Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

ENERGY MANAGEMENT PLAN

2025-2030

A future-ready institution where sustainability is embedded across education, research, operations and daily practice, honouring our responsibility to current and future generations.

UWTSD Group Environmental Sustainability Strategy

Mae'r ddogfen hon ar gael yn Gymraeg ac yn Saesneg | This document is available in Welsh and English

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1. Introduction

The purpose of this document is to set out the University of Wales Trinity Saint David's approach and commitments to energy management in line with environmental, financial and legislative requirements supporting the Universities Net-Zero journey outlined in the UWTSD Group Environmental *Sustainability Strategy 2025-2030* and *Net Zero Carbon Management Plan 2025-2030.*

This plan links specifically to Strategic Priority 1 within the Strategy specifically the commitment to:

- Reduce energy consumption across UWTSD Group Estates
- Increase kWh of energy from Group-owned renewable sources
- To measure and minimise the environmental impact of our digital operations

LLEIHAU CARBON
CARBON REDUCTION

The generation of energy derived from fossil-fuels such as coal, oil, and gas, emits harmful greenhouse gases and contributes to global warming. In the face of the current climate crisis and increased volatility in the energy market, the UWTSD therefore has a moral, financial, and legislative responsibility to reduce its energy use consumption and associated emissions.

The Energy Management Plan maps against the following UN Sustainable Development Goals and making progress in this area will contribute towards meeting these goals.

2. Alignment with UWTSD Group Environmental Sustainability Strategy 2025-2030

This Energy Management Plan is a key delivery document supporting the UWTSD Group Environmental Sustainability Strategy 2025–2030, translating the University's strategic ambitions into targeted operational actions across the estate.

Energy use and associated carbon emissions represent one of the most significant environmental impacts of the University's operations. Effective energy management is therefore central to achieving the University's carbon reduction commitments.

This Plan contributes directly to the delivery of the Strategy's core pillars:

OUR PEOPLE: By engaging staff and students in energy reduction initiatives, promoting carbon literacy, and embedding behavioural change programmes, the Plan supports the development of a culture of sustainability. It also enables students to gain practical experience and skills supporting their future employability in a low-carbon economy.

OUR PURPOSE: By delivering measurable reductions in energy use and carbon emissions, this Plan supports the University's commitment to environmental responsibility and climate action, embedding sustainability within operational decision-making.

OUR PLACE: By improving the energy efficiency of the University estate, this Plan enhances the quality, comfort, and performance of learning and working environments across UWTSD's campuses, while reducing carbon emissions and supporting wider decarbonisation goals.

This Energy Management Plan is closely aligned with, and supports the delivery of, the University's Net Zero Carbon Management Plan and related sustainability management plans. Together, these documents form an integrated framework for achieving UWTSD's sustainability objectives.

Through this approach, the Plan not only reduces environmental impact and operational costs but also reinforces the University's role as a responsible institution, contributing to the well-being of current and future generations.

3. Building on past success

This document is the first bespoke Energy Management Plan that UWTSD has produced in order to expand on previous success and provide oversight and commitment in its management of energy. This plan is the result of successes in the active management of energy use on campus. In recent years UWTSD has:

- Achieved its target of a 50% reduction in Scope 1 and 2 emissions by 2024 (using the 2013/2014 baseline) and maintained this reduction
- Undertaken a program of significant rooftop solar PV installation generating 186 mWh through rooftop solar in 2023, rising to 331 mWh in 2024 with the potential for 650 mWh forecast for 2025
- Engaged with a third party in an AI supported software package to analyse gas consumption across the estate and notify the Estates team of any instances of over consumption

4. Alignment with Welsh Government Strategy

The Welsh Government has set ambitious targets to transition Wales to a low-carbon energy system. These include generating 70% of electricity consumption from renewable sources by 2030 and 100% by 2035, alongside achieving at least 1.5 GW of locally owned renewable energy capacity by 2035. In parallel, significant growth in low-carbon heat is required, with targets equivalent to 5.5 GW of heat pump capacity by 2035 and an ambition for around one third of homes to use heat pumps. Delivering these outcomes will require a rapid increase in renewable deployment, electrification of heat, and the development of supporting skills and infrastructure across Wales.

The University of Wales Trinity Saint David (UWTSD) recognises its role in supporting national decarbonisation and energy system transformation as set out by the Welsh Government in the *Energy Generation and Use in Wales (2026)* report.

Renewable Energy Generation

Wales has committed to generating the equivalent of 100% of its electricity consumption from renewable sources, alongside increasing locally owned generation. The public sector is expected to play a leading role in delivering this transition.

UWTSD will contribute through:

- Expansion of on-site renewables, building on existing solar PV deployment across the estate
- Exploration of local and community energy models, supporting Welsh Government ambitions for local ownership
- Smart energy systems, including storage and demand-side response, to enhance system flexibility

Heat Decarbonisation

The transition from fossil fuel heating to low-carbon alternatives, particularly heat pumps, is a national priority, with the Welsh Government target of 580,000 by 2035.

UWTSD will support this by:

- Deploying Air and Ground Source Heat Pumps across the estate where feasible
- Adopting a fabric-first approach to reduce heat demand and optimise system performance
- Delivering demonstrator projects, including within complex and heritage buildings
- Planning for electrical infrastructure upgrades required to support electrification of heat

Skills and Education

Addressing skills gaps is critical to delivering Wales' energy transition. As a higher education institution, UWTSD will:

- Embed renewable energy and decarbonisation within curricula
- Utilise the estate as a living laboratory, providing practical learning opportunities
- Collaborate with industry and public sector partners to support innovation and skills development

5. Management Plan Aims

The aims of this Energy Management Plan are set out below. These are based on the UWTSD Group Environmental Sustainability Strategy 2025-2030 and Carbon Management Plan 2025-2030. These aims will be reviewed and expanded as the university approaches 2030.

5a. Compliance

Legislative and internal compliance relating to energy efficiency and reporting must be met, and where practicable, exceeded. This includes all reporting requirements to the Welsh Government, MEDR and HESA.

5b Monitoring and Measuring

Measuring, monitoring and validating electricity and gas usage is a key priority in energy management. It not only enables consumption to be quantified, but also allows the reporting of emissions both internally and externally. Over the course of this plan UWTSD will increase its sub-metering infrastructure to more accurately monitor consumption with the goal of identifying and reducing waste consumption.

5c Energy Efficiency

A Building Management System (BMS) plays an important part in energy management across an estate. For UWTSD the BMS is not controlled over a single system and includes different providers, resulting in some buildings having cloud based remote access and others requiring adjustments to be done locally while there are still buildings without a BMS. Where it is in place the systems need to be actively monitored and other building systems such as heating, ventilation and air conditioning (HVAC) systems need to be integrated.

Conventional energy efficiency measures such as improving insulation and the replacement of lighting with LED will also be used in line with the Sustainable Construction and Refurbishment Plan 2025-2030 to improve the energy efficiency of the Estate.

5d Efficient use of space

Efficient space utilisation is crucial for any energy conservation initiatives. Heating and cooling empty or underutilised spaces uses unnecessary energy and therefore the control of space use through effective governance and optimised space utilisation is a significant part of the plan to reduce energy consumption and carbon emissions. At the time of writing of this plan the universities estate team is undergoing a programme of installation of space utilisation sensors across the estate. The data collected from these sensors needs to be feed into energy reduction strategies.

Space rationalisation also needs to be considered as an energy management tool and maximising occupancy in fewer buildings. Once fully operational the data output of these space utilisation sensors will be critical in the effective energy management of space. The energy efficiency of buildings should be considered a factor in the decision making process around estate rationalisation.

5e Building and Maintenance Standards

As set out in the Sustainable Construction and Refurbishment Plan 2025-2030 environmental considerations will underpin all decision-making relating to future campus developments including construction, refurbishment, and change of use. In the construction of new buildings, energy efficiency best practice measures such as insulation and thermal performance will be pursued to minimise the operational emissions over the lifecycle of the building. Training, guidance, and integrating best practice maintenance standards are essential for the success of any energy reduction initiatives

5f Procurement

All procurement activities must comply with the Universities Financial Regulations first and foremost. Energy efficiency will be considered as part of the sustainability assessment in the tender process of all hard and soft services suppliers. Through the Sustainable Procurement Impact Assessment the sustainability and procurement teams will work together to support purchasers on minimum standards. The University will also consider how best to procure its energy, striking a balance between cost and energy source. As part of this, the university may consider the generation of on / off-site low to zero carbon electricity and / or power purchase agreements to supply renewable energy.

5g Integration and Coordination

The sequence in which measures are considered can have an impact on the savings in operational carbon emissions relative to costs. Reducing the building's peak heat load through fabric improvement measures and enhanced controls may result in smaller air source heat pumps (ASHP) systems and lower peak electrical loads. Therefore, investment in these measures may avoid the cost of larger plant and voltage upgrades. Equally, switching from gas-fired heating and hot water systems to electrically driven systems will only result in significant carbon savings if the electricity is low- or zero-carbon, or self-generated otherwise this can become a costly exercise with little benefit

5h Stakeholder and Community Engagement

Community and stakeholder engagement plays a key role in successful energy management. Initiatives and campaigns that educate and empower staff and students to take action have the potential to significantly impact energy consumption on campus (and beyond). This is outlined further in the Sustainability Engagement Action Plan 25-30. Effective communication with key stakeholders ensures relevant parties are informed about our commitments and plans.

5i Education and Training

The University will also utilise energy management initiatives as opportunities to support student learning, research, and employability, embedding real-world sustainability challenges into the curriculum and co-curricular activity. Students are also engaged in energy audits and behavioural change programs.

6. Heritage Buildings

It is acknowledged that elements of the University estate comprises heritage and listed buildings, which present unique challenges for energy management and decarbonisation. The historic fabric, architectural significance, and statutory protections associated with these buildings can restrict the implementation of conventional energy efficiency measures such as external insulation, replacement windows, airtightness improvements, and renewable energy technologies.

Achieving energy reductions within these buildings therefore requires a sensitive, evidence-based approach that balances conservation requirements with environmental objectives. UWTSD will work closely with conservation officers, heritage bodies, and its own leading academics in this field to identify appropriate interventions, recognising these constraints. The University will adopt a pragmatic approach to decarbonisation, seeking to maximise energy efficiency and carbon reduction opportunities while protecting the cultural and historic value of its estate.

7. SMART Targets

In order to proactively manage all SMART (Specific, Measurable, Achievable, Relevant and Time-bound) targets for Sustainability related Management Plans the targets relating to this plan are held in the "UWTSD Sustainability SMART targets" document.

This document contains a responsible person, stakeholders, reporting mechanism and actions for each year of this plan. These are aligned to this plan and the Welsh Government Public Sector Decarbonisation targets. They represent a mix of practical infrastructure changes, behavioural shifts and engagement strategies to ensure a systematic approach to reducing carbon emissions.

Targets can be found here:
https://uowtsd.sharepoint.com/teams/Sustainability_7fuztl_GRP/Shared%20Documents/General/Policy%20&%20Strategy/Strategy%202025-2030/UWTSD_SMART_Targets.xlsx

8. Monitoring and Reporting

Monitoring of carbon performance will operate within the governance framework established under 'Strategic Priority 6: Monitoring and Reporting' of the UWTSD Group Environmental Sustainability Strategy.

Oversight will follow the Group's three-line assurance model:

Operational Oversight

- Head of Sustainability and Environment
- Director of Estates
- Sustainability Steering Group (SSG)
- Integration into Sustainability Action Plan
- Termly KPI reporting

Governance Oversight

- Resources and Performance Committee
- University Council

External Assurance

- Green Dragon Level 5 Environmental Management System
- Annual external audit
- HESA Reporting

Progress will be:

- Reported annually through the UWTSD Sustainability Report
- Integrated into institutional KPI dashboards
- Aligned where appropriate with recognised frameworks such as SBTi

9. Links to other policies and procedures

A series of Sustainability management plans have been developed for the 2025-2030 period:

- UWTSD Group Environmental Sustainability Strategy 25-30
- Carbon Management Plan 25-30
- Sustainability Engagement Action Plan 25-30
- Sustainable Construction and Refurbishment Plan 25-30
- Sustainable Travel Plan 25-30
- Waste Management Plan 25-30
- Water Management Plan 25-30
- Sustainable Food Plan 25-30
- Biodiversity Action Plan 25-30

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