

USW Carbon Strategy 2020 - 2030

Estates and Facilities

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Executive Summary

Climate change is widely accepted as one of the greatest challenges facing the world today. The University of South Wales (USW) like all institutions has a responsibility to address decarbonisation and to meet the UK and Welsh Government's decarbonisation targets. Our carbon strategy has been developed to complement our USW 2030 Strategy and will enable the university to achieve our vision to be net zero by 2040.

This ambition builds on the positive progress we have achieved so far and sets out a challenging but achievable pathway to our longer term goal. The road to net zero will not be easy and we will incur hurdles along the way but we are committed on a whole institution level to this strategy and positive about our chances of delivering on this aim. This strategy provides a shorter term objective and includes interim targets for USW to aim for to ensure a sense of urgency and momentum is maintained.

Over the duration of this strategy to 2030, our priority will be the reduction of carbon emissions across our estate, the identification of opportunities to innovate, investment in low carbon technologies and to support the development of low carbon lifestyles among our staff, students and local communities. The plan aims to be all inclusive with a commitment to reducing Scope 3 emissions alongside Scopes 1 and 2 that are typically included within Net Zero Strategies.

This strategy proposes that:

- A sustainability committee is formed to enable carbon reduction activity to be resourced, measured and reduced throughout the university.
- Targets are set for each university activity measured within our carbon footprint.
- We deliver these targets and achieve our vision for net zero by following the USW Carbon Roadmap.
- A focus is placed on procurement, electricity and gas consumption, which create our largest emissions and will therefore require the most ambitious targets over the next 10 years.
- We continue to build on the positive progress made since the 2012/13 base year which has seen our Scope 1 and 2 (mainly gas and electricity) emissions reduced by 32%.
- Each year our carbon footprint is updated to measure our emissions and the progress made to reduce them.
- Our achievements and institution emissions data is communicated annually to USW's board of governors and published online for internal and external stakeholders to view.

Introduction

USW is a major player in UK higher education with campuses in Cardiff, Pontypridd and Newport. As a major university, we are aware of the significant carbon impact we can have on the local areas where our campuses are situated as well as the regional and global impact we create from our operations.

Decarbonisation is recognised as an essential requirement to operate and maintain a sustainable university environment for all. The university, like all institutions has a responsibility to address decarbonisation and to meet the UK and Welsh Government's targets. We recognise this, and we are working to reduce our carbon emissions wherever possible. In 2018/19, we achieved a 32% reduction in carbon emissions against a 2012/13 baseline.

In 2015 our USW Environmental Strategy was created and endorsed by our Vice Chancellor which set reduction targets against our energy, water, waste, travel, procurement, biodiversity, community involvement, construction and refurbishment, and emissions and discharge activities. Since its creation, we have achieved many reductions as outlined within this document. Our environmental strategy now requires review to ensure it is aligned with our recently created carbon footprint as well as UK and Welsh Government legislation. Therefore, it has been agreed that our environmental strategy will be replaced by our carbon strategy which will set strategic targets against the activities that need the greatest focus on our journey to decarbonisation.

We want to lead by example and have the ambition to achieve net zero as an organisation by 2040. Our organisational net zero target binds us to an ambitious decarbonisation trajectory that will require transformational change across the USW estate.

This strategy will form the overarching governance of our carbon reduction activities and will enable a 10-year carbon roadmap to be produced that complements our USW 2030 Strategy. The roadmap will take direction from our carbon footprint and outline clear, feasible and cost-effective actions the university can take to advance sustainability across our estate, governance, teaching and engagement, and respond impactfully to the climate emergency. The carbon roadmap accompanied by subsequent policies will provide more detail on how we plan to achieve our strategic targets over the next 10 years.

What is meant by Net Zero?

The term 'net zero carbon' can be defined as 'cutting greenhouse gas emissions to as little as possible and then balancing the remainder by enhancing carbon sinks which remove carbon dioxide from the atmosphere'.

For the duration of this 2030 plan, we are focussed on reducing emissions only. We do not expect to seek any carbon offsetting schemes until later on our journey to Net Zero when we have maximised the opportunities available to us for decarbonisation across our estate.

To achieve Net Zero, it is essential that Scope 3 emissions are included within the boundary of our operations and as such we intend to address our indirect scope 3 emissions sooner rather than later to improve our understanding of their impact, whilst improving the processes we adopt for collecting data on all sources of carbon impact.

Legislative Drivers

The Welsh Government introduced the Environment Act 2016 with the intention to position Wales as a low carbon, green economy, ready to adapt to the impacts of climate change. Part 2 of this legislation focuses on climate change and carbon budgets and includes a statutory emission reduction target. The Welsh Government has accepted a 95% reduction in greenhouse gas emissions by 2050 relative to 1990 emission levels but wants to go further and achieve net zero by 2050, in line with the UK Government's Climate Change Act 2008 commitment. Furthermore, the Welsh Government has communicated its ambition for all public sector organisations to achieve net zero by 2030 and is therefore looking at this sector to drive Wales into a low carbon future.

Alongside the Environment Act, the Wellbeing of Future Generations Act 2015 and the Welsh Government's "Prosperity for All: A Low Carbon Wales" guidance sets out their approach to cut emissions and increase efficiency to maximise wider benefits for Wales, ensuring a fairer and healthier society by improving the social, economic, environmental and cultural well-being of Wales. The guidance includes over 100 policies and proposals that directly reduce emissions and support the growth of the low carbon economy.

The university supports the Welsh and UK Government Acts and the carbon management activities needed to decarbonise are embedded within our core values: to be professional, responsive, inspiring, creative and collaborative. Furthermore, our USW 2030 Strategy focuses on adding value to lives, communities and the economy, which aligns itself with the Welsh Governments proposals and the UN Sustainable Development Goals.

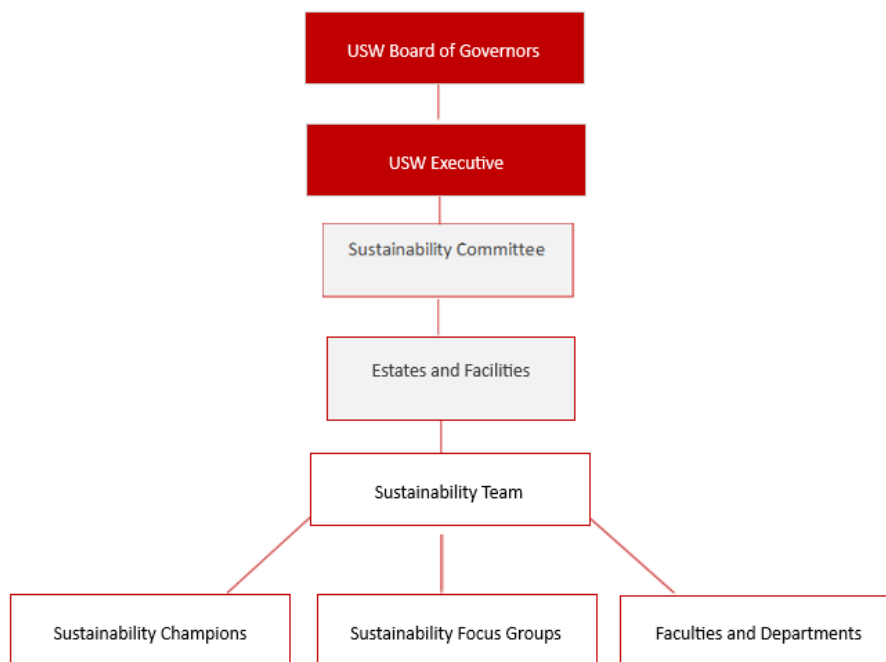
Governance and Roles

USW recognises that robust engagement with stakeholders from across the university will be crucial for successful climate action implementation. The Board of Governors holds ultimate responsibility for the university's carbon footprint. The Director of Estates & Facilities and Chief Operating Officer will report on the carbon footprint and associated environmental performance to the Board annually. The delivery of this strategy will be led by the Energy and Sustainability Manager.

A Sustainability Committee has been established comprised of key university stakeholders. The Sustainability Committee along with all Faculties and Departments will be responsible for engaging in and promoting sustainable and energy efficient behaviours for the strategy to be successful. Internal and external resources will be engaged where relevant and as identified, to assist in delivering our targets.

Progress against this strategy will be formally presented at least annually to the Sustainability Committee and to USW's Executive to brief them on key achievements and the direction of travel. Annual Sustainability Reports will also be produced summarising our successes, progress and emissions trends.

Fig 1: The Governance and Reporting Structure for Net Zero Carbon 2040 is shown below.



Our Vision

We will achieve net zero by 2040.

USW are committed to demonstrating a visible leadership in environmental sustainability by achieving 'net zero by 2040'. This means net zero impact on the planet, and requires a commitment to achieving excellence in environmental, social and financial sustainability whilst striving to embed sustainability in everything that we do.

As part of a global community working to address the challenge of climate change, we will demonstrate our commitment through our research, our teaching, and the management of our operations and investments to continually reduce our impact on the environment.

Following an extensive review of the university's emissions, this strategy identifies key drivers that require the most focus, investment and ambitious targets that will take us to 2030 to ensure we remain on track to achieve net zero.

What is USW's Carbon Footprint?

In 2020, the university's first carbon footprint was produced using 2018/19 financial year data. This footprint is available as a separate document and outlines the footprint boundary, the methodology used to capture our emissions, any omitted data and a breakdown of all measured emissions. It will be used as a baseline for future emission reductions and will provide focus for which activities need to be prioritised on our journey to decarbonisation.

**USW's total carbon footprint 2018-19 :
28,480 tCO₂e**

The footprint boundary encompasses the activities of the entire institution and has been calculated according to the World Resources Institute (WRI) Greenhouse Gas (GHG) Protocol and includes emissions for the majority of our Scope 1, 2 and 3 activities. We are currently capturing data on the majority of our emissions, however the creation of our footprint has highlighted that some activities are not recorded and as a result, they have not been included. It is also understood that these activities (eg commuting) may have a significant influence on the shape and size of our footprint once they are included.

Greenhouse Gas Protocol

The Greenhouse Gas (GHG) Protocol has established a set of global standardised frameworks to manage and measure greenhouse gas emissions. It is the most widely used greenhouse gas accounting standard and provides the accounting platform for virtually every corporate GHG reporting program in the world. The standard classifies GHG emissions into three 'scopes':

Scope 1 - emissions are direct emissions from owned or controlled sources. E.g., emissions from combustion in owned or controlled boilers and vehicles.

Scope 2 - emissions are indirect emissions from the generation of purchased energy. E.g. our purchased electricity

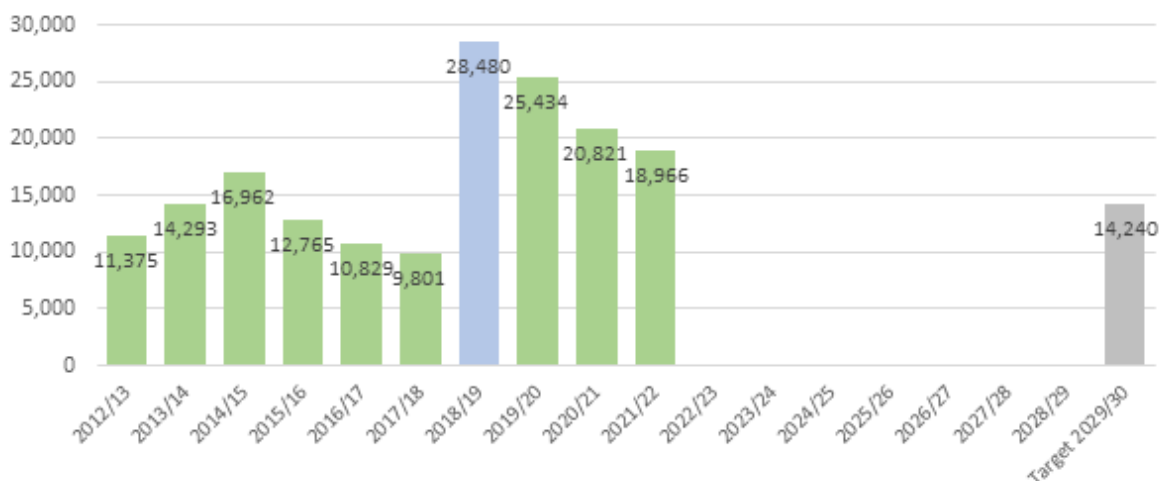
Scope 3 - all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions. E.g. water, waste, business travel, student & staff commuting, and procurement.

Direct emissions are from activities owned or controlled by the university

Indirect emissions are a consequence of the activities of the university, but occur at sources owned or controlled by another entity.

The table below illustrates the university's total carbon footprint (tCO₂e) from the initial baseline year 2012/13 as reported in our EMR submissions.

Fig 2: USW's Total Carbon Footprint (tCO₂e)



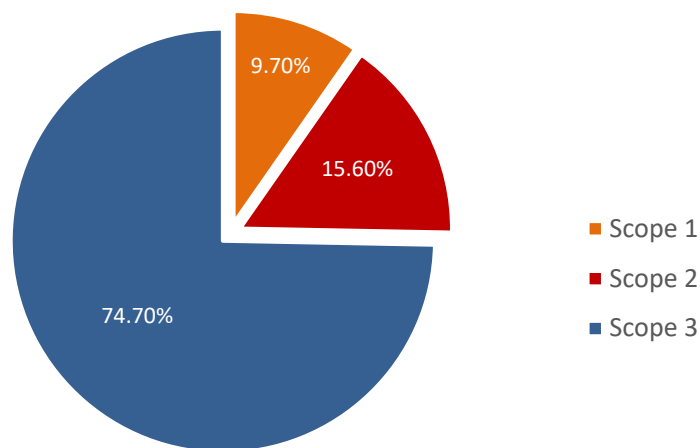
*2018-19 represents the first year in which supply chain carbon data was included in the carbon footprint.

However, since the inception of this strategy, we have made improvements to our data collection systems and now capture, monitor and record additional sources of Scope 3 emissions although this is not yet comprehensive but still improves our understanding of the key impacts. The year 2018-19 represented the first year in which we included supply chain emissions and resulting from the significant impact this has on the overall share of emissions, we have identified this year as the baseline going forwards for all Scopes.

Although we don't yet have data on all our Scope 3 emissions, for consistency and simplicity we will use 2018/19 as the baseline year for comparisons going forward notwithstanding the excellent progress we have made in reducing Scopes 1 and 2 emissions since 2012/13. By July 2022, our emissions stood at 33% below the baseline, placing us on target to achieve our 2030 milestone. Nevertheless, in the near future we are expecting our carbon emissions to increase as our data acquisition systems improve.

The reduction targets contained within this strategy are applicable to all recorded scope 1, 2 and 3 emissions. Baselines and targets will be created to ensure any missing data is obtained so future carbon footprints can capture these additional emissions.

Fig 3: Total Emissions by Scope – 2018-19



The pie chart above illustrates what percentage of the University's emissions are attributable to each Scope. Scope 1 and 2 emissions sources contain the lowest levels of carbon emissions, whilst 74% of the total emissions come from Scope 3 impacts. These are indirect emissions in areas including the supply chain, business travel, waste and water consumption. Over time, we expect Scope 3 emissions to grow further as we capture additional data relative to those impacts we are not yet recording such as staff and student commuting emissions and homeworking.

Our 2018/19 footprint is calculated to be 28,480 tCO₂e and it has been found that 98% of our total footprint is attributable to three key emission categories:

- Procurement contracts to university suppliers (19,217 tCO₂e)
- Electricity consumption in buildings (5,550 tCO₂e)
- Gas consumption in buildings (3,071 tCO₂e)

Therefore, it is these three key areas that require the most focus, investment and ambitious targets as we move towards 2030. Nevertheless, we are in the early stages of identifying and understanding our emissions from our activities, and to achieve net zero by 2040, changes will be required throughout all of our operations and this can only be met through a collaborative partnership across all levels of the university, including senior leadership and stakeholder engagement. Therefore, the targets set in this document reach wider than just these three areas.

About this plan

This carbon strategy covers the period 1st August 2020 to 31st July 2030. It includes our onsite Scope 1 and Scope 2 emissions derived from primarily heating and electricity use which are under our direct control whilst also improving our understanding of our Scope 3 emissions to enable us to establish a baseline year and action plan for tackling these indirect emission sources.

Working with The Carbon Trust, USW has been able to calculate its total carbon emissions from its activities in 2018/19 as a baseline figure of 28,480 tonnes.

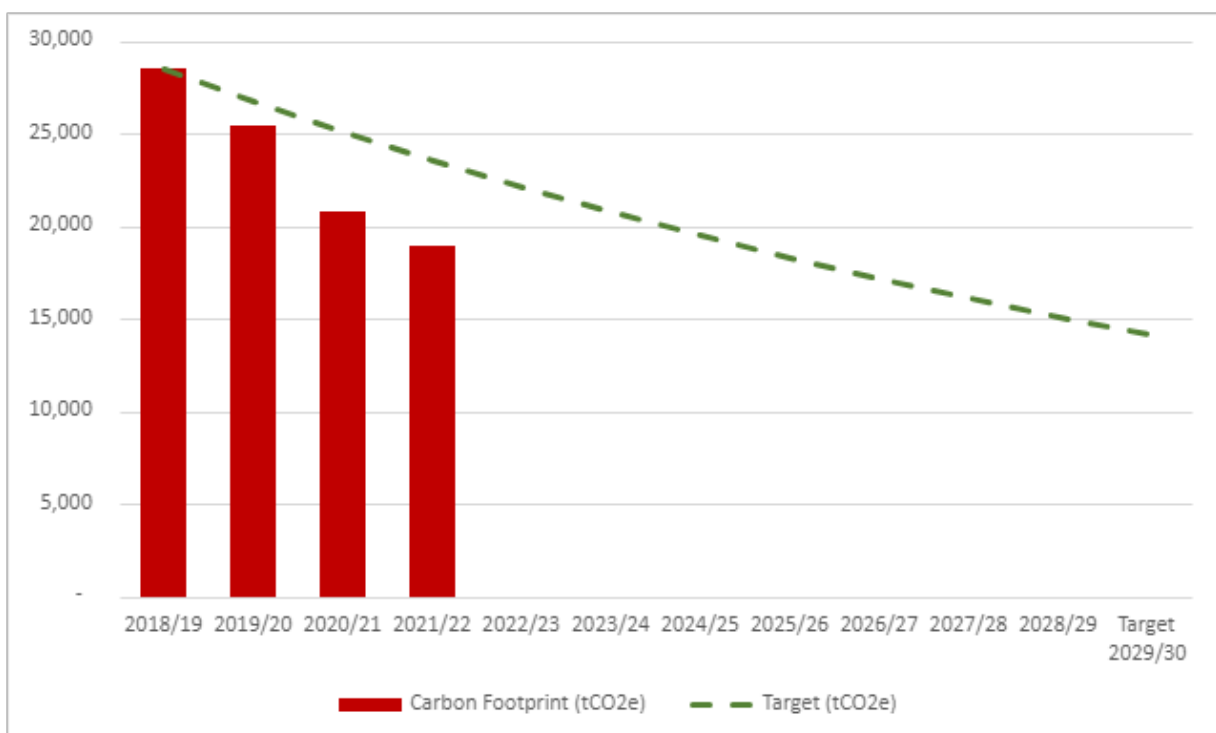
This has been achieved by using actual data where they were available. However, some areas like the current level of sequestration of carbon through tree cover across the estate has not been possible to calculate at this point. It is recognised that it will not be possible for USW to remove all of its carbon emissions entirely resulting its operations. We will strive to reduce emissions as far as possible before considering the use of offsetting measures as the final step to Net Zero.

This plan forms the overarching governance of our carbon reduction activities, committing to carbon reduction targets and building on the university's preceding environmental strategy which concluded in August 2020. The Higher Education Statistical Agency (HESA) Estates Management Record (EMR) submissions have been used for all previous carbon reporting.

USW's Carbon Emissions Projection (2018/19 – 2030)

Based on existing data, a simple decarbonisation pathway is outlined below for all emissions sources up to 2030. This does not include any offsetting and relies primarily on reducing emissions year on year. We recognise that further along the road we will need to develop more detailed 'bottom up' modelling as we continue the journey to Net Zero 2040 which will include a consideration of offsetting requirements particularly for those residual emissions such as travel that are difficult to abate.

Fig 4: Decarbonisation pathway to 2030 (Scopes 1, 2 and 3)



To achieve the annual reductions indicated above, we will follow a phased implementation programme of initiatives up to 2030 in accordance with the USW Road Map that will facilitate the delivery of the emissions reductions required. It is accepted that achieving continued reductions will become more challenging as we progress through the plan and we will undertake periodic reviews of progress to help inform future investment opportunities to remain on track.

Current Achievements

For many years, the university has been working towards reducing our adverse impact on the environment. We have made good progress since 2012/13 and implemented many initiatives including:

- The installation of an **Electric Vehicle (EV) charging stations** at Treforest, Sports Park and Cardiff Campuses.
- **LED lighting** upgrades are included in all refurbishments and upgrades. Over 85% of our Estate is now covered by LED lighting.
- The installation of **renewable technology** at our Treforest, Cardiff, Sports Park campuses. In summer 2022, we expanded our renewable energy generation capacity across the estate and now have approximately 500KW of solar PV arrays installed across a number of academic, residential and sports buildings which will help us save around 20 tCO₂. We also operate solar thermal arrays in our Sports Park 1 building to offset the gas requirement for hot water.
- Purchasing **100% of our electricity from renewable energy generation.**
- Installing and logging almost **400 utility sub meters** across the university estate to enable monitoring and targeting of unusual trends, leaks and usage within our buildings. This is critical to maintain best practice and reduce our Scope 1 and 2 carbon emissions.
- Upgrading our campus waste bins, **introducing new waste streams** including separation of liquid, cups, general waste, dry mixed recycling and food waste to improve segregation of waste, and reduce waste to landfill. Since 2012/13 we have reduced the amount of waste from our operations by 790 tonnes and we have **successfully diverted 97% of waste from landfill** through increasing recycling and incineration of waste. All of our incinerated waste goes to a waste to energy plant which generates electricity from the waste materials.
- **Reducing our single use plastic** and swapping disposables for higher quality recyclable solutions. A **25p levy** has been applied to disposables to encourage the use of reusable alternatives.
- **Engaging with our staff and students** to increase awareness of sustainability initiatives and carbon reduction across the university.
- Founding an **Environmental Champions group** providing staff and students the opportunity to share thoughts, ideas and help promote sustainability across the university.
- **Divestment from fossil fuels**, transferring University of South Wales funds into an environmentally aware investment product which prohibits investment in issuers which derive a significant part of their income from the production or supply of controversial weapons, fossil fuels, thermal coal, nuclear energy, civilian firearms, tar/oil sands and tobacco.
- **Enhancing biodiversity** through creating soft landscaping areas in place of demolished buildings. These areas include grass, plants, cherry laurel and field maples, improving the visual environment and creating habitats to support increased biodiversity on Treforest campus.

Achieving our 2040 target

This strategy takes us up to 2030, by which time and with the help of the targets proposed in this strategy, we will have reduced our carbon emissions by a minimum of 50% - or 14,240 tonnes.

This will then ensure we remain on track to remove the remaining 50% of emissions over the course of the next 10 years to 2040.

Our 2018/19 carbon footprint is calculated to be 28,480 tCO₂e and 98% of our total footprint is currently created by three key emission categories: procurement, electricity consumption and gas consumption.

Therefore, it is these three key areas that require the most focus, investment and ambition over the next 10 years. Emissions from our other activities will not require as large a focus but will still need to be considered and reduced.

Baselines and Targets

As our data systems improve, we will develop baselines and targets for more of our scope 3 impacts. The table below illustrates our existing baselines and targets based on the data we currently collect for each scope:

Scope	Impact area	Baseline Year	Baseline (tCO ₂ e)	Target	Target Year
1, 2	Energy and Carbon	2018-19	7,204	Achieve a 50% reduction in our scope 1 and 2 carbon emissions by 2030.	2030
3	Carbon	2018-19	21,276	Reduce scope 3 emissions by 50% by 2030.	2030
3	Procurement	2018-19	19,217	Work with our suppliers to challenge the efficiency of their supply chains by 2030 to reduce carbon intensity of procured goods and services.	2030
3	Business Travel	2021-22	377	Reduce business travel emissions by 5% per annum.	2030
3	Staff Commuting	2022-23	683	To be developed	2030
3	Student Travel from Home to University	2022-23	14,557	To be developed	2030

3	Waste	2021-22	14.6	Achieve 70% recycling rate by 2025 and maintain zero waste to landfill. Reduce our total volumes of waste by 26% by 2030.	2025 2030
3	Water	2018-19	109	Reduce water consumption by 10% by 2025.	2025

Investing in energy efficiency

Across our sites, we own and operate a diverse mix of old and new buildings, including listed buildings such as Alfred Russell Wallace on our Glyntaff Campus. We recognise there are a number of opportunities and improvements that we need to implement to enhance the efficiency of our assets. To this end, we will undertake robust energy audits on a building by building basis, prioritising those assets in which potential savings offer the highest return on investment.

We will also explore and implement a range of initiatives to reduce energy demand in our accommodation blocks including closer control of plant and building services and targeted engagement of key actions students can take to reduce their environmental impact whilst living in our student accommodation blocks to better understand their energy needs and realise savings.

Investing in our estate

As part of USW's 2030 Estates Masterplan, we are undertaking a rationalisation of our estate that includes the removal of a number of buildings from our estate footprint and the construction of several new buildings due for completion during the course of this Strategy (including Part 2 of the Chiropractic Building, Computing and Engineering Building and Health and Policing Building) alongside a rolling programme of refurbishment of our existing Student Accommodation in Treforest to improve the energy efficiency and quality of those blocks.

We have taken account of the carbon emissions associated with these new buildings. A new sustainability design guide will be developed in due course to inform all new building projects have due consideration to embedding high sustainability specifications into the design and construction phases to minimise the environmental impact of these projects.

Procurement and supply chain

Our procurement activities currently represent one of our largest sources of carbon emissions. Our carbon footprint has identified the biggest sources of contract emissions and these will be the focus for future emission reductions. Prior to the creation of our footprint,

the emissions associated with our supply chain were unknown. Therefore, as we move towards 2030, the university commits to working with its suppliers to challenge the efficiency of their supply chains. As the emissions from the supply chain can be difficult to calculate and our current calculations are based on proxy factors, we will work with the key suppliers that create the biggest impact to obtain accurate emission data from their operations. Our biggest contract emissions are capital goods and paper. These will be focused on as a priority for emission reductions.

From 2021-22, emissions from the supply chain and procurement have been calculated based on the UK Government SIC codes for 2019 whereas previously the now outdated 2011 SIC codes were applied which no longer provide an accurate representation of carbon impact based on improvements in manufacturing and technologies, transport and distribution as well as decarbonisation of the electrical grid. This has resulted in a reduction in emissions associated with this category. This approach also aligns with the Welsh Government Net Zero Reporting requirements.

Electricity and gas consumption in buildings

Our electricity and gas consumption accounts for c. 25% of our footprint. As we move towards 2030, we will reduce our absolute scope 1 and 2 carbon emissions by 50%. This will be achieved through a combination of energy efficiency measures, commissioning feasibility studies into the electrification of heating or switching to low/zero carbon fuels, integrating low carbon heating in any new builds, investment in onsite renewables and increased monitoring and targeting to minimise wastage.

Electricity Supplies

The University has purchased 100% renewable electricity derived from a Renewable Energy Guarantee of Origin (REGO) certified source for its entire estate since 2017 and will continue to do so. As renewable energy generation increases across the UK, we will explore opportunities with suppliers to source electricity from local generators where possible to support the Welsh economy and also reduce transportation and distribution losses across the supply network.

To complement this, USW will also investigate opportunities to invest in potential Power Purchase Agreements (PPA's), which could see the University committing to buy a proportion of our electricity demand directly from an offsite zero carbon renewable energy generator within South Wales. This not only provides price certainty for the University for the volume procured but also creates additionality through funding renewable generation capacity. Similarly, if a single source of renewable energy can be identified (e.g. solar/wind) it may be possible for the University to commit to buy all of this electricity which in turn would accelerate our zero carbon plans with higher reductions in carbon achievable from a carbon free source. It would also make a significant positive impact within the local area supporting the development of new renewable energy generation.

Renewable Energy

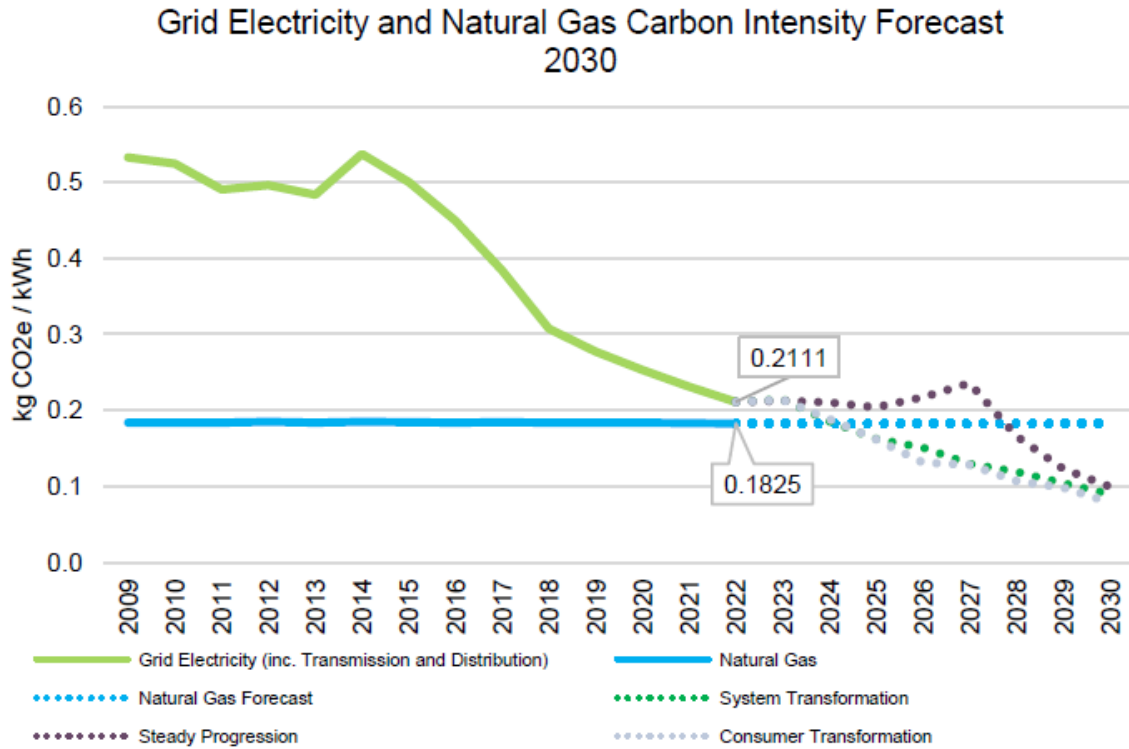
In 2018/19, the University generated approximately 0.1% of its estate's total annual electricity demand from the 60kWp of solar panels installed on the roofs of its own buildings.

These have since been expanded to increase generation capacity to almost 500kWp which will increase the proportionate percentage contributed. This is expected to be in the region of 3-4% of our total electricity demand. However, in the event it was financially viable to utilise all available roof space for solar power, it would only generate a small volume of our energy requirements so we can't rely solely on this form of power and a combination of other renewable sources will need to be included in the mix.

Options to invest in battery storage will be considered if deemed to be viable although costs still remain high despite falling in recent years.

Grid Decarbonisation

The UK electricity grid has decarbonised by over 50% in the last 9 years and is projected to continue to do so up until 2035. This is due to a substantial reduction in coalfired power generation and a corresponding increase in the share of renewables in the energy mix, and secondly because the improved energy efficiency of products has reduced demand for power.



National Grid Future Energy Scenarios: <http://fes.nationalgrid.com/fes-document/>

This in turn supports the reduction in carbon emissions associated with our electricity consumption across the Estate and will be factored into our projections as we progress on this journey to net zero.

The UK Government has committed to fully decarbonise the electricity system by 2035.

Heat Decarbonisation

The vast majority of buildings across the USW estate are currently heated using gas fired (fossil fuel) boilers. Welsh Government have identified this as one of the biggest challenges we face on the road to net zero. Aligned to this, they have recently announced financial support for decarbonisation of gas heating systems to accelerate the transition to electric forms of heating.

We will explore options for electrification of our campuses and improve our understanding of the cost, building and plant requirements for a transition to electric heating along with the risks and opportunities in relation to installing low carbon technologies such as heat pumps. Any new buildings will prioritise in incorporation of low carbon technologies such as heat pumps.

We will also aim to understand the wider infrastructure implications associated with the electrical grid that may influence an increased demand for electricity.

Water consumption in buildings

Water emissions comprise one of the smallest contributions to our carbon footprint. This is in part due to a significant change to the water carbon conversion factor in recent years due to improvements in data calculations and plant and equipment used to treat and pump water, consuming less energy. Despite the relatively minor proportional carbon impact of our water use, it is still an invaluable natural resource and therefore we will target areas for improvement and aim to reduce our water consumption by 10% by 2025. This will be achieved through water efficiency measures and frequent monitoring of our meters to ensure leaks are identified, reported and resolved promptly.

Emissions from waste

Similar to water, relative carbon emissions from waste only generate a small proportion of our overall Carbon Footprint. However not all waste data is currently recorded and therefore the impact may be more significant than first thought. Over the next year, the university will create a process to collate all university waste data and despite limited carbon gains that will arise from reducing waste volumes, from an environmental impact improving recycling remains a key priority. The Welsh Government has set a target of recycling 70% of municipal waste and 50% reduction in avoidable food waste by 2025. Our challenge over the next 5 years will be to divert our waste that is currently sent to energy recovery to a recycling facility. Over the next 10 years, we will recycle at least 80% of our waste and achieve a 50% reduction in avoidable food waste. These targets have been set in broad alignment with the Welsh Governments Circular Economy timeline. We will achieve this through effective waste management techniques and engagement.

Business travel and low carbon travel

Emissions from these activities are very low in our current carbon footprint. Business travel data is largely available but commuting data is not currently collected and staff expense claims do not consider the mode of transport used. Therefore, over the next year the university commits to creating the processes required to capture and measure this data so the impact of travel is better understood and appropriate targets can be set against this activity. Our carbon footprint identifies that we have a high proportion of domestic air travel. Reducing this will be a focus over the next couple of years.

Engagement and behaviour change

Communication across the university will be essential to ensuring our success. All of our policy objectives rely upon positive engagement with our community, and many will require action to be taken by staff and students themselves. Over the next year a communication plan will need to be developed with both an internal and external focus, reflecting the multiple

and diverse range of stakeholders concerned with the carbon strategy. This plan will be developed in collaboration with our internal stakeholders.

Carbon Offsetting

Our primary focus up until 2030 is to focus on reducing our carbon emissions across the estate. However, for the University to reach net zero carbon by 2040, some level of carbon offsetting may be required. This will need to be accomplished via reliable, credible schemes and we will explore options to determine the requirements based on our estimated volumes.

New buildings and refurbishments

As part of the University's 2030 strategy to rationalise the estate, the Estates Strategy serves to upgrade and improve our existing buildings, demolish some older, inefficient building stock and construct new buildings. All new buildings will be subject to stringent sustainability performance targets with the aim of maximising opportunities to ensure we make them climate resilient and fit for the future.

Working closely with the Projects team in all refurbishments, due consideration will need to be undertaken to support and complement our decarbonisation goals where practical on a case by case basis. Guidance that helps project managers understand their responsibilities in relation to sustainability will be developed as a blueprint for achieving low carbon buildings.

Implementation and monitoring

We are committed to achieving decarbonisation through a whole institution approach that relies on a wide range of effective actions across our estate, governance, teaching and engagement activities. The university has produced a carbon roadmap to set out the critical steps and timelines for the programmes integral to achieving our carbon strategy. We will work towards the USW Key Milestones and actions in outlined our carbon roadmap to ensure that we remain on track, and we are taking the necessary measures to achieve carbon neutrality. Performance will be monitored through the production of an annual carbon footprint to show consistent, measured changes as we work through our carbon reduction activities. We will report annually on our carbon emissions internally and externally to communicate our achievements, and undertake a mid-point review to ensure the carbon reduction measures outlined in this strategy are still relevant.

Funding and Resources

The University recognises that it has an important part to play in reducing its carbon emissions as an environmentally responsible institution. Each year, a revenue budget is provided to the Sustainability Team to implement a variety of environmental initiatives which are supported within this Strategy. Examples of how this budget has been used to date include LED lighting upgrades, solar PV installations, electric vehicle charging point installations, upgrades to window seals, thermal insulation of pipework, installation of utility sub-meters, awareness and engagement materials, and improved bike shelters to name a few. Where practical, we will also seek to utilise public sector funding schemes such as [Salix Finance](#) and Welsh Government grant funding mechanisms that help facilitate the acceleration of decarbonisation activities.

Current and future budgets will be utilised to implement environmental improvements which support our journey to decarbonisation.

Appendices

Action Plan

An action plan will form the basis of the University's decarbonisation initiatives to achieve Net Zero. Strategic initiatives are listed within the action plan against each of the priority areas and are aligned with the key milestones in our route map. Initiatives are ambitious to drive the transformational change within USW that is required to achieve a Net Zero University.

The action plan will be reviewed periodically to track progress and monitor effectiveness and resources and will be updated at least annually to include new initiatives and projects as they are identified.

[Decarbonisation Action Plan](#)

[2005 Carbon Baseline – covering Scopes 1 and 2](#)

[USW 2030 Carbon Roadmap](#)

[USW Carbon Footprint Report 2018/19](#)