



2020–2030

ISSUE 1



CARBON STRATEGY

Introduction



Climate change has been the focus of research for decades – but only gradually has it gained serious international policy attention and captured the public mind.

For many people, particularly the young and the educated, a paradigm shift occurred in autumn 2018, when the Intergovernmental Panel on Climate Change warned that the world had 12 years to make an impact on cutting greenhouse gas emissions before the effects of climate change become irreversible.

Since then, multiple governments and local authorities have declared a climate emergency, and in particular, the need to set a target of net zero emissions by 2030 – or at the latest 2050 – if limiting global heating to 1.5°C is to be achieved.

In the UK, the EAUC (The Alliance for Sustainability Leadership in Education) called for universities to join the climate emergency declaration, and that was the call the University of Plymouth answered in July of 2019.

We have a vital role to play in raising awareness around climate change – but we must also get our own house in order in terms of carbon emissions. That is why we have developed this Carbon Strategy, which outlines our plan to achieve net zero carbon for scope 1 & 2 emissions

by 2025. It also affirms our wider goals for continual reduction in the use of resources and a target of net zero for scope 3 by 2040.

As one of the greenest universities in the country, we are building on an exceptional base, particularly in the way we have reduced CO₂e emissions by 48% since 1990, and transformed the way we handle waste and generate clean energy. But there is always more to do and that is why we have also revised our Carbon Management Plan in line with this strategy.

The climate issue goes beyond merely cutting carbon emissions, of course, and that is where we draw upon our internationally-renowned expertise across sustainability. Through research and teaching we make a powerful contribution to the goals of sustainable development, whether in maintaining diverse ecosystems, improving health and reducing inequality in accessing good healthcare, safeguarding water and food security, and supporting the development of greener, renewable energy technology. As a Civic University, we also believe we have an important role to play through influencing and inspiring our partners and stakeholders to strive to be better.

We must all adapt, on a personal, organisational and governmental level, and this is going to require a complex mix of technical fixes, social empowerment and behaviour change. Our Carbon Strategy acknowledges this, establishing our approach to net zero emissions and a greener future.

A handwritten signature in black ink, likely belonging to Professor Judith Petts CBE.

Professor Judith Petts CBE,
Vice-Chancellor

Why a climate emergency?

The evidence for climate change and impending environmental crisis is clear. Climate change has been a focus of the University's research for decades, but it is now gaining serious international policy attention and capturing the public mind and concerns. We are already seeing the impact of changing climates with hotter dryer summers in the UK and wetter winters, which is in turn driving more demand for energy use to maintain comfortable environments in buildings.

The UK legislated in June 2019 to reach net zero greenhouse gas emissions by 2050. This will require a transformation to all parts of the UK economy while ensuring secure, low carbon energy supplies. The latest report by the Intergovernmental Panel on Climate Change is very clear that limiting global warming to 1.5°C by 2030 is necessary to prevent significant global worsening of floods, drought and extreme heat. The report warned that the world has only 12 years left to make an impact on cutting greenhouse gas emissions before the impact of climate change become insidious and irreversible. The IPCC special report 'Global warming of 1.5°C' details the greater risks associated with a 2°C rise compared to a 1.5°C temperature rise. With the need to set a target of net zero emissions by 2030, or the latest 2050, to limit global heating to 1.5°C is to be achieved. Urgent and unprecedented action is needed to in order to deliver this.



Achieving these targets will require rapid reduction in greenhouse gas emissions and vast cultural change to the way we live. Changes to how we travel, the homes we live in and to how we use land. Responsibility sits with both individuals with decisions around what we eat, how we travel and how we heat and insulate our homes, and at city level to ensure there is the facilities and infrastructure in place to deliver the needed changes in how we live.

At the same time we as a society are experiencing increasing and volatile energy costs, for the University this is a burden of almost £3.5 million a year for gas and electricity. Whilst we are reducing consumption over time, costs per unit continue to rise. Part of this plan involves switching to a renewable tariff for gas and electricity, bringing an estimated additional cost of around £100,000 per annum, so it is imperative that we continue to drive down use and increase self-generation at the same time.

There is a growing student base that want to see rapid action on climate change, most clearly demonstrated through the increasing youth involvement in climate emergency direct action. Our students want to see a University that is delivering against one of their core values, with a desire for their investment in university fees to be supporting an institution that is serious about climate change.

Whilst the climate emergency targets sound incredibly challenging, and the evidence calling upon rapid change in the next 12 years a potentially daunting task, there is a clear pathway for delivering against this challenge. We need to drastically reduce demand for energy, especially across the transport and built environments. We need to switch the provision of energy to renewable sources such as wind and solar, dramatically increasing the provision of energy from renewables in a balanced system. And we need to transform land use, changing how land is used for agriculture to reduce emissions and also to increase our natural carbon offsetting through reforestation, rewilding and restoring peat beds to increase carbon capture. We can support this transition through updating our policies and the way the university operates. This strategy is a call to action for all our staff and students, and a time for change.

Mission

To deliver net zero emissions from scope 1 & 2 by 2025.

Vision

To deliver excellent interdisciplinary research, experiential education and civic engagement whilst reducing our negative impact on the environment and responding to the climate emergency through delivering net zero emissions from scope 1 & 2 by 2025 and moving towards net zero emissions including scope 3 by 2030–50.

Goals

The following are the six main goals of our Carbon Strategy and Management Plan.

Goal 1

Net zero emissions from direct emissions (scope 1 & 2) by 2025.

Goal 2

Continue to reduce mains grid electricity use by 20% and mains gas by 25% as a minimum by 2030 from 2005–06 levels, with the intention to support further reductions through wider energy generation projects.

Goal 3

Develop a 'net positive' framework accounting for the positive environmental impact of research outputs to balance the negative output of the University's carbon footprint.

Goal 4

Raise awareness and build a carbon community with our staff and student population, including engagement with target and action plan setting.

Goal 5

Be actively involved in projects that seek to encourage and enable large-scale carbon reduction and promote low carbon transitions in the city and nationally.

Goal 6

Reduce emissions outside of the University's direct control (scope 3) to net zero by 2030–50 in line with local and national targets.

University of Plymouth's Plan

As a leading sustainable University and with our mission to advance knowledge and transform lives it is essential that we take rapid and transformative action to reduce our negative impact on the environment. The University's Strategy 2030 calls upon us to ensure sustainability across the institution, in our finances, reputation, services, partnerships as well as environmental performance and global contribution. And whilst we have performed well reducing our emissions to date, it will remain a continued challenge to balance providing world-class services, high-quality infrastructure and growing international students and partnerships with reducing emissions. This is where the next phase of our carbon management plan needs to increasingly take a whole institutional approach to carbon reduction and balancing the cost-emission-benefit impacts within decision making.

The University originally declared a target to be carbon neutral by 2030 in 2013, focusing on reducing operational emissions and compensating for the remaining emissions through reductions achieved through research and development of low carbon technologies. Since 2013 the monitoring and understanding of emissions both within the University and the wider sector has grown. As such we have reframed our net zero carbon target to focus initially

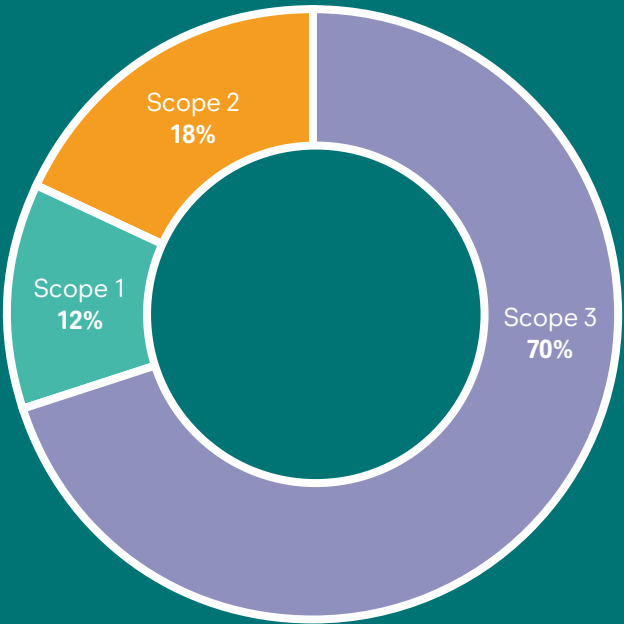
where we have the power within our control to effect change, to deliver net zero carbon from scope 1 & 2 emissions by 2025. This is supported by our longer-term goal for net zero including scope 3 emissions by 2030–50 aligning with both the wider city and national targets. We cannot deliver net zero for scope 3 alone, and this involves a collective effort of transforming infrastructure and industry in order to facilitate this transition to low carbon. The Carbon Management Plan outlines how the University will deliver on this.

To date the University has reduced its emissions (from scope 1 & 2) by 48% since the base year of 1990, and 39% since the year 2005. We are performing well against the previous national long-term target of an 80% reduction (scope 1 & 2) by 2050 from 1990 levels. In addition we achieved the Department for Business, Energy and Industrial Strategy's target of a 30% reduction (scope 1 & 2) by 2020/21 (from 2009/10).

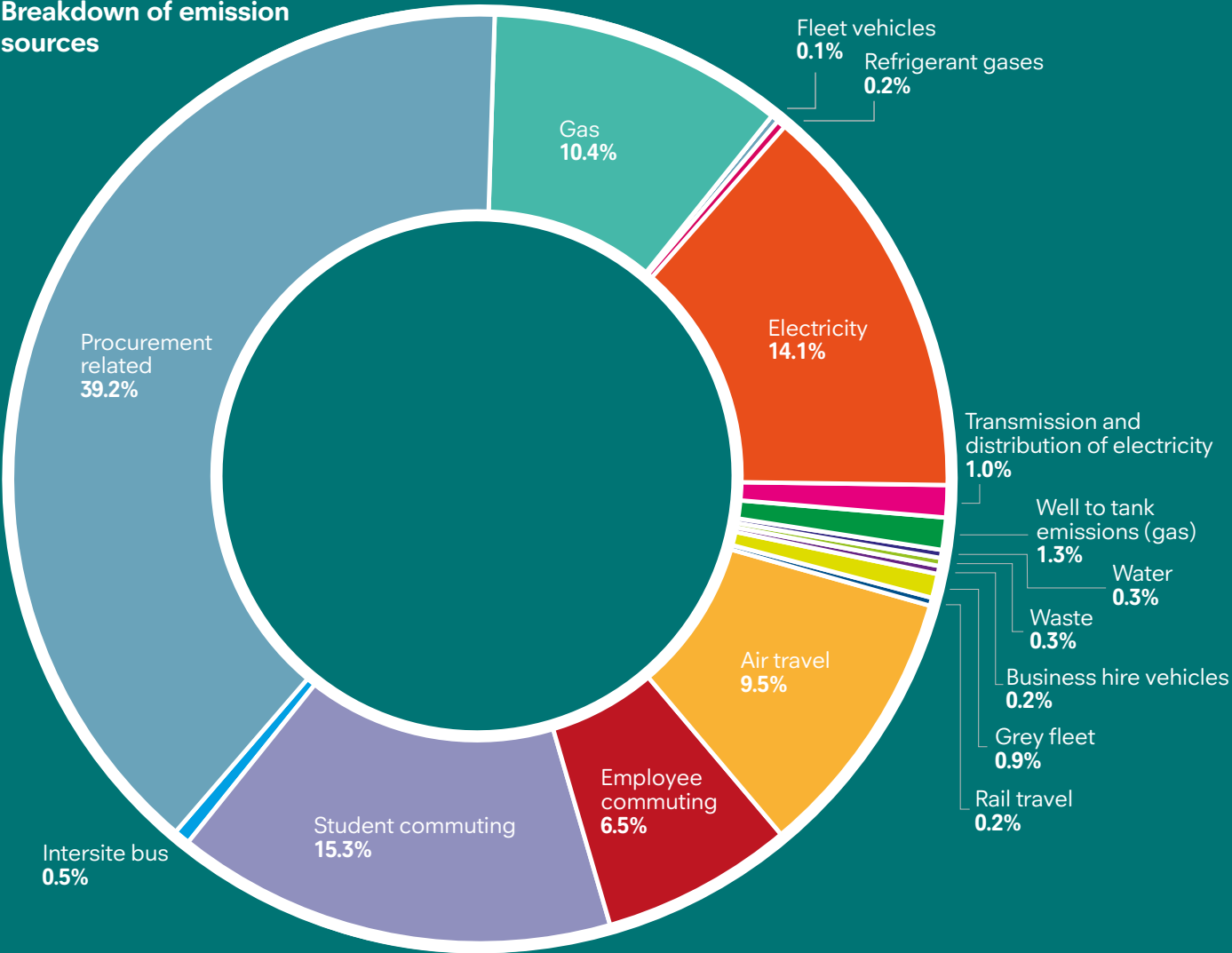
Of our total emissions, 30% are scope 1 & 2 emissions where we have more direct control over, and 70% are scope 3 emissions, such as employee commuting, procurement of goods for example, where we have less direct control over the associated emissions.



Proportion of scope 1, 2 and 3 emissions



Breakdown of emission sources



There are five key elements to implementing carbon reduction that have been in the University's Carbon Management Plan since 2010 and remain just as relevant today: fuel and power conversion, reducing our resource use, implementing change across our behaviours, institutional change and improving space utilisation.

Five key elements of our carbon reduction plan	Improving space utilisation Ensuring the use of our estate is efficient and appropriate through rationalisation of buildings and spaces. Including incorporating new ways of working such as distance learning and working and use of technology to reduce the demand on space.
	Carbon reduction projects Delivering continual reduction in energy and water through low carbon technologies and alternative ways of working, such as LED lighting conversion, Building energy Management System (BEMS) optimisation and reducing business travel.
	Fuel and power conversion These projects focus on the opportunities to move to alternative low carbon fuels and power sources, such as renewables, green gas and bio-fuels and driving efficiency out of our existing combined heat and power units (CHP).
	Institutional change Facilitating carbon impact into institutional decision making, through incorporating carbon evaluation into business case templates, departmental and budgetary planning, risk assessments for example, as well as through wider policies and procedures to drive low carbon decision making.
	Behaviour change Facilitating low carbon behaviour of staff and students through green champion network and projects, awareness campaigns, good housekeeping measures and provision of advice and guidance for low carbon behaviour within our estate.

Priorities

The following are the priority areas in order to deliver against the strategic goals. Each area details high level objectives which are outlined here and mapped in more detail in the Carbon Management Plan.

Overarching priority: clear governance and policy

1. Gain external accreditation standard for carbon footprinting data to provide third party assurance.
2. Ensure environmental sustainability included in the University Strategy 2030.
3. Raise profile of environmental sustainability at UEG to ensure this is integrated into decision making and reinforced through KPIs and objectives.
4. Set up low carbon network within the Plymouth region to collaborate with other businesses in the area.
5. Incorporate carbon reduction into business planning.
6. Develop offsetting policy and guidance (based on locally developed schemes and Gold Standard credits for unavoidable emissions).

Goal 1: Net zero emissions from scope 1 & 2 by 2025

7. Reduce carbon emissions associated with energy use through switching to a renewable tariff (REGO certified).
8. Transition existing district heat network from a gas led system to an electric led system incorporating a low carbon solution.
9. Transition to an electric fleet for University fleet vehicles.

Goal 2: Continue to reduce gas and electricity use

10. Reduce gas and electricity use through operational change, behaviour change and alternative lower energy use technologies.
11. Improve efficiency of existing infrastructure.

12. Campus optimisation to reduce the size of the existing estate and improve utilisation rates.
13. Reframe design brief for new builds and major refurbishments on ultra-low carbon design.
14. Improve digital infrastructure and controls through moving to a smart campus and BEMS.
15. Optimise the BEMS system to reduce electricity and gas use.

Goal 3: Develop 'net positive' framework

16. Establish group to work on framework for evidencing positive contribution of research to the environment (in-house offsetting).
17. Promote the University's work for sustainability and carbon reduction and make connections with research agenda.
18. Commission market research to evidence importance of climate change and other environmental considerations on students.
19. Investigate and develop opportunities for local, meaningful offsetting opportunities with a positive environmental impact.

Goal 4: raise awareness and build a carbon community with our staff and student population

20. Implement staff training and support for carbon management for both professional services and academic staff.
21. Recruit and develop a network of environmental champions with a pipeline of supported behaviour change initiatives across the staff and student community.
22. Continue to raise sustainability and carbon awareness across our curriculum, including outside of traditional environmental courses.
23. Continue to co-develop curriculum and engagement activities with students and the Students' Union to ensure training is provided and students are able to input into the carbon strategy.
24. Balance the potential increase in emissions from increasing international student numbers, through initiatives such as increased online

delivery and reduction of international travel elsewhere, following cost–emission–benefit assessments.

Goal 5: encourage and enable large-scale carbon reduction and promote low carbon transitions in the city and nationally

- 25. Support and lead collaborative city and county-wide net zero carbon partnership meetings.
- 26. Support with the development of city and county-wide frameworks and pathway strategies for the pathway to net zero carbon.

Goal 6: reduce scope 3 emissions

Travel

- 27. Reduce emissions associated with business car hire through switching to electric only car hire vehicles, and reviewing mileage restrictions.
- 28. Review use of personal cars for business travel with a view to mandate electric hire cars only.
- 29. Review electric pool car vehicles and bicycles to replace a proportion of taxi use.
- 30. Review supply of electric taxis in the Plymouth/Devon area.
- 31. Review travel policy options, for example mandating train travel for long distances rather than car.
- 32. Review policy on business class flights.
- 33. Review business travel related to faculties and field trips, particularly international travel, evaluating cost–emission–benefit impacts.

Waste and recycling

- 34. Review of existing barriers to recycling.
- 35. Improvement in recycling bins, signage and communications.
- 36. Separate out food waste from general waste stream for composting or anaerobic digestion.
- 37. Separate out disposable hot drink cups for recycling.

Water

- 38. Mandate increased rainwater harvesting for new builds and major refurbishments.
- 39. Low water use plant and equipment.

Procurement

- 40. Review purchasing of goods across the University to map and reduce procurement emissions.

Key priorities

All heat and power will come from renewable zero carbon sources

Owned vehicles to be zero emission electric vehicles

Replacement programme for F gas containing equipment

Continually reduce heat and power demand

Waste generation will reduce and recycling and reuse will increase

Incentivise sustainable modes of transport for student and staff commuting

Business travel emissions to reduce with switch to cleaner modes and focus on use of technology to reduce travel

Water use will reduce with a focus on low use technology and harvesting of rainwater

Next steps

The Carbon Management Plan outlines the implementation plan to deliver this Carbon Strategy to 2025 and through to 2030 including all scope emissions. The Carbon Management Plan will go through a process of annual review to update progress against the goals and also update the actions and projects as technology and best practice develops.

The actions from the implementation plan will feed through into the annual process of business planning, and faculties and professional services will be required to discuss how to align their activities to the 2025 and 2030–50 goals.

If you have any questions relating to the content of this report, please get in touch with us.

The University is committed to providing information in accessible formats. If you require information from this guide in an alternative format, please contact:

Tel: +44 1752 600600

Email: sustainability@plymouth.ac.uk



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