



PRIFYSGOL
BANGOR
UNIVERSITY

Carbon Management Strategy

Last Revision: 16 July 2021

Under Review

This Carbon Management Strategy 2012-20 has now come to an end and is currently being comprehensively reviewed and revised to reflect new commitments and approaches towards becoming [Carbon Neutral by 2030](#) for Scope 1 & 2 emissions, and to better understand, quantify and action plan measurable reductions in Scope 3 emissions.

This strategy served as the backbone of the University's recent successes in bringing down its carbon footprint and achieving reductions of energy use of over 44% since the 2005 baseline, and over 40% reduction in water usage over the same period. The Strategy also resulted in the University sourcing all its electricity from [guaranteed renewable sources](#) (resulting in a reduction of over 80% in market-based electricity greenhouse gas emissions compared to baseline) and increasing its own electricity generation. For the last 2 years the University has also successfully diverted 100% of our waste from landfill and are working towards Wales' overarching waste strategy - Towards Zero Waste.

The new Carbon Management Plan should be in place later in 2021, after consultation and agreeing new and challenging targets.

Bangor University will through the development, implementation and review of its Environmental Management System (EMS) strive to achieve continuous environmental improvement. An integral part of this overarching objective is our commitment to limiting our contribution to climate change and global warming by reducing the volumes of greenhouse gases that are released into the atmosphere as a result of our activities. We have set ourselves challenging targets to achieve this. Annually, we aim to reduce our carbon dioxide (CO₂) emissions by 3%. In the longer term, and as members of the Gwynedd County Local Service Board (LSB), our objective is to reduce our 2005/2006 CO₂ (e) levels by 40% by 2020.

1. Energy and Water Management

We currently use electricity, gas, and oil to source our heating and power. With a consumption of over 45,500,000 kilowatt hours during the base year, this energy is our greatest source of CO₂ emissions. We aim to reduce our energy consumption and associated carbon emissions by 3% each year. In addition, we aim to reduce our annual water consumption by 2%, not only because it is a valuable resource, but also because its supply and disposal requires significant quantities of energy for pumping, distribution and treatment; again, contributing to atmospheric CO₂ levels. In order to address these issues, we have developed a discrete Energy and Water Management Strategy aimed at achieving significant reductions in consumption through seven key themes. This strategy, and accompanying Action and Investment Planning, will be overseen by the Estates and Facilities Energy and Water Management Group.

2. Waste

Unless reused or recycled, the waste we produce is disposed of to landfill sites within the Counties Gwynedd and Conwy. Biodegradation of landfill waste not only threatens the aquatic environment through leachate generation, it also impacts upon the atmosphere by releasing greenhouse gases. We aim to limit the amount of waste we send to landfill by reducing the quantities we produce, reusing end of life goods wherever practicable, and by increasing the quantities of waste we recycle.

In 2012/13 we recycled around 45% of our municipal waste, and aim to increase this to 60% by 2020, and achieve the Welsh Assembly Government's target of 70% by 2024/25.

We will achieve this by:

- Implementing our bespoke Waste Action Plan
- Continuing the phased introduction of recycling and composting facilities across the Estate
- Encouraging more "binless offices" following successful trials in selected buildings
- Expanding opportunities for waste minimisation
- Monitoring and raising awareness of waste issues throughout the University population

In addition, we formally supported the WRAP "Halving Waste to Landfill" Commitment by playing our part in halving the amount of construction, demolition and excavation waste going to landfill in the UK by 2012 (<http://www.wrap.org.uk/content/what-halving-waste-landfill>). This will in turn support national policy goals e.g., 'Toward Zero Waste' by 2050 in Wales, and is being achieved by reducing waste, recovering more materials and using more recovered material in our new building projects.

Our development project teams will be required to:

- recover a minimum of 70% of construction materials and packaging;
- recover a minimum of 80% of demolition and strip-out materials; and
- ensure that at least 10% of total material value derives from reused and recycled content in new build, select the best opportunities to exceed this figure without increasing the cost of materials, and report actual performance.

3. Travel and Transport

Using the methodology described in EMS Document ZD (i) Transport Related Emissions, analysis of business mileage and fuel expenditure in 2005/06 indicated that our annual vehicular business travel generated 477 tonnes of CO₂. Utilising this as our baseline we aim to actively reduce business mileage by 20% by 2016 (Objective T6). We aim to achieve this by Developing a University Green Travel Plan

- Developing a methodology to accurately record and monitor all business travel undertaken by staff and students
- Developing a methodology for assessing indirect travel requirements (i.e., staff and student commuting)
- Undertaking an annual Staff and Student Travel Survey
- Continuing to work in partnership with Gwynedd Council on travel initiatives following the Welsh Assembly Government's announcement to designate the Mon a Menai as a "Sustainable Travel Area".
- Continuing to encourage cycling through the established Cycling Implementation Group, and introduction of a "Cycle to Work" scheme.

In addition to business travel, and in accordance with Green Dragon Level 4 criteria, we developed a methodology for assessing indirect transport emissions in 2010 (as described in EMS document ZD(ii) Indirect Transport Emissions Methodology). This analysis has established the following emission levels:

- 1) Staff commuting: 1,201 tonnes CO₂
- 2) Students commuting during term time: 2,136 tonnes CO₂
- 3) UK Student Travel to and from Bangor (from home) each year: 477 tonnes CO₂
- 4) Overseas Student Travel to and from Bangor from home each year: 2,136 tonnes CO₂

With regard to staff and student commuting, our aim is to achieve a shift towards more sustainable means of travel to, from and within the University. Using the 2010 baseline we aim to reduce commuting emissions by 30% by 2016. We will achieve this through the implementation of Sustainable Travel Plan with a view to attaining the following modal split as compared with the base year:

1) Commuting	Staff		Students	
	2010	2016	2010	2016
Walking	8%	12%	60%	62%
Cycling	5%	12%	4%	9%
Bus	4%	8%	4%	6%
Train	2%	4%	2%	3%
Motorcycle	0%	1%	0%	1%
Drive Alone	67%	45%	23%	10%
Car Share	11%	16%	6%	8%
Other	3%	2%	1%	1%

2) Inter-Campus Travel		
	2010	2016
Walking	53%	54%
Cycling	4%	8%
Bus	2%	12%
Train	1%	1%
Motorcycle	1%	2%
Drive Alone	28%	12%
Car Share	9%	10%
Other	2%	1%

In addition to commuting emissions, we will continue to monitor CO2 associated with students travelling from home to Bangor each year. However, at this stage we will not establish formal reduction targets for this aspect of travel as overseas student numbers are expected to increase.

4. Procurement

The Johannesburg Earth Summit in 2002 recommended that "relevant authorities at all levels should promote procurement policies that encourage the development and diffusion of environmentally sound goods and services".

In this respect we have developed a bespoke Sustainable Procurement Policy and Strategic Action Plan that sets out our approach to:

- addressing supply chain impacts,
- the purchase of resource efficient products,
- minimising the impacts of the products and services we procure

Using DEFRA methodology, we have established that in 2008 the greenhouse gases associated with our supply chain totalled 27,631,552 CO2e. Having established this as our baseline, we will monitor this on an annual basis (subject to availability of DEFRA conversion factors), with the aim of reducing emissions by an average of 3% each year until 2020.

The Public Sector "Sustainable Procurement Assessment Framework" (SPAF), developed by Forum for the Future, has been designed to help public sector organisations determine the extent to which they are currently considering sustainable procurement within their organisation. The level of commitment is determined by an assessment of a range of criteria which provide a "score" between 0 (low) and 5 (high). In December 2011, Bangor University met its target to achieve an overall organisational Practising Level 3.

Following developments in Welsh public procurement policy, future sustainable procurement performance will be measured on an annual basis against the Welsh Public Sector Procurement Maturity Model.

5. Construction

The construction and use of buildings in the UK account for approximately 50% of the Country's carbon dioxide emissions. We are committed to minimising the environmental impact of our Estate by designing new buildings to the BREEAM "Excellent" standard.

In the short term, our specific targets to achieve the BREEAM "Excellent" rating are associated with the following developments:

- Pontio Arts and innovation Centre, Deiniol Road (completion due 2014)
- Sustainable Expansion of the Applied Coastal and Marine Sectors (SEACAMS) building, Ocean Sciences Site, Menai Bridge (completion due 2014)

Implementation of this Carbon Management Strategy will be monitored and reviewed annually by the Sustainability Management Board. Progress will be reported to the Executive Committee and will also be made available to staff and students through the University's environmental web pages. Links to associated policy documents are shown in Appendix 2 of this document.

Signed:

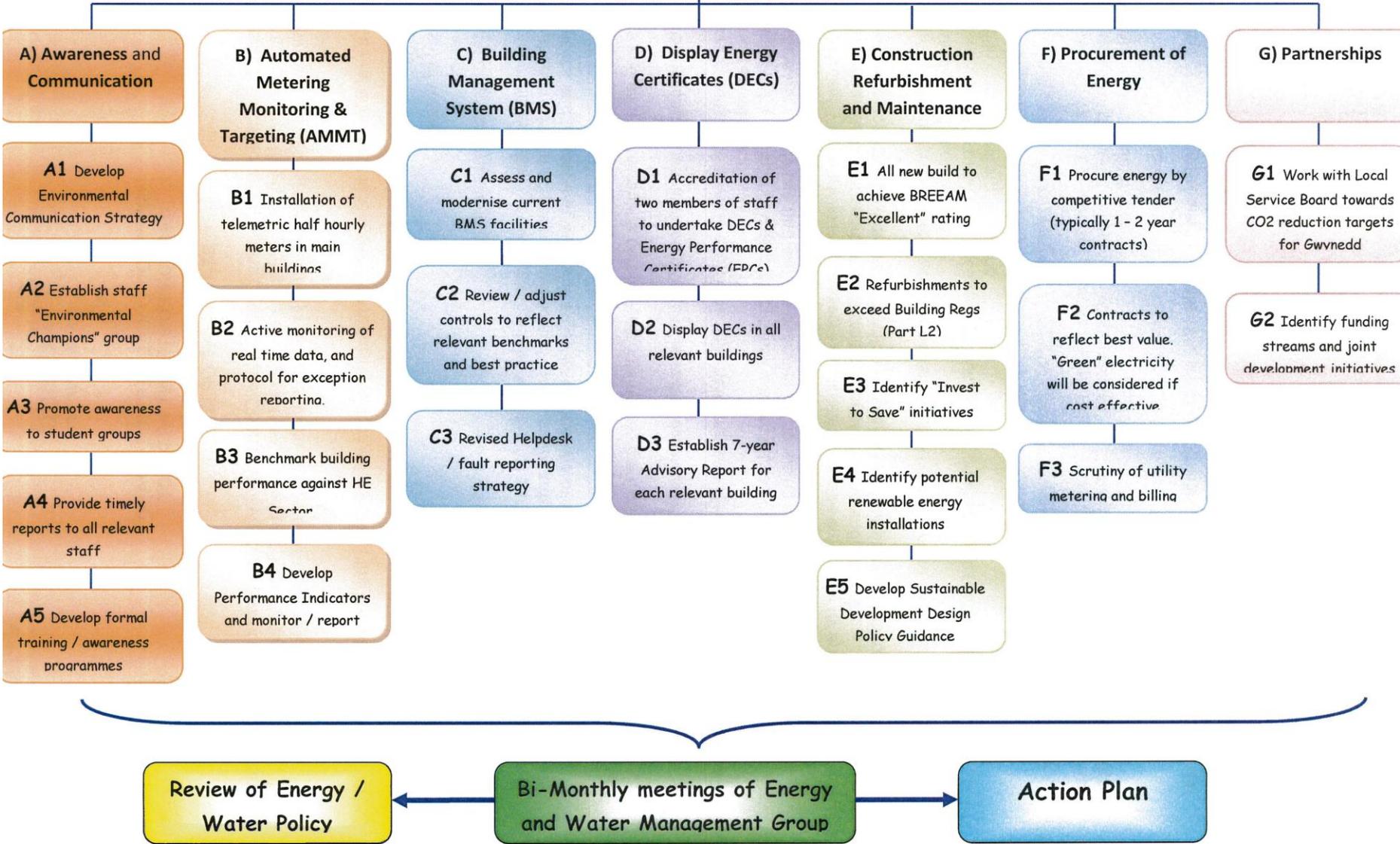


(Professor John G. Hughes, Vice-Chancellor, Bangor University)

Date:

10/3/2014

Energy Water & CO₂ Management Strategy



Associated Policy Documents

Relevant policies associated with this Carbon Management Strategy can be accessed through the following links:

- [Sustainability Policy](#)
- [Environmental Policy](#)
- [Sustainable Procurement Policy](#)
- [Energy and Water Policy](#)
- [Waste Management Policy](#)
- [Sustainable Travel Policy](#)
- [Biodiversity Policy](#)