

UNIVERSITY OF LIVERPOOL CLIMATE PLAN

2022 – 2035



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As Chair of the Sustainability Board, I am delighted to introduce our new Climate Plan. This document sets out our ambitions, principles, and commitments in relation to addressing the climate crisis and outlines our next steps in further developing our pathway to reach net zero by 2035. Creating a low carbon future and achieving net zero is a real priority for us, and although we recognise that this will be a transition, we have an action plan with clear deliverables that will enable us to proceed at pace.

It is important that our transition is achieved in a way that is inclusive and fair. We will support the entire University community in improving our collective understanding of climate change, and we will continue to focus our research expertise to address one of the most important issues currently facing society. This is a dynamic plan, and as our understanding and potential solutions evolve, alongside the ever-improving technology and innovation, we will revise our action plans to enable us to respond with agility and real impact.

Our response to the climate crisis is part of the University's wider approach to sustainability; one which aims to drive forward social and environmental equity and uses the UN Sustainable Development Goals as a supporting framework. If you want to know more about our work on sustainability, please visit: www.liverpool.ac.uk/sustainability

Nicola Davies,
Chief Financial Officer

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1. Context

In January 2020, we formalised our commitment to the [UN Sustainable Development Goals](#) (UN SDGs) by signing the global higher education sector's SDG Accord in partnership with the Liverpool Guild of Students. In signing the SDG Accord, the University has pledged to put the UN SDGs – including SDG 13 'Climate Action' - at the heart of all of its activities, reflected in our [Strategy 2026](#).

The University of Liverpool, in conjunction with campus Trade Unions, and Liverpool Guild of Students issued a [joint declaration on the climate and ecological crises](#) affecting our planet in 2021.

The UK government has a binding target to reach net zero emissions by 2050. Net zero means achieving a balance between the greenhouse gases put into the atmosphere and those taken out to keep warming below 1.5 degrees.

Under the leadership of Metro Mayor Steve Rotheram, the Liverpool City Region Combined Authority has set an even more challenging target to become carbon neutral by 2040, or sooner. For net zero carbon to happen, the Liverpool City Region declared the need to make changes to four areas of our shared lives; our homes, our neighbourhoods, the journeys we make and our workplaces, with 9 identified areas for action in its [Year One Climate Action Plan](#).

In our [Sustainability Strategy](#), published in 2021, we committed to a net zero carbon target deadline of no later than 2035, alongside targets linked to the reduction of waste, and the commitment to enable all of our students to undertake sustainability related learning. We are planning to develop a nature plan in order to complement our Climate Plan, reflecting the importance of nature-based solutions.

Net zero carbon refers to the balance between the amount of greenhouse gas produced and the amount removed from the atmosphere. We reach net zero when the amount we add is no more than the amount taken away. Greenhouse gas emissions are categorised into three groups or 'scopes' by the most widely used international accounting tool, the Greenhouse Gas (GHG) Protocol:

- **Scope 1**
The direct emissions from the sources we control and own, such as from heating sources or vehicle emissions.
- **Scope 2**
The energy we purchase, such as to heat and light our buildings.
- **Scope 3**
The emissions associated with the wide range of activities we engage in, including staff and student commuter travel, business travel and the goods and services we procure.

As a civic institution we are aware of our social responsibilities and have been acting to reduce carbon and greenhouse gas emissions and other harmful environmental impacts. It is important to recognise that the Climate Plan set out in this document is not the start of our journey. Alongside signing up to the SDG Accord, we have developed, and now maintain, a UKAS accredited environmental management system to ISO 14001 standards, and through our subsidiary, the University of Liverpool Energy Company, we continue to ensure carbon reduction is a key part of the generation of heat and power. We have also begun a project to decarbonise our gas fuelled combined heating and power

system that provides 90% of the power demand on the main campus. The remaining imported electricity all comes from renewable sources.

The recent investment in staff to support our environmental sustainability ambitions is evidence of our commitment to reaching our challenging net zero target, and we are excited to be one of the first universities in the country to have recruited a permanent Circular Economy Manager role to help accelerate our transition to a circular economy¹ in line with the framework set out by the [Ellen MacArthur Foundation](#).

We also have a number of initiatives in place to move our curriculum towards one which equips our students with the knowledge and skills for a sustainable future, including a cross-cutting [module available to all students](#).

2. Introduction

This document sets out our ambitions, principles, and commitments in relation to addressing the climate crisis. It outlines how we are going to move forward in developing our pathway to net zero, how we will improve our understanding of our complete ecological footprint² and what actions we will take whilst we are getting all of this in order. Creating a low carbon future and achieving net zero cannot be achieved overnight, it will be a transition. This transition needs to be achieved at pace but more importantly it must be inclusive and fair. We have set out how we will support the entire University community in increasing our collective understanding of climate change, and how we will focus our research expertise to address one of the most important issues which currently faces society.

This is a dynamic plan, and as our understanding and potential solutions evolve, alongside the ever-improving technology and innovation, we will revise our action plans to enable us to respond at pace and with real impact.

3. Our principles

We have developed a set of principles that will guide our climate response and therefore underpin this plan. These include:

1. Achieving a just and equitable transition to a sustainable strategic and operational delivery model, both within and beyond the University of Liverpool, working collaboratively with stakeholders across the city region and further afield.
2. Leading the development and sharing of climate knowledge and using this to find solutions within our own operations that have a positive impact locally, regionally, nationally, and globally.
3. Achieving a net zero carbon estate for scopes 1 & 2 through:
 - Improving the fabric, energy efficiency and use of our buildings to reduce demand on heat and power.
 - Decarbonisation of heat, power, and transport systems.

¹ A circular economy reduces material use, redesigns materials, products, and services to be less resource intensive, and recaptures “waste” as a resource to manufacture new materials and products.

² The ecological footprint measures how fast we consume resources and generate waste compared to how fast nature can absorb our waste and generate resources

4. Enhancing resilience of our campuses through our social values, improved biodiversity, wellbeing, culture and the reduction of consumption, waste, and emissions.
5. Prioritising resources based on environmental aspects and environmental impacts as outlined within the environmental management system optimising the reduction of carbon, consumption, and waste.
6. Adopting a circular economy to optimise the value of our assets, minimise waste and emissions, and to rehabilitate and replenish natural resources on campus.
7. Encouraging our staff and students to be positive agents for change and champions of sustainability guided by the UN SDG's.

4. Our commitments

The [HE Climate Action Toolkit](#), produced by the Climate Commission for UK Higher and Further Education, identifies critical elements to climate action across five themes. We have used these to identify five key areas of focus under which we have outlined our headline commitments to tackle climate change.

Operational emissions – net zero and beyond

We are committed to reaching net zero by 2035 at the latest, and this commitment covers all our direct operational emissions (scope 1 & 2), along with emissions linked to business travel, commuter travel, waste, and water emissions (scope 3). Other aspects of our scope 3 emissions (products and services, investment, student beginning and end of term travel) are less well understood and challenging to measure. We will work with others in the higher education sector and beyond to develop a better understanding of these emissions and we will use a science-based target³ approach to set appropriate and ambitious targets.

- From 2022 onwards, we will implement measures for further reduction in energy demand across campus. This includes ensuring efficient utilisation of space across campus, and a programme of retrofitting for our buildings to ensure heat and electricity use is optimised.
- Our scope 1 & 2 emissions are circa 40,000 tonnes CO₂e per year (Carbon dioxide equivalent), and by early 2023 we will have fully mapped out our campus and its energy infrastructure, enabling us to prioritise and improve the impact of our interventions.
- 2022-2025 we will develop a decarbonisation plan to ensure our energy supply in the future supports a low carbon approach.
- Throughout the remainder of 2022 and 2023 we will use a science-based target approach to understand, evaluate, and address scope 3 emissions.
- We will ensure that our plan is costed and included in financial plans in the 2022/23 planning cycle.

³ Science-based targets provide a clearly defined pathway for companies to reduce greenhouse gas (GHG) emissions, helping prevent the worst impacts of climate change and future-proof business growth. Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C.

Research and innovation

The foundations of the University are built upon research, and we continue to develop solutions and knowledge, responding to the challenges of the day. We are in clear pursuit of climate protection and continue to align our Research, Innovation and Knowledge Exchange to the UN SDGs, ensuring our approach to research is ethical and transparent. We work collaboratively with the wider research community, including funding bodies and other universities, to drive a just and equitable transition to low carbon through research in its widest sense.

- 2022–2023 we will continue to map and connect research activity across the University, further enhancing impact, collaboration, and communication.
- By the end of 2023 we will develop a Living Lab programme which will support this Climate Plan moving forward. This programme will see the University become a test bed for climate solutions – bringing together research, teaching, and operations. We will make funding available to support the creation of new ideas and initiatives. The Living Lab programme will cover all subject areas, recognising the significance of interdisciplinary approaches and the importance of arts and culture alongside STEM subjects in finding innovative and implementable climate solutions.
- From 2022 onwards, we will explore external funding opportunities which support Climate Futures, Living Lab opportunities and our Climate Plan.

Students and their education

Our students are the lifeblood of the University and are the next generation of leaders and thinkers. Our ambition is to provide an education that equips all graduates with the knowledge, skills and attitudes that will enable them to make their own contribution to a sustainable future, both personally and professionally. We already deliver a range of climate focused undergraduate and postgraduate education, and we provide all students the opportunity to study sustainability through the Student Sustainability Hub. The Hub is the online home for the Student Sustainability Network featuring a collection of resources: self-study online courses; a diary of events; and a database of projects, volunteering, and work placement opportunities. The Sustainability Hub has over 47,000 registered users. We are now working to introduce new curricular content and innovative educational approaches across all undergraduate and postgraduate degree programmes.

- 2022-2023 we will complete a mapping of climate and sustainability teaching and content across the University of Liverpool Curriculum.
- 2022-2023 we will develop student and staff networks to support the embedding of climate and sustainability.
- Throughout the academic year 2022-23 we will work with our students to co-create and enhance sustainability in the curriculum.

Engaging and embedding

We recognise the need to ensure our ambition and commitment are reflected in our decision-making processes, alongside the importance of the actions and understanding of all our students and staff. Therefore, a core area of the Climate Plan is our programme of engagement and embedding. This programme will ensure we work together, across all university stakeholders, with pace and intent to

create systematic change alongside individual and collective actions. We will place equity at the heart of our approach ensuring we are aligned to our Equality, Diversity, and Inclusion commitments.

- From 2022 onwards, we will have a clear and dynamic engagement programme enabling our entire community to understand how they can make a difference and get involved in making our Climate Plan a reality. Our first steps will be to develop a community of Sustainability Champions across all faculties and directorates and to work in partnership with the Guild to develop meaningful student engagement opportunities. Ongoing initiatives include 'Leave Liverpool Tidy' and the launch of a new student network.
- Now and throughout 2023 we will review our policies and procedures to ensure they facilitate a transition to a low carbon future, and an immediate focus will be placed on travel and our procurement activity. In addition, we will increase the number of dedicated sustainability professionals by at least 6 FTE, focusing on environmental sustainability, waste, and the circular economy.
- Throughout 2023 we will extend our LEAF (Laboratory Efficiency Assessment Framework) programme across the University, supporting positive change in how we run and design our labs. Beyond labs we will be extending our behaviour change programme which will have an initial focus on the high impact areas of the University, addressing the need for a circular approach to buying and waste disposal.
- From early 2023 we will develop a staff knowledge and induction and training programme which supports everyone in the University playing a role in creating a just and equitable transition to a low carbon future.

Partnerships

The University has always been firmly rooted in the City of Liverpool, and these roots and the need for collaboration have never been as important as they are today. Alongside our wider work supporting local environmental and social equity, we will work with our City and Regional partners, including Liverpool City Council, businesses and the third sector to develop solutions and innovations to help us achieve our collective commitments and to make a real, lasting, and equitable difference.

- From 2022 onwards, we will further enhance our involvement in the Liverpool Knowledge Quarter and ensure climate and a just and equitable transition is a key element of the partnership. We will develop a specific programme of work which creates local impact.
- We will play an active part in the city and city region, realising our wider commitments to sustainability and net zero and a just transition; we will look to extend our living lab programme and further enhance key partnerships and links to research groups including:
 - Climate Partnership
 - Heseltine Institute for Public Policy, Practice and Place
 - Centre for Offshore Renewable Energy (CORE)
 - HyNet North West
 - LCR Low Carbon Eco-Innovatory (LCEI) and the Centre for Global Eco-Innovation (CGE)
- We will continue our work with City partners to support the development of sustainable local infrastructure which supports low carbon travel and develops climate resilience whilst also driving forward a circular and social economy.

- We will engage with industry and sector specific bodies such as IEMA (The Institute of Environmental Management and Assessment) and EAUC (the sustainability champion for universities and colleges in the UK) to access best practice and partnering opportunities.

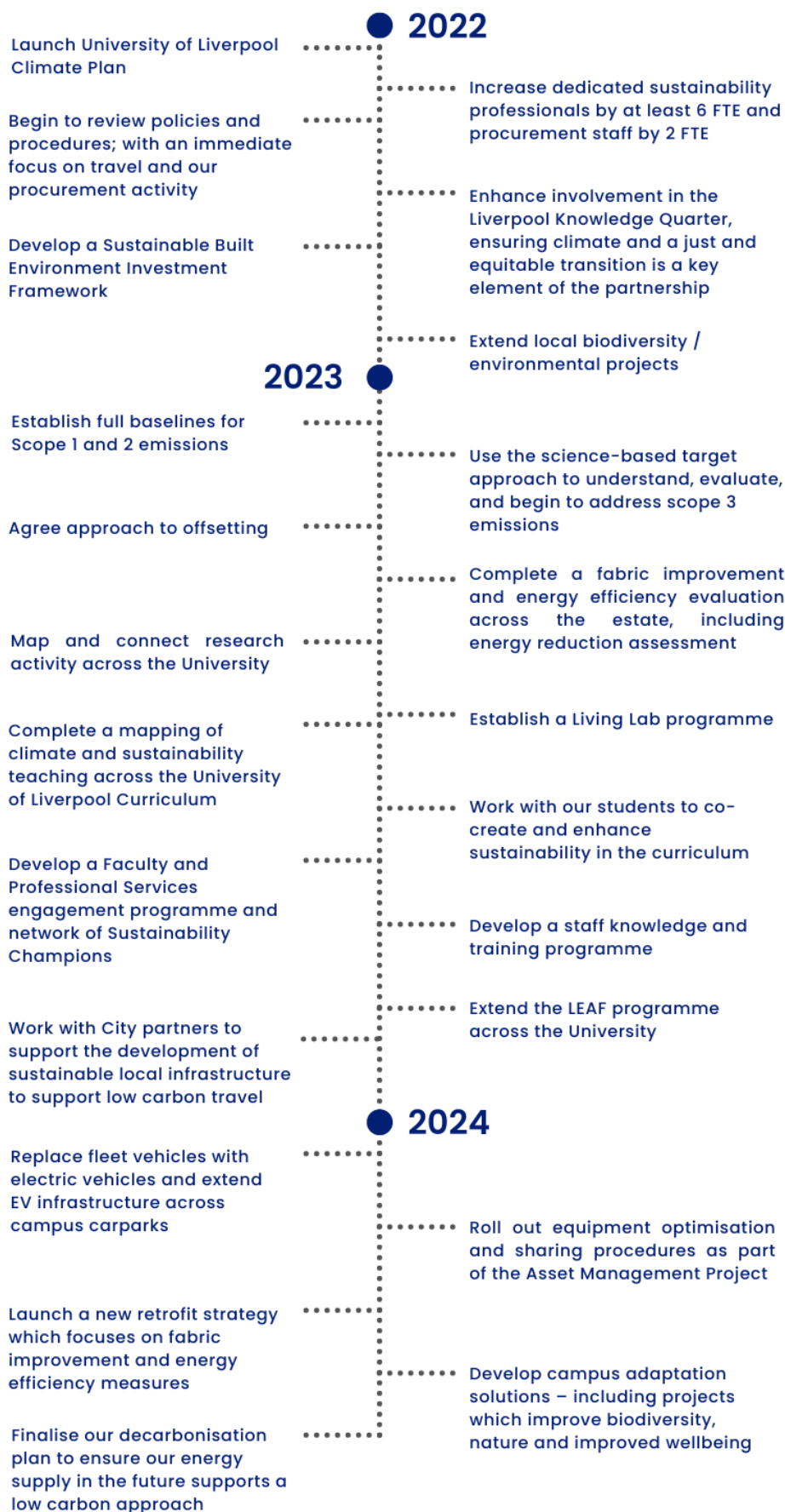
5. Governance

Our response to the climate crisis is part of the University's wider approach to sustainability; one which aims to drive forward social and environmental equity and uses the UN Sustainable Development Goals as a supporting framework. Our Climate Plan is part of a suite of documents which outline our approach to creating a sustainable future. Within this wider suite of documents, you will find more information on our approach to a circular economy, creating a broader positive environmental impact and how we will address social inequalities.

In order to monitor progress towards our net zero target, we have set a range of short, and longer-term, targets for each of our focus areas, detailed within our action plan (section 7). Progress will be monitored through the Sustainability Board and subsequently reported to the University Senior Leadership Team and Council. These actions will be regularly reviewed with a live version also available on the [University website](#).

6. Timescales

The timeline below shows our key priorities over the next 3 years. A Strategic Change Project Manager will work with the teams outlined in the action plans towards the end of this document to develop a detailed and robust project plan which clearly outlines specific deadlines for all of our identified actions to achieve net zero by 2035.



7. Our action plan

The following tables set out the actions we will be taking across all of the climate focus areas outlining projected timescales and responsibility. The document is live and dynamic, and provides a snapshot of progress as of November 2022. As we move forward with delivery, and as our understanding increases and innovation and technology is developed, the action plans and timescales will be updated and will be reviewed by the Sustainability Board at quarterly meetings.

Key:

Completed
In Progress
Planned

Operational emissions – net zero and beyond

Defining the Scope and Baselines	Progress	Timescales	Responsible
Confirm baselines for scopes 1, 2 & 3		August 2023 (Scopes 1 and 2) Dec 2023 (Scope 3)	Head of Environmental Sustainability and Energy Services, FRCS Sustainability Procurement Lead, Finance
Develop data collection and reporting framework for scopes 1, 2 & 3		May 2023	Head of Environmental Sustainability and Energy Services, FRCS
Establish long-term Scope 3 approach		Dec 2023	Head of Environmental Sustainability and Energy Services, FRCS
Agree approach to offsetting (short-term and long-term)		Dec 2023	Head of Environmental Sustainability and Energy Services, FRCS
Cost the Climate Plan in financial plans in the 2022/23 planning cycle and ensure investment is secured through the University planning process		Dec 2023	Head of Environmental Sustainability and Energy Services

Fabric Improvements and Demand Reduction	Progress	Timescales	Responsible
Develop a Sustainable Built Environment Investment Framework, including sustainable development models such as Passivhaus ⁴ or EnerPhit ⁵		April 2023	Director of Estates Management, FRCS
Develop a business case to undertake assessment of energy efficiency evaluation across the estate to improve thermal performance and energy reduction; then - Complete an energy efficiency evaluation and use the findings to develop a retrofit strategy which focuses on fabric improvement and energy efficiency measures		Mar 2023 Dec 2023	Director of Capital Projects and Estates Strategy, FRCS
Explore Digital Twin opportunities to replicate key buildings and model energy interventions and fabric improvement, and identify carbon impact changes for potential implementation		Dec 2023	Director of Capital Projects and Estates Strategy, FRCS
Explore low carbon IT solutions, including Cloud First strategy – noting impact of off-site emissions		Sept 2023	Director of IT Services
Explore equipment optimisation and sharing procedures as part of the Asset Management Project		Dec 2023	Asset Management Project Manager, Strategic Change
Exploring external funding opportunities, including SALIX, BEIS, and Public Sector Decarbonisation Fund		Ongoing	Head of Environmental Sustainability and Energy Services, FRCS

⁴ A leading international design standard, delivering high standards of comfort and health AND slashing energy use from buildings.

⁵ Quality-Approved Energy Retrofit with Passive House Components.

Decarbonisation	Progress	Timescales	Responsible
Undertake mapping of demand side power and heat to develop a long list of options to decarbonise the heat network & associated infrastructure, including future fuel options		Aug 2023	ULEC Board
Develop a robust decarbonisation plan business case from a short list of viable options across all sites outlining changes to infrastructure, fuel options, scope of work, schedule of work and approximate budget estimate. Profiled to spread cost and rolled out for completion before 2035		Dec 2024	ULEC Board
Replace fleet vehicles with electric vehicles and extend a fixed number of electric charging points and associated infrastructure to key locations		Aug 2024	Head of Estates Management, FRCS
Review and update business travel policy and guidance around sustainable travel		June 2023	Sustainability Procurement Lead, Finance

Understand, Assess and Address Scope 3 Emissions	Progress	Timescales	Responsible
Following Science Based Target assessment, understand scope 3 emissions and develop appropriate approaches to reduction		Dec 2023	Head of Environmental Sustainability and Energy Services, FRCS
Explore salary sacrifice schemes for staff to purchase reduced price electric vehicle		May 2023	Travel and Transport Group
Expand electric vehicle charging infrastructure across all campuses		Dec 2023	

Review and expand cycling infrastructure, including showers, storage, and racks and explore expanding Cycle to Work scheme to include electric bikes and provide bicycle repair facilities		Mar 2024	Head of Environmental Sustainability and Energy Services, FRCS
Establish and implement a robust approach for embedding circular economy across the university's campus, teaching, research, outreach activities and student experience, including a written policy and framework		Dec 2023	Circular Economy Manager, FRCS
Develop approach to responsible consumption, supporting the reduction and elimination of waste within catering and other commercial activity on campus		Sept 2023	Head of Commercial Services, FRCS

Building Climate Resilience	Progress	Timescales	Responsible
Undertake climate risk assessment and assess whether climate risk should be included in the Strategic Risk Register		Dec 2023	Director of Capital Projects and Estates Strategy, FRCS
Incorporate climate resilience into public realm strategy		May 2023	Director of Capital Projects and Estates Strategy, FRCS
Develop business cases for campus adaptation solutions – including projects which improve biodiversity, nature, and improved wellbeing. For example, enhanced rainwater goods, grey water solutions, Sustainable Drainage Systems (SUDS), improved localised temperature control, biodiversity planting regimes		Sept 2024	Director of Capital Projects and Estates Strategy, FRCS

Behaviour Changes (See further actions in Engaging and Embedding action plan, below)	Progress	Timescales	Responsible
Roll out Switch Off initiative across the campus		Dec 2023	Head of Environmental Sustainability and Energy Services, FRCS
Expand the LEAF programme to all faculties		Sept 2023	LEAF Steering Group

Research and innovation

Research and Innovation	Progress	Timescales	Responsible
Establish quarterly engagement meetings with the Climate Futures Research Theme Leads		Dec 2022	Project Manager, Strategic Change
Develop a plan to expand the membership of the University's Climate Futures Research Network		Jan 2023	Climate Futures Research Theme Leads
Develop a communications plan to maximise access to our climate related research, within and beyond the sector		Mar 2023	Head of Research Communications
Establish an external advisory panel to support and inform our knowledge exchange ambitions and maximise the real-world potential of our research		Jul 2023	Climate Futures Research Theme Leads
Build living lab programme – including seed funding, resources, key roles, and responsibilities		Dec 2023	Head of Environmental Sustainability and Energy Services, FRCS

Explore approach for immediate, short, and long-term offsetting for research activity		Dec 2023	Head of Environmental Sustainability and Energy Services, FRCS
Support the University research community to meet funding body requirements by providing access to core information on institutional environmental sustainability policies and metrics, and guidance on measuring project level carbon footprints		Jul 2023	Head of Environmental Sustainability and Energy Services, FRCS

Students and their education

Students and their Education	Progress	Timescales	Responsible
Complete mapping exercise across the full curriculum		Dec 2023	ESD Group/Guild
Develop staff network and 'champions' programme		Dec 2023	ESD Group Lead
Develop student network		Dec 2023	ESD Group Lead
Develop a process to co-create curriculum delivery and content		Dec 2023	ESD Group Lead
Develop project/dissertation programme linked to Living Lab activity		Dec 2023	ESD Group Lead
Develop 'informal' curriculum opportunities – including placement and internships		Dec 2023	ESD Group Lead

Engaging and embedding

These activities reflect elements of our broader approach to sustainability not solely climate	Progress	Timescales	Responsible
Review and update policies and procedures across the whole Institution		Dec 2023	Sustainability Board
Build sustainability into decision-making, by incorporating sustainability in business cases and prioritisation criteria		Jul 2023	Programme Manager, Strategic Change
Develop Faculty and Professional Services engagement programme		Jul 2023	Project Manager, Strategic Change
Develop a staff training and support programme in collaboration with the Academy – building knowledge and capacity, including carbon literacy and wider sustainability, from induction and beyond		Jul 2023	Project Manager, Strategic Change
Develop accessible reporting – including accessible data sets for all staff across the institution to enable local decision-making and reporting		March 2024	Head of Environmental Sustainability and Energy Services, FRCS
Explore mechanisms to celebrate success for staff and students in all areas of sustainability		Sept 2023	Project Manager, Strategic Change
Extend and revise programme of sustainability events in partnership with The Guild, including Sustainability Week		Sept 2023	Project Manager, Strategic Change
Develop a Sustainability Champions network and communities of practice		Sept 2023	Project Manager, Strategic Change

Review success of existing sustainability fund, and launch second round of sustainability fund		May 2023	Environmental Sustainability Team
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Partnerships

Supporting wider commitments Liverpool City Council and Liverpool Combined Regional Authority	Progress	Timescales	Responsible
Develop projects in collaboration with the Knowledge Quarter to achieve shared net zero aims, including improvements to travel infrastructure and a city-wide living lab approach		Dec 2024	Director of People and Services, SLT
Work across Liverpool City Region on a net zero approach to tackling fuel poverty working in collaboration with colleagues from within the Knowledge Quarter		Dec 2024	Director of People and Services, SLT
Explore opportunities to enhance outreach and widening participation activities through the work of the Widening Participation team and the Guild		Jul 2023	Programme Manager, Strategic Change
Extend local biodiversity/environmental projects, inc. trailing our urban greenspace biodiversity design principles with local partners and co-developing green-space projects that support local biodiversity		Ongoing	Director of Capital Projects and Estates Strategy, FRCS

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