

Environmental Management System

8.1.8 Energy and Water Management

Issued: October 2018

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Review date:	10/10/18
Clause Ref:	Ecocampus and ISO 14001(2015)

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8.1.8 Energy & Water Management

1 Purpose

This document explains how energy (electricity & fossil fuel) and water is managed at Swansea University in order to:

- address the risks and opportunities associated with the aspect: ‘Energy consumption’;
- address the risks and opportunities associated with the aspect: ‘Water consumption’;
- monitor energy and water consumption;
- minimise energy and water consumption;
- ensure compliance with relevant environmental legislation.

This procedure covers energy, specifically electricity and fossil fuels, and water consumed across the institution (Singleton Campus, Bay Campus and Hendrefoelan Student Village).

2 Definitions

Risks and Opportunities: potential adverse effects (threats) and potential beneficial effects (opportunities).

Process: Set of interrelated or interactive activities, which transform inputs into outputs.

3 Responsibilities

Group	Responsibility
PVC- Internationalisation	Overall responsibility for overseeing energy management across the institution and ensuring compliance with the Carbon Reduction Commitment (CRC) Scheme and Display Energy Certification (DEC).
Head of Sustainability	Overall responsibility for overseeing the Carbon & Resource Management Plan (CRMP) across the institution.
Energy & Carbon Manager	Responsible for the development & implementation of the CRMP. Responsible for collating the CRC evidence pack and DEC compliance, including ensuring all buildings display valid Energy Certificates (DECs & EPCs) and have the appropriate advisory report.

	Develop and analyse energy, carbon and water performance reports. Identification and scoping of energy and water improvement projects.
Sustainability & Wellbeing Officer	Support the Energy & Carbon Manager in the development and implementation of the CRMP. Developing & promoting staff & student awareness programmes and energy / water improvement projects.
BMS Manager	Manage and optimise the Building Management System (BMS) & support the utility sub-metering improvement programme. Collate & distribute energy & water consumption data for M&T and various staff & student awareness initiatives.
Technical Services Officers	Support the CRMP and identify, report & implement energy & water improvement projects

4 Related documents

- **Aspects and Impacts Register:** Relevant environmental aspects and associated environmental impacts are detailed within the College & PSU registers
- **Carbon & Resource Management Plan (CRMP):** This outlines the current carbon footprint and the strategy for reducing emissions

5 Process

5.1 Building Management System

- All University-owned buildings are operated by a Building Management System (BMS), which controls energy generation systems, heating, air-conditioning systems and domestic hot water.
- The majority of buildings also have manual controls within individual rooms for air-conditioning, heating and lighting.
- Some University buildings are regulated automatically via the BMS, which controls the internal air temperature of either zones or individual rooms within the building according to seasonality and term times.
- Automatic settings can be overridden by the manual controls in the local areas.

5.2 CRC Energy Efficiency Scheme:

- The Energy & Carbon Manager collates the annual electricity and gas consumption from all the University's energy meters and compiles the data into an annual report.
- The Energy & Carbon Manager is the University's primary contact for:

- Reporting the University's energy data to the Environment Agency, via the online CRC web portal.
- Buying and/or surrendering CO₂ allowances equivalent to the emission generated.
- The Energy & Carbon Manager stores all relevant email correspondence with the Environment Agency, relating to the CRC submission on purchased and/or surrendered CO₂, within the evidence pack. All relevant information related to CRC scheme is stored in a [shared folder](#)
- CRC calculations; CRC emissions reporting is for Scope 1 & 2 only, with the exclusion of 3rd party operations and/or partnerships.

5.3 Energy Performance of Buildings (England and Wales):

- The DEC's and Advisory Reports are prepared annually by a registered consultant (external party), based on building consumption data provided by the Energy & Carbon Manager.
- The DEC's are displayed in the entrance/reception area of each building, and are made available on the University's [shared drive](#) for audit purposes. The DEC documents are updated annually at the physical locations following the publication of the latest revision.
- New buildings will have Energy Performance Certificates (EPC's) displayed within the reception / foyer area.
- TM44 Air conditioning inspections are carried out on a 5-year inspection cycle by an accredited air-conditioning inspector, in accordance with the Energy Performance of Buildings Regulations. The certificates are stored by the Energy & Carbon Manager in the [shared drive](#).

5.4 Monitoring and reporting:

- The CRMP is reviewed¹ and updated by the Head of Sustainability and Energy & Carbon Manager and reported to the Corporate Responsibility (CR) Committee. Periodic progress reports may be prepared for local (College/PSU) CR committees and the SWell & EMS group to aid awareness and development.
- All University buildings are fitted with sub-meters to monitor electricity, gas, heat and water consumption, which is recorded within the BMS.
- The energy management reports are generated using the BMS Power Manager Expert module (PME).
- Energy management reports are generated for various university output and engagement programmes, for example: The Student Energy Project, Switch Off and SWell.

¹ Review period subject to university operations but typically annually

- The Energy & Carbon Manager validates and approves the utility bills based on historical building performance to ensure accuracy.
- The Energy & Carbon Manager produces annual reports used for external requirements e.g. CRC, HEFCW, HESA
- Scope 1, 2 and 3 carbon emissions data is stored within the [shared folder](#).

5.5 Carbon Management & Energy Efficiency Opportunities

- The CRMP sets Scope 1, 2 & 3 carbon emission reduction targets, reports annually on the university's performance against these targets and sets out a carbon reduction strategy with detailed carbon reduction measures.
- The CRMP shall be reviewed and updated periodically based on historical data and planned activities/operational modifications within the University. This is approved via the CR committee and subsequently published.
- Opportunities for improvement throughout the year are collected from staff; including via the SWell & EMS group and the Technical Services team. The Energy & Carbon Manager will carry out a cost/benefit analyses to determine feasibility and calculate the carbon savings anticipated by carbon reduction measures. If the scheme is deemed to be viable then a business case/application will be submitted to the Associate Director – EFM for funding.

6 Effects and actions of non-conformance

Failure to comply with this procedure may result in:

- Non-conformance with the requirements of EcoCampus and the ISO 14001:2015 standard.

Departure from this procedure is addressed in the procedure **10.1 Nonconformity and Corrective Action**

7 Version control

Date	Version	Update
04/05/2017	2	General update
10/10/2018	3	- Now includes reference to water and change from CMP to CRMP - Responsibility table updated - General admin changes throughout