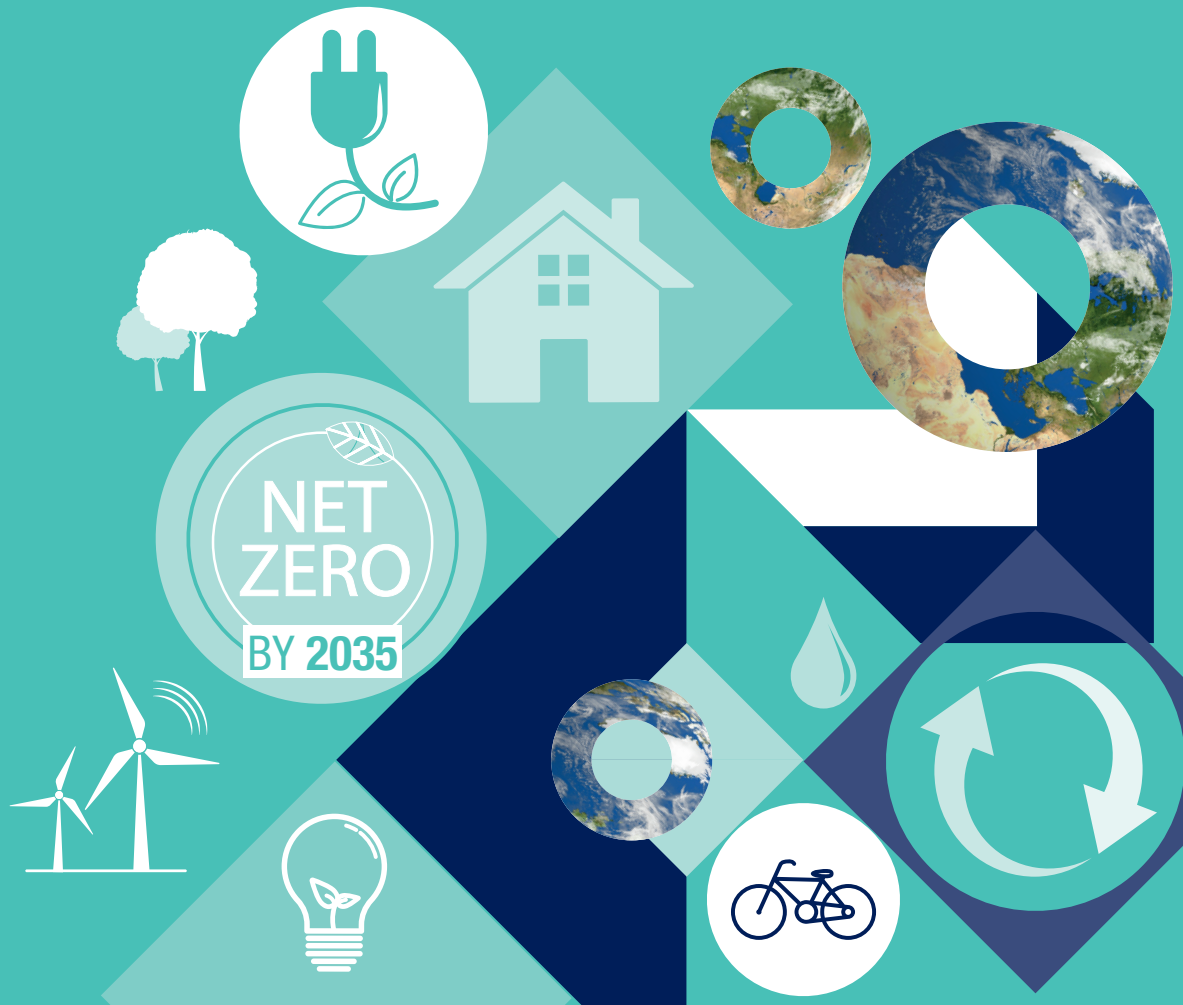


LJMU CLIMATE ACTION PLAN

2022-2035



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1. Executive Summary

The UK government has set a challenging target for the UK to achieve net zero (or carbon neutrality) by 2050¹. Net zero is defined as the balance between the emissions we create and those we can remove from the atmosphere to keep warming below 1.5 °C¹.

LJMU declared a climate emergency in 2020². We know how important this issue is to our students, staff, and our communities and it is here that LJMU commits to achieving net zero for scope 1 and 2 emissions by 2035.

The United Nations Sustainable Development Goals (SDGs)³ commit to ending poverty and inequality and addressing climate change with 2020-2030 identified as a 'Decade of Action', with ten years of ambitious progress required to transform and preserve our world.

We at LJMU believe in leading by example and aim to prioritise our actions to align with the SDGs and to work closely with our partners to make a positive difference at a local, national, and global level.

Our staff lead the way in research and teaching, which provides solutions to local, regional, and global challenges of climate change. Our most recent 2021 ranking in the [People and Planet](#) league places us in the [top 3rd of universities](#)⁴.

Through our Climate Action Plan, we are now setting ourselves more challenging, but crucial, targets to ensure sustainability remains firmly at the core of our operations.

Our Climate Action Plan is based on, and applies, the Climate Action Toolkit for the Higher Education Sector⁵, a resource to support staff and students to lower emissions by enhancing carbon awareness, biodiversity, climate and social justice. The five critical elements of the toolkit and our approach to them are:

- **Leadership and Governance** - Our ambition is to achieve a net zero carbon future by 2035. We will lead by example to communicate, prioritise, fund, and deliver actions to achieve
- **Teaching** - Our ambition is to embed pro-environmental behaviour to lower our impact. We will engage and equip students and staff to meet sustainable development goals and to raise carbon awareness.
- **Research** – Our ambition is to mitigate climate change impacts for societal benefit. We will collaborate and share our climate change, sustainability, and low carbon research expertise.
- **Community Engagement** – Our ambition is to promote positive climate action. We will support our civic partnerships, local businesses, community groups and our students to engage in positive climate action.
- **Campus Management** – Our ambition is to mitigate our climate impact and enhance our sustainability. We will decarbonise our estate, increase our

biodiversity, enhance the sustainability of our procurement supply chain and lower our carbon emissions.

In order to focus our actions, it is critical to map and review all areas within our sphere of influence that contribute to greenhouse gas emissions (GHGs). The Greenhouse Gas (GHG) Protocol⁶ identifies three types or scopes of emissions (Carbon Trust [Briefing: What are Scope 3 emissions? | The Carbon Trust](#))⁷.

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

We have achieved a significant emissions reduction in our scope 1 and 2 emissions over our last Carbon Management Plan⁸ baseline of 2014/15 (see section 7). This has been partly through changes to our estate and partly through grid decarbonisation.

Our scope 3 emissions have decreased over the last 3 years. However, our total scope 3 emissions eclipse our on-site scope 1 and 2 emissions (based on institutional non-pay procurement spend data provided to UK Universities Purchasing Consortia).

It is against this baseline that the university needs to take forward its Climate Action Plan. The Committee of University Chairs⁹ has published guidance which illustrates why it is important for universities to take climate action seriously, for two core reasons:

- Institutional Risk
- Strategic Opportunities

The actions set out in this plan provide a balance to mitigate risk and adapt to opportunity to fulfil our civic mission as responsible citizens of our university, our city, and as global agents.

We have set out a four-phase approach to achieve net zero for our scope 1 and 2 emissions by the ambitious date of 2035. Our first Climate Action Plan, which covers the period 2021 to 2031, will enable us to focus our attention and resources. Many actions are deliverable in the first phase, but some require more detailed data gathering to establish a robust baseline from which to prioritise further actions and inform target setting. As part of our action plan we will start to tackle our scope 3 emissions to ensure we can reduce our wider impacts.

During the subsequent phases we will continue to analyse our progress under different scenarios to enable us to review and address systematically any gaps. This will allow us to re-prioritise and intensify action on the critical elements we need deliver to achieve net zero by 2035.

2. Introduction

The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body responsible for analysing the scientific evidence for climate change. Their assessment is that human-induced increases in greenhouse gases (GHG - those gases which contribute to atmospheric warming) has led to a global warming of more than 1 °C. since 1850¹⁰.

Their stark warning is that:

Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive, and irreversible impacts for people and ecosystems. (IPCC p. 5, 2021)¹⁰

The UK's Climate Change Committee states that the UK has experienced a temperature rise since pre-industrial times of 1.2 °C¹. Warming is continuing at a rate of approximately 0.25 °C per decade due to human-induced GHG emissions. Reducing these emissions is critical and requires fundamental changes to how we manage our environment and adapt our behaviour.

The Paris Agreement¹¹ is a legally binding international treaty (adopted at COP21 in Paris in 2015) that commits to limiting global warming to below 2 °C (and preferably to within 1.5 °C of pre-industrial levels). To achieve this, we need to **halve global GHG emissions by 2030**. The UN estimates that the emissions cuts agreed by 151 countries at COP26 in Glasgow in November 2021 commit us to a 2.5 °C warmer world by the end of the century. Therefore, significant emissions cuts are required (and soon) if the UK government is to achieve its target of net zero (or carbon neutrality) by 2050.

LJMU declared a climate emergency in 2020. We know how important this issue is to our students, staff, and our communities. Universities have a critical role to play in achieving net zero and LJMU will take a leadership role to achieve net zero from our direct energy emissions across the estate by 2035.

3. The Regional and Local Context

Liverpool City Region (LCR) has set itself a target of 2040 to reach net zero, a target shared by Liverpool City Council¹².

The City Region has identified 9 areas for action in its Year One Climate Action Plan¹³. LJMU is already committed to research, teaching and community engagement activities which directly and indirectly deliver against a number of these actions; we will continue to use our expertise to support delivery to meet carbon budgets. Through our Civic Engagement Strategy we are working across three core themes People and Skills, Place and Community, Knowledge and Impact to provide thought leadership and action towards a greener, healthier more sustainable Liverpool City Region.

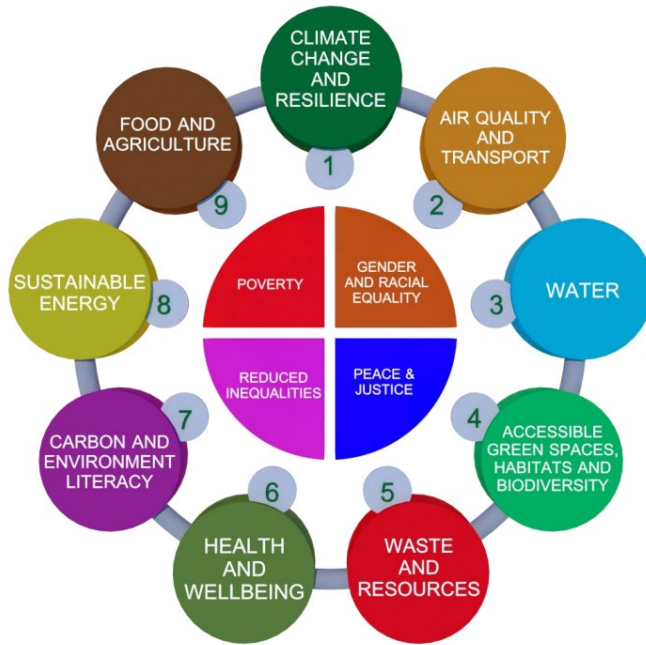


Figure 1: Liverpool City Region Climate Action

Actions and LJMU examples include:

Climate change and resilience	Our Low Carbon Eco-Innovatory project, alongside Eco I NW works directly with over 300 LCR organisations to assist them in their energy/low carbon challenges. Included in these organisations are many civic institutions and community organisations including the Philharmonic Hall, Royal Court Theatre, the Florence Institute Trust in Liverpool 8 and Formby Pool Trust. We work closely with the LCR CA, LEP, Growth Hub, all LCR local authority business support teams and chambers of commerce
Air Quality and Transport	Active and Sustainable Travel Plan-providing loans for season tickets and promoting cycling through the cycle to work scheme
Health and Well-being	Forest School dedicated as a Natural Resource Hub The effects of Forest School on children's engagement with nature, physical activity and psycho-social development
	Measuring trainee primary teachers' attitudes towards the use of the outdoors to enhance pupils' wellbeing to impact on their learning in all areas of the curriculum but with specific

	reference to science (life processes and living things)
	Understanding mental health benefits of outdoor psychotherapeutic practice for a range of conditions and developing outdoor practitioners in this area
	Exploring the health and wellbeing benefits of activities in the outdoors to develop The Mersey Forest's own 'Natural Health Service'
	Exploring the health, wellbeing and social value of community assets, including initiatives such as those to maintain green spaces, develop allotment groups and promote productive gardening
Accessible green spaces, habitats and biodiversity	<p>Our city centre campus green spaces and the LJMU Forest School provide growing opportunities for students, schools and community groups</p> <p>LJMU have committed to maintaining green open space at our IM Marsh Campus to ensure the site continues to support biodiversity. This demonstrates our commitment to expand access for the wider community to open green space</p> <p>Establishing a Natural Capital baseline, and mapping the value of ecosystem services provided by nature for green recovery and growth</p>
Carbon and environment literacy-	<p>BA Climate Change programme</p> <p>MSc Climate Change and Sustainability programme</p> <p>Two optional modules available to undergraduate students</p>
Sustainable Energy	LJMU has created a heating network on the Byrom Street Campus reducing the number of plant rooms required and allowing us to generate heat for the buildings as efficiently as possible. We have also installed our first large scale Air Source Heat pump in the Henry Cotton Building our first non-fossil fuel site.

Table 1 LJMU Direct and Indirect Contributions to Liverpool City Region Year One Action Plan

The City Region's Local Industrial Strategy¹⁴ sets out Liverpool City Region's vision for *transforming together: delivering a competitive, clean and inclusive City Region*. It identifies four areas for transformational opportunities. LJMU is working closely

with the LCR CA, Local Enterprise Partnership, Growth Hub, all LCR local authority business support teams and chambers of commerce. We support the four priority areas directly and indirectly and below are just a few examples:

- Industrial Digitalisation for Sustainability: building a sustainable industrial future – work in artificial intelligence (computing), developing advances in [sensor technology](#), [energy for the future](#),
- Open Health Innovation: improving health and wellbeing through collaboration and innovation – [Pandemic Institute](#), [Practice simulation suites in collaboration with NHS Trusts](#)
- Social Innovation: new practices to solve society’s deepest challenges
- [Centre for Collaborative Innovation in Dementia](#), [Sustainability and social justice](#) research and practice.

Liverpool City Council through its City Plan¹⁵ has a commitment to ensure a thriving, sustainable and fair city for all. Its climate goal is a low carbon, accessible and connected city. Analysis of Liverpool’s carbon budget indicates that it will have to decarbonise at a rate of 12.5% a year to meet the Paris Agreement commitment to stay below 2°C¹⁶.

As illustrated in table 1 above LJMU uses its campus assets and actions around travel, biodiversity, decarbonisation and meeting sustainable development goals to make a significant contribution to outcomes.

4. A Value-Driven Approach

LJMU’s core values are **student-focused**, **community-oriented**, **inclusive**, and **courageous**. These values are at the heart of what we do.

Our student-focused approach will ensure that we co-create solutions and use the power of our curriculum to address climate change. We will make a difference to



Figure 2 LJM University Values

people’s lives through actions which enhance all the communities of which we are a part. We will embrace diversity and inclusivity to ensure climate and social justice. We will be courageous and speak out boldly for change and support this through our teaching, research and partnership working.

We have a strong set of sustainability principles which underpin our environmental management and sustainability work. Our Climate Action Plan is guided by these principles, driven by our values, and designed to enable us to engage and adapt our collective behaviours to ensure equality and equity, which are at the heart of the United Nations Sustainable Development Goals (SDGs). The SDGs commit to ending poverty and inequality and addressing climate change with 2020-2030 identified as a ‘Decade of Action’, with ten years of ambitious progress required to transform and preserve our world.

The climate crisis is the biggest emergency we face as a planet and that is why LJM University is committed to playing a leading role in finding sustainable solutions.

We believe in leading by example and prioritise our actions to align with the SDGs and to work closely with our partners to make a positive difference at a local, national, and global level.

The university is proud of the work that John Moores Students Union (JMSU) is doing to raise issues of sustainability and climate change and the leadership that

so many of our students are showing in this important area of public debate and policy.

Our staff lead the way in research and teaching, which provides solutions to local, regional, and global challenges of climate change as sections 10 and 11 highlight.

Through our Climate Action Plan, we are setting ourselves challenging, but crucial, targets to ensure sustainability remains firmly at the core of our operations. As our bicentenary year approaches (2023) it is important to make our contribution to a sustainable future to achieve our target of Net Zero by 2035. The following sections highlight key actions and priorities for the next 10 years across five themes: **leadership and governance, teaching, research, community engagement and campus management.**

5. Our Ambitions

Our Climate Action Plan applies the [Climate Action Toolkit for the Higher Education Sector](#),⁵ a resource to support staff and students to lower emissions by enhancing carbon awareness, biodiversity, climate and social justice. The five critical elements of the toolkit and our ambitious approach to them are:

- **Leadership and Governance** - Our ambition is to achieve a net zero carbon future by 2035. We will lead by example to communicate, prioritise, fund, and deliver actions to achieve.
- **Teaching** - Our ambition is to embed pro-environmental behaviour to lower our impact. We will engage and equip students and staff to meet sustainable development goals, raise carbon awareness.



Figure 3 Climate Action Toolkit Themes

- **Research** – Our ambition is to mitigate climate change impacts for societal benefit. We will collaborate and share our climate change, sustainability, and low carbon research expertise.
- **Community Engagement** – Our ambition is to promote positive climate action. We will support our civic partnerships, local businesses, community groups and our students to engage in positive climate action.
- **Campus Management** – Our ambition is to mitigate our climate impact and enhance our sustainability. We will decarbonise our estate, increase our biodiversity, enhance the sustainability of our procurement supply chain and lower our carbon emissions.

6. Delivering the Plan

We have established a strong governance framework to deliver the Climate Action Plan (See Figure 4). Sustainability and energy management staff within the Estates Department take forward our Environmental Management Strategy, Environmental Management Systems and Carbon Management with clear alignment to our Estates Strategy and university values. The Board of Governors Infrastructure Committee has oversight of our legal and compliance activities.

To address our wider climate change responsibilities a cross-university group has been convened dedicated to climate action. Through the work of the Climate Change Panel, LJMU has established specialist working groups to inform and prioritise our actions in order to meet our net zero target. The tables in sections 7 to 12 set out core actions in priority order. Beneath these headline actions sit a detailed set of existing and emerging projects.

We have a dedicated senior management lead on the Executive Leadership Team and a Sustainability Champion on the university Board of Governors who acts as a critical friend. John Moores Students Union has a network of Sustainability Champions, a three year [Sustainability Action Plan](#) and is a member of the Green Impact network.

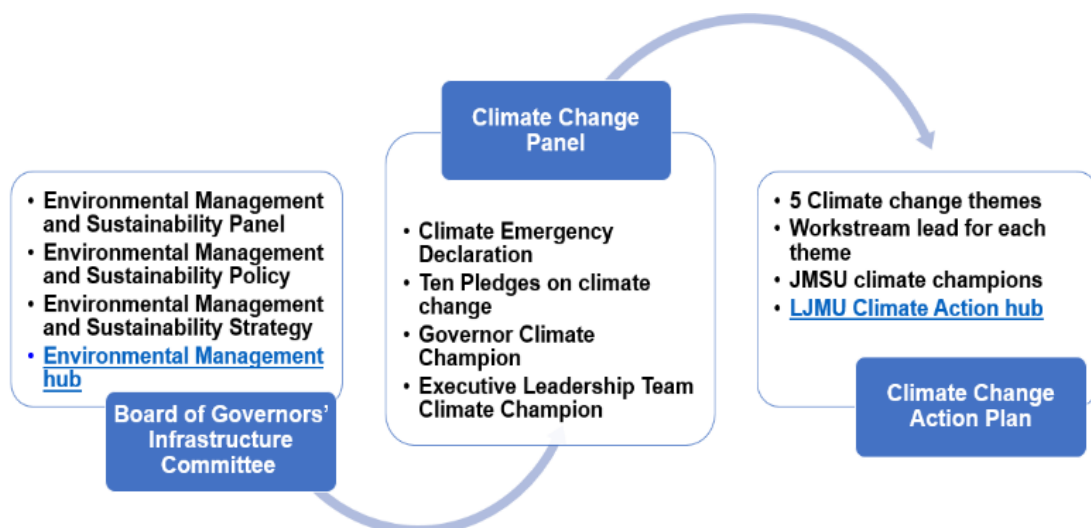


Figure 4 Climate Change Governance

Our Faculties, Schools and professional service teams each contribute to the climate and sustainability agenda in a myriad of ways and our public facing [Climate Action](#) hub and our news feeds capture the many different ways in which our work collectively supports and delivers our goal of net zero by 2035.

7. Setting the Baseline

The university's key achievements are set out in the thematic sections of the Action Plan. They demonstrate that we are already proactive in addressing climate change through our teaching, our research, and the way in which we manage our campus, our most recent 2021 ranking in the [People and Planet](#) league places us in the [top 3rd of universities](#)⁴.

In order to focus our actions, it is critical to map and review all areas within our sphere of influence that contribute to greenhouse gas emissions to build an accurate baseline.

The university operates from two campuses and 47 buildings which rely on gas and electricity for heating and lighting. LJMU has the ability to control scope 1, direct emissions, and scope 2, emissions from energy we purchase. We have achieved a significant emissions reduction since 2005 (Figure 5) and during our last Carbon Management Plan period⁸. This has been partly through changes to our estate and partly through grid decarbonisation.

Scope 3, emissions associated with our activities, are the area where the university can arguably make the most impact, but where it has least control. Our scope 3 emissions have nearly halved from 48,598.77 Metric tonnes of CO_{2e} in 2018/19 to 29,206.75 in 2021.

LJMU's scope 3 emissions associated with procurement categories are set out in Figure 6 (based on institutional non-pay procurement spend data provided to UK Universities Purchasing Consortia). The largest spend categories between 2018 and 2021 were Construction, followed by Business Services, Information and Communications Technology (ICT) and Paper Products. However, the largest scope 3 emissions over the same period are ICT followed by Construction, Business Services, Medical and Precision Instruments (see Figure 7). LJMU has seen significant investment in its physical and digital estate over the past 10 years and these areas represent a challenge which requires concerted action to consider the whole life carbon impact in terms of their embodied and operational emissions (RICS 2017)¹⁷. LJMU do not own student accommodation but we will work with our partners to baseline and reduce the accommodation carbon footprint and resource usage.

It is against this emissions baseline that the university needs to commission further detailed analysis to inform the Climate Action Plan (see section 8).

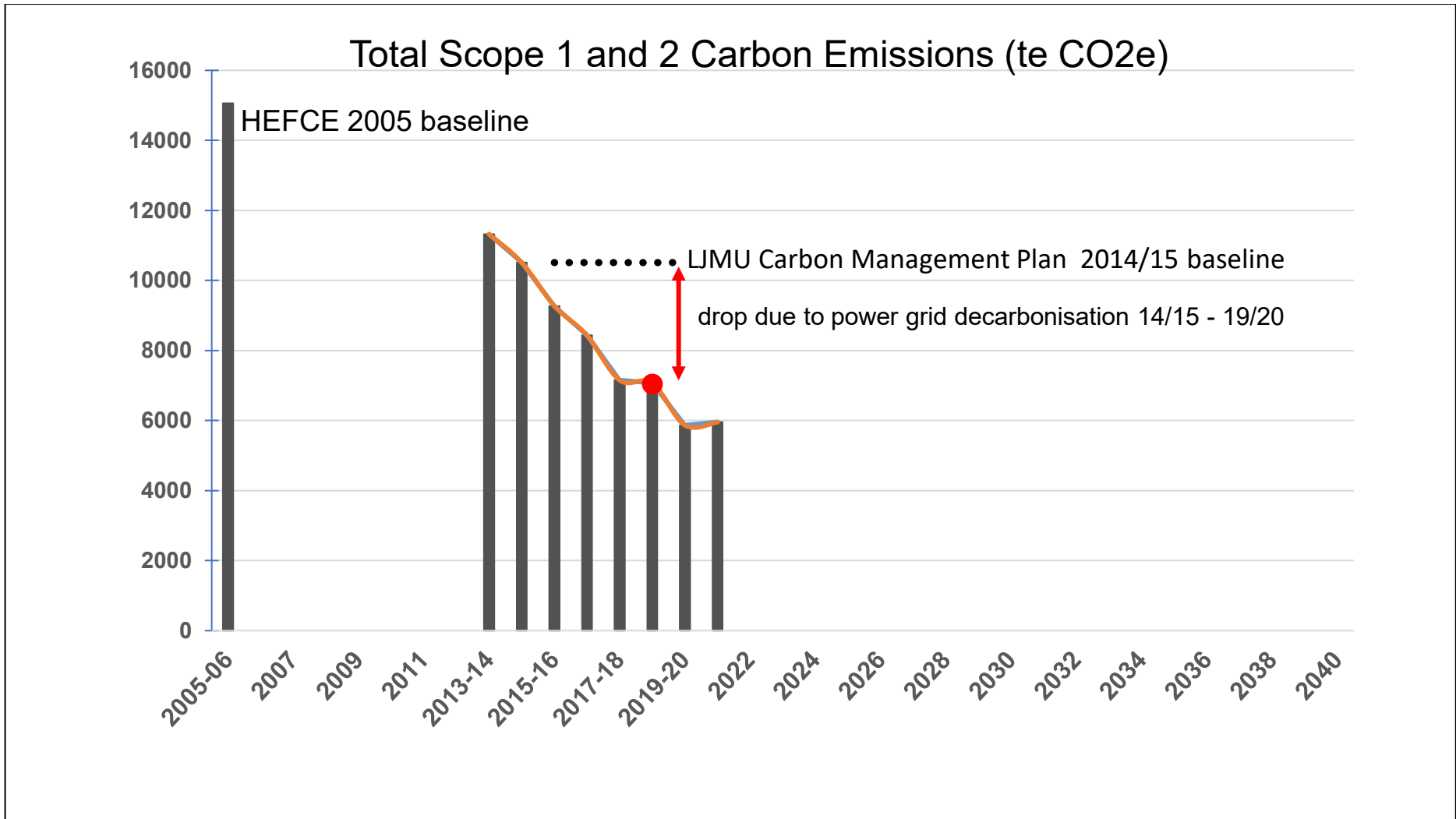


Figure 5 LJMU Scope 1 and 2 Emissions since 2005

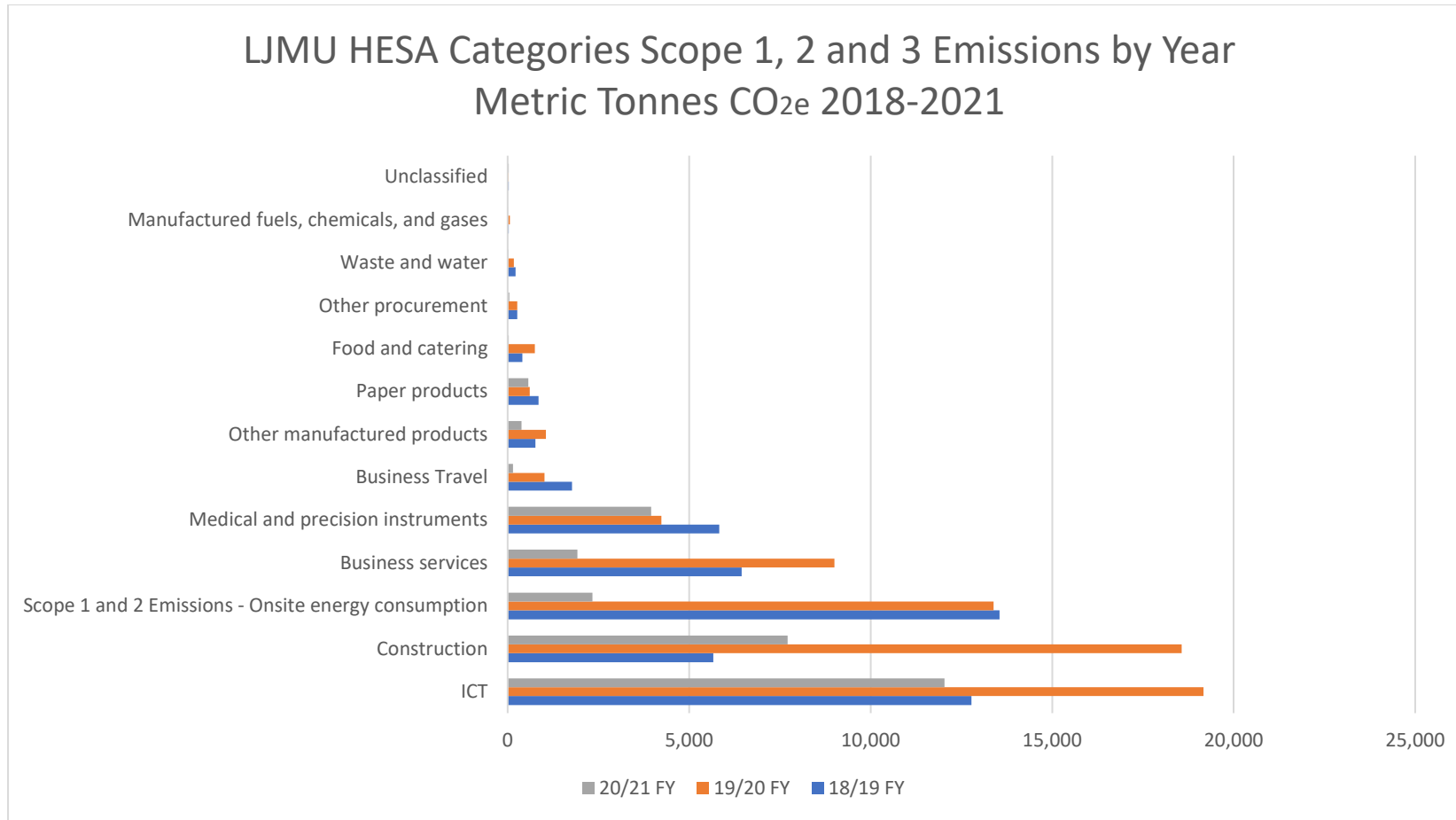


Figure 6 LJMU Scope Emissions by Procurement Category 2018/2021 Metric Tonnes CO_{2e}

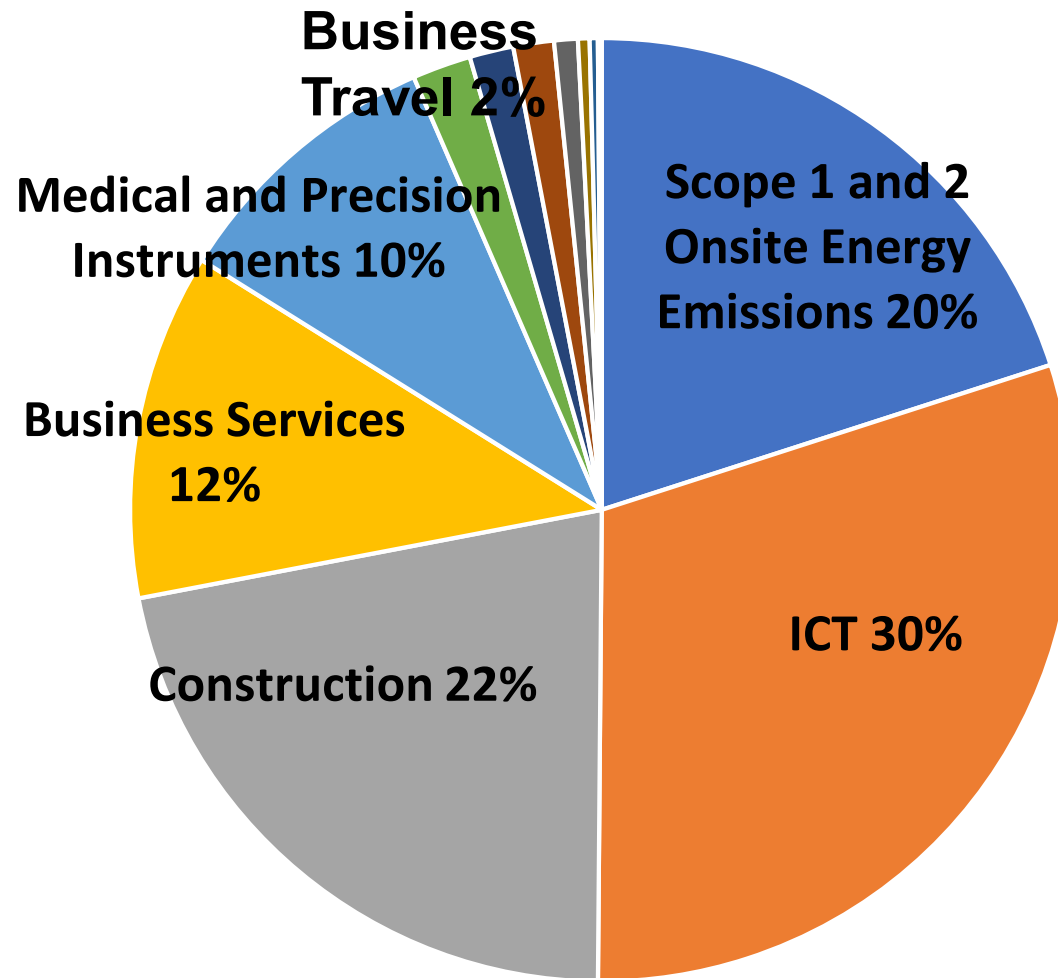


Figure 7 LJMU % Emissions Contribution by Procurement Category 2018 - 2021

8. Timescale for Action

LJMU recognises the scale of what the UK needs to do to achieve its goal of net zero by 2050. We are collaborating with the Liverpool City Region to develop solutions which can support its goal of 2040. Drawing on our values we have set a bold target of 2035 to achieve net zero for our scope 1 and 2 emissions and put in place a programme to reduce our overall scope 3 emissions.

To meet this ambitious target, we have set out a four-phase approach. Our first Climate Action Plan covers the period 2021 to 2031. Some of our actions are more easily achieved, and many can be completed within the first and second phases, but we will not be complacent. Priorities in the first phase which require more detailed data gathering for our scope 1 and 2 emissions are the Carbon Management Plan, Biodiversity Action Plan, Heat Decarbonisation Plan water usage and waste reduction plans. We will establish a robust baseline to prioritise and inform ambitious target setting to reach our goal.

During the subsequent phases we will continue to analyse our progress under different scenarios to enable us to review and address any gaps systematically. This will allow us to re-prioritise and intensify action on the critical elements we need deliver to achieve net zero by 2035.

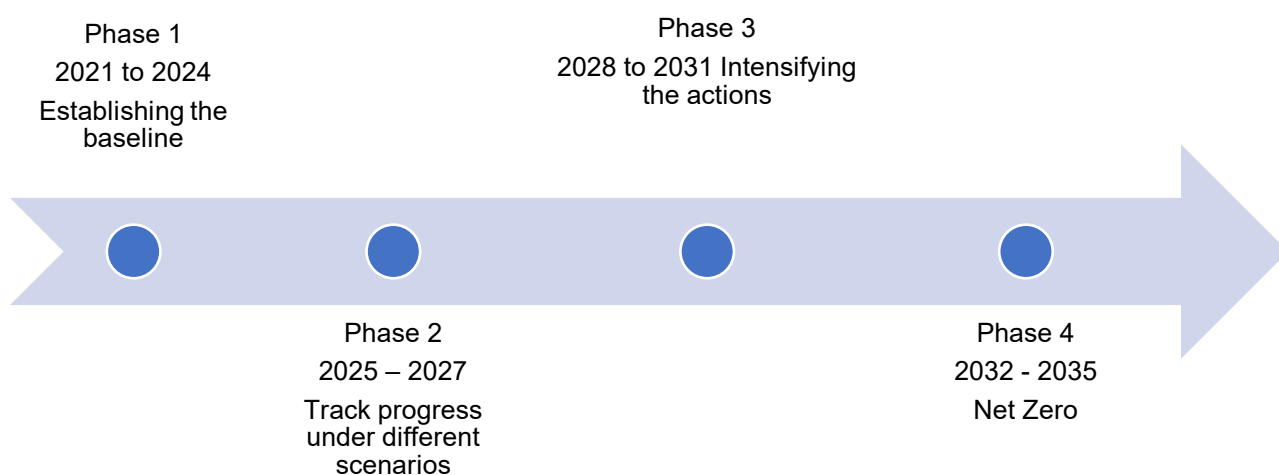


Figure 8 LJMU Climate Action Plan Timeline

9. Theme 1: Leadership and Governance

Our ambition is to achieve a net zero carbon future by 2035. We will lead by example to communicate, prioritise, fund, and deliver actions to achieve.

Key Actions and Achievements

- Declared a [Climate Emergency](#) on 7th February 2020.
- Set out ten pledges committed to action (appendix 1).
- Engaged our staff and students through events, climate change survey, website, newsletters, themed campaigns.
- Celebrated the success of our staff and student contribution to climate change.
- Set out a robust governance framework for environmental management and sustainability.
- Established a dedicated Climate Change Panel reporting to the Executive Leadership Team.
- Appointed Climate Change Champions on our Board of Governors and Executive Leadership Team.
- JMSU have a network of dedicated [Sustainability Champions](#)
- Developed a Climate Action Plan 10-year strategy to support the [City Region Targets](#).
- Joined [COP26](#) Universities Network to collaborate, influence and engage to ensure tangible outcomes to address the climate emergency.
- LJMU is a key partner in the Liverpool City [Region's Sustainable Energy Action Plan](#), contributing to and shaping local policy-making.
- Climate action web pages published in October 2021
- Approved an [Active and Sustainable Travel Plan](#).
- In top third of universities in the [People and Planet League](#)



9.1 Leadership and Governance Actions and KPIs:

Priority	Phase 1	Progress	Phase 2	Phase 3	KPIs	Scope
LG1	Commit to a published target of net zero by 2035 for scope 1 and 2 emissions as part of our Bicentenary celebrations.		Public statement of progress towards net zero.		Published target.	1, 2
LG2	Lead a strong civic partnership and collaboration with Liverpool City Council, Liverpool City Region and Liverpool Higher Education providers to achieve net zero.		Programme of civic, cultural, social and scientific climate action initiatives and priorities to support Liverpool and the City Region.			1, 2, 3
LG3	Publish an Environmental, Social and Governance statement (ESG) which embeds our values in ethical and sustainable business practices.		Reflect our ESG principles in all faculty and professional service business strategies and activities. Consider our whole life carbon in any new construction or refurbishment projects.		Published ESG statement.	1, 2, 3
LG4	Align our policies and codes of practice to fully embed sustainability and		All policies have embedded sustainability and climate change.		Completed policies and codes of practice.	1, 2, 3

	climate action as part of the regular review cycle.					
LG5	Fund dedicated staffing resources, baseline data gathering and emerging projects. Appoint and nominate key sustainability staff.		Full complement of staff and portfolio of prioritised and funded sustainability and climate programmes and projects.	Rolling programme of and projects designed to meet net zero.	Number of dedicated staff involved in sustainability.	1, 2, 3
LG6	Communicate and engage and with our staff, students and alumni to recognise and celebrate sustainable actions.		Enhance our climate action web site, develop a programme of themed events.		Number of events. Number of awards.	1, 2, 3
LG7	Action our Environmental and Sustainability Strategy (EMS).		Meet our Environmental Management and Sustainability Strategy KPIs by the end of the plan period in 2024.		Meet EMS KPIs in each plan period.	1, 2
LG8	Achieve Eco-campus Environmental Management System accreditation.		LJMU has achieved silver and is en route to gold.	Achieve gold EMS.	Achieve gold EMS.	1, 2, 3
LG9	Evidence our contribution to Sustainable Development Goals.		Publish publicly available report on progress against our priority SDGs.		No of SDG reports published.	1, 2, 3

LG10	Publish transparent, publicly available, carbon management and sustainability data.		Undertake a data gap analysis. Develop an offsetting strategy.		Adopted offset strategy.	1, 2
LG11	Lobby and influence our financial partners and pension investments.		Review our financial investments and opportunities for low carbon investment.			1, 2, 3
LG12	Review scope 3 emissions from procurement activities and define realistic boundaries and targets that LJMU can address.		Set out targets to achieve specified areas for scope 3 emissions reductions.	Report against scope 3 emissions data.	% reduction (to be determined) in scope 3 emissions from LJMU procurement since 2021.	3
LG13	Work with our accommodation providers and JMSU to identify measures we can implement to encourage a reduction in scope 3 emissions.		Plan of action for scope 3 emissions targeting in accommodation.		% reduction (to be determined) in scope 3 emissions since 2021 in student accommodation.	3

Table 2: Leadership and Governance Priority Actions and KPIs

Key	Completed	Commenced	Not yet commenced
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10. Theme 2: Teaching

Our ambition is to embed pro-environmental behaviour to lower our impact. We will engage and equip students and staff to meet sustainable development goals and raise carbon awareness.

LJMU achievements:

- LJMU [Education staff part of the Government post COP 26 task force for climate education](#) for the Department for Education
- Working with DfE to develop climate education early years book
- Launched the UK's first ever BSc (Hons) Climate Change programme.
- Offer a range of courses with a strong sustainability element:
 - [BSc Wildlife Conservation](#)
 - [MEng Civil and Environmental Engineering](#)
 - [MSc Water, Energy, and Environment](#)
- Hosting a [Natural Curriculum Hub](#) - professional development for teachers in outdoor learning.
- LJMU Outdoor Learning Zone is part of [Queen's Platinum Jubilee celebrations](#).
- LJMU delivers outdoor sessions to pupils from schools across the Liverpool City Region and engages with local community groups to use the space.
- Online summer course (which includes a certificate to evidence completion and competency): [Sustainability and Employability](#)
- Launched the first [SDG/STEM early childhood resource with NCFE.national, educational awarding organisation](#)

10.1 Teaching Actions and KPIs:

Action No.	Phase 1	Progress	Phase 2	Phase 3	KPIs	Scope
T1	Survey our staff and students on their priorities for climate change (November 2021).				Perception of staff and students of LJMU as a sustainable university.	1, 2, 3
T2	Adopt/apply QAA Education for Sustainable Development ¹⁶ guidance and recruit cohorts of programme leaders to implement the guidance across programmes.		<p>Work with students to co-create curriculum enhancements to embed sustainable development.</p> <p>Include information and guidance in our Curriculum Development guides relating to sustainability.</p> <p>Committed to embed sustainability and climate justice into the curriculum for every student during the 2022/23 academic year.</p>	Embed sustainability and climate justice in the curriculum over the duration of action plan.	<p>Include sustainability information/guidance in our Curriculum Development guides.</p> <p>Number of programmes offering a sustainability component.</p>	1, 2, 3

T3	Complete a full review of our field work travel carbon footprint.		Develop a Field Work and Travel Code of Sustainable Practice, including offsetting principles to support and guide future staff and student travel for teaching and research. Provide comparable, low carbon equivalents.		% reduction (to be determined) in CO2-related field work travel emissions from 2022 level.	1, 2, 3
T4	Enhance skills of staff and students via a carbon awareness programme.		Provide project funding to support the curriculum development(s) in the area of sustainability. Provide access to carbon awareness tools and resources. Cascade carbon awareness for staff and students through a peer-to-peer approach. Production of an on-line training/support package/module which students could access via Canvas.		% staff and students (to be determined) who have completed carbon awareness training. number of students achieving certification.	1, 2, 3

T5	Provide a student induction and pre-arrival information pack: highlighting LJMU's engagement with sustainability.				Inclusion of sustainability-related material in all student induction and pre-arrival information packs.	1, 2, 3
T6	<p>Develop employment skills for climate change, carbon management and sustainability awareness.</p> <p>Through our Civic Engagement Strategy we will deliver a portfolio of educational programmes and other opportunities, including volunteering and outreach, which develop high level skills which meet the needs of the city region – including addressing skills shortages.</p>		<p>Hold Careers Environment and Sustainability Events for students and employers.</p> <p>Identified programme of sustainably-led programmes. Support business needs through access to CPD.</p>			1, 2, 3
Key	Completed	Commenced	Not yet commenced			

Table 3: Teaching Priority Actions and KPIs

11. Theme 3: Research and Knowledge Exchange (Impact Beyond Borders)

Our ambition is to mitigate climate change impacts for societal benefit. We will collaborate and share our climate change, sustainability, and low carbon research expertise.

2021 - 2022 Highlights by Faculty Include:

Faculty of [Science](#)

- [Raising environmental awareness among schoolchildren](#)
- [Leading nature-based solutions to climate change](#)
 - Exploring the health and wellbeing benefits of activities in the outdoors to develop The Mersey Forest's own 'Natural Health Service'
- [Student opportunities with environmental project](#)
- JMSU recognised for environmental initiatives
- [Climate change 'opened and closed' migratory door through Arabia for 400,000 years](#)
- [Natural Capital](#) LJMU-led initiative to put nature at the centre of planning policy has been embedded in the Liverpool City Region's Spatial Development Strategy.
- Other projects to which LJMU contributes:
 - Fuel and Transport Poverty in the UK's Energy Transition (FAIR), [Centre for Research into Energy Demand Solutions \(CREDS\)](#)
 - [EU COST Action Ocean Governance \(OceanGov\)](#)
 - [Liverpool Institute for Sustainable Coasts and Oceans \(LISCO\)](#) Validating degree programmes [Centre for Alternative Technology](#)

Faculty of [Engineering and Technology](#)

- [LJMU hosts Low Carbon Homes Summit](#)
- [Civil engineers offer solution to Bangladesh's toxic construction industry](#)
- [LJMU to help lower carbon footprint of local business](#)
- [LJMU to develop sustainable mining practice in the Philippines](#)
- [Nanotech to lengthen life-span of electric vehicles](#)
- [Green app can help save £100 a month in travel costs](#)
- [Professor's shock at destruction of earth's habitats](#)
- [Helping Liverpool businesses go green](#)

Faculty of [Arts and Professional Studies](#)

- [LJMU produced film on climate change impact of sea level rise presented at COP26](#)
- [Fashion student develops eco-friendly solution for dealing with returns](#)
- [Student shines a light on the dark side of fashion](#)
- [Forest School improves Liverpool children's access to nature](#)

- [LJMU green space part of the Queen's Platinum Jubilee celebrations](#)
- [Can we use art to question our use of energy?](#)
- Partnered with Farm Urban across range of initiatives and business support interventions.

Faculty of [Health](#)

- [Providing intelligence and evidence on the environment, sustainability and the links to public health](#). Recent projects include:
 - Use of parks
 - Impact of climate change upon health
 - Economic benefits of investing in green infrastructure
 - Monitoring and evaluation of green projects for community and voluntary groups.

Faculty of [Business and Law](#)

- [Business students tackle our throw-away culture](#)
- Signatory to [Principles for Responsible Management Education accreditation](#), UN-supported platform for responsible management education.

Research Centres

Faculty of Engineering and Technology

- Built Environment and Sustainable Technologies Research Institute listed as a research centre on [Commission for UK Higher and Further Education](#) with expertise in:
 - [Novel and Bio-Based Materials](#),
 - [Sustainability & Energy Management](#),
 - [Sensor Development](#)

Faculty of Science

- [Geography and Environmental Science Research Group](#)
- [LJMU Biodiversity and Conservation Group](#)

Faculty of Arts Professional and Social Studies

- [Sustainability and Social Justice](#) Research Group.

Pan-University

- [Institute for Health Research Green Spaces Research Group](#) works with a wide range of organisations to improve access and benefits from being outdoors.

Business and Sector Collaboration

- [Low Carbon Eco-Innovatory](#) innovative low carbon goods, processes and services, developed through collaborative partnerships between local companies in the Liverpool City Region and University researchers, students and academic staff.

- LJMU N8 Net Zero North collaboration <https://www.n8research.org.uk/net-zero-north/>

11.1 Research and Knowledge Exchange Actions and KPIs:

	Phase 1	Progress	Phase 2	Phase 3	KPIs	Scope
RKE1	Develop a pan university “Institute for Climate Change and Sustainability” by 2022.		Grow internal activity/collaboration and external collaboration/recognition. Publicise the Institute through an agreed platform. Identify opportunities for cross-faculty projects, PhDs.		Number(s) of staff engaged, faculties collaborating, collaborative projects, peer-reviewed outputs, professional outputs successful funding bids.	1, 2, 3
RKE2	Enhance public engagement with LJMU research.		Programme of research events with sustainability theme. Hold Climate Days to promote and share work of schools and faculties.		Number(s) of public engagement events, public participating as well as qualitative feedback on events.	1, 2, 3
RKE 3	Exploit opportunities to increase revenue and funding for innovation.		Ring-fence funding for climate/sustainability initiatives and research (e.g., student activity, PGR scholarships,		Amount of revenue generated. Number of climate-	

	and climate change (externally).		cross-Faculty interdisciplinary projects).		related studentships.	
RKE4	Track our research impact against SDGs, using a case study-led approach (link to REF2027).		Through the SDG case studies highlight how we are and will align to our values and community needs locally, regionally and globally.		Annual publication of research output mapped to SDGs. Number of impact case studies under development.	1, 2, 3
RKE5	Continue to support businesses and organisations to develop low carbon goods, processes and services which advance climate action. Our Civic Engagement Strategy Knowledge and Impact strand ensures that we maximise the impact of our enterprise activities and our research, in areas such as housing, sustainability, equality and poverty and		Publication of case studies.		Number of businesses supported.	1, 2, 3

	generating social value in everything we do.					
RKE6	Commit to join the Laboratory Efficiency Assessment Framework (LEAF) by 2022.		Roll out LEAF framework.		% reduction (to be determined) in scope 3 emissions from lab-based activity.	1, 2, 3
RKE7	Engage with Net Zero North research partnership at national level in transition through technology and valuing nature.		Mapped programme of interventions by LJMU to support work of Net Zero North.		No of contributions led or supported by LJMU.	1, 2, 3

Table 4: Research and Knowledge Exchange Priority Actions and KPIs

Key	Completed	Commenced	Not yet commenced
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12. Theme 4: Community Engagement

Our ambition is to promote positive climate action. We will support our civic partnerships, local businesses, community groups and our students to engage in positive climate action.

LJMU has:

- Set out our Civic Engagement Strategy to enhance People and Skills, Place and Community and Knowledge and Impact using our low carbon and sustainability expertise.
- Worked with a wide range of school and community groups through its Green Spaces Research Group within the [Institute of Health Research](#).
- Improved and is improving the city's public/shared spaces through active travel and biodiversity initiatives including our [Natural Curriculum Hub](#)
- Worked collaboratively with Liverpool [John Moores Students' Union](#) (JMSU) who:
 - Drafted a Sustainability Action Plan prioritising five climate goals chosen by over 1,000 LJMU students in January 2020.
 - Set up a network of 'Sustainability Champions' to feedback on issues and develop solutions to help JMSU achieve its climate goals.
 - Received funding to develop [three growing sites](#) for fruit and vegetables for the community to grow and enjoy.
- Held international learning experience at [Virtual Global Citizens Conference 2020](#) focused on seven UN Sustainable Development Goals.
- [Partnered with Furniture Resource Centre for recycling of furniture and PCs](#)
- Worked and continue to work with [Mersey Forest](#) on [natural curriculum](#)
- Become a member of [Liverpool City Region Active Travel](#) Steering Group.
- Published a [list of tips](#) to help staff and students engage more sustainably.



12.1 Community Engagement Actions and KPIs

	Phase 1	Progress	Phase 2	Phase 3	KPIs	Scope
CE1	Work with regional partners and organisations, such as Net North Zero, Nature North.		Develop a programme of community engagement activities which support the work of these organisations.		No. of staff secondments. No. of projects.	3
CE2	Deliver our Active and Sustainable Travel Plan as part of our Civic Engagement Strategy Place and Community strand		Set of measures to increase walking and cycling and reduce car journeys.		Reduction in no. of single occupancy car journeys. Reduction in scope travel 3 emissions. Increase in journeys to campus by public transport.	3
CE3	Apply expertise to support the development of a greener, more sustainable Liverpool City Region as part of our Civic Engagement Strategy Place and Community strand		Develop programme of cultural events with a sustainability theme. (e.g., contribution to Light Night), working with stakeholders from across Liverpool to engage with young people and children to ensure that the city (including our campuses and buildings are inclusive for all children and young people).		No. of City Region projects to which we are cited as contributing.	3

			Targeted outreach programme with children and schools.			
CE4	Support the local economy and support local talent, businesses, and charities to help the Liverpool City Region to be a greener, safer, more inclusive place.		Reciprocal sustainability mentoring schemes.		No. of community engagement events held and visitor number and other engagement metrics captured.	3
CE5	Sustainability: delivering our Estates Strategy using all the assets of our estate. as part of our Civic Engagement Strategy Place and Community strand.		Create new green spaces which are engaging and available to both the public and our LJMU community. Positioning the Forest School as a beacon of good practice nationally.		Contribute to reduced emissions and increased biodiversity.	3
CE6	Provide opportunities for our staff, students, visitors to play their part in recycling.		Develop programme of events (e.g., community litter picks on site and local areas). Develop proposals to green up areas on and		No. events held. No. of new green spaces introduced.	3

			adjacent to the campus.			
CE7	Offer a second-hand shop / swap shop for clothes, books, course materials on campus.		Widen scope to include possible seed shop, plant sales. Seasonal “free cycle stall”.			3
Key	Completed	Commenced	Not yet commenced			

Table 5: Community Engagement Priority Actions and KPIs

13. Theme 5: Campus Management

Our ambition is to mitigate our climate impact and enhance our sustainability. We will decarbonise our estate, increase our biodiversity, enhance the sustainability of our procurement supply chain and lower our carbon emissions.

LJMU achievements:

- LJMU achieved 100% of its 2015-2020 Carbon Management target by 2016/17 (See Figure 4).
- Generates a range of its own [renewable energy](#).
- Reduced its business and international travel Scope 3 emissions from 1,356 to 957 to CO2e. (This is largely due to the impact of Covid.)
- Used its space more efficiently than the sector average based on EMR data.
- LJMU sources all its electricity requirements from 100 per cent carbon-free sources since 1st February 2017.
- Appointed a carbon neutral Facilities Management contractor.
- Actively purchasing certified products, all on-campus coffee is Fair-trade, fish and seafood supplier is MSC-certified, meat products are red tractor-certified and free-to-use water stations are situated around campus.
- Performance Optimized Data Centre has reduced IT emissions and running costs by utilising 'free cooling' for 70% of the year
- 85% of LJMU's servers are now in virtualised Data Centres which leads to reduced energy consumption
- 5400 systems being managed by Nightwatchman software turning off unused pc's which achieved a saving of 500 metric tonnes of CO2 in 2021
- [Recycled 250 PCs](#) to assist local schools.
- Published an Active Travel Strategy.
- Developed a [travel app](#) to help people travel more sustainably in the city region.
- Has an Environmental Code of Practice to maintain and improve campus Biodiversity

13.1 Campus Management Actions and KPIs

Action No.	Phase 1	Progress	Phase 2	Phase 3	KPIs	Scope
CM1	<p>Commission a Heat Decarbonisation Plan for LJMUs campuses by September 2023.</p> <p>Establish carbon baseline and future energy opportunities.</p>		<p>Identify renewable energy generation opportunities.</p> <p>Prioritised list of building level energy decarbonisation projects and approved funding.</p> <p>Benchmark our progress against NW universities using HESA data and Estates Management reporting.</p>	Implement renewable installations (to be determined).	<p>No. of renewable energy installations. Increase in kWh from sustainable energy sources.</p> <p>% improvement against 2021 baseline.</p>	1, 2
CM2	Complete 2021 - 2025 Carbon Management Plan.		<p>Publish carbon baseline</p> <p>Set out % reduction pathway in total CO2.</p> <p>By 2025 all energy will come from REGO certified sources.</p>		<p>Reduce natural gas supply as % of total energy use.</p> <p>No. of operational gas heating systems.</p>	1, 2

CM3	Commission an energy audit and decarbonisation plan for ICT infrastructure.				% decrease in energy use across IT infrastructure. % decrease in Scope 3 CO2 emissions.	1, 2
CM4	Achieve Eco-Campus Environmental Management System Bronze Award by end December 2021.		Silver Award by end August 2024. Meet our Environmental Management system KPIs by 2024.	Achieve Gold standard Environmental Management.	Top level EMS certification. Install energy dashboard database in all buildings, carbon budget, heating lighting.	1, 2, 3
CM5	Reduce waste - work with staff, students, and the waste contractor to implement improved waste management practices.		Develop waste reduction plan.	Achieve a recycling target of 70%	Increase in % waste recycled.	3
CM6	Publish LJMU's Active Travel Strategy, founded on cycling and walking first principles.		Improve cycle infrastructure, increase mode switching via sustainable travel incentives including cycle to work scheme, travel loans.		% increases in number of secure cycle spaces. % increase in intercampus journeys on foot.	3

CM7	Establish Building Research Establishment's Environmental Assessment Method (BREEAM) Outstanding as a policy for all LJMU new builds by 2023.		Deliver a BREEAM 'outstanding' rating for all new buildings by 2025.		Reduce whole life carbon impact of capital investments.	1, 2, 3
CM8	Baseline business and field work travel from 2017		Achieve % reduction.		% reduction in Scope 3 emissions for business travel.	3
CM9	Commission Biodiversity Action Plan.		Enhance campus biodiversity. Develop community biodiversity initiatives on FL Calder site.		% increase in species diversity.	3
CM10	Appoint and nominate key sustainability staff.				Number of staff with sustainability as part of job description.	1, 2, 3
CM11	Identify sustainable procurement options to address priority Scope 3 emissions reductions.		Publish sustainable procurement policy Set out targets to reduce Scope 3 emissions.		% reduction in Scope 3 emissions by category.	3

CM12	Work with our accommodation providers and JMSU to identify measures we can implement to encourage a reduction in Scope 3 emissions.		Publish carbon emission data related to both in-house and externally provided student accommodation.			3
CM13	Food - Encourage sustainable sourcing. Increase plant-based items on our menu by 20% by the end of 2022		Develop a Sustainable Food Plan to further reduce food miles and packaging used in internal catering services			

Table 6: Campus Management Priority Actions and KPIs

Key	Completed	Commenced	Not yet commenced
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14. Summary

LJMU's Climate Action Plan sets out an ambitious but achievable target to enable the university to reduce its Scope 1 and 2 greenhouse gas emissions to reach net zero by 2035. The framework for action is driven by our values and creates a blueprint for action which builds on our achievements to date.

We have made a significant reduction in our Scope 1 and 2 emissions over the period of our last Carbon Management Plan and we have leapt 25 places to be in the top third of universities in the People and Planet League in 2021.

The establishment of the Climate Change Panel and our existing leadership and governance structures and Environmental Management, Sustainability and compliance framework, provides a strong base.

Our Climate Action Plan needs the combined efforts of our students, staff and stakeholders to ensure its success. If you would like to be involved and have ideas and projects which can contribute to our evolving climate programme, then please contact us on climateaction@ljmu.ac.uk.

Help us to reach net zero by 2035.

15. Sources

- ¹ Climate Change Committee (2021) Progress in Adapting to Climate Change 2021, Report to Parliament Climate Change Committee, June 2021
- ² [LJMU declares climate emergency | Liverpool John Moores University](#) February 2020
- ³ United Nations Sustainable Development Goals <https://sdgs.un.org/goals>
- ⁴ People and Planet League [People & Planet University League | People & Planet \(peopleandplanet.org\)](#)
- ⁵ *Climate Action Toolkit for the Higher Education Sector*, Climate Commission for UK Higher and Further Education https://www.eauc.org.uk/climate_commission
- ⁶ The Greenhouse Gas Protocol A Corporate Accounting and Reporting Standard Revised Edition [Greenhouse Gas Protocol | \(ghgprotocol.org\)](#)
- ⁷ Carbon Trust Briefing: What are Scope 3 emissions? Carbon Trust, retrieved from <https://www.carbontrust.com/resources/briefing-what-are-scope-3-emissions>
- ⁸ LJMU Carbon Management Plan 2015 - 2020
- ⁹ Climate Action for University Chairs CUC <https://www.ahua.ac.uk/resources/cuc-guide-climate-action-for-university-chairs/>
- ¹⁰ IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, pp. 151 IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.
- ¹¹ United Nations 2015 Paris Agreement https://unfccc.int/sites/default/files/english_paris_agreement.pdf
- ¹² Liverpool City Region Combined Authority Carbon Emissions Report 2019/20 <https://www.liverpoolcityregion-ca.gov.uk/wp-content/uploads/Carbon-Emissions-Report.pdf>
- ¹³ Liverpool City Region Combined Authority Year One Climate Action Plan 2021/22 https://www.liverpoolcityregion-ca.gov.uk/wp-content/uploads/YearOneClimate6_compressed.pdf
- ¹⁴ Liverpool City Region Combined Authority Local Industrial Strategy Draft March 2020 https://www.liverpoolcityregion-ca.gov.uk/wp-content/uploads/LCRCA_LIS_March_2020.pdf
- ¹⁵ Team Liverpool City Plan 2020 <https://cityplanliverpool.co.uk/>
- ¹⁶ [Local and Regional Implications of the United Nations Paris Agreement on Climate Change \(manchester.ac.uk\)](#)

¹⁷ RICS Professional Standards and Guidance, UK Whole Life Carbon Assessment for the Built Environment 1st edition, November, 2017
<https://www.rics.org/globalassets/rics-website/media/news/whole-life-carbon-assessment-for-the--built-environment-november-2017.pdf>

Appendix 1 LJMU Climate Change Pledges

1	Review the Terms of Reference and membership of the University Environment and Sustainability Committee and place LJMU's climate emergency declaration at the centre of its activity.
2	Establish a working group to make recommendations to the University Environment and Sustainability Committee on what declaring a climate emergency should mean to LJMU stakeholders.
3	Audit and publish current institutional activity addressing environmental and sustainability matters.
4	Advance the pace of collaboration with our Liverpool City Region partners towards delivering a net-zero carbon footprint by 2030.
5	Immediately sign up to the United Nations Sustainable Development Goals and task a group to review what each means for policy and practice for LJMU and our stakeholders.
6	Establish a task and finish group to agree the actions the University should take forward based on student feedback from the JMSU Sustainability Week.
7	In early 2021, we will set out a 10-year strategy to tackle the global climate emergency, underpinned by real measures and action. This will identify a wide range of actions to meet stretching targets that will require change across every aspect of the University's business, infrastructure, strategy and culture.
8	Commit to ensuring sustainability, and our goal of a zero carbon future, will shape institutional decision-making.' We will do this by ensuring all major institutional decisions are informed by a sustainability value assessment.
9	We will set targets for integrating sustainability into our teaching provision, and provide opportunities for students to take part in activities to promote sustainability.
10	We will seek to embed sustainability wherever possible in our research, knowledge exchange, and outreach activities.