoing	Notes from Biodiversity Steering Group meetings

<b>Objective</b>	<b>Ref: Energy reduction</b>	Reduce the University's energy consumption by 38% by 2020, based on its 2007/08 baseline.
<b>Relevant area of sustainability policy</b>		Promote energy efficiency and responsible energy management and use.
<b>Lead Responsibilities</b>		Director of Estates and Campus Service Director of Property Management Energy Management Engineer Head of Operational Risk and Environmental Sustainability
<p><b>Supporting indicators:</b> HESA and Universities and Colleges Climate Change for Scotland (UCCfS) reporting metrics to provide:</p> <p>Residential electricity consumed (kWh)</p> <p>Non residential electricity consumed (kWh)</p> <p>Residential gas consumed (kWh)</p> <p>Non residential gas consumed (kWh)</p> <p>Residential Oil consumed (kWh)</p> <p>Non residential Oil consumed (kWh)</p>		
<p><b>Outline of programme:</b> The Implementation of energy reduction projects is associated with the University's Carbon Management Plan</p> <p>(see <a href="http://www.she.stir.ac.uk/documents/ProjectListUpdated23Jan2012.pdf">http://www.she.stir.ac.uk/documents/ProjectListUpdated23Jan2012.pdf</a> )</p> <p>The Carbon Management Plan sets the strategy and framework for the University's ongoing commitment to the management and reduction of its carbon emissions. Specifically, it identifies the University's carbon baseline, sets a target for reducing this baseline within a defined period, lists an initial set of carbon reduction projects, and identifies sources of funding for taking these projects forward. The key facts and strategies within the plan are summarised below.</p> <ul style="list-style-type: none"> <li>• The University's baseline CO<sub>2</sub> emissions were 16,651 tonnes in 2007/08 taking into account energy, fleet vehicle fuel, waste and water.</li> <li>• The University set an initial 20% CO<sub>2</sub> reduction target by 2012/13 and a medium term reduction of 38% by 2020 based on its 2007/08 baseline.</li> </ul>		

- Over 50 CO<sub>2</sub> saving projects were initially quantified with further projects added when identified.
- The initial investment over the first three years of the plan was estimated to be circa £1.39m from a mixture of capital and revenue funding streams.
- The implementation of the Carbon Management Plan is overseen by a team drawn from the group which oversaw the production of the plan, and progress is reported on an annual basis to the Safety, Health and Environment Committee.

The University will seek to drive down emissions through further investment in projects such as practical reduction measures and to encourage culture change.

<b>Actions to meet objective</b>	<b>Responsibility</b>	<b>Target</b>	<b>Documentation</b>
<ul style="list-style-type: none"> <li>• Installation of CHP plant</li> </ul>	Director of Property Management	December 2014	Project file
<ul style="list-style-type: none"> <li>• Encourage staff and student involvement in the identification of opportunities for energy reduction e.g. through Green Champions, Student Union, Lower Carbon University Community Challenge</li> </ul>	Energy Manager; Head of OR&ES; General Manager Student Union; Green Champions	On-going; 2018	OR&ES Annual Report; UCCCfS report
<ul style="list-style-type: none"> <li>• Assessment and implementation of viable energy reduction projects</li> </ul>	Energy Management Engineer	On-going; 2018	Monthly Energy report: S:\03 CARBON MANAGEMENT PROGRAMME\Carbon Management Projects Register Master.xls
<ul style="list-style-type: none"> <li>• Connection of meters to Systems Link/Meterology systems to provide half hourly monitoring and targeting information</li> </ul>	Energy Management Engineer	August 2014	Data and reports held within Systems Link software

<b>Objective</b>	<b>Ref:</b> <b>Sustainable construction</b>	Aim for highest practicable BREEAM rating for all new construction projects and ensure that a minimum of 10% of the value of materials used on construction projects over £1m is derived from recycled and re-used sources.
<b>Relevant area of sustainability policy</b>		Take all steps to ensure the refurbishment and new build of University buildings and structures is implemented in a sustainable way.
<b>Lead Responsibilities</b>		Director of Estates and Campus Service Director of Property Management Head of Estate Development
<b>Supporting indicators</b> BREEAM rating for new buildings Construction waste and recycling records		
<b>Outline of programme</b> <p>During 2012, the University started the major redevelopment of its on campus student accommodation. The design team and contractor have taken a holistic approach to energy/carbon minimisation (Building Research Establishment Environmental Assessment Method - BREEAM - excellent). The redevelopment programme began with demolition of a garage block and services block adjacent to Polwarth, construction of a building on the site and the construction of new accommodation at Alexander Court during 2012/13. There will then be a phased demolition and construction phase between 2013-2015 (Murray 2013/14; A.K. Davidson 2014/15; and demolition of Geddes Court in 2015).</p> <p>Scotland's Zero Waste Plan 2010 aims to achieve 70% recycling and a maximum of 5% waste to landfill by 2025 for all of Scotland's waste, including waste generated by the construction industry. The University's construction waste arises from major build/refurbishment projects and also from routine small refurbishment projects. For the major projects, waste action plans are now initiated by the design team and implemented by the main contractor. For smaller projects, the project managers work with contractors to develop a method of capturing records of construction waste even if the amounts of waste are small. A new system for capturing data on the amount and type of construction waste was implemented in 2011.</p>		

<b>Actions to meet objective</b>	<b>Responsibility</b>	<b>Target</b>	<b>Documentation</b>
<ul style="list-style-type: none"> <li>Achieve BREEAM excellent rating for new residences buildings</li> </ul>	Director of E&CS; Director of Property Management	2014 - 2016	BREEAM documentation
<ul style="list-style-type: none"> <li>Document construction waste action plans for major construction projects</li> </ul>	Head of Estate Development	September 2014 - ongoing	Waste action plans for major construction projects
<ul style="list-style-type: none"> <li>Discuss waste plans with contractors working on small construction/ refurbishment projects</li> </ul>	E&CS Project managers	September 2014 – ongoing	Contractors waste plans for small construction projects
<ul style="list-style-type: none"> <li>Complete construction waste records</li> </ul>	E&CS Project managers	September 2014 - ongoing	Construction waste records

<b>Objective</b>	<b>Ref: Sustainable procurement</b>	Embed the principles of sustainable procurement within the University to ensure that the University meets its sustainable procurement duty.
<b>Relevant area of sustainability policy</b>		Support the use of products and services from suppliers whose own sustainability policies are in accord with the University and promote an ethical approach to procurement.
<b>Lead Responsibilities</b>		Director of Finance  Procurement manager
<p><b>Supporting indicators</b></p> <ul style="list-style-type: none"> <li>• Report on the University's sustainable procurement position</li> <li>• Documented sustainable procurement action plan (based on the flexible framework)</li> <li>• Sustainable Procurement Strategy and supporting policies available on University portal</li> <li>• Annual Procurement Capability Assessment (PCA conducted by the Centre of Procurement Expertise (APUC Ltd) audit of Flexible Framework Implementation.</li> </ul>		
<p><b>Outline of programme</b></p> <p>Scottish legislation which results from the Procurement Reform (Scotland) Bill will lay down the priorities that will inform the University's sustainable procurement strategy. It is expected that the Reform Bill will become law in 2014, possibly with a phased implementation.</p> <p>Paragraph 9 of the Reform Bill describes a sustainable procurement duty and paragraph 31 describes the amendment of the Climate Change (Scotland) Act 2009 to include duties for the procurement of recycled and recyclable products.</p> <p>The Sustainable Procurement in Government: Guidance to the Flexible Framework is a widely used self-assessment mechanism developed by the business-led Sustainable Procurement Task Force, which allows organisations to measure and monitor their progress on sustainable procurement over time. The framework was designed so that it could be used by all organisations: from those with significant levels of procurement expertise and resource to those with very limited resource at their disposal. The recommended approach to implementing the Flexible Framework is to systematically work through each of the five themes from levels one to five. Note: APUC currently considers the achievement of level 2 in all five themes to be a challenging aspiration.</p> <p>The Procurement Capability Assessment (PCA) assists organisations to improve their structure, capability, processes and ultimately performance, by attaining the best standards that are appropriate to the scale and complexity of their business. Conducted by sectorial</p>		

Centres of Expertise, the PCA assess capability in key areas against common criteria and standards thereby enabling Scottish public organisations to identify where best practice already exists, where there are gaps and where continuous improvements and efficiencies can be implemented.

<b>Actions to meet objective</b>	<b>Responsibility</b>	<b>Target</b>	<b>Documentation</b>
Use the flexible framework to profile the University's sustainable procurement position	Procurement manager	June 2014	Report on the University's sustainable procurement position
Establish a sustainable procurement action plan to improve the University's sustainable procurement performance using the flexible framework	Procurement manager	December 2014	Documented action plan
Formulate a University Sustainable Procurement Policy which is consistent with the revised procurement strategy and policies	Procurement manager	March 2015	Sustainable Procurement Policy available on University portal
Adopt the Sustainable Procurement Risk Assessment Tool (SPRAT) methodology in all regulated tenders for the provision of goods and services.	Procurement manager	September 2014	Tender documentation

<b>Objective</b>	<b>Ref: Waste and Recycling</b>	Promote the minimisation of waste and provide an infrastructure for re-use and recycling to achieve a 30% reduction in overall waste generated by the University and 90% recycling of waste by 2018
<b>Relevant area of sustainability policy</b>		Promote waste minimisation and reduce the environmental impact of waste to landfill through beneficial re-use and recycling activities
<b>Lead Responsibilities</b>		Director of Estates and Campus Service  Head of Facilities  Cleaning and Waste Manager
<p><b>Supporting indicators</b></p> <p>Monthly waste reports for total waste and recycled waste provided by the University waste service providers and collated by the Cleaning and Waste Manager.</p>		
<p><b>Outline of programme</b></p> <p>The University's waste strategy is to reduce the amount of waste generated by the University and to recycle 90% of the waste that is generated.</p> <p>Reductions in the amounts of waste generated are achieved by asking suppliers to recover their packaging waste, by the use of re-use schemes such as WARPIT (re-use of waste furniture) and the Student Union Re-Use scheme, by re-using waste cooking oil to convert into diesel used in University vehicles, and by on site composting of food waste.</p> <p>Waste recycling is achieved by segregating, as far as practicable, recyclable waste cardboard, paper (confidential and general), glass, plastic containers, aluminium and steel cans, electronic equipment, wood, metal, and furniture. Co-mingled recyclable waste (plastics, cans, cardboard) and all general waste is transferred to an offsite mixed recycling facility where it is further sorted to ensure that less than 5% of waste goes to landfill.</p> <p>The University also generates amounts of special waste including Hazardous Chemical Waste, Redundant Electrical Equipment (IT Equipment, Fluorescent Tubes, Fridges), Animal by Products (fish from aquaculture, small animals from Biology), Low Level Radioactive Waste. This is disposed of by specialist contractors.</p>		

<b>Actions to meet objective</b>	<b>Responsibility</b>	<b>Target</b>	<b>Documentation</b>
Adjust the ratios of bins and the frequency of uplifts of general waste and mixed recycling to promote better recycling	Cleaning and Waste Manager	March 2014 - ongoing	Held on e-mail correspondence with users and contractor
Removal of individual office waste bins  - Apply for capital funding for bin stations - Obtain a statement on commitment from Principal	Head of Facilities	December 2014	Monthly management Report from Veolia
Roll out food waste recycling to staff tea/ kitchen points on campus  - Purchase food waste bins and bio bags - Establish on-going supply of bio bags	Cleaning and Waste Manager	June 2014	Email correspondence, purchase records
Develop A-Z guide to waste disposal on campus	Cleaning and Waste Manager	August 2014	University web site guidance
Develop staff/ student re-use scheme/ charity shop on campus	Cleaning and Waste Manager/ Student Union	February 2014 (complete)	Held on e-mail correspondence with Student Union and other stakeholders
Implement the WARPIT scheme to recycle redundant furniture	Facilities Manager	September 2014	Scheme records
Establish a programme of staff/ student waste reduction/ recycling promotional events.	Cleaning and Waste Manager	March 2015 - ongoing	Held on e-mail correspondence with Student Union and other stakeholders.

<b>Objective</b>	<b>Ref: Water</b>	Promote the responsible use of water on campus through better monitoring of water usage patterns and targeted campaigns to reduce water consumption in identified areas of high usage.
<b>Relevant area of sustainability policy</b>		Promote the responsible use of water
<b>Lead Responsibilities</b>		Director of Estates and Campus Service Director of Property Management Energy Management Engineer Head of Operational Risk and Environmental Sustainability
<p><b>Supporting indicators</b></p> <p>HESA and Universities and Colleges Climate Change for Scotland (UCCCFs) reporting metrics to provide:</p> <p>Residential water consumed (m3)</p> <p>Non residential water consumed (m3)</p>		
<p><b>Outline of programme</b></p> <p>The programme aims to:</p> <ul style="list-style-type: none"> <li>• Build on the existing monitoring and targeting of water consumption through improved and more extensive data.</li> <li>• Enhance targeting processes to provide early identification of anomalies in water use.</li> <li>• Continually identify areas of increased consumption through benchmarking, investigate causes and seek solutions.</li> <li>• Replace bottled water coolers with mains fed where appropriate.</li> </ul> <p>In Scotland, the Climate Change (Scotland) Act sets national targets for the reduction of CO<sub>2</sub> emissions of 42% by 2020 (interim target) and 80% by 2050 (long term target). The University's targets set within the Carbon Management Plan (CMP) are to reduce its CO<sub>2</sub> emissions by 20% by 2012/13 (short term target) and by 38% by 2020 (interim target), compared to its baseline year emissions in 2007/08. All water consumed on-campus and in residences off-campus has been included in the baseline and a reduction in water consumption will contribute to the University's overall reduction in CO<sub>2</sub> emissions.</p> <p>Water consumption at the University will never be 'low' given the water demands from Aquaculture, the increase in en-suite student accommodation and the 50m size swimming</p>		

pool. However, additional water meters are being installed to achieve a better understanding of water consumption, enabling areas of high water consumption to be identified and action to reduce water consumption implemented.

<b>Actions to meet objective</b>	<b>Responsibility</b>	<b>Target</b>	<b>Documentation</b>
Connection of meters to Systems Link/Meteorology systems to provide half hourly monitoring and targeting	Energy Management Engineer	May 2014	Data and reports held within Systems Link software
Weekly monitoring of water consumption to identify areas of high water demand	Energy Management Engineer	2014 - Ongoing	<a href="http://meterology.stir.ac.uk/DailyProfile.aspx">http://meterology.stir.ac.uk/DailyProfile.aspx</a>
Liaise with stakeholders in areas of high water usage on ways to reduce water consumption	Energy Management Engineer	2014 - Ongoing	Archibus records
Complete survey of bottled water coolers to identify units that could be replaced by mains fed water coolers	Energy Management Engineer	May 2014	H:\My Documents\Carbon Management Programme\Opportunities\UOS 056 Install Mains Water Coolers\Replacement of Eden Springs Cooler\Bottled Water Cooler Survey Jan 2014.xlsx
Replacement of bottled water coolers with mains fed coolers	Energy Management Engineer	December 2014	