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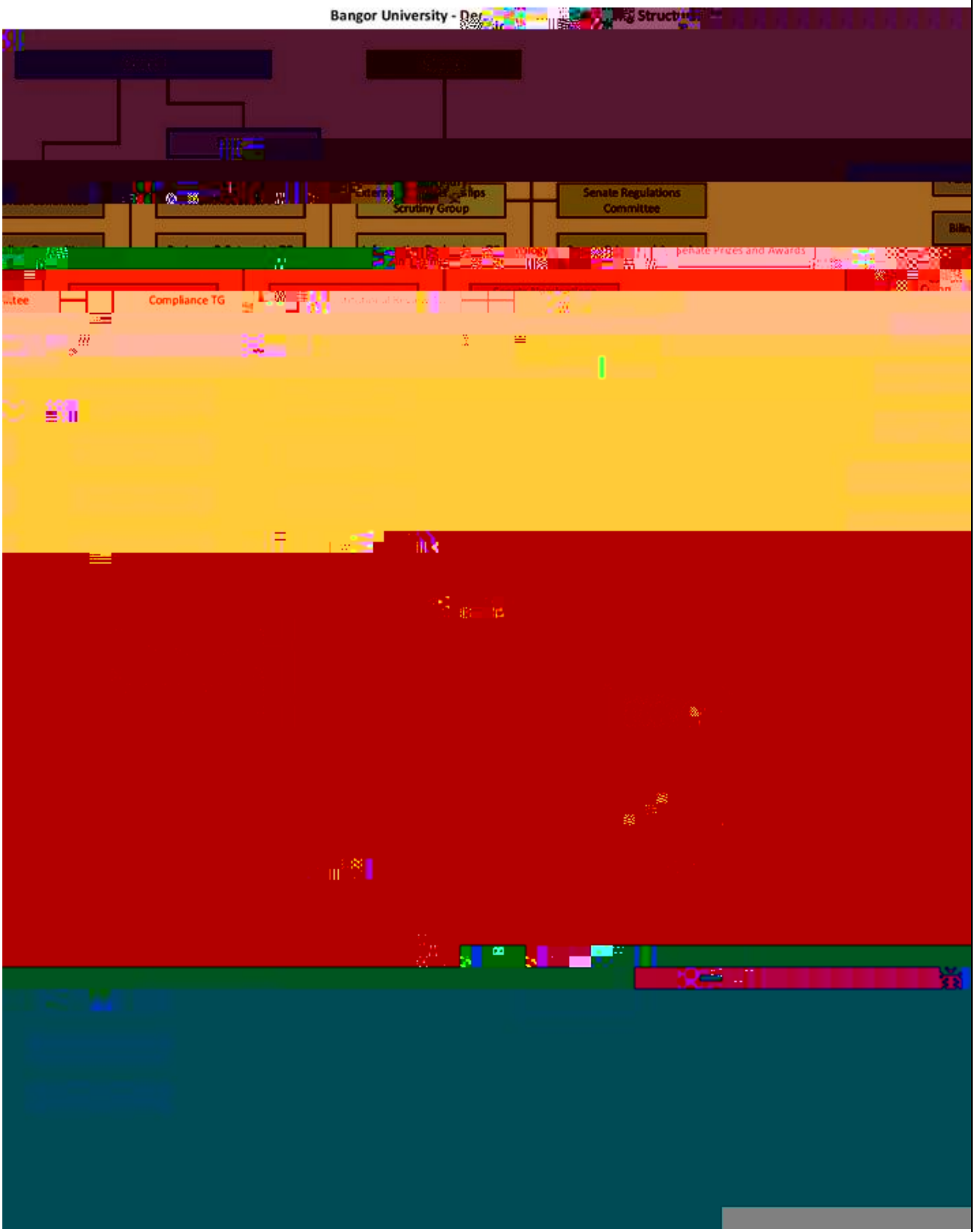
Environmental Management Report. It is

d Z h v] À Œ •] š Ç [• v À] Œ } v u v š o D v P integral component of our •] •
sustainability agenda, through which we will demonstrate our commitment to achieving continual
environmental improvement.



In May each year, the •µ]š]o]šÇ }(šZ hv]À Œ•]šÇ[• vÀ]Œ}vu vš o discussed at an Annual Environmental Management Review meeting of the Sustainability Task Group. The review meeting is undertaken to the requirements of the ISO 14001:2015 environmental standard, and is used as the pivotal means of ensuring that the Environmental Management System is fully implemented and effective. The meeting is structured in accordance with the following agenda for this year; the CEPT intends to review this and amend as necessary:

- Introduction
- Actions from Previous Meeting
- Environmental Policy
- Significant Environmental Aspects
- Objectives and Targets
- Current Performance
- Improvement Opportunities / Invest to Save Initiatives
- Environmental Incidents /Corrective and Preventative Action
- Internal Audits
- Legal Compliance

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- Communications (Internal / External)

Our EMS has been designed in accordance with the criteria set out in ISO 14001:2004, and Green Dragon Environmental Standard. The structure of the EMS follows the Plan-Do-Check-Act model, which provides the basis of an iterative approach to achieve continual improvement.

to achieve the key principles of:

- x
- x
- x
- x

The ISO 14001 Certificate is verified by an externally appointed UKAS accredited body. Certification was successfully audited to the new 14001:2015 criteria in August 2017, with the latest certificate valid for 3 years and subject to v v µ o ^ • µ Œ À] o o v µ] š • _ X

A decision was taken in 2017 to no longer maintain our Green Dragon certification, following a successful period of use leading up to our eventual accreditation to ISO14001. Green Dragon achieved its objectives of taking the University forward, establishing robust environmental management systems and performance improvements that were eventually approved to ISO14001. Running both Green Dragon and 14001 side by side for over three years helped cement these robust systems and the principles of good management and continual improvement. Bangor was the first University in Wales to achieve the new ISO14001:2015 standard.

Our EMS currently applies across the entire University estate in the north of Wales, with the exception of the Prince Madog Research Vessel (a joint venture with P&O which has a separate

The foundation of any Environmental Management System is an understanding of, and compliance with, relevant environmental legislation and other compliance obligations. As such, we have developed a ^Z P]•š Œ }(> P oZ ‹µ]Œ u vš• v KšZ Œ }u‰o] v applicable to šZ hv]À Œ•]šÇ[• (EMS Document BUEMS 2A)

vÀ]Œ}vu vš o > P]•o š]À }u‰o] v Œ }À Œ• v Ç šZ hv]À part of Governance & Compliance, with the Register kept up to date by the Campus Environmental Performance Team.

Responsibility for ensuring relevant environmental licences, registrations and authorisations are in place and for evaluating compliance with relevant legislation or other requirements are delegated across the risk owners, with the Health and Safety team overseeing delivery and performance. The u i}Œ]šÇ }(šZ hv]À Œ•]šÇ[• (}Œu o µšZ}Œ]•š]}v• µŒŒ všoÇ Regulations and the Energy Performance of Buildings Regulations.

The University has recorded no contravention of environmental legislation, and has not been responsible for any pollution incidents during the reporting period.

Our EMS incorporates an assessment of o •‰ š• }(šZ hv]À Œ•]šÇ[• š]À] potential to impact upon the environment. A total of 41 discrete aspects have been identified and have been evaluated in terms of their potential environmental impact (which may be positive or negative). The criteria used for evaluation are described within the EMS and relate to the potential consequences associated with each aspect, and the likelihood of such an occurrence. This includes a consideration of relevant legislation, potential environmental damage, current controls, and risk of emergency situations. From this exercise, the aspects that have the greatest potential to adversely impact upon the environment have been identified, and appropriate objectives and targets developed to minimise those impacts.

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- Energy consumption and associated carbon emissions
- Water Consumption
- Oil and Chemical storage and use
- Waste generation
- Travel and Transport

These Objectives and Targets were approved by the Sustainability Task Group on 8th July

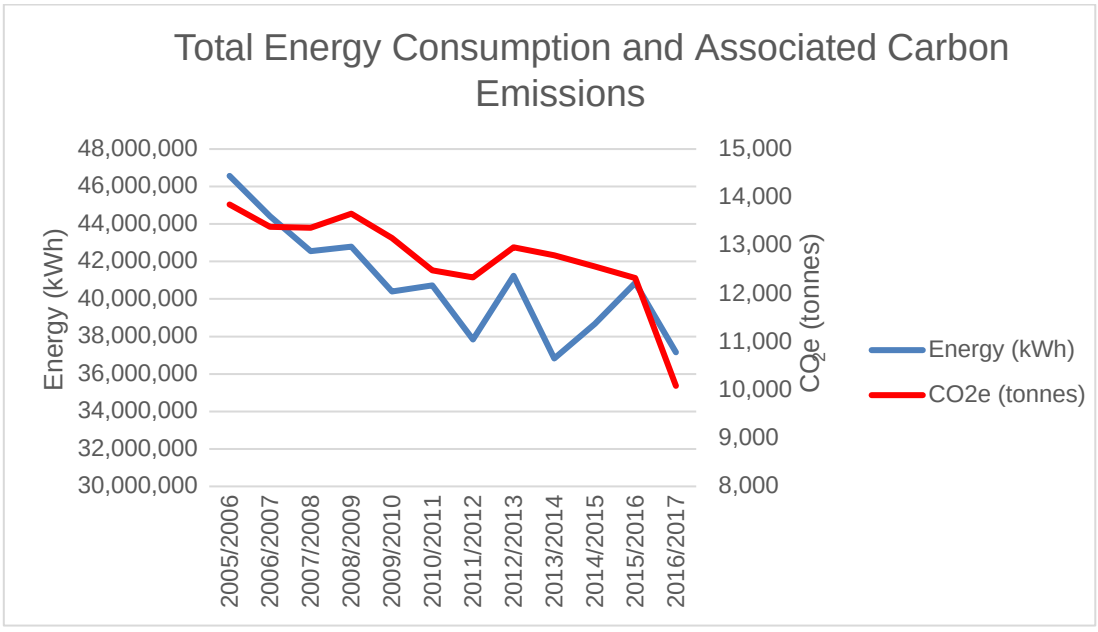
In relation to our intensity based reduction targets;

- Carbon emissions per m^2 operational floor area fell by compared to the previous year and have decreased by from our baseline year 2005/2006
- Carbon emissions per FTE (staff & students) have also fallen, by compared to the previous year and from the baseline year

In both cases we have far exceeded our target of a 3% annual reduction and have also surpassed our 2020 target of a 40% reduction in emissions (as a factor of floor area and FTE) from our baseline (Fig 2).

We also perform well in the context of the wider UK Higher Education Sector (Fig 3 & Fig 4), being below the average in terms of both energy consumption and carbon emissions per m^2 Floor Area.

Please note; these graphs are currently based on HESA data sets from the 2015/16 academic year as thedata sets for the 2016/17 academic year have not yet been published.



Total Scope 1, 2 and 3 emissions have also compared to the previous year to . When considered in the context of the normalising factors, emissions have per FTE and per m^2 operational floor area. These results significantly exceeds the target of a 3% reduction year-on-year.

As these takes into account all emissions from energy and transport as well as emissions arising

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Bangor University is required to purchase carbon allowances for every tonne of energy related carbon we produce. The scheme is intended as a financial incentive for organisations to reduce emissions

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the 2008 Climate Change Act, i.e. an 80% reduction in 1990 greenhouse gas emissions by 2020. The initial cost of allowances was set at £12 per tonne of CO_2 and rose to £16.60 per tonne in 2016/17. The current cost of allowances to the University is in excess of £2024<020582(in)-4(93(es

There were no spillages or pollution incidents during the reporting period, and considerable effort continues to be made to reduce such risks.

All of our heating oilstorage facilities have been replaced with modern double skinned polyethylene tanks, and all oil and chemical storage areas have been provided with spill kits and defined spillage procedures. We are, wherever practicable, replacing oil heating with gas or LPG, which not only reduces our carbon footprint, but also removes a potential source of pollution. To date we have removed oil heating from Ardudwy, Ynys Faelog, Meirion, Henfaes Farmhouse, and the Normal Site. For the academic year 2016/17, the total volume of heating oil purchased was 80.58% lower than in our baseline year (2005/06).

All of our discharges to controlled waters are, where required, subject to appropriate Environmental Permits.

Our Pollution Prevention Plan includes an Environmental Incident Reporting Procedure for anyone discovering an environmental incident such as pollution or fly tipping on University premises. Contractors working on the Estate are required to sign a declaration to comply with a range of ^ }vš Œ š}Œ ^šv vt}Œ l}vP WŒ š] •_ ÁZ] Z]v oµ • }v]š]}v• (environment during works, as well as receiving a Health, Safety and Environment induction prior to the commencement of work.

Reporting on waste data has proved to be particularly challenging for a number of reasons. Whilst general waste and common recyclable materials (plastic, paper, card, cans, food) are collected by our main waste contractors, Gwynedd Council, a number of smaller waste streams (e.g. waste cooking oil, computer equipment etc.) are each collected by different waste contractors. In

management company, not through the University directly. In some cases, acquiring data on volumes of all wastes collected in a timely manner has proven difficult.

Furthermore, some issues have arisaround the reporting methodology previously used. Previous reports have presented data on the breakdown of our recyclable waste by type (plastic,

contamination issues notwithstanding, there should be no significant organic component to our landfill waste. This is another issue that will require further consideration before the next report. For the purposes of this report, landfill waste has been split based on the residential or non residential classification of buildings, resulting in a 35:65 split between Municipal (Residential) and Commercial (Non-residential).

It is important to note at this stage that CEPT was not active until October 2017, the systems are not in place to capture better data from 2017/18 so planned improvements will not be visible in the data until the academic year 2018-19.

Department, and one by the Post Team. Consideration is given to further additions as and when existing fleet vehicles become due for replacement.

Sustainability is a key strategic objective of the University with the aim of embedding sustainability across all functions. For that reason, the University no longer produces a separate Sustainable Procurement Policy but will incorporate sustainability objectives into the procurement ‰ Œ } • • • • š v Œ v š Z ‰ Œ } µ Œ u v š š u Á] o o } v š Œ] µ š Strategy and Action Plan.

A methodology for reporting on greenhouse gas emissions associated with procurement has been developed within the Higher Education sector, ^{2} which assesses the carbon emissions associated with expenditure on 75 key commodities. Performance is summarised in Table 2, however these data exclude the procurement of construction and electricity, since, a) construction activity varies significantly from year to year, and b) the reporting tool utilises a standardised conversion factor (i.e. kg CO_2/£ expenditure) for each commodity. Whilst this is considered acceptable for the majority of the commodities listed, the actual emissions associated with mains electricity vary significantly from year to year depending principally on the amount of coal fired generation. Conversion factors are released by DEFRA annually, however these variations are not currently taken into account in the HESCET reporting tool, which has used the same conversion factor since 2012.

For the academic year 2016/17 we successfully reduced our procurement related by 5.55% compared to the previous year (Table 2).

[2] HESCET – Higher Education Supply Chain Emissions Tool

Expenditure (£million)		Expenditure (£million)		Expenditure (£million)		Expenditure (£million)	
£44.8							

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  Environmental Management students.
- o v] v š Œ } µ š] } v š } ^ µ • š] v] o] š Ç (} Œ š Z ^ E Z ' Ç e Z P Œ]
  learning module
- o Z d } Ç [• • š µ v š U š } u } Œ Œ } Á [• P o } o] š] Ì v [u } µ o (} C
  Award (BEA)
- o Annual contribution to a lecture/practical sessions for the Applied Behaviour Change module in the School of Psychology.
- o Training sessions for central services e.g. the Library Services team, Halls teams, Undeb Sabbatical officers and staff
- o Career opportunities in Environmental management for students

x Oil spill training to Grounds and Gardens and Sports facilities staff.

x Inclusion of environmental requirements in all new job descriptions

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and students. Topics have included:

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and students. Topics have included:

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- o ^ W o • š] k reducing plastic use and increasing Œ Ç o] v P _
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x Student Switch-off t an inter-Hall energy competition for students in University accommodation and training of SSO student ambassadors

x ^ ^ v ‰] - š n K ((aging students to upload photographs of energy wastage onto the web, and seeking resolution by University staff

x Delivered Recycling Presentation to International Students

x Fairtrade Fortnight

x Communication on sustainability in the student International Newsletter

- Communicating sustainability activities and raising awareness of sustainability at Bangor University š Z Œ } µ P Z š Z ^ µ • š] v] o] š Ç > Z ^ µ • š] v] o] š Ç › v P } Œ and students:
  - Sustainability @Bangor Spring Newsletter 2017
  - Sustainability@Bangor Christmas Newsletter 2017
- Partnership between Bangor University

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restorations, tree planting and organic garden programmes.

The Biodiversity Policy was revised and approved by the Sustainability Task Group in September 2016. A Sustainability Action Plan is being developed with staff and students. The CEPT has formalised its relationship with Treborth Botanic Gardens and the Curator, Natalie Chivers is the Biodiversity Coordinator. This is a new development, and will be reported fully in the next annual report.

			Emissions/m^2 of operational floor area
			Emissions/staff and student FTE
			Total energy use is now lower than during the base year; associated carbon emissions have
			Emissions/m^2 of operational floor are now than in the base year
			Emissions/staff and student FTE are now than in the base year
			Total Scope 1, 2 & 3 Emissions per m^2 of operational floor area from the previous year
			Total Scope 1, 2 & 3 Emissions per staff and student FTE from the previous year

				Recycling /diversion from landfill during the yearwas45.56% compared with 46 the previous year.
				Emissionswere than base year and 8.3% lower than the previous year
				Duringthe reporting period, total procurement related emissions from the previous year (NB: this excludes construction and electricity usage for reasons outlined in th report).
				Almost all of theactions identified on v P } Œ h v] À Œ •] š Ç [• š] } been implemented. The outstanding actions relate to undertaking a procurement training needs analysis for Corporate Procurement Staff and the continuing roll-out of electronic procurement. Thetraining needs analysis exercise will be undertaken in 2017/18.
				TheSustainability Procurement Policy has been revoked and incorporated within the Procurement Strategy.
				A number of awareness campaigns ha been held throughout the year a summarisedn the report
				Ongoing biodiversitymanagement plans are continuing at Treborth, and Henfaes, and number of activities have bee implemented across campus.

(*) these are "intensity targets" and performance will be assessed against the following normalising factors:

a) total operational floor area of the University's estate, and

b) total staff and student FTEs

The University will continue to monitor absolute variances on an annual basis

	Target met (or on course to be met)
	Target not metbut improvement in performance since last year
	Target not metand deterioration in performance since last year

The introduction of the new ISO 14001:2015 Environmental Standard has had implications for our Environmental Management System we have transitioned in August 2017 but work is now ongoing to ensure the transition of responsibilities to CEPT

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our long term objectives and targets.

The Well-being of Future Generations (Wales) Act 2015 places a statutory duty on certain public bodies in Wales to carry out their duties in a sustainable way. Although Higher Education Institutions are not specifically listed in the Act, we have publicly stated that Bangor University will apply the principles set out in the Act to all of our work as follows:

There is ONE Principle

When making decisions we as individuals (whatever our position) and a University need to make sure that we take account of the impact we could have on current and future Bangor students and

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We need to consider improving the of the university.

The Sustainability Task Group is committed to ensuring that sustainability is at the heart of the h v] À Œ •] š Ç [• (µ š µ Œ U Environmental Management System will be a key factor in influencing and achieving this commitment.

Contact Details:

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