Sustainability at Bath: Annual Update 2024-25

Universities are uniquely placed to support a pathway to sustainable development and growth. Through the education that we provide, we are enabling and empowering students with the knowledge and skills to make a contribution to global challenges. And through research and innovation, we are actively seeking to find ways in which we can create a better and healthier world for people and planet.

Our Institutional Strategy (2021-26) has sustainability as one of the core values: supporting a sustainable community and adopting best environmental practice. These core values are at the heart of the strategy for advancement, growth, and impact, defining the characteristics as a community.

For the University of Bath, sustainability is about conducting our activity (our research, our education, our operations and our engagement) in a way which embodies and addresses:

- environmental health and climate action
- social responsibility, equity and inclusion
- economic and financial sustainability

Collectively, we contribute positively to sustainability through world-class research, teaching, partnerships and collaboration. However, we also recognise that there are environmental and social impacts associated with our activities. Therefore, we have committed to maximise our contributions to a more sustainable world whilst also minimising our impacts wherever possible.

Reporting on University progress towards our sustainability commitments and goals is an important aspect of our transparent approach that enables our community to understand how we are doing, ongoing challenges and areas yet to be tackled.

Find out more about University work on sustainability.

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Executive overview

At University of Bath, our commitment to sustainability has evolved over many years, encompassing a diverse range of teaching, research, and operational initiatives. We unified efforts with a focus on climate change through our whole-institution Climate Action Framework launched in 2020. Now, we are building on that work and broadening our joined-up approach through the wider lens of sustainability. To achieve this, we are working to identify our most significant areas for impact, ensuring our efforts and resources are directed where they can create the greatest benefit – for both people and the planet.

Over the past year, we have made progress embedding sustainability in institutional decision-making processes and governance, including introducing a new Sustainability Policy. The policy provides the framework for our work going forward and through this framework, we will be establishing a set of targets and goals to align to our institutional ambitions.

Sustainability is a research strength for the University, and this is reflected across the range of disciplines in which we work, with projects tackling an array of sustainability challenges. In the past year, we have:

- launched several large research projects to tackle sustainability challenges, including:
    - partnering with vulnerable communities to develop climate-resilient homes
    - monitoring water quality for public health
    - devising whole system solutions to reach Net Zero
    - developing new technologies to unlock the carbon-saving potential of hydrogen
- used our research to take steps forward in building understanding of sustainability challenges and solutions, such as:
    - modelling the projected impacts of climate change on the UK
    - demonstrating the health, environment and economic benefits of low-emission zones
    - assessing and advising on the government's approach to climate action
- launched the Institute of Sustainability and Climate Change (ISCC) to bring together expertise across the University with a commitment to tackle the most urgent sustainability challenges.
- joined other leading institutions in signing the Concordat for the Environmental Sustainability of Research & Innovation Practice, recognising our responsibility to ensure that research continues to deliver positive impact, but not at the expense of the planet – see full details on pages 4-5.

Through the education we provide at Bath, we seek to empower all students and graduates as leaders for sustainability. To enable this, we have:

- compiled and developed resources, training and case studies to help educators meaningfully embed sustainability in teaching and curriculum development.
- continued to provide co-curricular opportunities focused on sustainability, including sustainability themed Vertically Integrated Projects (VIPs), Carbon Literacy courses and Climate Fresk workshops.

We develop meaningful collaborative partnerships locally, nationally and internationally to help increase the impact we have in addressing sustainability challenges. This year we have:

- co-delivered workshops for young climate leaders as part of the Climate Catalysts Mentorship Programme (from the UNFCCC's Youth4Capacity and UNDP's Youth4Climate initiatives).
- attended COP29 and presented ActNowFilm, a collaborative production from our Institute for Policy Research and Cambridge Zero.

In comparison to last year, our total emissions have decreased by 3% to 127 $ktCO_2e$. While we have seen a cumulative modest reduction in our footprint, there have been a number of notable changes within

footprint reporting categories – see full details on pages 6-8. We've introduced several policies and programmes in the past year to propel our efforts to reduce our environmental impact. We have:

- introduced a Sustainable Procurement Policy to enable purchasers in the University to make choices that enable us to collectively tackle the supply chain emissions in our carbon footprint.
- launched a Sustainable Building Standard to ensure that the highest sustainability standards are followed for all new build and refurbishment projects, with work underway to implement this for upcoming student residential projects.
- rolled out our Thermal Comfort Policy alongside energy saving behaviour change initiatives such as switch off campaigns for Christmas and Easter holidays.
- continued to carry out improvements and upgrades to our campus infrastructure to enable energy savings, including improving metering and data systems, and upgrading lighting.
- modelled scope 1 and 2 carbon reduction scenarios in line with a review of our Net Zero targets and we are exploring partnering arrangements to address the funding and delivery capacity challenges that we face in order to deliver large scale upgrades.
- produced a strategic Travel Plan to address the many challenges in this area.
- installed the UK's first fully recyclable 3G sports pitch.
- created the tools to help manage our approach through an environmental and sustainability management system, introducing a new EcoCampus programme through which we achieved bronze certification.

Our staff and student community are motivated and engaged to act on sustainability. This year, we have:

- celebrated over 400 staff and students taking action for sustainability at our annual awards event.
- launched a new staff sustainability engagement programme, Green Impact, with teams from 19 departments already taking part.
- increased participation in our lab sustainability programme, LEAF (Laboratory Efficiency Assessment Framework) with 32% of labs taking part and 11% of labs now certified to bronze, silver or gold standard.
- introduced new introductory sustainability training courses available for all staff.
- our Students' Union continue to support student sustainability action, primarily through student groups and volunteering.

University commitment to sustainable research practice

In January 2025, we announced that we have joined other leading institutions in signing the Concordat for the Environmental Sustainability of Research and Innovation Practice.

The Concordat is a significant step being taken by the UK research sector to tackle sustainability and address the role we can all play, ensuring that research and innovation can continue to deliver positive impact but not at the expense of our planet.

Signing the Concordat demonstrates our institutional leadership in how we approach environmental sustainability and underscores our dedication to ensuring that both our operations and academic outputs are laying strong foundations for the future, for the University and society.

Priority areas for delivery

The Concordat requires action under six key areas at a whole-institutional level and collectively across the sector to deliver real change by 2050:

- leadership and system change
- sustainable infrastructure
- sustainable procurement
- emissions from business and academic travel
- collaborations and partnerships
- environmental impact and reporting data

Formal senior responsibility for overseeing the delivery of our commitment to this Concordat is held by:

- Professor Sarah Hainsworth, Pro-Vice-Chancellor (Research & Enterprise)
- Dr Ghazwa Alwani-Starr, Chief Operating Officer

Progress and actions

Since signing the Concordat, we have taken action across several areas:

- we have shared our commitment to the Concordat and put in place mechanisms to capture and publicly report progress against the commitments via our annual sustainability reporting.
- we have written a detailed implementation plan covering all areas of the Concordat and are working internally and with partners such as GW4 (comprising the universities of Bath, Bristol, Exeter and Cardiff) to carry this out.
- we have reviewed and updated our Sustainability Policy to ensure that our strategic ambitions to reduce environmental sustainability impacts cover all aspects of University practices and operations.
- we have developed and launched a new Sustainable Procurement Policy which explicitly references our commitment to the Concordat, and we have created initial guidance setting out how this new policy can be applied to our lab work, with further guidance planned to follow.
- we have launched a new sustainability impact assessment tool for all papers/business cases reviewed by University Executive Board to ensure the University's environmental sustainability ambitions are effectively embedded into strategic decision-making processes.
- we have developed a new Sustainable Buildings Standard as part of our work to ensure new and existing infrastructure aligns to the ambitions of this Concordat and our own sustainability goals.

- we have created and launched a new online Sustainable Research Hub showcasing best practice, impact and guidance to support researchers to embed sustainability in their practice.
- we have created a new introductory course on lab sustainability for all staff and postgraduate lab users, as well as running an annual Sustainable Labs Conference to support our research community in finding opportunities for environmental sustainability training and development.
- we have embedded sustainability in a newly launched Research Culture Action Plan, ensuring that mechanisms are in place to enable research design to address environmental impact.
- we have continued to embed sustainability in our lab practices through the use of our lab sustainability programme, LEAF (Laboratory Efficiency Assessment Framework):
    - 32% labs are using the platform
    - 11% have achieved LEAF certification – 9% bronze, 2% silver, 0% gold.
- we have introduced a new staff sustainability programme, Green Impact, that runs in tandem with LEAF for all other parts of the University:
    - 19 University departments have at least one team registered with Green Impact
    - Audits are underway with results due to be published in July 2025.
- we have improved mechanisms to maximise equipment sharing, avoiding unnecessary duplication, and embedding sustainability criteria as part of the tender evaluations of new instrument purchases.
- we have provided remote access to key research instrumentation at weekends and evenings, to help researchers quickly check on experiments without additional travel.
- initial progress has been made to promote and enable a carbon-conscious approach to research travel through the University's Business Travel & Expenses policy.

University carbon footprint

What causes the carbon emissions we produce at the University?

Universities have a unique role to play in addressing the climate emergency, through our education and research, but also recognising our responsibility to reduce our own emissions.

- Our research plays a critical role in understanding and fighting climate change, but it also generates carbon emissions and environmental impacts through the way it is carried out.
- Our teaching empowers students to become future leaders and innovators in our response to the climate crisis, but it also produces emissions in its delivery and the movement of large numbers of students to and from Bath each year.
- The University campus is like a small town and, in common with the rest of society, produces emissions from the way our community travel, what we eat, our choices as consumers and the use of energy to heat and power our buildings and equipment.

These carbon emissions make up our carbon footprint.

Our carbon emissions explained

Our greenhouse gas emissions are categorised into three scopes as per the international accounting standard, the Greenhouse Gas Protocol, and tonnes of carbon dioxide equivalent (tCO_2e) is the standard unit for measuring carbon footprints.

- Scope 1 covers direct greenhouse gas emissions from sources owned or controlled by the University (mostly gas use in buildings)
- Scope 2 covers indirect emissions from the electricity consumed by the University, which it does not generate itself
- Scope 3 covers the other indirect emissions that are associated with the University's activities, including construction, purchasing goods and services, staff business travel, student travel, commuting, waste, water, and investments

Carbon targets

In 2020, the University set ambitious and challenging targets:

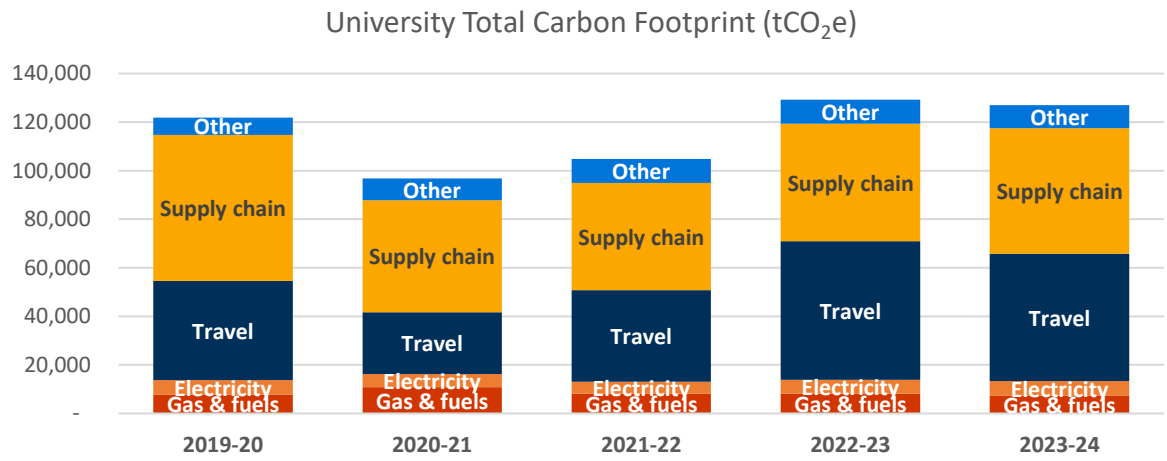
- net zero scope 1 and 2 emissions by 2030
- 50% reduction in scope 3 emissions by 2030
- net zero for scope 1, 2 and 3 emissions by 2040

Achieving net zero would mean that we would no longer be adding to the total amount of greenhouse gases in the atmosphere. This is hugely challenging to achieve but can be done through a range of approaches. At Bath, our approach focuses first and foremost on reducing our demand.

Since 2005, we have reduced our scope 1 and 2 emissions by 46% primarily through demand side measures and grid decarbonisation but to achieve further reductions, we will have to address more complex challenges related to the upgrade of our energy infrastructure. In the past year, we have modelled scope 1 and 2 carbon reduction scenarios in line with our capital plans. Given the scale of the

challenges ahead, we are now reviewing our Net Zero targets as well as exploring partnerships to support the delivery of large scale solutions.

Our carbon footprint 2023-24



In comparison with last year, our total emissions have decreased by 3% to 127 $ktCO_2e$[1].

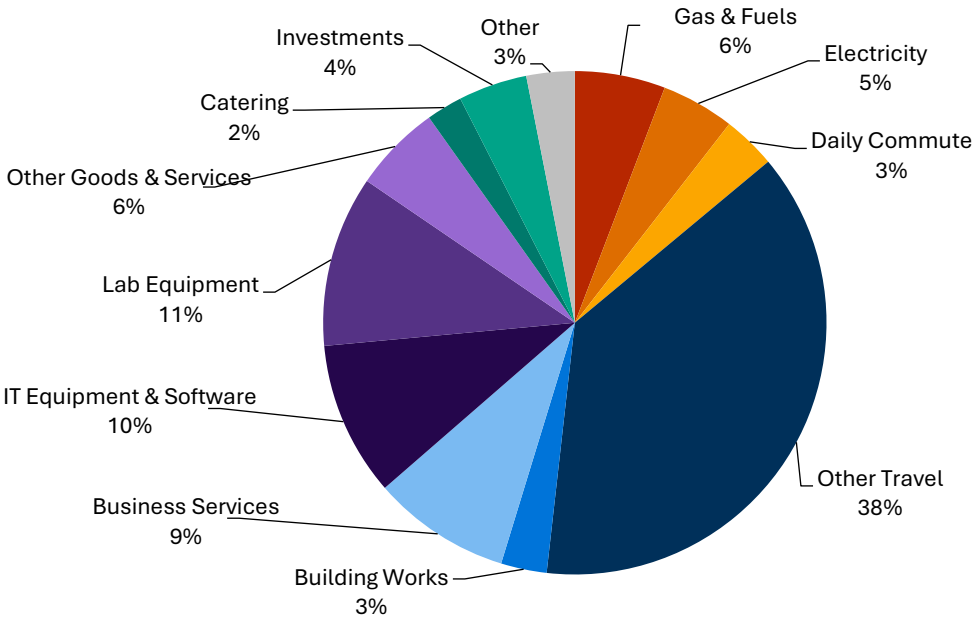
- Scope 1 emissions have fallen by 9% to 7,385 tCO_2e – top contributors to this include:
  - the reduced use of combined heat and power (CHP) units therefore requiring less gas consumption.
  - lower gas consumption in the summer as there were no residual heating or ventilation requirements from Covid-19, as there had been in the previous year.
- Scope 2 emissions have increased by 4% to 5,969 tCO_2e – top contributors to this include:
  - the reduced production of electricity on site (from CHP) resulted in higher electricity imports.
  - IAAPS (Institute for Advanced Automotive Propulsion Systems) increased its operations.
  - off-site residential capacity and consumption increased by 26% as we acquired new buildings – Aquila Court, Eveleigh Waterside and Scala.
- Scope 3 emissions have fallen by 2% to 113,671 tCO_2e. This is a marked change from the 26% increase in the previous year, approximately half of which was outside the University's control due to a temporary 23%-37% rise in the emissions factor[2] for air travel. This is a lagging factor due to Covid-19 and we anticipate that this will return to lower levels next year. Scope 3 emissions overall decreased slightly compared to the previous year but with some notable movements within the category:
  - Building works procurement expenditure increased by 88%, leading to an increase of 1,750 tCO_2e.
  - IT and software procurement emissions increased by 2,500 tCO_2e, primarily due to higher conversion factors.
  - Lab equipment purchases were almost 30% lower, leading to a 2,400 tCO_2e reduction.

[1] See Appendix 1 for an assessment of the confidence in the data in each category of our footprint.

[2] An emissions factor is a numerical value representing the amount of a specific pollutant (such as carbon or carbon dioxide) emitted, per unit of activity or product. It is essential for estimating and managing environmental impacts. They are defined annually by UK government (DEFRA).

- Student home travel is down 9%, leading to a reduction of 4,000 tCO_2e. We observed a larger 29% decrease in the carbon emissions from the overseas taught postgraduate student cohort, approximately half of which is a result of lower student numbers but there has also been a significant change in their domiciles, with the average student travelling from countries nearer to the UK. This significant reduction is partially offset by an increase in carbon emissions from overseas undergraduate student travel.

In the 2023-24 academic year, our footprint comprised of:



Internal audit

The University of Bath's Internal Audit Department undertook an independent assessment of the carbon data presented within the Climate Action Annual Report.

The opinion of the Internal Audit was as follows:

"In our opinion, we consider that Reasonable Assurance can be given with respect to the adequacy and effectiveness of the University's arrangements for managing the risks relating to the accuracy and reliability of the information and data collected relating to the University's Carbon footprint. Based on the procedures we have performed nothing has come to our attention that causes us to believe that the carbon emissions reported within the Sustainability Annual Update 2023-24 for the year ended 31 July 2024[3], has not been prepared, in all material respects, in accordance with the adopted University methodology that also materially complies with the Alliance for Sustainability Leadership in Education– Standardised Carbon Emissions Reporting for Further and Higher Education."

[3] This is based upon the upon the guidance of the internationally recognised Greenhouse Gas Protocol.

An external view of our progress

Whilst external rankings and league tables focus on specific areas of a university's contribution, and are often contentious, they provide a snapshot of progress at a point in time and highlight areas which external stakeholders identify as key.

QS World Sustainability Rankings

In the 2025 QS World Sustainability Rankings, Bath was ranked 127th globally out of 1,794 universities, and 30th in the UK. Although this represented a lower position than the previous year, we increased the number of points across the categories. We scored highly in each of the 3 performance categories of Environmental Impact, Social Impact and Governance. We scored over 90% in six areas: Employability and Opportunities, Equality, Governance, Knowledge Exchange, Health and Wellbeing, and Environmental Research. Our lowest ranked criteria were Environmental Education with 41.6% and Environmental Sustainability with 74.3%.

People and Planet University League Table

Our 2023-24 People and Planet University League Table ranking was 41st, a significant rise from 74th in 2022-23 and 107th in 2021-22, and secured us a 2:1 award.

We scored particularly well in Staff and HR scoring 100%, 93% in Education, 90% in Staff and Student Engagement, 87.5% for Carbon Reduction, and 83% for Managing Carbon.

1.5 Degrees International University Rankings Based on Sustainability

These rankings are based on sustainability and analyse the top 20 universities (according to THE) that teach economics, law, politics, engineering, and education and health. It assesses those universities on how their courses align with the actions needed to tackle the climate emergency and ecological crisis. This highlights the increasing interest across the sector in understanding where real progress is being made. Bath does not feature in this top 20.

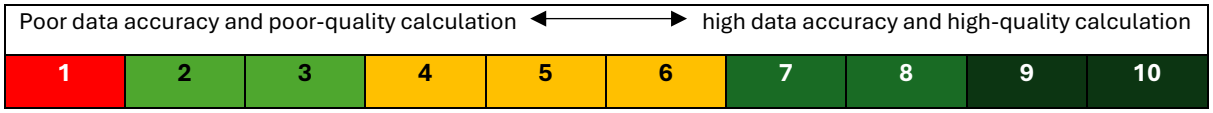
Appendix 1: Footprint accuracy

In the spirit of transparency and following best practice, we have committed to regularly publishing an assessment of the accuracy of our footprint calculation. Scope 3 emissions are particularly challenging to measure, and we are at the forefront of best practice in this area.

A key part of our footprint methodology is having confidence in calculated figures. There are two key components to the calculation, accuracy of the data and calculation methodology.

The accuracy relates to how the data is recorded. For example, if the University's gas footprint was based upon estimated bills rather than actual meter readings, the confidence would be low. The units used for the data directly affects the accuracy of a carbon footprint. For example, procurement data is (like most organisations) currently estimated based upon expenditure, which means that if two suppliers are supplying identical equipment, but one is 50% more expensive, then the carbon footprint of supplies from the costlier company would also be 50% greater, despite the equipment being the same. This highlights how many data issues are outside our direct control – only a very small proportion of our suppliers can supply accurate data for their products that we buy, and in the meantime we have to use these cruder estimates.

Taking into account both of these factors, the levels of confidence in the individual categories of our carbon footprint are outlined in the table below, which also shows changes since the previous year. We have plans in place to improve accuracy, but much of this is not within our direct control.



	Category	2022-23	2023-24	Comments (for changed data)
Scope 1	Natural gas	10	10	
	Fuels	8	7	Not all data obtained
	Fugitive emissions	5	7	Increased confidence in the data after three years of monitoring
Scope 2	Electricity	10	10	
Scope 3	Purchased goods and services	3	3	
	Capital goods	3	3	
	Fuel and energy related activities	9	9	
	Upstream transportation and distribution	1	1	
	Waste generated in operations	6	6	
	Business travel	5	5	
	Employee commuting	4	4	
	Downstream transportation and distribution	5	6	Better student data obtained
	Investments	3	2	No update to the footprint calculation from our investment advisors, so it is now three years old

Appendix 2: Footprint boundary

We report on all emissions within our footprint boundary:

- Scope 1 and 2: this covers our electricity and gas use in our buildings on our main Claverton Down Campus, off-campus sites and student accommodation blocks, and also covers university owned vehicle fuel and fugitive emissions
- Scope 3: we report all emissions associated with staff and student travel, supply chain expenditure, investments, waste, deliveries, fuel and energy related activities

This is in line with the international accounting standard, the Greenhouse Gas Protocol, in compliance with the Alliance for Sustainability Leadership in Education– Standardised Carbon Emissions Reporting for Further and Higher Education.

There are no changes to the footprint boundary in 2023-24.

We have not been able to obtain all of the data for IAAPS. Therefore, we have used 2022-23 data in the relevant areas. We note that this does not have a material impact on the final 2023-24 figures.

Appendix 3: Carbon emissions since 2005-06

		05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Scope 1	**Natural gas**	9,251	7,324	7,917	8,504	8,289	7,707	7,130	7,741	7,276	7,959	7,920	7,882	8,579	8,079	7,759	10,688	8,063	7,916	7,100
	Fuels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	42	37	52	53
	Fugitive emissions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	39	157	232
Scope 2	**Electricity**	15,262	14,723	15,216	14,615	14,082	13,067	13,079	12,771	14,274	14,014	12,699	12,408	9,741	7,707	5,899	5,487	4,891	5,765	5,969
Scope 1 and 2	**Total**	24,513	22,047	23,134	23,119	22,371	20,775	20,209	20,512	21,551	21,973	20,619	20,290	18,320	15,786	13,691	16,297	13,030	13,890	13,354
	Reduction from 2005 baseline	0	10%	6%	6%	9%	15%	18%	16%	12%	10%	16%	17%	25%	36%	44%	34%	47%	43%	46%
	kg CO_2e/m^2	126.1	113.4	118.5	112.7	109.1	99.0	94.2	95.4	96.8	90.3	83.2	77.5	70.0	57.7	49.1	58.7	44.7	44.6	42.9
Scope 3[4]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	108,151	80,518	91,751	115,370	113,671
Scope 1, 2 and 3[4]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	121,842	96,815	104,781	129,260	127,025

- Data not gathered for fuels, fugitive emissions and Scope 3 for 2005-20.

[4] Scope 3 footprint numbers for the baseline year and subsequent years are working values, as the calculation data available is frequently changing in availability and quality.