



UNIVERSITY OF
BIRMINGHAM

Carbon Management Plan

Our approach to reducing the environmental impact of University of Birmingham, 2026 - 2030

We advance

We activate

birmingham.ac.uk

Executive summary

This Carbon Management Plan summarises the University's approach to carbon reduction, aiming to achieve net zero carbon (NZC) by 2045, and our annual reporting of progress.

To track our progress to NZC, we have set interim 'stepping-stone' targets through to December 2030; this Carbon Management Plan outlines the activity we will undertake up to 2030, to ensure we remain on the right trajectory towards achieving our longer-term NZC goals by 2045.

Activity to work towards NZC will support the University to reduce its environmental impact and that of our suppliers, partners, and contractors alike, as we use our influence, partnerships and convening power to promote sustainable practices across our regional and global networks. Our approach aligns with our responsibilities as a signatory to the Concordat for the Environmental Sustainability in Research and Innovation Practice and most importantly, our [civic purpose](#).

As a University founded on social responsibility, we are committed to addressing the sustainability and climate challenges facing our world. This plan was reviewed and approved by the Sustainability Steering Group in June 2026; Sustainability Steering Group are responsible for providing strategic oversight and coordination of the University's approach to delivering sustainability.

Carbon Accounting reports and an internal Sustainability Scorecard are produced annually and presented to Sustainability Steering Group and University Executive Board to scrutinise progress and steer action. We publish our Carbon Accounting Reports, Environmental Performance Data and a summary of our progress on our [website](#).

Introduction

As a University founded on social responsibility, we are committed to addressing the sustainability and climate challenges facing our world. Guided by the UN Sustainable Development Goals and our role as a leading global institution, we aim to drive positive change, not only through our research, education, operations and partnerships, but through the behaviour and actions of our students and staff, and our engagement with our local communities. Our ambition is to embed sustainability into everything we do - empowering our community to lead, innovate, and act for a more sustainable future, from our local region to the global stage.

The University of Birmingham has committed to making annual gains in reducing our carbon footprint, aiming to achieve NZC carbon for Scope 1 and 2 by 2035 and overall, by 2045. This is outlined in the University of Birmingham 2030 [Strategic Framework](#).

Student Involvement

The University's Guild of Students were involved in shaping the 2030 Strategic Framework and setting our NZC targets. Guild Sustainability Student Officers are also members of Sustainability Steering Group and help oversee delivery of our Sustainability Strategic Priorities. The [NUS Carbon Targets](#) initiative has ranked us as "Leading the Way" on commitments to reduce carbon emissions and taking action against the climate emergency.

To deliver on our NZC target, we have embarked upon an ambitious plan that includes and engages our students, colleagues, and other stakeholders.

Carbon Accounting and Emission Scopes

The Greenhouse Gas (GHG) Protocol is the recognised global standard for carbon accounting. This categorises emissions into three 'Scopes' so that responsibility for them can be accurately allocated. Essentially, Scope 1 and 2 are those emissions that are owned or controlled by the University, whereas Scope 3 emissions are indirect emissions that occur because of University activity, from sources we don't own, e.g., purchased goods and services.

Targeting Carbon Reduction

The University of Birmingham has a long history of carbon management, reduction and reporting dating back to 2006, with the publication of our first carbon management plan (CMP) in the first phase of the Carbon Trust's Higher Education Carbon Management

Programme. We achieved our 2020 target to reduce our Scope 1 & 2 carbon emissions by 20% in absolute terms against a backdrop of increasing student numbers, construction of new buildings and increasing turnover.

This Carbon Management Plan outlines our approach towards the University's institutional Measure of Success (or KPI), measured against a 2020/21 baseline, aiming to achieve NZC emissions across all Scopes by 2045, five years ahead of the [UK Government's 2050 legally binding target](#).

Baseline

We are committed to continually improving the robustness of our data. In 2023 we changed our approach to calculating the methodology to calculate our carbon emissions to align with best practice set out in the Environmental Association for Universities and Colleges' (EAUC) [Standardised Carbon Emissions Framework](#) (SCEF); this resulted in a re-calculation of our carbon emissions in our base year, 2020/21.¹

We recognise that our 2020/21 baseline reflects a period of disruption for the University due to COVID-19, including reduced travel and non-typical operations. While this introduces some limitations when comparing and evaluating performance, we will continue to use this baseline to ensure consistency in tracking progress over time, with a commitment to review and consider an updated baseline at the end of the current Strategic Framework period.

Table 1 shows the breakdown of the University's carbon footprint across each Scope for our base year 2020/21. Our carbon footprint is composed of Scope 1, Scope 2, and Scope 3 emissions including purchased goods and services, capital goods including building and refurbishment, and transportation of goods to the University. This provides context for the number of areas where emissions reduction will need to be targeted.

Scope	Source	Baseline emissions 2020/21 (tCO ₂ e)	Contribution to total (%)
1	Natural Gas	42,923	13.57%
1	Fleet (owned / operated)	75	0.02%

¹ A detailed breakdown of our re-baselining exercise and impact on our carbon reporting is presented in our Carbon Management Plan 2024, which can be requested from the Sustainability Team (sustainability@contacts.bham.ac.uk).

1	Refrigerants	225	0.07%
1	Other fuels	192	0.06%
2	Purchased electricity	4,652	1.47%
2	Heat & steam	24	0.01%
3	Purchased goods and services (procurement) emissions, including capital goods	191,866	60.67%
3	Fuel & energy procurement emissions	9,145	2.89%
3	Water and wastewater	185	0.06%
3	Waste	628	0.20%
3	Business travel	9,767	3.09%
3	Staff commuting & working from home	6,962	2.20%
3	Student commuting (during university term time and out-of-term time home visits)	48,565	15.36%
3	Leased buildings (downstream)	1,031	0.33%
	Total	316,239	100%

Table 1 – Carbon Emissions Baseline Table. The University uses the Higher Education Supply Chain Emissions Tool (HES CET) to calculate the majority of its procurement emissions, with the rest based on supplier-specific methods.

Milestones

To track our progress to NZC, we have set interim ‘stepping-stone’ targets through to 2030; these will measure our performance in the short-term to ensure we remain on the right trajectory towards achieving our NZC goals by 2045. Our NZC aims and ‘stepping stone’ targets will support delivery of the UK’s legally binding target and aligns with the COP21 Paris Agreement, which seeks to limit the increase in global temperature to 1.5°C above pre-industrial levels.

Stepping-Stone Targets (to achieve by 2030, measured against our base year 2021/21)

- 18% reduction in Scopes 1 and 2 by 2027/28
- 20% reduction in Scopes 1 and 2 by 2030/31
- 36% reduction in Purchased Goods and Services (Procurement) Emissions by 2030/31

Monitoring and Reporting

Carbon emissions will be calculated annually, allowing the monitoring of our pathway to NZC. We will publish our Carbon Accounting Reports on our [website](#) as well as reporting energy consumption and carbon emissions through the [Higher Education Statistics Agency. \(HESA\)](#)

There may be instances where we need to adjust our base year or re-calculate emissions for other years if we find errors in our data, make changes to our carbon accounting methods, or other changes at the University impacting our carbon footprint (e.g. a sale or purchase of a facility that existed during the base year). Operating with openness is a [core value](#) within our University; [our recalculation policy](#) explains how we will ensure that our carbon data and reporting is accurate, consistent and transparent.

Carbon Accounting reports and an internal Sustainability Scorecard are produced annually and presented to Sustainability Steering Group and University Executive Board to scrutinise progress and steer action. Please see page 12 for more information about our governance and reporting structures.

We publish our Carbon Accounting Reports, Environmental Performance Data and a summary of our progress on our [website](#).

Carbon Reduction

We aim to meet our Scope 1 and 2 emission stepping-stone reduction targets by investing in building maintenance and targeted capital improvements; we anticipate achieving our most significant reduction in Scope 1 and 2 emissions after 2030, through the decarbonisation of our on-site energy centre and the ongoing [decarbonisation of the national grid](#). We aim to reduce our Scope 3 procurement emissions (purchasing goods and services) by adapting our internal frameworks and practices and working with suppliers who mirror our sustainability goals and values.

A range of targeted activities are co-created and delivered through our Sustainability Steering Group, Professional Services Sustainability Committees and Sustainability Action Groups. SMART targets are agreed where appropriate, to focus our activity, reducing our environmental impact and enhancing the positive contributions we can make to tackling the climate crisis (see Appendix A).

Activities are collaboratively developed and regularly reviewed by Sustainability Steering Group to maintain relevance and ambition; our pace and scale of delivery will be informed by a range of factors including costs, resources, co-benefits, supply-chain activity and viability of implementing low carbon technologies on our campus’.

Focus of our NZC activity will be in six parts and are explored in further detail below and Appendix A:

- Sustainable Estate
- Scope 3: travel, waste, water, purchased goods and services
- Digital sustainability
- Community involvement
- Biodiversity
- Offsetting

Sustainable Estate

Several key actions will be required to deliver our decarbonisation targets for Scopes 1 and 2. As natural gas accounts for the largest proportion of our Scope 1 and 2 emissions (see Table 1), the priority for decarbonising will be to move away from using gas to produce heat and power, to become an electrically powered campus (e.g. installation of low-carbon heat pumps to decarbonise our Energy Centre).

Work is underway to define a strategy for decarbonising our heat networks, a critical step toward achieving our ambition of becoming operationally net zero by 2045. As part of this, we will explore a range of technology options to replace the heat and power currently supplied by our Energy Centre with affordable, low-carbon alternatives. Short-term activity will be progressed through aligning maintenance investment to our NZC priorities where feasible and affordable, supported by £5m per year, ring-fenced sustainability fund.

We will aim to reduce energy demand of buildings by installing energy efficient lighting and occupancy sensors where feasible and improving the thermal performance of existing buildings. We will replace heating systems approaching end of life with low-carbon alternatives. We will also deliver carbon savings and reduce the University’s environmental impact through our estate-consolidation programme, which will focus on more effective space management. This will include optimising room utilisation, concentrating activities to enable the closure of underused areas, and trialling the use of intelligent building technologies.

Sustainability is embedded in our [Campus Vision](#); environmental sustainability and climate-resilience standards are integrated into capital projects as appropriate, and all major investments are reviewed by an independent sustainability advisor.

We promote energy efficiency and best practice in our staff engagement activity,

including promoting positive action in our Green Impact Toolkit, encouraging good practice in our laboratories through our Green Laboratory accreditation scheme and facilitating discussion and events during our annual Green Week.

Scope 3

Scope 3 emissions are indirect emissions that occur because of University activity, from sources we don't own e.g. purchased good and services, business travel, and student and staff commuting. Our Scope 3 emissions account for over 80% of our total emissions, and as such, we will need to ensure that robust targets are set to ensure we achieve our Scope 3 goal of NZC carbon by 2045. A baseline for the University's Scope 3 emissions has been developed (as shown in Table 1) and we are exploring options to continually improve the quality of our Scope 3 data to inform meaningful targets for carbon reduction. The University currently uses the Higher Education Supply Chain Emissions Tool (HESCET) to calculate the majority of its supply-chain (procurement) emissions. Annual activity to improve the accuracy of our Scope 3 data and enable reductions is overseen by the Sustainability Steering Group and delivered through our Net Zero Carbon Action Group. We target the following Scope 3 areas:

- Business Travel
- Staff and Student Commuting
- Waste
- Water
- Purchased Goods and Services (Procurement), including capital goods

Sustainable Travel

Our Sustainable Travel Action Group is responsible for championing, coordinating and embedding more sustainable travel behaviours across the institution, reporting to Sustainability Steering Group. As well as the targeted activities below, the University explores transnational education models that may influence our longer-term travel and carbon impacts. This is illustrated by our [partnership in China](#), which enables students to study in country (reducing student international travel) and receive a dual-degree from Huazhong University of Science and Technology and the University of Birmingham.

Business Travel

The University promotes guidance that aims to reduce carbon emissions resulting from business travel by encouraging the following:

- Using Travel Management Company (Clarity) for all travel bookings, to improve the accuracy of our data collection and reporting.

- Prioritising virtual collaboration where possible: using video conferencing or digital tools to replace non-essential business travel.
- Choosing low-carbon transport: opting for buses, trains, electric or hybrid vehicles and/or shared transport for shorter journeys. Where flying is unavoidable, opting for direct flights and economy class, particularly for journeys under 8 hours.
- Staying Sustainably: selecting accommodation providers who share our sustainability values and by aiming to stay local to the place we're visiting to reduce the need for in-country transport.

We include references to sustainable business travel in our staff engagement activity, including promoting positive action in our Green Impact Toolkit, signposting to guidance in our Sustainable Research Practices Toolkit and facilitating discussion and events during our annual Green Week.

Staff and student commuting

We have set targets to reduce the carbon impact of students and staff commuting to and from campus, which will be measured via our yearly travel survey. We include references to sustainable commuter travel in our staff engagement activity, including promoting positive action in our Green Impact Toolkit and facilitating discussion and events during our annual Green Week. Further detailed activity about our projects and initiatives, are set out in our Sustainable Travel Action Plan, available on our [website](#).

Waste

Whilst waste is a small contributor to our overall carbon emissions, we recognise our responsibility to reduce waste and increase reuse and recycling rates. Our Waste Action Group is responsible for directing and overseeing delivery of the University's waste and circular economy projects and initiatives across our Birmingham campus, reporting to Sustainability Steering Group.

It is anticipated that changes in UK waste legislation, introduced in 2025, will drive changes in behaviour, coupled with campus-focused projects and initiatives. Our new waste and circular economy strategy will be in place by the end of 2026 and will guide our activity to 2030. We aim to:

- Reduce waste generation overall
- Introduce more reuse and recycling schemes across campus
- Expand food waste segregation and collections across campus
- Streamline waste streams and expand segregations where possible, particularly for 'hard to recycle' items
- Promote positive action through our staff engagement activity, including encouraging positive behaviours in our Green Impact Toolkit, Green Laboratory Accreditation Programme and Sustainable Research Practices Toolkit and

facilitating discussion and events during our annual Green Week

Our waste and circular economy strategy will be published on our [website](#).

Water

As part of our work to reduce emissions across our estate and mitigate our environmental impact, the University is committed to reducing water usage, both on campus and within our residential accommodation stock.

In Birmingham, we are developing a water infrastructure and management plan to steer how we operate, invest in and rationalise our water system and direct improvement activity.

We promote water efficiency in our staff engagement activity, including promoting positive action in our Green Impact Toolkit, Green Laboratory Accreditation Programme and facilitating discussion and events during our annual Green Week.

Purchased Goods and Services (Procurement)

Our commitments to sustainable procurement are outlined in our Sustainable Procurement Policy, available on our [website](#). Our suppliers are at a mixed level of carbon maturity, from industry leaders to those having taken no action. To meet our NZC targets, we will need to engage with and support our supply chain to encourage and lead (where feasible) decarbonisation at a faster rate. We have measured and mapped our supply chain to identify the suppliers that have the biggest impact on our carbon performance, and we are working with suppliers to more accurately measure our supply chain carbon emissions and encourage alignment with our sustainability goals.

To influence carbon reduction within our supply chain, we prioritise improvement activity in the following areas:

- a) developing and embedding sustainable purchased goods and services (procurement) standards and practices in our contract management processes
- b) continually improving the accuracy of our supply-chain sustainability data and reporting
- c) engaging and supporting our suppliers to adopt sustainable procurement standards and practices
- d) engaging and supporting University staff to adopt sustainable procurement standards and practices

Digital Sustainability

IT and digital sustainability are critical enablers of our journey to achieve NZC. By improving how we collect and manage data, through our data and digital strategies, we can better measure our emissions, particularly those from purchased goods and services (Scope 3). At the same time, digital tools such as collaboration platforms, smart building technologies and streamlined procurement processes help people make lower-carbon choices in their day-to-day work, reducing emissions at scale.

Community Involvement

Whilst a significant component of achieving NZC will involve activities beyond the control of the individual (e.g. upgrades to buildings, supply-chain practices), having a focus on behaviour change will ensure that staff and students are educated and supported to take personal action in a way that is aligned to our NZC aims.

Various workstreams are already underway to engage staff and students across the University, and drive increases in energy and water efficiency and better waste management through behaviour change. Our Sustainability Engagement Lead coordinates activity to engage our University community in sustainability and foster commitment to environmentally responsible practices across our Birmingham campuses. Our approach to staff and student engagement at the University of Birmingham is outlined in our Sustainability Engagement Strategy, published on our [website](#).

The University also acknowledges the importance of reputation-related factors in regard to supporting our carbon management aims. We closely monitor league table positions and benchmarks, such as the QS and People and Planet Sustainability league tables. We will seek to improve our standing relative to our peers in the Higher Education sector, measuring our progress and performance year on year.

Biodiversity

Enhancing biodiversity at the University is an important consideration in the management of our decarbonisation plan. The University has published a [Biodiversity Plan](#) outlining our ambition, goals and objectives to use our influence to address the global nature crisis and nurture and protect the University's natural capital, for the benefit of our community now and in the future.

University of Birmingham has committed to the [Nature Positive Universities](#) pledge and will proactively share examples of our progress through their network. The Biodiversity Action Group oversee the delivery of [the Biodiversity Plan](#), and activity aligned to the following key priorities:

- Raise awareness of the importance of biodiversity and foster commitment to nature conservation
- Enhance biodiversity on campus
- Establish sustainable field facilities on campus
- Promote human connection with nature

Offsetting

Whilst our current focus is on reducing our absolute emissions as far as is practicably possible, we recognise that to meet our NZC targets, it may be necessary to offset any remaining “residual” emissions. Our approach to offsetting will be kept under review by and will be decided by Sustainability Steering Group and University Executive Board.

Offsetting for travel booked using University funds should be avoided unless offsetting has been agreed by Sustainability Steering Group, in partnership with an external research funder. In these instances, staff are required to book travel via the University travel booking portal and use the off-setting option selected. Only a small number of external research funders offer this facility at present.

Governance, Authority and Reporting NZC

There is a strong governance model in place for ensuring progress is being made to achieve NZC by 2045. Sustainability Governance drives action linked to strategy by providing a mechanism for effective reporting into senior leadership and optimising engagement with key stakeholders.

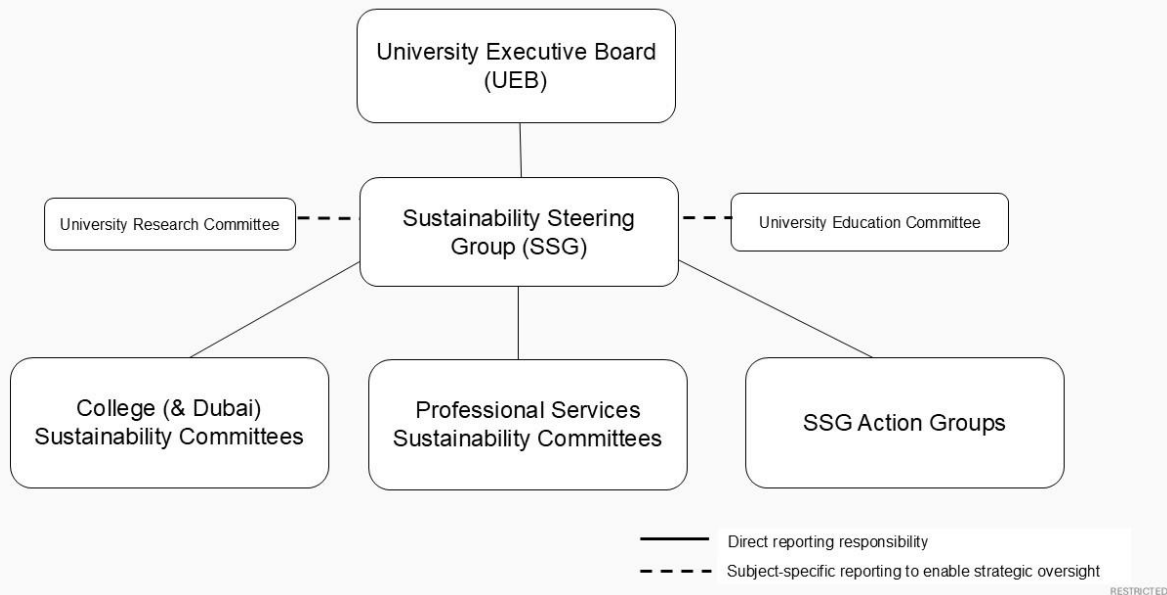
Our NZC aims have been endorsed by [University Council](#). Our Sustainability Steering Group is the leadership body for sustainability within the University; Sustainability Steering Group is responsible for coordinating delivery of our sustainability priorities across the University, including decarbonisation projects and initiatives.

Our University’s Head of Sustainability (Zoe Hurley), is responsible for coordinating the drafting and delivery of the carbon reduction plan, working in partnership with Sustainability Steering Group. Sustainability Steering Group reports progress directly to our [University Executive Board](#).

The governance model is set out in the diagram below. A full description of our governance bodies, responsibilities and terms of reference is published on our website:

- Sustainability Governance at University of Birmingham
- [Sustainability Steering Group Terms of Reference](#)

Institutional Governance & Accountability



Membership of Sustainability Steering Group, Professional Services Sustainability Committees and Sustainability Action Groups has been purposefully designed to promote cross-functional working. Similarly, there is expected to be a high degree of overlap between the activity of the groups, to be managed through shared membership, clarity of ownership and joint working.

Sustainability Steering Group agrees SMART objectives and key areas of focus annually, working towards the Sustainability Goals and Priorities outlined in our Strategic Framework. Progress is measured annually through our internal Sustainability Scorecard.

Our Sustainability Governance structure is reviewed annually, to ensure it is fit for purpose in supporting the University in achieving its sustainability ambitions.

We advance **We**
activate

[birmingham.ac.uk](https://www.birmingham.ac.uk)

Appendix A – SMART Targets Table

All measures are assessed against our 2020/21 baseline, see Table 1

Impact Area	Objective	Target (measured against 2020/21 baseline unless otherwise stated)	KPI
Purchased Goods and Services (Procurement) *	Reduce procurement related emissions and improve the sustainability of our supply chain	Achieve 36% reduction on total Scope 3 carbon emissions from supply chain (tCO ₂ e) by 2030 (target 134,306).	Annual Scope 3 emissions from purchased goods and services (tCO₂e) Nb: *Inclusive of purchased goods and services, capital goods including building and refurbishment, and transportation of goods to the institution
Water	Reduce water consumption across Campus	Achieve an 8% reduction on water consumption per square meter of gross internal area (non-residential and residential) (m ³ /m ²) by 2030 (target 0.785).	% reduction in water consumption (m³/m²)
Waste	Reduce waste and increase recycling rates across campus	Increase reuse and recycling rate to a minimum of 40% by 2030 (target 2,022.1 tonnes) from 21/22 baseline <i>This is measured against a 21/22 baseline (20/21 figures not available during pandemic).</i>	% of waste going to recycling, reuse, composted, anaerobically digested (excluding construction waste)

Business Travel	Minimise the environmental impact of University related business travel	Achieve 5% reduction on total Scope 3 carbon emissions from business travel (tCO ₂ e) by 2030 (9,279 tCO ₂ e).	Annual Scope 3 emissions from business travel (tCO₂e)
Staff Commuting	Minimise the environmental impact of staff commuting	Maintain the proportion of staff commuting by sustainable methods (commuting by methods other than single occupant car or taxi) at a minimum of 63% from the 2022/23 baseline, to 2030	% staff commuting by sustainable methods, measured through staff travel survey
Community Involvement	Increase awareness and engagement of students and staff around climate and sustainability issues	1) Deliver an annual Green Week for our university community up to 2030 2) Increase Sustainability in Action course completion rates from 2024/25 baseline, to at least 57% for students and 51% for staff by 2030 3) Increase the percentage of staff agreeing that “my college/division are taking steps to reduce its impact on the environment” from 45% (22/23 baseline), demonstrating annual improvements to 2030	- Number of Green Week events delivered % of students completing Sustainability in Action % of staff completing Sustainability in Action course % of staff agreeing with sustainability statement in annual staff survey
Biodiversity	Increase biodiversity across our campus	Deliver at least 5 biodiversity enhancement projects on Edgbaston campus and evidence of improved condition by 2030.	- Number of biodiversity enhancement projects - Change in biodiversity condition (species richness)

Construction and refurbishment	Ensure sustainability and climate resilience are built into construction and refurbishment projects	Ensure 100% of construction and refurbishment projects over £5m, initiated before 2030, appoint a Sustainability Advisor to embed environmental sustainability and climate-resilience principles into the design.	• % of eligible projects with sustainability advisor appointed
---------------------------------------	---	---	--