

APPENDIX A

Carbon Management Action Plan

Introduction

Targets set in this Carbon Management Action Plan are estimated based on the current intelligence available.

Rationale

The Carbon Management Action Plan has been developed to identify and implement actions and measures that will help reduce the UWTSD Carbon Footprint in line with legal requirements.

The plan contributes to a program of continuous improvement and as such will be developed in line with current legislation and to meet the needs and future of UWTSD.

Measures Already Undertaken

The following measures have already been introduced/undertaken include:-

- Rationalisation of Utility Contracts.
- Tariff Analysis on electricity accounts to identify opportunities for cost reduction
- Online viewing of utility accounts resulting in more efficient data collection
- Boiler Replacement in parts of Carmarthen & Lampeter campuses.
- Part Installation of Building Energy Management System at both Carmarthen & Lampeter.
- Lighting Upgrades including installation of Lighting Presence Detection

Actions Proposed

The actions as listed in the Table below are proposed to be taken forward during 2016/17.

<u>Issue</u>	<u>Action</u>	<u>By Whom</u>	<u>By When</u>	<u>Estimated Targets</u>
Implement an Energy Monitoring & Targeting Programme to incorporate Accurate Monitoring of Energy Use	Purchase of Energy Management Package is essential to enable accurate reporting & monitoring	DSM	March 2016	3% pa reduction in energy usage.
Continue to Implement SMART Metering	Carmarthen & Lampeter	DSM/CJ	Ongoing programme	10% total carbon reduction over whole building stock if implemented on all campuses
Water Consumption/Saving Measures	Cross Campus – Undertake water surveys/audits to identify any water leaks & assess the need for water saving measures & devices	DSM	Audits to be prepared by June 2016. Water consumption to monitored as an ongoing process	3% pa reduction in water consumption/m ³
Review Boiler Replacements (SALIX)	Carmarthen & Lampeter – Install new Boiler Plants & undertake a review of water heating	DSM/CJ	Carmarthen Campus – Installations completed in Blocks. Future installations to be undertaken in 2016 provided SALIX funding available	5% pa reduction in energy usage
Lighting Upgrades (inc) Lighting Controls	Cross Campus – Undertake surveys/audits to assess the viability of replacing existing	DSM	Audits to be prepared by June 2016 Investigate/Undertake Light Upgrade Strategy By September 2016	3% total reduction on lighting energy usage

<u>Issue</u>	<u>Action</u>	<u>By Whom</u>	<u>By When</u>	<u>Estimated Targets</u>
	lighting with more energy efficient LED lighting based on payback			
Lighting Controls	Cross Campus – Undertake surveys/audits to assess the viability of installing lighting controls in appropriate areas that have no controls installed based on payback	DSM	Audits to be prepared by June 2016. Lighting controls installed end of 2016 subject to budget	3% total reduction in lighting energy usage.
Travel Plan	Cross Campus – proposals to reduce business mileage and increase video conferencing usage	GA/DSM/FW/BL/RO	Ongoing in 2016	Reduce travel by Faculties by 5% p.a. by cost. Increase utilisation of video conferencing facilities by 10% commencing March 2016
Operation of Heating Controls	Cross Campus – Produce a plan based on the outcome of Energy Surveys/Audit to target the worse areas Produce procedures/ train key personnel	DSM/CJ	Procedure in place by Sept 2016. Training ongoing	5% total reduction in heating energy usage
Awareness Raising/Behaviour	Cross Campus - Produce a plan to raise	AS/DSM	On going	3% p.a. reduction in energy usage

<u>Issue</u>	<u>Action</u>	<u>By Whom</u>	<u>By When</u>	<u>Estimated Targets</u>
Change as part of the Green Impact	awareness of carbon reduction linked to behavioural change.			
Waste	Promote recycling across all campuses	FW/DSM	On going	Achieve a 60% recycling target across the University
Solar PV	Investigate the potential for Carbon reduction by installation of Solar PV system(s) in Lampeter and Carmarthen	DSM	2017 but dependent on funding being available	Potential for 1% total reduction on electrical load on Campus installed.
Computer Shutdown Programme	Progress IT Shut down pilot scheme to roll out to all PC's cross campuses	DSM/FW/IT Section	June 2016 provided co-operation from IT	5% total reduction on energy usage.
Carmarthen Campus Swimming Pool	Review existing Heating & Ventilation equipment and operational strategy for pool.	DSM/CJ	Survey/Audit with recommendations March 2016	10% total reduction on energy usage in Pool Hall.
Display Energy Certificates (DECs) & Advisory Reports	Ensure that DECs and Advisory Reports are kept up to date	DSM	Ongoing, in line with expiry dates of DECs and Advisory Reports	'D' average rating across Cross Campus
Utility Supply Contracts	Produce Savings on Renewal of Utility Supply Contracts	DSM/Briar Associates	October 2017 onwards	2% on Electricity Costs & 20% Gas Costs p.a. Subject to ongoing tendering exercise.



Signed:

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