

# Liverpool Hope University

## Carbon Management Plan – 2025 to 2028

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Approval route:	Director of Estates – June 2026

### 1) Introduction

This Carbon Reduction Plan to 2028 contributes to one of the eight interconnecting themes within the Environmental Sustainability Strategy 2026-2028 which is the overarching document which sets out the University's core sustainability ambition, principles and commitments; the Plan also directly contributes to the *Sustainable and Future Ready* pillar of the University's Strategic Plan 2023–2028 and the Estates Strategy 2025–2028. This Plan sets out the path that will enable us to achieve our carbon reduction targets; details our emissions from a baseline of 2005-2006; and builds on the strong performance of previous Plans.

Reducing carbon emissions is critical to reduce, and manage, risks from increased regulation; to allow us to meet any future funding requirements; reduce the operational costs of the university as well as goods and services; reduce operational risks associated with climate change; and improve the operation and maintenance of the estate. Carbon reduction also provides opportunities for technological advancement, personal development and enables us to contribute to a more sustainable future. As a responsible organisation, Liverpool Hope University recognises that it cannot continue to operate business as usual and that sustainability and carbon reduction must form part of the core business and decision-making process. Reducing our consumption and use of goods and services and improving energy efficiency not only reduces our carbon emissions and associated costs but also improves our environmental impact and positions us to successfully adapt to a low carbon future.

### 2) Strategic Objectives

Aligned to the University's Strategic Plan, Estates Strategy and Environmental Sustainability Strategy, the University has agreed targets of:

- Collecting, analysing and monitoring all material Scope 1, 2 and 3 emissions and deliver sustainable reductions progressing towards Net Zero

- Achieving Net Zero<sup>1</sup> Scope 1 and 2 emissions by 2040
- Delivering a 25% reduction target in Scope 1 and 2 emissions by 2027-2028 from a 2022-2023 baseline
- Achieving Net Zero Scope 3 emissions by 2050; and reviewing this target following the establishment of a robust baseline

Liverpool Hope adopts absolute reduction targets i.e., not relative to floor area or student numbers, to ensure genuine environmental impact. However, such relative metrics will be monitored and reported on (as identified within the Environmental Sustainability Implementation Plan) as they are useful measures of our decarbonisation progress and efficiency.

Whilst the University has already taken significant steps, we recognise that we do not have all the answers and that achieving net zero is not something that can be instantly achieved, but that it is a constantly evolving process and we will continue to review our practices and assumptions, implement projects (including resource efficiency, increased awareness and engagement and investment in mitigation technologies) and commit to a continued and focussed reduction.

### 3) Reporting our Carbon Emissions

Collecting data and calculating the associated carbon emissions enables the University to understand its carbon contribution, and to measure its reduction performance as carbon saving projects and initiatives are implemented.

The University's carbon emissions are defined by the following scopes:

- **Scope 1 (Direct emissions):** Emissions from activities owned or controlled by the University. Examples include emissions from gas combustion in boilers; company owned vehicles; and emissions from greenhouse gases (GHGs) from pressurised equipment due to leaks or other unintended releases, for example, leaks of refrigerant gases from refrigeration equipment.
- **Scope 2 (Energy indirect):** Emissions released into the atmosphere associated with the consumption of purchased electricity, heat, steam, and cooling. These are indirect emissions that are a consequence of the University's energy use, but which occur at sources we do not own or control.
- **Scope 3 (Other indirect):** Emissions that are a consequence of our actions, which arise from assets which we do not own or control and which are not classed as Scope 2 emissions. Scope 3 emissions can be from activities either upstream or downstream from the University (i.e. they are another organisation's Scope 1 and 2 emissions).

The University aligns its reporting to the [Standardised Carbon Emissions Framework](#) (SCEF), based on the GHG Protocol. The University only reports on those emissions that are material to our activities, and this materiality is assessed on an annual basis.

#### Reporting Boundary

The University's carbon emissions and reduction plan covers all university owned residential and non-residential buildings and grounds; but excludes the rental properties which the University owns but over which the University has no financial or operational control.

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<sup>1</sup> i.e. achieving a balance between the amount of greenhouse gases produced and the amount removed from the atmosphere

## Data

All carbon emissions are:

- Presented in tonnes of CO<sub>2</sub>e; CO<sub>2</sub>e is the universal unit of measurement to indicate the global warming potential of greenhouse gases<sup>2</sup>
- For the University financial year 1 August to 31 July
- Calculated using the Government's conversion factors for company reporting of greenhouse gas emissions. The conversion factors are released annually and are applied to that reporting year i.e. carbon conversion factors released in 2025 are applied to the 2024-2025 reporting year and so on.
- Calculated as accurately as possible using primary data where possible (such as kWh, L and m<sup>3</sup>), then secondary data (such as distance), then spend data as a last resort.

### 4) Scope 1 and 2 emissions

Scope 1 and 2 emissions are those emissions from activities owned or controlled by the University.

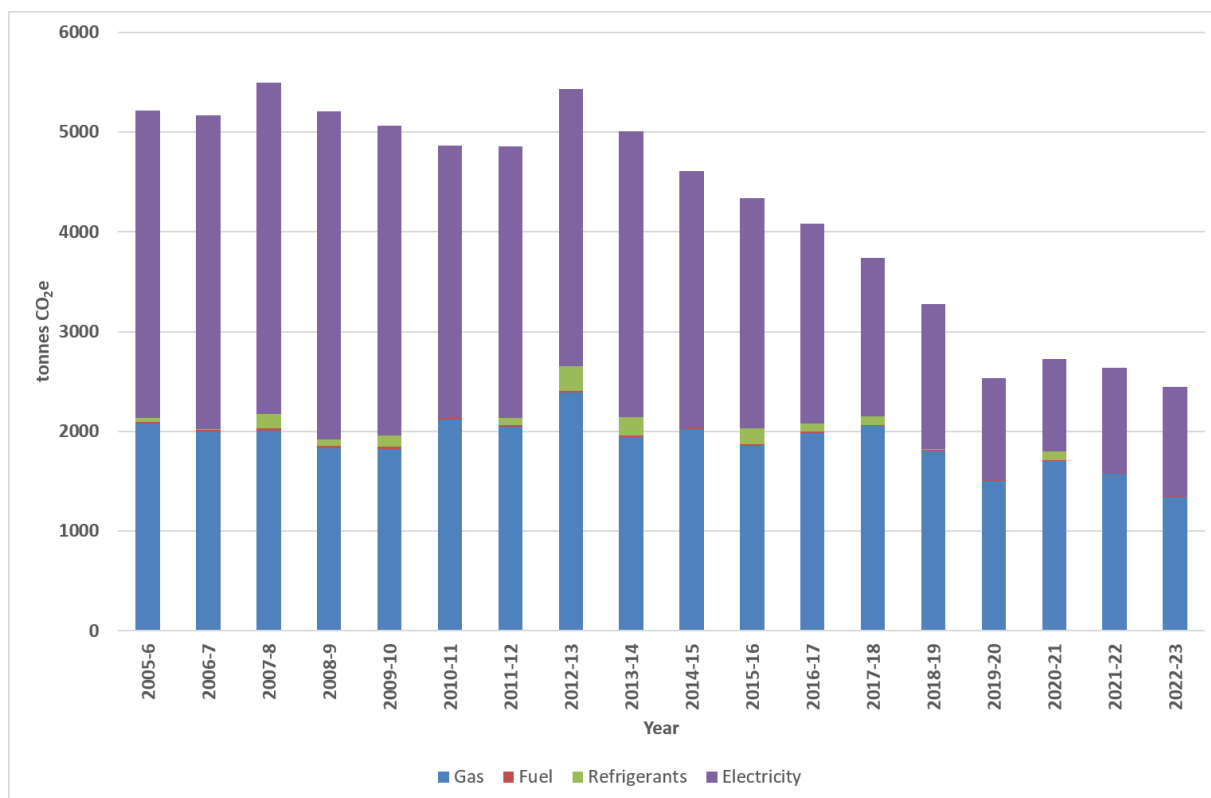
Type of emissions	Emission Sources	SCEF calculation level
1	<b>Natural Gas</b> Combustion of natural gas in on-site boilers	Advanced
1	<b>Fleet (owned / operated)</b> Fuel (diesel and petrol) combusted in vehicles owned by the University	Advanced
1	<b>Refrigerants</b> Fugitive emissions from refrigerants used in air conditioning units	Advanced
2	<b>Purchased Electricity</b> Generation of purchased electricity consumed on-site	Intermediate (location-based only)

#### a. Progress so far (2005-2006 to 2022-2023)

This is the University's 4<sup>th</sup> Carbon Reduction Plan (2009-2010 to 2014-2015; 2015-2016 to 2020-2021; 2019-2020 to 2024-2025) and we have made 'significant' progress in reducing our emissions. Since the 2005-2006 baseline, the University has decreased its Scope 1 and 2 emissions by 53%, a reduction of 2,768 tonnes CO<sub>2</sub>e. Appendix C shows the full carbon footprint.

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<sup>2</sup> There are seven main greenhouse gases that contribute to climate change, as covered by the Kyoto protocol – carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>)



This reduction has been made through the implementation of a broad range of projects from energy efficiency and reduction measures, and behaviour change. Projects have included installation of solar PV (from 0kWh in 2005-2006 to generating nearly 128,000kWh in 2022-2023; LED lighting; building fabric upgrades (roof, double glazed windows, pipework insulation, TRVs); installation of gas and electricity sub-meters at a (mostly) building by building level; more efficient equipment and boilers; installation of BMS and associated controls across the majority of the estate with an ongoing programme of refinement; and better utilisation of space. We were pleased to have been awarded Public Sector Decarbonisation Scheme funding during both Phase 2 and Phase 3a. Phase 2 saw the decarbonisation of St Julies Halls of Residence in 2021-2022 with the gas fired heating being replaced by individually controlled electric panel heaters, solar panels, insulation of the internal facing external walls and replacing the original steel-framed windows with double glazing; this alone reduced the university’s gas consumption by almost 8%. Phase 3a was completed in 2022-2023 and saw the decarbonisation of Trinity Hall with the installation of an ASHP to replace the gas-fired heating system, double glazing replacing the steel-framed single glazed windows and the installation of solar panels; though the true benefit of this project won’t be seen until 2023-2024 onwards. Additional reductions have been achieved because the carbon conversion factors<sup>3</sup> have reduced, particularly electricity from the decarbonisation of the UK electricity grid (caused by more renewables generating electricity and reducing influence of fossil fuels).

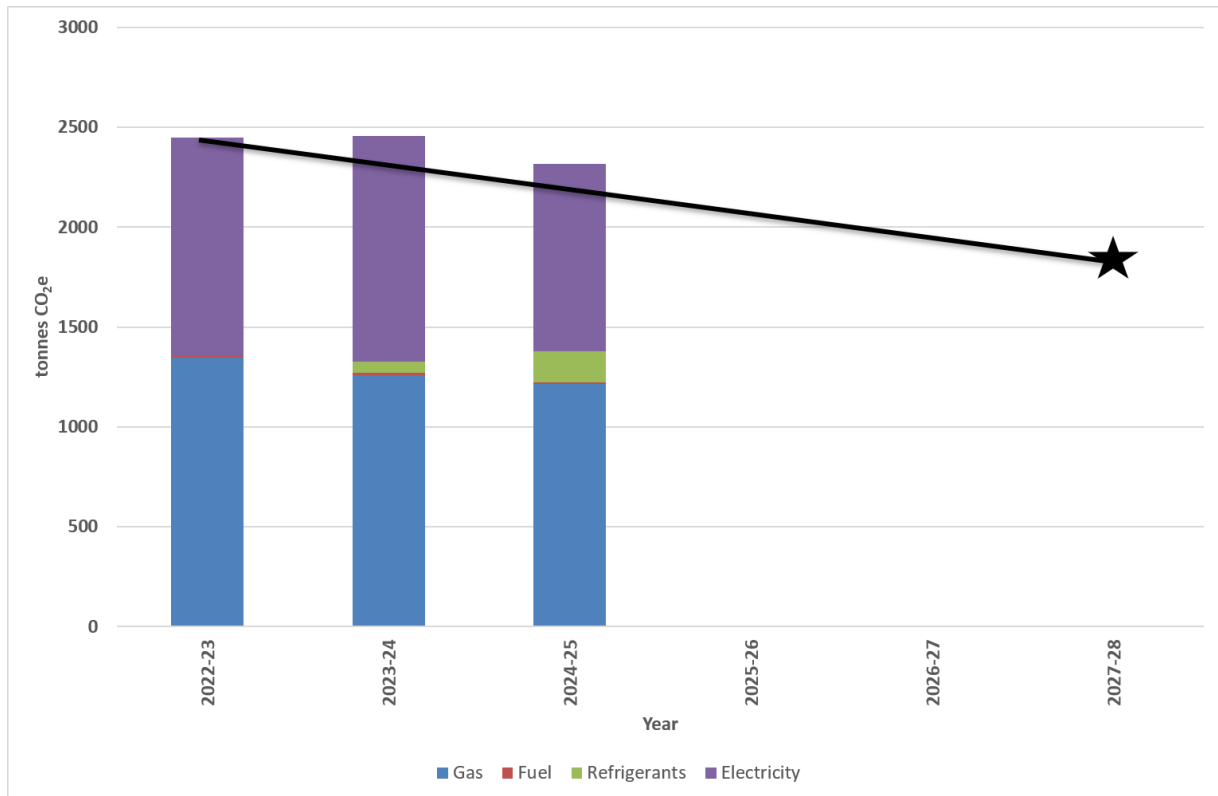
The decrease is despite an increase in GIA of nearly 12,500m<sup>2</sup> and an electrified building stock of around 19%.

Despite our successful reduction in emissions to 2022-2023, we recognise that if we are to achieve our net zero ambitions significant further work is required.

<sup>3</sup> The Government’s carbon conversion factors are released annually and are subject to change. The [Government’s annual energy and emissions projections](#) document to forecast the carbon reduction factors.

## b. Reduction target

A 25% reduction target by 2027-2028 (from a 2022-2023 baseline) was introduced in the University's Strategic Plan, equalling a reduction of 612 tonnes.



To 2024-2025 we have grown our estate by an additional 1,251m<sup>2</sup> GIA and have achieved a modest reduction of 5.4% (133 tonnes CO<sub>2</sub>e). We have continued to implement a broad range of projects from energy efficiency and reduction measures, refinement of BMS, space utilisation and electrification. We have successfully bid and been awarded Public Sector Decarbonisation Scheme grants with Phase 3a being completed in 2022-2023 (Trinity Hall – ASHP, double glazing and solar PV); Phase 3b completed in 2023-2024 (Angela Halls of Residence – replacing the gas-fired heating system with electric panel heaters, the gas-fired hot water with an ASHP and the installation of internal wall insulation of the external wall); and Phase 3c completed in 2024-2025 (Gerard Manley Hopkins Halls of Residence – ASHP to replace the gas-fired domestic hot water system and electric panel heaters for heating).

These works now mean that 28% of the university estate is now electrified.

However, to achieve our target we still need to reduce our emission by a further 479 tonnes CO<sub>2</sub>e.

## c. How will we get there?

Dependence on the emission sources is unavoidable and the challenge is to maintain, and where possible increase, the level of progress already achieved in reducing carbon emissions by continuing to identify, quantify and implement carbon reduction projects across all areas of the estate and University community. We can reduce our carbon footprint by continuing to embed carbon reduction and sustainability into all University processes, practices, policies

and procedures; investment in carbon reduction projects; allocation of financial and staff resources; and increasing awareness and engagement across the University community. Our journey will fall into four main paths:

- 1) **Avoiding and eliminating waste** – our principle focus will be on continually improving the energy efficiency of our estate and eliminating waste through:
  - a. Control of heating, ventilation and cooling plant – linked to space usage and continues refinement of BMS controls
  - b. Interrogation of sub-meter data to identify waste
  - c. Installation of energy efficient technologies; such as LED lighting,
  - d. Passive features such as insulation and reducing solar gain
  - e. Awareness and engagement activities, such as switch off campaigns
  - f. Estates rationalisation to achieve higher space utilisation rates; including condensing activities into the most energy-efficient buildings particularly during ‘off-peak’ hours
  - g. Incorporating these principles into all estate’s development works to ensure that buildings are refurbished holistically following a fabric first approach
- 2) **Decarbonising heating and hot water provision** – ASHP, electrical panel heaters, and point of use water heaters; roll out low carbon refrigerants
- 3) **Self-generation and storage** – solar PV, solar thermal, and associated battery storage, where practicable
- 4) **Offsetting** / insetting – offsetting / insetting what cannot be eliminated by the above means, but this will be seen as an absolute last resort<sup>4</sup> and must be made using robust certification standards. It is not cost effective nor ethical to offset all the emissions and continue to consume as before.

To facilitate this reduction, we will action: 1) the Environmental Sustainability Action Plan, which details objectives, actions, KPIs and timescales required; and includes the creation of specific reduction project lists for each of the emission sources; 2) the Heat Decarbonisation Plan (HDP). In 2024, the University was awarded a Public Sector Decarbonisation Scheme Low Carbon Skills Fund to create a HDP across the whole of its estate (except fully electrified buildings with their own fiscal meter). Following detailed surveys of each building the HDP identified 198 projects with three main focusses: a) replacing gas-fired heating and hot water provision with electrical alternatives; b) improving the building fabric to ensure the correct sizing of electrical equipment; and c) reducing current electrical consumption. A major part of the HDP was the assessment of electrical capacity across the campus; this is a prerequisite to further electrification to mitigate the risk of infrastructure failure and avoid unbudgeted supply upgrades. These projects have been phased to 2040 and will cost an average of £1.96M per year; however, this does not allow for the inflationary element of delaying project, or alternative technologies becoming available of the course of the HDP. This annual investment is currently unaffordable, especially in the broader Higher Education funding pressures and budgetary constraints.

Projects are continually being identified, quantified, refined, assessed (on a carbon reduction, cost and payback period basis) and implemented. The University’s investment will be phased to ensure that the ‘quick wins’ i.e. low cost, high impact, are implemented first and ensuring that the projects are integrated into planned maintenance and refurbishment works to maximise cost-efficiency. The priority of these projects are subject to change dependent on University priorities, future estate development plans and available internal finances and external funding opportunities.

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<sup>4</sup> The Carbon Reduction Target and Strategy for HE in England 2009 states: Carbon offsetting may not be used to meet institutions carbon reduction targets for Scope 1 and 2 emissions. However, carbon offsetting may form part of the institutions Carbon Management Plan

There are several external factors which influence (positively or negatively) our emissions (Scopes 1, 2 and 3), and therefore our ability to meet our targets; and they need to be considered and monitored. The factors include, but are not limited to: our estates (including growth strategy, commercialisation opportunities, listed building status), the decarbonisation of the UK electricity grid<sup>5</sup>; the rate of decarbonisation by our suppliers, technological developments in fossil fuel alternatives, energy efficient equipment, self-generation and storage, offsetting/insetting; legislative and policy development; and how climate change physically affects our buildings and our adaptation response.

## 5) Scope 3 emissions

Scope 3 emissions are those which are produced because of our actions, which arise from assets that we do not own or control.

Emission Sources	Description	Continuous data available from	SCEF calculation level
<b>Purchased goods and services</b>	<b>Procurement and supply chain</b>	2010-11	Basic (HESCET tool)
	<b>Water</b>	2005-2006	Advanced
<b>Capital Goods</b>	Currently reported in 'purchased goods and services'		
<b>Fuel- and energy-related activities</b>	<b>Upstream emissions associated with fuels and energy in Scope 1 and 2</b>	Electricity – 2005-2006 Gas & Fuel – 2009-2010 <sup>6</sup>	Advanced
<b>Upstream transportation and distribution</b> Transportation of goods to the institution	Currently reported in 'purchased goods and services'		
<b>Waste generated in operations</b>	<b>Waste</b> Disposal and treatment of waste (operational)	2011-2012	Intermediate
	<b>Waste</b> Disposal and treatment of waste (construction)	Data to be collected	TBC
	<b>Wastewater</b>	2005-2006	Advanced
<b>Business Travel</b>	<b>Transportation for business related activities</b>	Data to be collected	Grey fleet: intermediate Other transportation: TBC
	<b>Hotel stays</b>	Data to be collected	TBC
<b>Employee commuting</b>	<b>Staff commuting</b> Commuting between home and university	Data to be collected	TBC

<sup>5</sup> Predicted within [Government's annual energy and emissions projections](#)

<sup>6</sup> The Government carbon conversion factors did not separate out the Scope 3 element of gas and fuel (petrol and diesel) until this date.

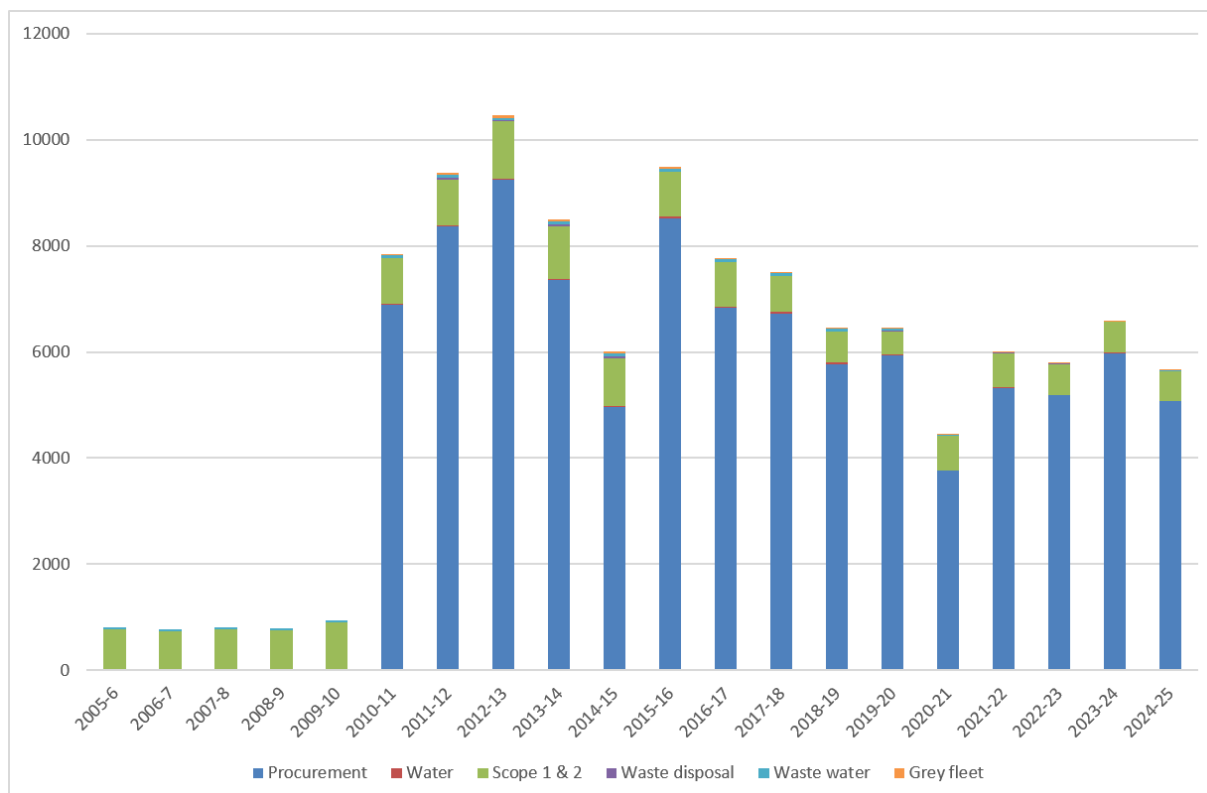
	<b>Staff homeworking</b>	Data to be collected	TBC
<b>Downstream transportation and distribution</b>	<b>Student commuting</b> Commuting between term-time home and university	Data to be collected	TBC
	<b>Student travel</b> Transportation between their home and term-time home - UK - International	Data to be collected	TBC
<b>Investments</b>	<b>Investments</b> Stocks, Shares, investments and endowments; pension schemes	Data to be collected	TBC

### a. Progress so far

The University has not routinely collected all available Scope 3 emissions from a 2005-2006 baseline because either the resources were not available to collect the data and/or the carbon conversion methodologies were not available. We, therefore, have not set any interim reduction targets to the end of this Plan.

Our target by the end of this Plan is to ensure all Scope 3 emissions are identified, measured and reported with the view to developing interim reduction targets to progress our net zero emissions by 2050 target and develop pathways to get us there.

The emissions routinely collected are shown below.



The goods and services that the university procures (including the procurement and supply chain, capital goods and upstream transportation and distribution) is the largest proportion of scope 3 emissions (89% in 2024-2025) and is highly variable throughout the years as it is directly related to spend, makes broad assumptions and doesn't take into account individual

actions or product choices. To align with the sector, the University continues to use the HESCET tool; though where possible, we will use primary emissions data by 2027 with a focus on the business travel, waste and water categories.

It is recognised that scope 3 emissions have a higher degree of uncertainty than Scope 1 and 2 as in many cases assumptions are made in either the collection of data or in their calculation. Throughout this, and subsequent, Plan(s) the systems and processes for capturing this data will become more robust (both internally and across the sector), reliable, accurate and meaningful. This will then allow more detailed discussions and the creation of reduction targets.

## **b. Next steps**

To create a complete baseline of our Scope 3 emissions by 2027-2028 we will:

- Undertake the actions set out within the Environmental Sustainability Action Plan
- Develop data collection methodologies for the outstanding scope 3 emissions
- Collect and analyse data
- Start to create specific and interim reduction targets on our journey to net zero by 2050 and the associated action plans to support delivery

It is acknowledged that scope 3 emissions represent the majority of the university's total carbon emissions and that as the emissions are indirect and produced because of our actions (at assets that we do not control) the level of control and influence is significantly less than scope 1 and 2 emissions. However, reducing emissions is possible by becoming more efficient (using or spending less) and reducing the carbon intensity of the activity (such as choosing more sustainable forms of transport).

## **6) Delivery, monitoring, reporting and review**

Delivery of this Plan will be supported by robust monitoring, transparent reporting and the development of ambitious, inspiring and targeted action plans, standards and guidance. Actions will be prioritised based on impact feasibility, affordability and alignment with strategic risk<sup>7</sup>.

A whole institution approach is essential to achieve these targets, and it will require commitment (including the requirement of human and financial resources), conviction, skills development and the challenging of conventional approaches and behaviours. There will be some difficult choices to be made throughout the lifetime of this, and subsequent, Plan(s) and some opportunities may have to be re-imagined if we are to achieve our targets. The many different priorities and demands placed upon us must be dealt with, including consideration of funding pressures and budgetary constraints; however, it is vital that we do not delay action as this will affect both the operational running cost of the estates (particularly as utility costs continue to increase) and present an even greater challenge in the future. It is vital that we remain informed and agile so that we can progress successfully and efficiently and respond to all challenges and opportunities.

The Sustainability Manager will coordinate the collection, collation and analysis of the carbon emissions and will maintain the Plan, monitor KPIs, and maintain compliance with the Higher Education Statistics Agency's Estates Management Record and other regulatory reporting. The Sustainability Manager will be supported by a cross-departmental working group, ensuring that carbon reduction is embedded into Faculty and Professional Services business plans, rather than an isolated Estates Function.

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<sup>7</sup> [Simplified Integrated Project Governance Framework](#)

Progress will be reported on regularly to senior managers; publicly reported through the University's annual financial statements; and in an annual report published on the website.

This Plan covers the period 2026-2028 and will be fully refreshed aligned to the next University Strategic planning cycle. It is expected that there will be two further Carbon Reduction Plans (2027-2028 to 2033-2034 and 2033-2034 to 2039-2040) to map out our pathway (including interim targets and identified projects) to our net zero Scope 1 and 2 emissions by 2040 target. These plans will also develop our Scope 3 emissions and reduction targets.

## **7) Governance**

Overall responsibility, and accountability, sits with the Office of the Vice Chancellor and University Council. This has been assigned to the Chief Operating Officer (COO), who represents environmental sustainability at the highest level within the University's governance structure.

Operational oversight, including progress and any barriers, will be provided through the Estates Planning Group, chaired by the COO, who are responsible for setting, reviewing and monitoring sustainability objectives and targets, and ensuring delivery of the commitment's outlines outlined in this strategy will meet at least once per term. The minutes of the Estates Planning Group are reported to Finance and General Purposes Committee, Senate, and ultimately University Council.

Heads of Faculties and Professional Services are responsible for ensuring compliance and embedding sustainability within their areas of responsibility. They play a key role in raising awareness, encouraging innovation, and translating strategic ambition into operational practice.

All staff, students, contractors, visitors and business partners share responsibility for environmental stewardship. Individual choices and behaviours collectively determine our impact, and everyone is encouraged to contribute ideas and actions that support delivery of this Plan.

## **8) Resources and Delivery**

Delivery of this Strategy will be supported through:

- Investment via existing estates, and other university, budgets
- Capital investment aligned to the Estates Strategy
- Access to third party funding for decarbonisation projects
- Cross-departmental sustainability working groups
- Staff and student engagement initiatives
- Ongoing review of policies, strategies and plans