UNIVERSITY OF
LIVERPOOL

SUSTAINABLE DEVELOPMENT GOALS REPORT

2024-25

We are the original redbrick

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INTRODUCTION

The United Nations **Sustainable Development Goals** (SDGs) represent an urgent call to address the world's most pressing, interconnected challenges. At the University of Liverpool we recognise our responsibility to help shape a sustainable future, locally, nationally and globally, and as such we are committed to driving meaningful progress across all 17 SDGs through our research, education and operations.

This past year marked a major milestone in our sustainability journey. We launched our new **Sustainability Strategy**, which builds on the ambitions set out in the University's **Liverpool 2031** strategic framework. We also strengthened our approach to SDG research with the launch of the **Interdisciplinary Centre for Sustainability Research (ICSR)**, which supports teams of researchers to collectively tackle the SDGs. Alongside this, we articulated our commitment to responsible research by becoming an early signatory to the **Concordat for the Environmental Sustainability of Research and Innovation Practice**.

Education remains a cornerstone of our approach to sustainability. With the development of the Liverpool Learning Framework, we have been able to drive forward more ambitious transformation of our formal and extra-curricular offer, ensuring that our students have access to a range of opportunities that provide them with the knowledge, skills and experience needed to drive forward sustainable development. We also launched several new sustainability-focused programmes this year, including the **MSc in Sustainable Business, MSc Green Finance and Sustainability Accounting** and **MSc Sustainable Civil and Structural Engineering.**

Our impact is being recognised globally. In 2025 we rose eight places to rank 42nd out of 1,744 universities in the world in the **QS Sustainability Rankings** and we are proud to have been ranked 5th in the world for equality. We also secured a position in the top 100 world-wide in the **Times Higher Education Impact Rankings,** and we moved up ten places in the **People & Planet University League**, reaching 37th in the UK.

Our approach recognises that sustainability and social justice are inseparable, and we are embedding equity, diversity and inclusion across all aspects of our strategy, ensuring no one is left behind in our pursuit of a sustainable future. With that in mind, it gives us great pleasure to introduce our annual Sustainable Development Goals Report, which outlines our progress during 2024/25 in advancing the SDGs through our research, education and operations. It reflects the collective action of our staff, students and partners and a shared belief that sustainability must shape everything we do. We hope it inspires continued innovation, collaboration and impact, both locally and globally.

How to read this report

Throughout this report, numbers such as 1.2, 3.8, or 12.5 appear in brackets. These refer to the official United Nations Sustainable Development Goal (SDG) targets and indicators. Each of the 17 SDGs is broken down into specific targets, which are used globally to measure progress.

We include these references to demonstrate how the University's activities align with the UN framework and to provide clarity for external benchmarking, including the Times Higher Education (THE) Impact Rankings.

For a full list of all SDG targets and indicators, visit the official United Nations website: **sdgs.un.org/goals**

SUPPORTING EACH OF THE 17 SDGS

In the following sections of this report, we have summarised some of our unique commitments to the individual goals over the past 12 months. Further case studies can be found on our **website**.

GOAL 1: NO POVERTY

1 NO POVERTY

End poverty in all its forms everywhere

Research and impact

The University of Liverpool contributes to SDG 1 by addressing the structural drivers of poverty through rigorous research and evidence-led policy engagement. In 2025, researchers at the **Heseltine Institute for Public Policy, Practice and Place** provided oral evidence to the **UK Child Poverty Taskforce** highlighting that 40% of children in Liverpool live in poverty. Their analysis showed how removing the two-child benefit cap could substantially reduce child poverty and improve health equity (1.2, 1.3, 1.A). Further evidence from Liverpool-led studies reinforced the urgent need for action. A longitudinal analysis of more than 15,000 children **demonstrated the lasting impacts of socioeconomic disadvantage on mental health trajectories** (1.2, 1.4). Separate **research** found that persistent poverty and parental mental illness doubled the likelihood of youth involvement in violence and police contact, addressing the need for stronger social protection under target (1.3).

Education and student experience

Our students engage with the root causes of poverty through a diverse, multi-disciplinary curriculum that combines critical understanding with practical skills. In 2024/25 new interdisciplinary courses addressed contemporary issues such as the cost-of-living crisis and digital exclusion, enabling students to analyse poverty in evolving contexts and directly supporting target (1.2). Across programmes in **Social Policy**, **Politics**, **History**, **Sociology**, and **Health Economics**, students explore welfare systems, the political dimensions of poverty, historical perspectives, and health inequalities (1.2, (1.4). Beyond the classroom, students actively contribute to SDG 1 through community engagement. The **IntoUniversity Mentoring Scheme** pairs students with young people from disadvantaged backgrounds to raise aspirations and improve access to higher education (1.4). In addition, volunteering programmes address food security, homelessness, and social justice across the Liverpool City Region (1.2, 1.3).

Sustainable campus and operations

The University supports SDG 1 by promoting social mobility and reducing poverty through widening access to higher education and comprehensive student support. Our **Access and Participation Plan** sets clear targets to improve enrolment and progression for underrepresented groups (1.4), while the **Student Success Framework** helps disadvantaged students secure meaningful employment or further study (1.2). We provide targeted financial aid through bursaries, scholarships, and dedicated support for refugees in line with our **UNHCR commitment** (1.B, 4.5). To reduce financial barriers, students have access to hardship funding, budgeting advice, interest-free loans, and emergency assistance, alongside wellbeing initiatives such as free sanitary products and extended campus facilities (1.2). In response to the cost-of-living crisis, the University has introduced subsidised meals and access to food support services (1.2). As a **Living Wage Employer**, we ensure fair pay for all staff and embed social responsibility in our employment practices (1.2). Our Liv to Give volunteering programme connects staff with local charities, while financial and mentoring support for social enterprises strengthens poverty reduction efforts across the Liverpool City Region (1.2, 1.4).

Tackling child poverty through localised policy reform

In July 2025, the Heseltine Institute for Public Policy, Practice and Place published a policy brief highlighting the urgent need to address the UK's growing child poverty crisis. **Tackling Child Poverty** calls for a fundamental shift in national and local policy approaches, grounded in the principle that child poverty is a political choice rather than an inevitability.

The brief demonstrates how successive policy changes have weakened the UK's commitment to tackling child poverty, with the removal of national targets, reduced reporting, and significant cuts to local welfare budgets. It recommends the restoration of statutory child poverty targets, renewed duties for local government, and increased funding for welfare assistance schemes. This work directly supports (1.2) by addressing the multidimensional nature of child poverty, (1.3) through strengthening social protection systems, and (1.B) by advocating for locally driven, evidence-based frameworks.

By reframing poverty as a structural issue and promoting a place-based model, the brief encourages national government to re-engage with local partners and strengthen capacity for deprivation reduction. The research has been shared with Liverpool City Council and disseminated to local government and social welfare stakeholders as part of the Heseltine Institute's **Policy in an Age of Uncertainty** series, contributing to ongoing policy dialogue across the UK.

GOAL 2: ZERO HUNGER

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Research and impact

The University advances SDG 2 through research and partnerships that address food insecurity, malnutrition, and sustainable agriculture both locally and internationally. In the Liverpool City Region, researchers are working with Liverpool City Council, Can Cook, and Feeding Liverpool to **improve access to healthy food**. Led by the Institute of Infection, Veterinary and Ecological Sciences and the Virtual Engineering Centre, this initiative applies systems-thinking to design scalable interventions that reduce food insecurity (2.1, 2.2, 2.4). The **Workers Using Foodbanks** study, published in 2025, highlights how low-quality employment contributes to household food insecurity, reinforcing the links between work, welfare, and nutrition (2.1, 2.2). Internationally, Liverpool researchers strengthened agricultural productivity in **Mozambique's Baixo Limpopo Irrigation Scheme** through the "Liverpool Model" of collaborative leadership and technology transfer, shaping national agricultural policy (2.3, 2.C). In East Africa, the University's **One Health research**, conducted in partnership with the International Livestock Research Institute, is enhancing livestock systems, rural livelihoods, and food security in Kenya and Rwanda (2.1, 2.3, 2.4).

Education and student experience

The University equips students to address food insecurity, sustainability, and nutrition through innovative teaching and real-world learning. The **Carbon, Nutrients and Climate Change Mitigation** module explores how nutrient cycles and agriculture contribute to climate solutions (2.3, 2.4), while **Sustainable Supply Chain Management** develops knowledge of ethical sourcing, food resilience, and circular economy principles (2.4). Students also contribute to the **Transforming the UK Food System** initiative, co-producing solutions such as the **BeanMeals** project, which develops sustainable plant-based school meals (2.1, 2.2). Other modules, including **Law and Global Health** (2.2) and **Living with Environmental Change** (2.4), address food poverty and the systemic links between nutrition, sustainability, and global health. Beyond the classroom, student-led and campus-based food projects extend impact into the community. The **Guild Gardening Project** (2.1) grows fresh produce for students and residents, while the **Queen of Greens** initiative (2.1, 2.2) improves access to affordable fruit and vegetables across campus.

Sustainable campus and operations

The University supports SDG 2 by addressing food insecurity and promoting sustainable nutrition across its operations. Students experiencing food poverty receive targeted assistance through the **Student Hardship Fund**, short-term loans, and debt advice, ensuring access to sufficient and nutritious food (2.1). Our **Sustainable Food Policy** prioritises locally sourced, seasonal, and affordable food across all campus catering outlets, with a minimum of 50% vegan options to reduce environmental impact and support healthier diets (2.2, 2.4). Food waste management is also a key focus: since September 2023, more than 125 tonnes of food waste have been diverted from incineration to anaerobic digestion, with the resulting digestate reused as fertiliser to support circular economy and sustainable agriculture goals (2.4). In June 2025, the University achieved **Fairtrade University Accreditation**, and we are a member of TUCO, and have embedded the NETpositive Futures tool, with 58% of major suppliers engaged in social value action planning (2.4). Our **Sustainable Events Guide** encourages event organisers to provide nutritious, sustainable catering that reduces food waste and environmental impact. It favours plant-based, locally sourced, and ethically certified options, while promoting responsible portioning and the redistribution or composting of surplus food to strengthen food security and sustainability (2.2, 2.4).

Case Study

Addressing dietary inequality in social housing

The University of Liverpool is leading a £1.46 million UKRI-funded study tackling dietary inequalities and improving life chances for residents of social housing in Liverpool, one of the UK's most deprived areas with high obesity rates. The **Supporting Communities in social Housing and Optimising Urban food System interventions for Equity (SCHOUSE)** project, developed with the University of Cambridge and local partners, advances SDG targets (2.1), (2.2), and (2.4) by improving access to nutritious food, reducing malnutrition, and supporting sustainable food systems.

The multidisciplinary team spanning psychology, public health, nutrition, epidemiology, and health economics, works with housing associations, NHS Cheshire and Merseyside, Liverpool City Council, and local charities including Onward Homes, Riverside Group, Torus Foundation, Alchemic Kitchen, and Alexandra Rose Charity. Together they co-design and evaluate interventions such as a mobile greengrocer van delivering fresh produce and a voucher scheme to improve affordability, with over 300 residents actively engaged in shaping solutions.

Using advanced spatial mapping and computer modelling, SCHOUSE identifies food access inequalities and forecasts that city-wide expansion of these interventions could avert around 150 diet-related diseases and reduce premature deaths by 10% over ten years. By combining robust evidence, strong partnerships, and community co-production, SCHOUSE exemplifies scalable innovation with real-world policy influence, supported by open-access reporting and public engagement.

GOAL 3: GOOD HEALTH AND WELLBEING

Ensure healthy lives and promote well-being for all at all ages

Research and impact

The University advances SDG 3 through innovation, interdisciplinary collaboration, and inclusive community outreach. The **Civic Health Innovation Labs** (CHIL) bring together researchers, civic stakeholders, and clinicians to develop AI-powered health interventions for infectious and chronic disease, strengthening universal health coverage (3.8). The **Pandemic Institute**, part of the Liverpool City Region Life Sciences Innovation Zone, accelerates diagnostics, therapeutics, and vaccine scale-up to combat global health threats (3.3). Internationally, Liverpool scientists led the **MIRACLE-AF telemedicine** trial in East China, which reduced strokes and major cardiac events among more than 1,000 rural elderly patients (3.4). In the UK, the **Better Medicines** report, produced with Manchester Met and UCL, gathered public and professional insights to improve inclusivity in clinical research and equitable access to medicines (3.8). Meanwhile, the **C-GULL** cohort study, tracking 10,000 children in the Liverpool City Region, is generating evidence to address child and maternal health inequalities (3.2, 3.8).
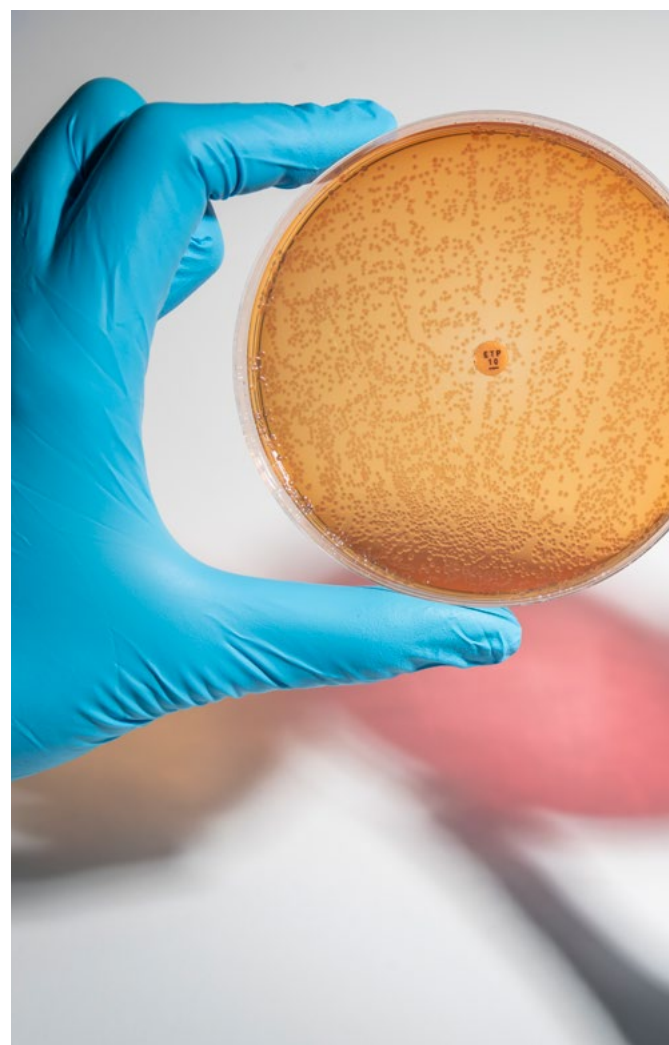
Education and student experience

The University equips students with the support, education, and experiences they need to live healthy lives and contribute to local and global health equity, in direct support of SDG 3. Student wellbeing is prioritised through a comprehensive infrastructure, including the **Wellbeing Advice and Guidance Team**, **Mental Health Advisory Service**, and a confidential **Counselling Service** offering evidence-based therapies. Provision is inclusive and tailored to diverse student needs, including LGBTQ+ and neurodivergent communities (3.4). The newly opened **ADHD Garden** provides a calming, low-stimulation space that promotes self-regulation and supports neurodiverse wellbeing (3.4). Throughout the year, the University and Guild of Students deliver campaigns such as Mental Health Awareness Week and Give It a Go, promoting wellbeing literacy and reducing stigma (3.5). Academic programmes such as the **MPH Public Health**, **MSc Clinical and Health Pyschology**, and **MSc Planetary and One Health** align with (3.3), (3.8) and (3.D). Modules including **Law and Global Health**, **Living with Environmental Change**, and **Veterinary Epidemiology and Public Health** enable students to critically engage with health systems, equity, and resilience. Widening access initiatives, including the **Merseyside Young Health and Life Scientists Programme**, encourage students from underrepresented groups to pursue health and life science careers, contributing to the future health workforce (3.C).

Sustainable campus and operations

The University supports SDG 3 by embedding health and wellbeing into its services, infrastructure, and partnerships. Our **Wellbeing Map** helps students and staff find spaces to be active, connect with others, relax in nature, and access support (3.4). **Sport Liverpool** provides affordable facilities for the university community and wider public, enhancing physical and mental health (3.4, 3.5). Green spaces such as **Ness Botanical Gardens**, the library garden, and the ADHD-friendly garden promote rest and sensory regulation (3.4). Staff wellbeing is supported through the **Employee Assistance Programme**, confidential counselling, occupational health services, and Mental Health First Aid training (3.4, 3.5). In partnership with Mersey Care NHS Foundation Trust, the University delivers the **U-COPE** self-harm service and a **Student Liaison Service** to provide timely pathways to NHS mental health care (3.4, 3.8, 3.D). The **Student Health Centre** offers GP and nursing care, sexual health services, chronic condition management, and vaccinations (3.8, 3.D). Looking forward, the **Academic Health Sciences Campus** will integrate clinical teaching, research, and patient care in collaboration with NHS partners, strengthening regional health capacity (3.8, 3.D).

Case Study

Ending mother-to-child Hepatitis B transmission in Africa

University of Liverpool researchers are leading efforts to **eliminate vertical transmission of hepatitis B in Africa through targeted, evidence-based interventions**. A landmark Lancet Global Health meta-analysis of 113 studies and 190,000 women identified timely hepatitis B birth dose vaccination (HepB-BD) and maternal antiviral prophylaxis as strategies with transformative potential. With 63% of new global hepatitis B infections occurring in Africa, these interventions directly advance SDG targets (3.2), (3.3) and (3.8).

Led by Dr Alexander Stockdale (University of Liverpool) and Dr Nicholas Riches (Liverpool School of Tropical Medicine), the study found that scaling up HepB-BD to 90% coverage could reduce vertical transmission by 44%, while combining it with antiviral prophylaxis for 90% of eligible women could reduce transmission by 86%, meeting WHO elimination targets. The findings informed WHO's updated 2024 hepatitis B guidelines.

Building on this evidence, Dr Stockdale is leading a £3 million NIHR Global Health Research project in Malawi and The Gambia, working with the Malawi-Liverpool-Wellcome Trust and MRC Unit The Gambia. The trial will assess the feasibility, safety, and cost-effectiveness of providing tenofovir to all pregnant women with hepatitis B. By embedding research within health systems and working closely with ministries of health and WHO, the project ensures results are policy-relevant, scalable, and capable of preventing hundreds of thousands of infections and deaths across Africa.

GOAL 4: QUALITY EDUCATION

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Research and impact

The University supports SDG 4 through research, partnerships, and public engagement that advance inclusive and equitable education. A **major study** demonstrated that early cognitive and social-emotional difficulties account for 17% of GCSE failures in England, with affected children up to 4.5 times more likely to underperform. This evidence highlights the need for integrated health education approaches (4.2, 4.a). The **Good Writing, Gender and the 'Gap'** project has challenged assumptions about gender disparities in primary writing, with findings now embedded in teacher training and CPD across the Liverpool City Region, promoting equity in assessment (4.5, 4.6). Partnerships are central to our approach. Another **major analysis** showed that early cognitive and socio-emotional difficulties account for 17% of GCSE failures in England. Children affected are up to 4.5 times more likely to underperform, highlighting the need for integrated education and healthcare policy initiatives (4.2, 4.a). Through engagement initiatives like the **Research Fellows Showcase** and **Pint of Science**, the University continues to foster public learning and promote lifelong education (4.7).

Education and student experience

The University empowers learners through inclusive education, lifelong learning, and community engagement, advancing SDG 4 (4.2, 4.3, 4.4, 4.5, 4.7). In 2025, we launched the Liverpool Learning Framework, setting a benchmark for all programmes to embed sustainability and drive ambitious transformation across formal and extra-curricular learning. Alongside this, we introduced new programmes including the **MSc in Sustainable Business**, **MSc Green Finance & Sustainability Accounting** and **MSc Sustainable Civil & Structural Engineering**, equipping graduates to tackle global challenges. Students also engage in experiential learning through our **Living Lab programme**, which connects education and research to campus sustainability challenges. All students can access the **Student Sustainability Hub** and our online Sustainability in Action course, embedding Education for

Sustainable Development across curricula. Extracurricular achievement is formally recognised through HEAR, capturing both academic and co-curricular contributions (4.4). The University **Maths School** and **Centre for Higher Education Studies** further strengthen STEM provision and pedagogical research (4.3, 4.c). Locally, we work with 40 schools, delivering more than **169 engagements annually** and supporting around 1,600 young people in long-term outreach projects (4.2, 4.5). Initiatives such as **Destination Summer Schools** expand access to competitive health professions (4.3, 4.5). Globally, our **Xi'an Jiaotong-Liverpool University partnership** offers 2+2 pathways, widening international learning and employability (4.7).

Sustainable campus and operations

The University advances SDG 4 through inclusive education practices, innovative programmes, and global partnerships. Locally, our **IntoUniversity North Liverpool** and **Kirkby centre** support aspiration and attainment in education-deprived areas, while staff engagement through mentoring, School Governor roles, and recruitment outreach enhances pathways into higher education (4.2, 4.5). The **Centre for Innovation in Education** supports curriculum design to improve student success, while the Library Service's Open Access policies ensure equitable knowledge sharing (4.3, 4.7). Institutional priorities include **eliminating degree awarding gaps**, promoting inclusive attainment across ethnicity, socio-economic status, and protected characteristics (4.5). The **Inclusive Curriculum Tool** enables staff to audit and enhance inclusivity in course design and delivery, supporting more equitable and accessible learning environments (4.5, 4.a). Lifelong learning is promoted through Continuing Education, free workshops at the Victoria Gallery & Museum, and sector leadership via the **Learning & Teaching Conference** and the **UALL-SCUTREA Lifelong Learning Conference** (4.4, 4.c). In recognition of this work, Liverpool was named 2025 **Educate North University of the Year**.
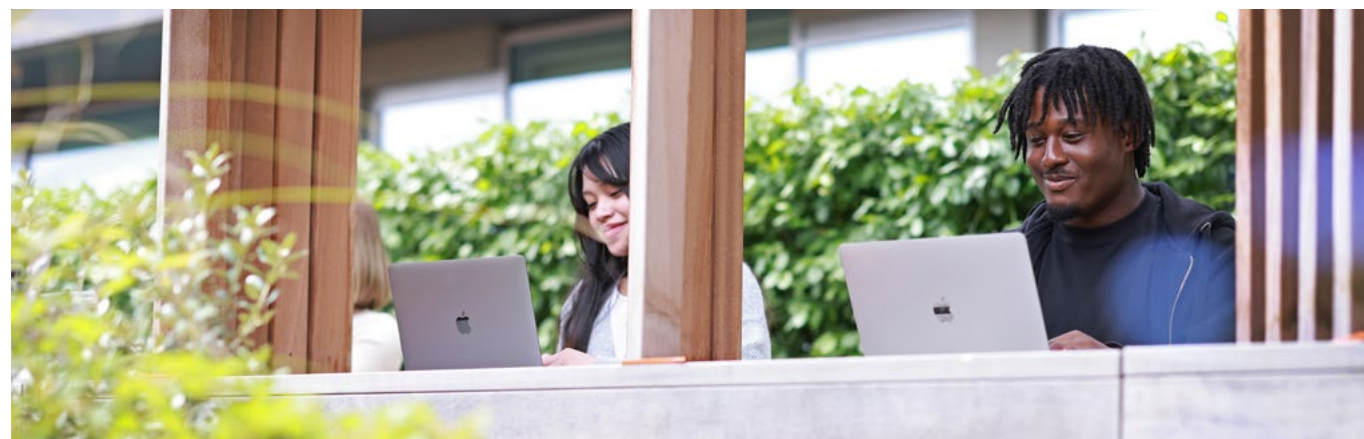
Case Study

Expanding global access to high-quality education

In 2025, the University of Liverpool announced the **launch of its new campus in Bengaluru, India**, marking a major milestone in transnational education and UK–India collaboration. This initiative supports SDG 4 by advancing equal access to affordable, high-quality tertiary education (4.3), embedding global citizenship and sustainable development (4.7), and expanding opportunities for international learning (4.b).

The launch was formalised in New Delhi, where India's Union Minister of Education presented the Letter of Intent from the University Grants Commission to Vice-Chancellor Professor Tim Jones, in the presence of UK and Indian government officials, the British High Commission, and higher education and industry leaders.

Opening in 2026, the campus will initially offer programmes in Business Management, Accounting and Finance, Computer Science, Biomedical Sciences, and Game Design, with further expansion planned. It will also provide structured study abroad opportunities for Liverpool students, fostering reciprocal access to international education.

The initiative builds long-term capacity by aligning with regional priorities in Karnataka and forging

partnerships with government, industry, and academia. MoUs signed at launch included collaborations with the Royal College of Obstetricians and Gynaecologists, AstraZeneca, Wipro Limited, Axis Bank, Dream11, TiE Bangalore, and the YouWeCan Foundation.

By combining inclusive programme design, mutual exchange, and strategic partnerships, the Bengaluru campus demonstrates Liverpool's commitment to delivering sustainable, scalable higher education models that widen access, strengthen collaboration, and embed lifelong learning in diverse international contexts.

GOAL 5: GENDER EQUALITY

Achieve gender equality and empower all women and girls

Research and impact

The University advances SDG 5 through interdisciplinary, evidence-led research that addresses structural inequalities and empowers women and girls worldwide. In 2025 we hosted the **Women and Non-binary Doctoral Researchers in STEM** (WoNDRS) conference, which brought together over 100 doctoral researchers from over 25 UK universities, fostering inclusive academic spaces and future research leadership (5.5, 5.6). The **Feminist City Network** continues to reimagine urban spaces through feminist research, contributing to the **Liverpool City Region International Women's Day Conference in 2025** to influence local policy (5.1, 5.6). Liverpool researchers are advancing global conversations on **gender diversity in corporate boards**, **work-family decision-making**, and the **impact of social media on young masculinities**. The **Transnational Gender Equality Framework** proposes new international standards for workplace inclusion, while the **Good Writing, Gender and the Gap** project, embedded in teacher CPD across the Liverpool City Region, challenges gender bias in education outcomes (5.1, 5.6).

Education and student experience

The University supports SDG 5 through inclusive education and curricular innovation that promote gender equality and empower learners. Gender is embedded across multiple programmes, with modules such as **Gender and Feminist Politics: Core Concepts and Theories**, **Gender and the Welfare State**, and **Gender and Global Politics** enabling students to critically examine intersectionality, feminist political thought, public policy impacts, and global challenges including conflict, migration, and reproductive rights (5.1, 5.4, 5.5). Beyond the classroom, students contribute to activism and peer education through societies such as the **Feminist Society** and **Women's Network**, which host campaigns, events, and dialogues on gender justice (5.1). The University also supports gender-diverse inclusion through the **Trans and Non-Binary Peer Support Network**, which provides safe spaces and helps shape inclusive institutional policies (5.1, 5.6). Staff development is reinforced by the **Postgraduate Certificate in Higher Education**, embedding Education for Sustainable Development themes such as inclusive pedagogy and gender-responsive teaching, complemented by the **Inclusive Curriculum Tool**, to help staff audit and enhance inclusivity in course design and delivery (5.5). In 2025, the **Learning & Teaching Conference** featured dedicated sessions on inclusive curriculum design and gender representation in academic leadership, underlining the University's commitment to embedding SDG 5 across education and student experience (5.5).

Sustainable campus and operations

The University promotes an inclusive workplace through robust policies and long-term commitments. Our **Diversity and Equality** and **Bullying and Harassment** policies, alongside a confidential **Report + Support** tool, safeguard staff and students and ensure a respectful campus culture (5.1). The **Equality Objectives Action Plan** further embeds gender equality into institutional governance, setting measurable goals for recruitment, retention, leadership, and representation across all staff and student communities (5.5). We support diverse lived experiences through active **networks** including the Endometriosis Network, Trans and Non-Binary Peer Support Network, Menopause Network, and the Female Early Career Researcher Network (5.1, 5.6). Our leadership is recognised nationally: in 2025, both the **Institute of Systems, Molecular and Integrative Biology** and the **Institute of Life Course and Medical Sciences achieved Athena SWAN Gold Awards**, complementing our institutional Silver Award (5.5). We continue to address structural inequalities, with the median gender pay gap narrowing to 15.28% and the mean gap declining to 19.60% in 2024, both improving year-on-year (5.5). Women are further supported through **LivWiSE, Advance HE's Aurora programme**, and visible campus-wide celebrations during International Women's Day and Women's History Month.

Case Study

Addressing gender Inequalities in the North

In 2025, the University of Liverpool contributed to **Woman of the North: Inequality, Health and Work**, a landmark report produced with Health Equity North and over 70 academic and policy partners. The report provides the most comprehensive analysis to date of the systemic inequalities faced by women in the North of England, directly advancing SDG 5 (5.1, 5.2, 5.4, 5.c).

Findings reveal that women in the North live shorter, less healthy lives, earn significantly less than their counterparts in the South, and are more likely to experience domestic violence, mental illness, and imprisonment. Girls born in the North can expect up to six fewer years of healthy life, while women in the region lose out on £132 million in wages each week due to pay disparities. They also provide £10 billion annually in unpaid care, £2 billion more than if they performed the national average.

These stark inequalities are compounded by austerity, cost-of-living pressures, and unequal funding systems. The report sets out actionable recommendations for governments, health services, and local authorities to reverse deteriorating health outcomes, tackle domestic violence, and reduce economic insecurity.

Professor David Taylor-Robinson, lead contributor from the University of Liverpool, emphasised the urgent need for investment in preventative and support services to address these challenges.

By combining rigorous research with advocacy, the University of Liverpool is shaping national debate and catalysing policy reform to advance gender equality, health, and human rights for women across the UK.

GOAL 6: CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

Research and impact

The University advances SDG 6 through interdisciplinary, high-impact research supporting safe water, sanitation, and resilient ecosystems (6.1, 6.2, 6.3, 6.b). In December 2024, Liverpool co-launched the **£2.4 million CONVERSE project** with NERC and UKRI. This community-led initiative in Merseyside and Cheshire co-designs nature-based solutions, including leaky dams, wetlands, and tree planting, to reduce flood risk and improve water quality. Reaching thousands of households, CONVERSE provides a scalable model for locally governed water resilience (6.b). In 2025, University scientists published **Diversity of Salmonella enterica isolates from urban river and sewage water in Blantyre, Malawi**, identifying transmission pathways critical to sanitation interventions and waterborne disease reduction (6.1, 6.2). A PhD-led **collaboration** with National Tsing Hua University is developing advanced porous microspheres for the removal of PFAS "forever chemicals" from drinking water, addressing emerging contaminants and advancing Target 6.3. Liverpool researchers also contributed to a £304,000 DEFRA-funded project assessing **climate-driven risks to estuarine water quality** (6.1, 6.3, 6.b) and co-developed new hydrodynamic-statistical models for **compound flood thresholds in English estuaries**, enhancing predictive tools for flood risk management (6.1, 6.b).

Education and student experience

The University embeds SDG 6 in its teaching and student learning through curriculum, hands-on projects, and peer-led initiatives (6.1, 6.2, 6.3, 6.b). The **Sustainable Water Engineering** module within the MEng Civil and Environmental Engineering programme teaches urban drainage, wastewater systems, and flood routing through real-world problem-based learning (6.1, 6.2, 6.3). The **Environmental Science BSc** (Hons) provides field and lab training in water sampling, pollution analysis, and ecosystem monitoring, while the MSc in **Climate Resilience and Environmental Sustainability in Architecture** equips students to design water-efficient, climate-resilient infrastructure (6.1, 6.3). A standout 2025 project at Ness Botanic Gardens allows **students to co-design a rainwater harvesting system**, enabling sustainable water use and infrastructure innovation (6.3, 6.b). Complementing this, the Student Sustainability Network supports peer-led campaigns on water conservation and plastic reduction (6.b).

Sustainable campus and operations

The University supports SDG 6 through sustainable water management, inclusive sanitation access, and infrastructure innovation (6.1, 6.2, 6.3, 6.b). In 2025, we maintained campus-wide water efficiency using automated monitoring to allow targeted internal site audits helping to reduce water consumption and reinvesting savings into WaterAid's global clean water projects through our water retailer contract (6.1). Free drinking water stations are available in all buildings and public spaces, with locations mapped on the Refill app, and behaviour change campaigns such as Bottle Up and the reusable cup scheme reduce reliance on bottled water and single-use plastics (6.3). New developments aim to achieve BREEAM Excellent standards, incorporating features such as low-flow fittings, leak detection systems, rainwater harvesting and green roofs where feasible, all of which are recognised within BREEAM as contributing to higher performance in water efficiency, ecology and sustainable design (6.3). Living Lab projects, such as the 2025 **rainwater harvesting trial at Ness Botanic Gardens**, further integrate operational sustainability with student-led innovation (6.3, 6.b). Sanitation access continues to expand through inclusive policies. Our free period product programme with Hey! improves equity of provision, while refurbishment programmes extend **gender-neutral and accessible toilets across campus**, supporting universal and safe sanitation (6.2.).

Innovative partnerships advancing water, health and sustainability

In 2025, the University of Liverpool secured two new Knowledge Transfer Partnerships (KTPs) and an Accelerated Knowledge Transfer (AKT) project valued at £600,000, showcasing its role in applying academic expertise to real-world sustainability challenges. These **collaborations** advance SDG 6 by improving water safety, sanitation, and pollution reduction, directly supporting (6.1), (6.3) and (6.b).

The first KTP, with UK firm Feedwater Limited, is developing antimicrobial nanomaterial additives to prevent biofilm formation in hospital water systems and cooling towers. By reducing reliance on high-temperature water and chemical biocides, the project enhances microbial water safety in healthcare environments while improving energy efficiency and reducing carbon emissions (6.1), (6.3).

A second KTP, led by Professors George Oikonomou and Robert Smith with AI company CattleEye Limited, uses a cloud-based platform to detect lameness in dairy cattle. By enabling timely health interventions, the technology promotes sustainable farming practices and reduces risks of water contamination from livestock systems (6.3).

The AKT programme with AW Hainsworth, a historic British woollen mill, applies blockchain-enabled tracer technologies to improve textile supply chain transparency. By reducing waste and supporting sustainable production, the initiative indirectly contributes to pollution reduction and more efficient water use in textile manufacturing (6.3).

Together, these partnerships demonstrate Liverpool's leadership in knowledge transfer for sustainability. They highlight how research-driven innovation with industry can deliver practical solutions that enhance water quality, animal health, and sustainable industrial practices, while supporting community and ecosystem resilience (6.b).

GOAL 7: AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy for all

Research and impact

The University advances SDG 7 through interdisciplinary research and strategic partnerships. In 2025, we co-launched the **CLEAN-Air(Africa) Health Journalism Course** with KEMRI, training journalists across East and Central Africa to translate air pollution science into impactful public narratives (7.a). Liverpool researchers also developed a **light-driven hybrid nanoreactor** producing clean hydrogen using sunlight, offering a scalable, low-cost route to renewable fuel production (7.2, 7.3). The **Stephenson Institute for Renewable Energy** commands £18 million in active, competitively-won research funding, supporting projects in solar harvesting, hydrogen generation and storage, wind, marine energy, and fusion, and driving global clean energy transitions (7.2, 7.3). Within the **Department of Earth, Ocean and Ecological Sciences**, researchers lead the **Future Energy** theme, advancing geothermal energy, underground hydrogen storage, carbon capture in saline aquifers, and photovoltaic materials development to strengthen sustainable energy infrastructure (7.2, 7.a). In February 2025, we launched the **Centre for Doctoral Training in Fusion Engineering**, building capacity in low-carbon, scalable energy technologies (7.2, 7.3). Alongside this, the **Net Zero Maritime Energy Solutions CDT** (N0MES), delivered with Liverpool John Moores University and 33 industry partners, engages 52 researchers in offshore wind, tidal energy, hydrogen, and storage to drive the UK's maritime energy transition (7.2, 7.3, 7.b).

Education and student experience

The University of Liverpool actively integrates SDG 7 into its educational offer, equipping students with the skills to advance affordable and clean energy globally. Our **Renewable and Sustainable Energy MSc** (with Year in Industry) provides rigorous training in renewable generation, smart grids, and sustainable infrastructure, combining academic study with professional placements (7.2, 7.3). The **Environmental Assessment and Management MSc** develops expertise in environmental systems and infrastructure planning, preparing graduates to design resilient and sustainable energy solutions (7.2, 7.a). Students also participate in extra-curricular activities such as guided tours of the Combined Heat and Power (CHP) Energy Centre, gaining first-hand insight into sustainable campus infrastructure (7.3). In student residences, the Guild's Sustainability Team leads **Sustainable Halls** campaigns, promoting energy-conscious living and behaviour change, supporting energy efficiency (7.3) and building awareness and capacity (7.a).

Sustainable campus and operations

The University advances SDG 7 by enhancing energy efficiency, reducing carbon emissions, and embedding sustainable and ethical practices across its operations. The Combined Heat and Power (CHP) Energy Centre reduces emissions by generating on site electricity and recovering the waste heat to use for heating and hot water. While recognising CHP's reliance on natural gas, we are committed to achieving a transition to Net Zero by 2035, supported by continued investment in low carbon technologies and energy efficiency improvements (7.2). This ambition is embedded in our comprehensive **Climate Plan**, which sets milestones for energy reduction, carbon neutrality, and sustainable infrastructure. All new developments are designed to meet BREEAM Excellent standards, while many campus refurbishments are delivered to a minimum of BREEAM Very Good, supporting energy efficiency (7.3). Through our **Ethical Investment Policy**, we exclude companies significantly involved in fossil fuel extraction, reinforcing our commitment to clean energy transitions (7.b). Liverpool has joined a major urban clean energy demonstrator, **Realising Net Zero Liverpool (RNZL)**, a £3.5M Innovate UK–funded initiative led by Liverpool City Council, that pilots ground-source heat networks, retrofits, and flexible power systems across the city, positioning the University among key academic collaborators working with government and energy networks (7.2, 7.3, 7.b).

Case Study

Advancing clean energy and water sustainability

The University of Liverpool has made a significant breakthrough in clean energy innovation with the development of a **light-driven hybrid nanoreactor capable of efficiently producing green hydrogen**, a sustainable fuel critical to the global energy transition (7.2, 7.a).

Led by Professors Luning Liu and Andy Cooper, the interdisciplinary team engineered a hybrid system that combines natural bacterial microcompartments, known as recombinant β-carboxysomes, with microporous organic semiconductors. This design protects fragile, oxygen-sensitive hydrogenase enzymes, enabling sustained hydrogen production using only visible light and mimicking the processes of natural photosynthesis.

A key advantage of this approach is the replacement of scarce and expensive precious metals such as platinum, which are typically required in conventional hydrogen production. The nanoreactor therefore provides a cost-effective, scalable and environmentally friendly alternative that could accelerate progress toward net-zero energy systems. It holds strong potential for industrial decarbonisation, fuel cell development, and renewable energy storage applications.

Published in **ACS Catalysis**, the research demonstrates how engineering biology and clean energy science can intersect to deliver transformative solutions. It reflects our commitment to producing practical, scalable technologies that advance SDG 7 while contributing to a sustainable energy future.

![8 DECENT WORK AND ECONOMIC GROWTH]

GOAL 8: DECENT WORK AND ECONOMIC GROWTH

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Research and impact

The University has retained the **European Commission's HR Excellence in Research Award** for 12 consecutive years, demonstrating our long-standing commitment to improving research culture, working conditions, and career development for researchers (8.5, 8.8). In 2025, the School of Law and Social Justice co-led the launch of the **Global Network on National Human Rights Action Planning** (NHRAP), a major international collaboration involving UN agencies, governments, and civil society actors across more than 35 countries. Analysing over 150 national action plans, this research strengthens global frameworks that support inclusive employment, safe working environments, and labour rights (8.3, 8.8). Also in 2025, our policy paper **Youth Entrepreneurship Policy: Contemporary Challenges and Ways Forward** addressed barriers facing young entrepreneurs and proposed evidence-based reforms to enhance access, diversity, and support. The paper contributes to policy debates on reducing youth unemployment and promoting sustainable growth (8.6).

Education and student experience

The University equips students and young people with the skills and resilience needed to thrive in a changing labour market. Our **Careers and Employability** team provides access to internships, placements, and graduate opportunities, including the **Liverpool Interns programme**, which offers paid 80-hour roles with local SMEs and is accredited through the **Higher Education Achievement Report** (HEAR) (8.3, 8.6). We also widen participation and support social mobility through initiatives such as the **IntoUniversity Mentoring Scheme**, where Liverpool students mentor pupils from disadvantaged backgrounds to raise aspirations and build pathways to higher education (8.6). The **LivUni Mentors programme** connects alumni with students to provide career guidance and professional insight (8.6). Beyond formal education, the **GiveGetGo** volunteering programme, delivered with **Transform Lives Company**, supports unemployed individuals, including veterans and those facing health challenges, through skills training, placements, and guaranteed job interviews (8.6, 8.8). At programme level, courses such as the **BA (Hons) Business Management** and the **MSc in Entrepreneurship and Innovation** develop leadership, enterprise, and sustainability skills that equip graduates to lead ventures, drive inclusive economic growth, and promote decent work (8.3, 8.5).

Sustainable campus and operations

The University advances SDG 8 through inclusive employment practices, enterprise development, and regional economic impact. As a major economic anchor in the Liverpool City Region, we drive innovation and livelihoods through our **IP commercialisation** and spin-out ecosystem. In the **Enterprise report**, published in January 2025, we reported supporting 24 spin-out companies over the past six years, generating more than £23 million in IP-related income since 2018, demonstrating sustained commercialisation success and regional economic contribution (8.3)." Our commitment to fair work is demonstrated through **Living Wage Foundation** accreditation, ensuring staff receive a wage that meets the real cost of living (8.5, 8.8). In 2025, we also achieved **Fairtrade University** status, embedding ethical procurement practices across our supply chain (8.7). We continue to address the gender pay gap, prevent modern slavery, and support staff well-being through inclusive networks and recognition schemes, while maintaining our status as a **Stonewall Diversity Champion** (8.8). The **Law Clinic** further contributes to SDG 8 by supporting access to justice. In 2025, it delivered more than 490 free legal appointments, many focused on employment rights, workplace protections, and labour justice (8.8).

Case Study

Delivering economic impact and inclusive growth

In 2024, the University published the **Economic and Wider Impacts Report**, a comprehensive analysis of its role in driving economic growth, creating jobs, and supporting inclusive prosperity across the Liverpool City Region and the UK. The report directly advances SDG 8 (8.1, 8.2, 8.3, 8.5, 8.6).

Findings show that in 2022/23 the University generated an estimated £1.2 billion in economic activity and supported 15,870 jobs in the Liverpool City Region, representing over 3% of the local economy and creating 1 in every 50 jobs. Nationally, the contribution reached £2.2 billion and 26,630 jobs. The University's £675 million annual income underpins local supply chains and supports hundreds of businesses, while spending by students and staff further stimulates regional growth.

Education and workforce development are central to this impact. Graduates enjoy significant wage premiums, with an uplift of £230.8 million projected for 2024/25, supporting Target 8.6 by reducing youth unemployment and strengthening productivity. Research and innovation also generate growth: in 2022/23, the University secured £160.7

million in research awards and supported 770 jobs through intellectual property and spin-outs, aligning with Target 8.3.

The impact is also social. Nearly 4,000 students volunteer annually, contributing more than 925,000 hours to local projects that strengthen community cohesion. Partnerships with global industry leaders, such as Unilever at the **Materials Innovation Factory**, further drive innovation, job creation, and diversification of productive industries (8.2).

By combining evidence-led analysis with real-world outcomes, the report highlights our pivotal role as an anchor institution in advancing inclusive and sustainable economic growth regionally and nationally.

GOAL 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation

Research and impact

The University leads in the integration and exploitation of virtual engineering technologies such as advanced modelling and simulation. Recent pioneering **AI research** in science and law, **showcased at Parliament** in 2025, exemplifies collaboration across sectors to develop responsible and impactful AI solutions (Targets 9.2, 9.5). The **AI for Chemistry Hub** (AIChemy) accelerates sustainable materials discovery by applying AI to chemical research, supporting industrial innovation and enhancing research capacity (Target 9.5). Partnering with **Sustainable Ventures**, the University scales academic spinouts to market, supporting entrepreneurship, job creation, and economic growth (Target 9.3). We have set a new national benchmark for UK digital inclusion in 2025, **addressing infrastructure gaps and promoting equitable access to digital technology** (Target 9.1). Our analysis of UK clinical trials highlights **new pathways to accelerate medical breakthroughs** (Target 9.5), while the **Muon g-2 experiment** delivers the most precise measurement of the magnetic anomaly, showcasing world-leading research infrastructure (Target 9.5).

Education and student experience

The University offers courses that develop skills in industry, innovation, and infrastructure, including **Building Information Modelling and Digital Transformation**, which advance digital design and automation in architecture, engineering, and construction (Targets 9.4, 9.5). Students engage in real-world challenges through partnerships with centres like the **Virtual Engineering Centre**, gaining expertise in advanced modelling and sustainable engineering (Target 9.5). Programmes in environmental sciences, engineering, energy management, and the **Entrepreneurship and Innovation MSc** cultivate sustainable industrial growth and innovation

(Targets 9.3, 9.4). Entrepreneurial support includes the **Design Your Future programme** and **Enterprise Fund**, offering mentorship and funding to student ventures, supporting innovation-led economic development (Target 9.3). **Student projects utilising AI**, **digital modelling**, and sustainable materials demonstrate practical application of innovation, preparing graduates to contribute to resilient industries and infrastructure (Targets 9.2, 9.5).

Sustainable campus and operations

The University supports SDG 9 by fostering innovation, advanced infrastructure, and industry collaboration. The **Materials Innovation Factory** (MIF), a world-leading facility in Liverpool's Knowledge Quarter, underpins regional and global industrial growth through cutting-edge materials research and has attracted nearly **£100 million in investment** (9.1, 9.5). The **Digital Innovation Facility** (DIF), a £12.7 million centre co-funded by the Liverpool City Region Combined Authority, enhances digital infrastructure for AI and emerging technologies, boosting research capacity and sustainable industrial development (9.5, 9.b). Through the £14 million **Eco-I North West programme**, the University collaborates with six partner universities to support SMEs in developing low-carbon innovations, strengthening knowledge exchange and applied research across the region (9.2, 9.3). The University integrates sustainability into **infrastructure investments**. Energy-efficient laboratory upgrades, smart digital systems, and low-carbon design principles improve performance, reduce emissions, and demonstrate leadership in sustainable infrastructure (9.4). Enterprise hubs and internship pathways further support technology transfer, incubation, and innovation diffusion, reinforcing Liverpool's role in regional and national industrial resilience (9.3, 9.b).

Case Study

Pioneering low-carbon biomaterials for bone health

In 2025, the University of Liverpool began leading **GreenNanoBone**, a €8.6 million **Horizon Europe project** to create AI-optimised biomaterials derived from food waste for the treatment of medication-related osteonecrosis of the jaw (MRONJ). This debilitating condition affects thousands of cancer patients each year across the UK and EU. The initiative directly advances SDG 9 (9.1, 9.2, 9.4, 9.5).

Current MRONJ treatments are limited and often involve long-term antibiotics, increasing the risk of antimicrobial resistance. GreenNanoBone instead develops injectable and 3D-printable 4D hydrogels that support tissue regeneration, are biocompatible and antimicrobial, and are sustainably sourced from waste streams such as potato pulp.

The project brings together 18 research, clinical and industrial partners from across Europe, integrating expertise in materials science, regenerative medicine, health economics and social science. At Liverpool, researchers from the Faculties of Health and Life Sciences and Science and Engineering lead both the technical innovation and clinical application.

GreenNanoBone is expected to benefit up to 6,000 patients annually in the UK and EU, with potential application to osteoporosis and complex fractures. It also exemplifies circular economy principles by transforming food waste into

high-value medical solutions, building sustainable industry capacity and training early-career researchers.

Dr Katarzyna Gurzawska-Comis, project coordinator at the Institute of Life Course and Medical Sciences, described the initiative as a model for sustainable and socially responsible medical innovation, demonstrating Liverpool's leadership in inclusive, resilient healthcare infrastructure and sustainable industrial practice.

GOAL 10: REDUCED INEQUALITIES

Reduce inequality within and among countries

Research and impact

The **Heseltine Institute for Public Policy, Practice and Place** continues to tackle regional inequalities through interdisciplinary research on economic development, urban governance, and public policy. Its work addresses disparities in productivity, income, health, and employment across the UK, supporting debates on inclusive growth, skills development, and devolution (10.2, 10.3). Recent **research on community-led housing** revealed that Black and Minority Ethnic groups are consistently under-represented within the sector. Drawing on 26 interviews and participatory workshops, the study highlighted structural barriers in funding and planning and set out policy recommendations to support greater inclusion (10.3, 10.4). Parallel work on **racial inequalities in the NHS workforce** led to the creation of an evidence-led EDI knowledge platform in collaboration with the Workforce Race Equality Standard team. This platform is being actively used across NHS trusts to promote reform and embed equality into institutional practice (10.2, 10.3). In 2025, the University also launched the **Liverpool Institute of Child Health and Wellbeing,** a major new centre using data science, AI, and place-based healthcare innovation to address child health inequalities. This investment reflects the University's commitment to reducing systemic disparities and advancing equitable, resilient communities (10.2, 10.3).

Education and student experience

The University embeds inclusivity and equity into its teaching and student experience, directly advancing SDG 10: Reduced Inequalities. The **Liverpool Curriculum Framework** establishes inclusivity as a baseline expectation for all programmes, shaping curriculum design, teaching, and assessment to ensure equitable outcomes for students from all backgrounds (10.3, 10.4). Academic programmes integrate teaching on inequality across disciplines. The module **Sociologies of Class and Inequality** examines historical and contemporary forms of class-based exclusion, while **Social and Spatial Inequalities** equips students with tools to analyse geographically embedded disparities in income, ethnicity, and employment. These courses critically evaluate policy responses to systemic inequality and directly support Target 10.3. Beyond the classroom, widening participation initiatives such as the **Fast Trackers mentoring programme** and the **Liverpool Scholars Programme** provide targeted support for pupils from ethnic minority and disadvantaged communities, raising aspirations and enhancing access (10.2, 10.6). Complementary schemes such as **Liverpool Plus**, alongside hardship funds and debt advice, ensure financial barriers do not prevent student success. Students also contribute to inclusive practice by engaging in curriculum mapping, sustainability modules addressing systemic barriers, volunteering with the **Guild of Students**, and community-based projects designed to promote fair access to resources and opportunities (10.2, 10.3).

Sustainable campus and operations

The University of Liverpool is committed to fostering an environment that recognises and celebrates diversity, with **Equality, Diversity, and Inclusion (EDI)** embedded across all operations. The **Equality, Diversity, and Inclusion Committee** leads this work, guided by the **Equality Objectives Action Plan (2022–2028)**, which prioritises race, gender, disability, and LGBTQIA+ inclusion, using data and community feedback to ensure measurable progress. In 2024, we pledged to **eliminate degree awarding gaps by 2030**, addressing disparities linked to ethnicity, socio-economic status, and other protected characteristics. This commitment supports Target 10.3 by promoting equitable academic outcomes. Staff equality networks and Disability Coaches provide peer support and tailored assistance, while enhanced pay gap reporting now covers gender, ethnicity, disability, and sexuality. Race equality remains central through participation in the **Advance HE Race Equality Charter** (REC) and leadership initiatives such as **Diversifying Leadership**. LGBTQIA+ inclusion is advanced through initiatives like **PINKBRICK**, which examines evolving societal attitudes. Global equity is also supported through **Humanitarian Scholarships** and the **Asylum Seekers Bursary**, offering disadvantaged students from other countries the opportunity to study at Liverpool, reducing inequalities between and within nations (10.2, 10.3).

Case Study

Empowering BME communities through community housing

In 2025, the University of Liverpool contributed to a landmark national report, **Community-led housing for all: Opportunities and challenges for Black and minority ethnic community-led housing**. Co-authored by Dr Tom Moore, housing and planning expert at the University, alongside housing practitioners and colleagues from Leeds Community Homes, Pathway Housing Solutions, and Sheffield Hallam University, the report highlights the systemic under-representation of Black and minority ethnic (BME) communities in England's community-led housing sector.

Drawing on 26 interviews and participatory workshops, the research identified historic and structural barriers that limit BME groups' access to, and leadership of, community housing projects. Despite the sector's potential to empower residents and deliver affordable homes, many existing models reflect "white spaces" where BME voices are marginalised. Key challenges include inequitable access to funding, land acquisition, and leadership opportunities.

The report sets out actionable recommendations, including improved monitoring of fund allocations, increased representation of BME leaders, and policy reform to ensure equitable access to land and funding. These recommendations were supported by partners including the Nationwide Foundation, the Tudor Trust, and the Community Land Trust Network, and were launched at the University of Liverpool as part of the ESRC Festival of Social Science.

This work advances SDG 10 by promoting inclusion (10.2), reducing inequalities of outcome (10.3), and calling for fairer policy frameworks (10.4). By combining academic research with practitioner and lived experience, it provides a foundation for systemic change in housing justice, shaping policy debate and practice across the UK.

GOAL 11: SUSTAINABLE CITIES AND COMMUNITIES

Make cities and human settlements inclusive, safe, resilient and sustainable

Research and impact

The **Heseltine Institute for Public Policy, Practice and Place** unites academic expertise with policymakers and practitioners to advance sustainable and inclusive urban development. Its **Sustainable and Resilient Cities** theme promotes innovative approaches to city-building, while the **Heritage** research theme informs public policy, education, and sustainable tourism (11.3, 11.4, 11.b). In 2025, the University co-led **Clean Air Night**, in partnership with Liverpool City Council, the Royal Liverpool Philharmonic, and Alder Hey Children's Hospital. By transforming live air quality data into AI-generated music, the project engaged thousands of citizens with the realities of urban air pollution (11.6, 11.7). The **Heritage Institute**, launched in late 2024, provides a hub for safeguarding and reimagining cultural heritage, supporting regeneration and sustainable tourism (11.4, 11.7). In July 2025, the University also joined the **Liverpool Culture Network**, embedding culture in city-wide planning (11.3, 11.4). Research also delivered the **Neighbourhood Transformation Planning Tool** with Safe Regeneration, enabling community groups to redevelop local assets such as parks and housing (11.3, 11.b). Analysis of **20-Minute Neighbourhoods** in the Liverpool City Region further assessed equitable access to amenities and active travel (11.2, 11.3).

Education and student experience

Students at the University gain practical expertise in sustainable urban development and cultural heritage through coursework and applied engagement. Modules such as **Climate Resilience and Environmental Sustainability in Architecture** and **Architecture and Urban Design** explore sustainable construction practices and urban regeneration (11.3, 11.6). The **Sustainable Urban Planning MA** and **Urban Design and Planning MCD** equip students to tackle the social, economic, and environmental challenges facing modern cities (11.3). At postgraduate level, the **Global Urbanism and Heritage MSc** bridges rapid urbanisation in the Global South with heritage preservation (11.4, 11.b), while the **Beatles: Music Industry and Heritage MA** explores local cultural heritage's

impacts on tourism and identity (11.4). Students are also directly involved in shaping the city's future: architecture undergraduates **served on the jury panel and visited development sites for Liverpool's new School of Architecture**, collaborating closely with the studio team, university estates, and the local community in Granby and Toxteth regions, providing authentic, place-based learning connected to urban regeneration (11.3, 11.4). Through the **Guild of Students**, students volunteer in community projects such as urban food growing and heritage engagement at **Ness Botanic Gardens**, reinforcing a connection between academic learning and civic engagement (11.3, 11.4).

Sustainable campus and operations

As a civic university grounded in a global city, Liverpool embeds sustainability, inclusivity, and community access across its operations in support of SDG 11. Its heritage and cultural institutions, including the **Victoria Gallery & Museum**, offer free access to exhibitions, libraries, green spaces, and events that enrich civic life (11.3, 11.4). These public programmes attract around 20,000 attendees annually, while the **Lunchtime Concert series** in the Tung Auditorium provides world-class performances free of charge (11.4). The University further supports urban sustainability through **Ness Botanic Gardens**, a publicly accessible, 64-acre heritage landscape open to all under the estate's founding trust. Ness provides educational, biodiversity, and wellbeing opportunities for thousands of visitors each year (11.3, 11.7). In the built environment, all new construction and major refurbishments aim to meet BREEAM Excellent standards, guided by the **Sustainable Built Environment Investment Framework**, ensuring environmental principles are embedded from the ground up (11.6). Through **sustainable travel initiatives** like the Season Ticket Loan, Cycle to Work scheme, bike hire and maintenance services, and guided city cycling tours, staff and students are encouraged toward low carbon transport modes (11.2). The annual Travel Survey provides valuable insights into travel behaviours and modal shifts, creating the evidence base for the University's forthcoming Travel Plan, which will outline actions to reduce congestion, improve air quality, and lower emissions across the city (11.6).

Tackling flood risk with communities in Merseyside

In 2024, researchers at the University of Liverpool launched the **CONVERSE project** to tackle the growing threat of flooding across Merseyside and Cheshire, an issue expected to intensify with climate change. Thousands of homes, businesses, and communities in the region have already been affected by floods, underlining the urgent need for scalable, innovative responses.

CONVERSE adopts a pioneering, community-led approach to flood risk management that directly supports (11.5) by reducing the number of people affected and the economic losses caused by disasters. The project promotes nature-based interventions such as woodland planting and "leaky dams," adapting techniques proven elsewhere in the UK to local contexts.

A distinctive feature is its co-leadership model. For the first time under the **Natural Environment Research Council's Engaged Environmental Science** programme, community members are working alongside Liverpool engineers and social scientists from the Heseltine Institute to co-design the research. This includes collaborative monitoring strategies that blend community knowledge with conventional science.

By embedding communities in governance and decision-making, CONVERSE also advances (11.b) by encouraging inclusive and participatory approaches to sustainable urbanisation. Key partners include Faiths4Change, Mersey

Forest, the University of Leeds, and the Woodland Trust, exemplifying strong multi-sector collaboration (11.3).

As noted by Louise Heathwaite, Executive Chair of NERC, CONVERSE demonstrates how natural solutions can protect habitats while strengthening flood resilience. With transparent reporting and active engagement, the project provides a replicable framework for sustainable flood risk management that enhances the resilience of cities and communities across the Mersey region and beyond.

GOAL 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

Research and impact

The University advances SDG 12 through innovative research on circular economy models, sustainable business, and ethical supply chains (12.2, 12.5, 12.6). A central focus is rethinking linear production systems by developing strategies that extend product lifecycles through reuse, repair, recycling, and resource-sharing (12.2, 12.5). This research generates practical solutions to reduce waste and improve resource efficiency. The Management School's **Centre for Sustainable Business** leads in this area, exploring how organisations can integrate sustainability into operations, minimise unnecessary consumption, and adopt circular practices. The Centre's **Responsible Consumption and Circularity** theme examines how businesses and consumers can shift towards sustainable models that reduce reliance on finite resources and prevent unnecessary waste (12.2, 12.6). Liverpool researchers are also shaping policy and corporate practice. Work on modern slavery and supply chain reporting influenced the UK Government's updated **Modern Slavery Guidance Reform**, encouraging companies to strengthen ethical production

standards, increase transparency, and promote responsible sourcing globally (12.6).

Education and student experience

The University advances SDG 12 in education and student experience through curriculum design, engagement activities, and innovation opportunities (12.2, 12.5, 12.6, 12.8). Academic programmes embed responsible consumption principles, with modules such as **Consumer Behaviour** and **Environmental Science** (12.8). The **Sustainable Business MSc** equips graduates with the skills to integrate sustainability into corporate strategy, advancing sustainable production and consumption (12.6, 12.8). The **Guild of Students** plays a central role in promoting behavioural change, from energy-saving and recycling initiatives in student residences to recycling audits, sustainable crafting workshops, food growing projects, litter picks, and the Student Switch Off campaign (12.5, 12.6). The flagship **Leave Liverpool Tidy** campaign diverted approximately 35.9 tonnes of waste from landfill in 2024/25, raising £67,395 for the British Heart Foundation through 911 donated items from halls and 4,493 collected bags (12.5,

12.6). Student innovation is also supported through the **Maker Space**, where learners design and build products using recycled or repurposed materials. This hands-on experience fosters creativity, resource efficiency, and circular economy thinking (12.2, 12.5, 12.6).

Sustainable campus and operations

The University advances SDG 12 through sustainable procurement, waste reduction, hazardous waste management, and circular economy initiatives (12.2, 12.4, 12.5, 12.6, 12.8). The **Responsible and Sustainable Procurement Policy** embeds sustainability into purchasing, requiring a minimum 10% sustainability weighting in tenders and supplier engagement via the NETpositive Tool (12.6). Our **Waste Management Plan** sets out a hierarchy approach to prevention, reuse, recycling, and recovery, underpinned by ISO 14001 accreditation and external auditing (12.5, 12.6). Throughout 2025, we reduced general waste by 67.12 tonnes compared with the previous year and achieving a total reduction of 650.87 tonnes (48.1%) since 2021 (12.5). This was supported through the launch of **Warp It**, which has saved 14 tonnes of waste and 52 tonnes of CO_2e to date, alongside £117,095 in resource value. In addition, the Uni Green Scheme collected 1.7 tonnes of redundant laboratory
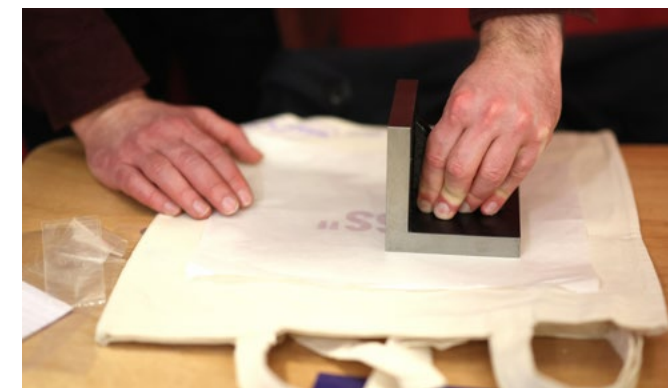
equipment for reuse and resale (12.5). The **Sustainable Food Policy** introduced food waste recycling across catering and residences, diverting more than 125 tonnes of food waste from landfill since September 2023, alongside commitments to local, seasonal, and plant-forward sourcing (12.2, 12.5, 12.6). Hazardous and electronic wastes are managed under strict compliance, with accredited contractors ensuring safe disposal and reuse wherever possible (12.4). Over 150 laboratories participate in the LEAF framework, with 99% accredited at Bronze, Silver, or Gold. (12.2, 12.6). Our **Sustainable Event Guidance** further embeds low-waste principles into campus activities, reinforcing a culture of responsible consumption (12.5, 12.6).

Case Study

Advancing sustainable bioplastics

In 2024, researchers from the University of Liverpool and the University of Georgia launched a pioneering international project to advance sustainable bioplastics through ultrasonic treatment technology, directly supporting SDG 12.

The project, **Sustainable Bioplastics Prepared by Ultrasonic Treatment with Low CO_2 Footprint**, seeks to revolutionise manufacturing by cutting carbon emissions and energy consumption compared to conventional plastics. It contributes to Target 12.4 by promoting environmentally sound management of chemical processes, and Target 12.5 by valorising waste biomass into new materials.

Funded by UKRI EPSRC (£670k) and the US NSF ($557k), the team is developing biodegradable plastics from agricultural, pulp, paper, and biofuel industry waste streams. These sustainable polymers can be applied in food packaging, textiles, and construction, supporting circular economy principles and reducing reliance on fossil-based plastics.

Building on a decade-long collaboration, the partnership unites expertise in ultrasonic cavitation and polymer

chemistry, ensuring strong foundations and global credibility. Engagement with industry partners and policymakers ensures real-world relevance and positions the research for commercial scaling.

The project is committed to transparent reporting of outcomes and environmental impacts (12.6), with planned validation of industrial up-scaling. By turning waste into value-added materials with a lower carbon footprint, the research exemplifies the University of Liverpool's leadership in sustainable innovation, contributing measurable benefits to the environment and the green economy.

GOAL 13: CLIMATE ACTION

Take urgent action to combat climate change and its impacts

Research and impact

The University advances SDG 13 through interdisciplinary research, international partnerships, and innovation addressing climate mitigation, adaptation, and resilience (13.1, 13.2, 13.3). The **Interdisciplinary Centre for Sustainability Research** (ICSR), launched in February 2025 as part of Sustainability Week, unites expertise across science, technology, and policy to deliver evidence-based strategies for tackling the climate crisis (13.2, 13.3). In January 2025, the University secured £4M from NERC to improve predictions of how the **Southern Ocean responds to climate change**, strengthening global sea-level rise modelling (13.1, 13.2). Our researchers reported **rapidly increasing surface meltwater in East Antarctica**, highlighting ice-sheet vulnerability and long-term sea-level implications (13.1). Research into **forest ecosystem responses to warming** showed that climate change drives more frequent tree reproduction at the expense of growth, with implications for long-term carbon storage and biodiversity resilience (13.2). Beyond natural systems, our researchers are leading **greener healthcare initiatives to reduce the carbon footprint of clinical practices and supply chains**, aligning with NHS net-zero ambitions and supporting health system resilience (13.2, 13.3). Through multi-million-pound funded projects, high-impact publications, and policy-relevant innovation, the University demonstrates global leadership in climate action, supporting resilience, emissions reduction, and sustainable development.

Education and student experience

The University advances SDG 13 by educating and empowering students with knowledge, practical experience, and sustainability-focused learning opportunities (13.2, 13.3). The School of Environmental Sciences delivers rigorous curricula across its degree programmes, including **Climate Science BSc**, **Environmental Science BSc**, and **Environment and Climate Change MSc**, that cover climate systems, mitigation strategies, earth systems, policy, and environmental modelling (13.3). New for 2025 is the **Sustainability in Health and Life Sciences** optional module, enabling health students to learn how climate change affects healthcare delivery and imbue clinical practices with sustainable principles (13.2, 13.3). Students further engage through the **Student Sustainability Network** and our **Living Labs programme**, where students co-create solutions for low-carbon travel and campus sustainability challenges (13.2, 13.3); and the Guild's volunteering, including the nationally recognised **Hedgehog Friendly Campus scheme** that links biodiversity with climate resilience (13.3). During **Sustainability Week 2025**, tours of the University's Energy Centre raised awareness of campus energy transitions and net zero resilience (13.3).

Sustainable campus and operations

The University advances SDG 13 through robust climate governance, infrastructure transformation, and transparent emissions management, anchored in its **Climate Plan**, aligned with the **Sustainability Strategy**, and the Liverpool 2031 net zero targets (Scope 1 & 2 by 2035; Scope 3 by 2050) (13.2). At the heart of this approach is a clear governance model that embeds sustainability as a strategic priority, ensuring accountability for Climate Plan delivery and integration into institutional frameworks (13.2, 13.3). The **Carbon Management Plan** covers energy audits, building retrofitting, campus energy optimisation, and a transition pathway for the gas-fuelled district CHP network toward clean energy alternatives (e.g., hydrogen, biomethane, green gas). In line with our **Ethical Investment Policy**, the University has implemented a fossil fuel exclusion, supporting broader climate mitigation efforts (13.2).

Case Study

Driving a just transition to low-carbon living

In February 2025, the University of Liverpool joined the launch of the **Centre for Joined Up Sustainability Transformations** (JUST), an £8 million interdisciplinary research initiative funded by the Economic and Social Research Council (ESRC) and UK Research and Innovation (UKRI) (Liverpool news). JUST aims to accelerate understanding and delivery of a just transition to a zero-carbon economy by coordinating research and action across society (13.2), (13.3).

Focusing on five regions in the North of England, West Yorkshire, West Cumbria, Merseyside, Greater Manchester, and Tyneside, JUST co-produces solutions with governments, businesses, civil society, and communities. This place-based approach ensures that climate action is integrated into regional policy while improving quality of life (13.2).

The Centre combines data science and participatory methods to map and evaluate low-carbon initiatives, generating robust evidence about what works, where, and for whom. These insights support stronger government decision-making and demonstrate how decarbonisation linked with regeneration can deliver social benefits (13.3).

Liverpool provides two key leads: Professor Peter North (Geography and Planning), who researches grassroots social and solidarity economies, and Dr Alex Nurse, Place Lead for

Liverpool, coordinating six thematic workstreams across the Liverpool City Region.

JUST's partnerships extend nationally to Citizens UK, Local Government Associations, NHS Confederation, British Chambers of Commerce, Runnymede Trust, Scottish Sustainability Network, and the Institute for Government. These collaborations ensure impact from policy influence to community engagement (13.2).

By embedding justice and inclusivity into climate action, JUST demonstrates how a just transition can deliver scalable, community-driven innovations while ensuring no communities are left behind.

GOAL 14: LIFE BELOW WATER

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Research and impact

The University advances SDG 14 through pioneering marine research, interdisciplinary collaboration, and innovative outreach, aligned with Targets 14.1, 14.2, and 14.a. The **Department of Earth, Ocean, and Ecological Sciences** investigate climate-driven oceanic changes, sustainable fisheries, and the impacts of plastic and chemical pollution on biodiversity. The **Liverpool Institute for Sustainable Coasts and Oceans,** a partnership with Liverpool John Moores University and the National Oceanography Centre, integrates natural and social sciences to study ocean–climate dynamics, ecosystem resilience, and marine policy. The University also **contributes to UArctic**, a network of 200+ institutions advancing collaborative Arctic marine research (14.a). In August 2025, Liverpool researchers led the **Postcard: Retrieving Ocean Data from the Florida Straits** expedition, recovering moorings deployed for two years to measure nutrients, carbon, and water properties in the Gulf Stream. Part of a £4 million NERC–NSF collaboration, this study enhances understanding of ocean circulation's role in regulating climate and carbon sequestration (14.2). In April 2025, an outreach project with Liverpool FC players, AXA, and the Tara Ocean Foundation **engaged schoolchildren in hands-on marine science** aboard a research vessel, raising awareness of plastic pollution and promoting marine literacy (14.a). Through research, monitoring, and partnerships, Liverpool demonstrates leadership in marine science, delivering evidence-based insights for sustainable oceans and global climate action.

Education and student experience

The University empowers students to protect marine ecosystems through education, research, and field experience, aligned with SDG 14 sub-targets (14.2, 14.a, 14.4). Undergraduates engage in hands-on modules like **Marine Ecosystems: Diversity, Processes and Threats, Contemporary Issues in Marine Sciences**, and **Climate, Atmosphere and Oceans,** all deeply rooted in marine sustainability and ecosystem stewardship. In 2025, a new funded PhD project on **repurposing decommissioned cooling-water structures into artificial reefs** launched, providing students with cutting-edge, scalable conservation research opportunities. Students benefit from strong links with the **National Oceanography Centre (Liverpool)**, a world-leading hub for coastal and sea-level science, through guest lectures and project supervision by NOC scientists, with opportunities for sea practical's/research cruises and internships that build real-world experience. During **Sustainability Week** 2025, we hosted an exclusive screening of **X Trillion**, a documentary on ocean plastic pollution and scientific exploration, followed by discussions on education's role in driving action (14.1, 14.a). The screening formed part of the week's official programme and was open to staff, students, and external partners, strengthening capacity-building and partnerships for impact (14.a). Students also access placements and collaboration opportunities with leading marine institutions, advancing skills in biodiversity conservation, pollution reduction, and sustainable fisheries (14.2, 14.4).

Sustainable campus and operations

The University advances SDG 14 through sustainable operations that reduce marine pollution, safeguard aquatic ecosystems, and promote responsible consumption, aligned with our **Sustainability Strategy** and **Biodiversity Plan** (14.1, 14.2, 14.4, 14.a). In line with (14.1), we have made significant reductions in single-use plastics by eliminating straws, bottles, and packaging across campus, helping to prevent waste from entering waterways, while expanding refill stations to save water and reduce reliance on plastic bottles. Through the **LEAF framework**, over 150 laboratories are engaged in reducing plastic, chemical, and energy use, with 95% accredited at Bronze, Silver, or Gold. We reduced general waste sent for incineration by 650.9 tonnes (48.1%) as of August 2025, significantly lowering the risk of waste entering aquatic systems. Contributing to (14.4), our **Sustainable Food Policy** excludes species most at risk, as identified in the Marine Conservation Society's Good Fish Guide, and ensures seafood is sourced only from sustainable, MSC-certified sources. Catering outlets also offer tap water and provide discounts for using keep cups, reinforcing a campus-wide culture of refill and reuse (14.1). Operational performance metrics, including progress on plastics reduction, LEAF accreditation, and waste diversion are publicly reported through our Sustainability Strategy and annual reports, ensuring transparent tracking of impact in support of SDG 14 (14.a).

Case Study

Shaping global standards for sustainable seabed activity

In March 2025, University of Liverpool researchers co-authored a Nature **study** that returned to a 1979 test site in the Clarion Clipperton Zone to understand how deep-sea ecosystems change and begin to recover over multi-decadal timescales. The team combined newly analysed historical records with a 2023 research voyage aboard RRS James Cook, using the UK's ROV ISIS to map, image and sample the seabed. The study documents persistent physical disturbance 44 years on, including an ~8-metre-wide cleared strip, and uneven biological recovery, with small mobile fauna and xenophyophores recolonising disturbed areas while large sessile animals remain scarce. These findings provide crucial evidence for sustainably managing and protecting marine ecosystems (14.2).

Liverpool scientists in the Department of Earth, Ocean and Ecological Sciences contributed to analyses of how disturbance alters seafloor food resources, noting that overall food quantity was similar inside and outside mining tracks but patchier within disturbed zones, indicating altered ecosystem processes relevant to long-term stewardship (14.2).

Importantly, areas inferred to have been affected by the 1979 sediment plume showed limited long-term physical impacts and no detectable negative effect on animal numbers in this study, refining assumptions about impact pathways (14.2).

The work was led by the National Oceanography Centre with the Natural History Museum, the University of Liverpool and partners, funded by NERC under the SMARTEX programme. Methods, cruise records and datasets are publicly accessible, strengthening scientific knowledge, research capacity and technology transfer for regulators such as the International Seabed Authority and enabling evidence-based design of protected areas and monitoring frameworks (14.a).

GOAL 15: LIFE ON LAND

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Research and impact

The University advances SDG 15 through long-term ecosystem experiments and practice-partnered research that inform conservation and land management (15.1, 15.3, 15.5, 15.9, 15.a). At **Ness Botanic Gardens**, one of Europe's largest warming mesocosm facilities, 50 experimental ponds, is being used in a multi-year programme to test heatwave and rapid-change impacts on shallow freshwater systems, ecosystem functioning, and species adaptation (15.1, 15.5, 15.a). Ness also underpins sustainable food research via aquaponics (15.1, 15.a) and strengthens conservation baselines through its nationally significant living collections and taxonomic contributions (Betula, Sorbus, Hedera) that support accurate identification and threat assessment (15.5, 15.a). A linked climate-adaptation platform of 1,952 plant-community microcosms, derived from long-term field plots, enables replicated tests of grassland responses to drought and warming (15.3, 15.5, 15.a). The **Buxton Climate Change Impacts Lab** remains the world's longest-running climate-manipulation experiment, delivering multi-decadal evidence on how UK species-rich grasslands respond to drought and warming, evidence now used to guide restoration and land-degradation policy (15.3, 15.5). Through a **NERC-funded CASE PhD with Cheshire Wildlife Trust,** we assessed the Hatchmere beaver enclosure's biodiversity, hydrology, and long-term sustainability (15.1, 15.5, 15.8, 15.9). Research capacity is further strengthened by **new investment in environmental sciences doctoral training** announced in November 2024 (first cohort October 2025) (15.9, 15.a).

Education and student experience

The University equips students to protect, restore and manage ecosystems through research-led teaching, fieldwork and co-curricular learning. At undergraduate level, modules such as **Ecology and Conservation**, **Environmental Sustainability**, and **Global Environmental Crimes and Justice** develop ecological literacy, conservation practice, and understanding of biodiversity-related governance (15.1, 15.5, 15.9). At postgraduate level, the **MSc Global Change Ecology and Evolution** builds advanced skills to analyse biodiversity responses to human pressures and to design mitigation and restoration strategies (15.5, 15.a). Students apply learning through **field classes and research projects** linked to real landscapes (15.1, 15.3). **Ness Botanic Gardens** deepens this experience via access to nationally significant living collections and applied **short courses;** students and the public can undertake RHS-recognised qualifications and workshops that build identification, horticulture and habitat-creation skills for nature recovery (15.5, 15.a). Beyond the curriculum, the Guild of Students' gardening (urban food growing, permaculture, microgreens) and **campus biodiversity initiatives** provide regular, hands on opportunities to support nature on campus and in the community (15.1, 15.5). Together these opportunities develop graduates who can conserve biodiversity, tackle land degradation and integrate nature into decision-making, advancing (15.1), (15.3), (15.5), (15.9) and (15.a).

Sustainable campus and operations

The University enhances biodiversity across a diverse estate, urban campus, landscaped grounds, grasslands and a botanic garden, through policy, place-making and nature-positive maintenance (15.1, 15.3, 15.5, 15.9). In February 2025, we published our first **Biodiversity Plan**, setting out principles, commitments and actions to address biodiversity loss and the ecological crisis. To support this, we completed a comprehensive survey and mapping exercise of habitats across the University using the UK Habitat methodology, the only approach compatible with Biodiversity Net Gain requirements. This evidence base will guide future action, targeting biodiversity gains in major capital developments and informing estates regimes to protect and enhance identified priority habitats (15.1, 15.5, 15.9, 15.a). Delivery is overseen by Property & Campus Services within our **ISO 14001:2015 environmental management system**, embedding biodiversity into maintenance, new builds and refurbishments, from habitat creation and tree planting to biomass reuse and accessible green spaces (15.1, 15.3, 15.9). In August 2025 we opened the **ADHD Foundation Garden**, creating an inclusive space that strengthens nature connection (15.1, 15.5, 15.9). We also took part in No Mow May and continued relaxed mowing across grasslands to boost wildflower forage and pollinators. The University is a Gold-accredited **Hedgehog Friendly Campus**, and at **Ness Botanic Gardens**, conservation-led collections support species monitoring, engagement and collaboration (15.1, 15.5, 15.a).

Mapping river mobility for nature-positive planning

In April 2025, University of Liverpool researchers co-authored a **study** published in Nature Communications that used more than 10,000 satellite images and Google Earth Engine to quantify how rivers shift their position over time. The team developed "locational probabilities", a way to map how often a river occupies each location, across 10 catchments in the Philippines covering approximately 600 km² and spanning 1988-2019. The approach delivers a clear, updateable footprint of river movement for planners and conservationists, directly supporting ecosystem protection and restoration and the integration of nature evidence into land-use decisions (15.1, 15.9).

Liverpool scientists in the **Department of Geography and Planning** emphasised a whole-river view, analysing not just water, but the entire active width including unvegetated alluvial areas, revealing reach-specific hotspots of mobility and the absence of simple correlations with local factors such as channel width or confinement. This shows why place-specific, nature-positive management is essential in dynamic river landscapes (15.1, 15.9).

The project was funded by the UK Natural Environment Research Council (NERC) and the Philippine Department of Science and Technology PCIEERD, with partners from the University of Glasgow, Brunel University London, the University of Auckland, and the University of the Philippines Diliman. Open datasets and example code are publicly archived in the NERC Environmental Information Data Centre, strengthening scientific knowledge, research capacity and technology transfer for river-hazard mitigation and ecosystem conservation (15.a).

GOAL 16: PEACE, JUSTICE AND STRONG INSTITUTIONS

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Research and impact

The **Liverpool Law School** is committed to advancing SDG 16 through research that promotes social justice, strengthens institutions, and drives global policy reform. In 2025, the University hosted the first **global workshop of the National Human Rights Action Planning** (NHRAP) Network (16.6, 16.7), bringing together experts from over 35 countries, including the UN OHCHR and Council of Europe, to develop international guidelines for rights-based institutional frameworks. The Law School launched the **Centre for People's Justice**, a £5.8 million UKRI–AHRC-funded programme (16.5, 16.6) with partners such as Citizens Advice and The Big Issue, pioneering community-led law reform and citizen participation. Further international leadership was shown through the **Summer School on the Effectiveness of the Council of Europe** (16.6), which examined enforcement of European Court of Human Rights judgments and migration governance. In 2025, Liverpool researchers also contributed to revised **UK Government guidance on Modern Slavery Act reporting** (Section 54), strengthening corporate transparency (16.6). The **Access to Justice in Liverpool project** continues to improve local pathways to justice. Collectively, these initiatives demonstrate Liverpool's global leadership in shaping peaceful, just, and accountable societies.

Education and student experience

The University builds future leaders in peace, justice, and strong institutions through innovative programmes and experiential learning opportunities. The Liverpool Law Clinic (16.3) **delivered 490 legal appointments in 2024–25**, supporting more than 380 clients in areas including immigration, special educational needs, family, and housing law, while enabling 436 students to gain real-world legal experience under expert supervision. Students engage with critical issues through modules such as **International Human Rights Law** (16.6, 16.10), which explores business and human rights, conflict, and development. Postgraduate students can specialise further through options in **Transitional Justice** and **International Peace and Security** (16.a, 16.7). Similarly, the **Law, International Business and Society** module (16.6) examines corporate accountability, inclusive trade, and governance in a globalised context. Beyond formal study, students develop ethical leadership through **student-led initiatives** such as Model UN, guest lectures from international practitioners, and clinical projects including SEN appeals, which have influenced local school policy.

Sustainable campus and operations

The University is committed to SDG 16 by embedding ethical governance, inclusivity, and accountability into all operations.

Inclusive governance (16.7) is ensured through **Council, Senate**, and the **Senior Leadership Team,** with student, staff, and **Guild of Students** representation shaping decisions at the highest level. The Guild remains one of the UK's best-funded student unions, amplifying student voices locally and nationally. Ethical investment and accountability (16.6) are advanced through the **Ethical Investment Policy** aligned with the UN Principles for Responsible Investment and the UN Global Compact, with a student representative on the Investments Sub-Committee. The University is a Living Wage employer and **Fairtrade University** and excludes fossil fuel and arms companies from its investment portfolio. Integrity and freedom (SDG 16.10) are protected by robust policies on freedom of speech, whistleblowing, anti-bribery, and corruption, alongside the **Report + Support** tool and commitment to the **Can't Buy My Silence pledge**, ensuring transparency in handling misconduct. Research integrity (SDG 16.6) is overseen by the **Research Integrity and Governance Committee**, while the CFO-chaired **Sustainability Committee** drives integration of ethical and accountable practices under the **Sustainability Strategy.**

Case Study

Improving lives through law: The Centre for People's Justice

April 2025, the University of Liverpool **launched the Centre for People's Justice**, a £5.8 million interdisciplinary initiative funded primarily by a £4.1 million UKRI–AHRC grant, the largest ever awarded to a UK Law School. The Centre promotes fairer, safer, and more inclusive societies by bridging the gap between law, policy, and the lived experiences of diverse communities (16.3), (16.6), (16.7), (16.b).

The Centre unites 45 partners spanning community groups, legal bodies, government departments, cultural organisations, businesses, and universities including Glasgow, Sheffield, Swansea, Wrexham, Ulster, and the Institute of Advanced Legal Studies London. High-profile collaborators such as The Big Issue, Citizens Advice, National Museums Liverpool, and The Royal Shakespeare Company reinforce its multi-sectoral impact (16.6).

A grassroots, co-production model ensures communities shape research priorities on urgent issues such as food insecurity, precarious work, violence prevention, and children's rights (16.7). One flagship initiative, the Brown Envelope Project, addresses the anxiety caused by official correspondence on benefits and bills. In partnership with Citizens Advice, the Department for Work and Pensions, and Cadent Gas, the project develops clearer communication tools to improve engagement and reduce distress, benefiting thousands of people facing financial and literacy barriers (16.b).

The Centre also enhances existing legal clinics across partner universities, expanding free advice on housing, immigration, disability rights, and sexual violence. This strengthens access to justice for vulnerable groups while providing essential training for future justice practitioners (16.3).

Through transparent reporting, wide stakeholder engagement, and scalable innovations, the Centre for People's Justice exemplifies how universities can drive systemic reform, influence national policy, and improve everyday lives.

GOAL 17: PARTNERSHIP FOR THE GOALS

Strengthen the means of implementation and revitalize the global partnership for sustainable development

Research and impact

The University advances SDG 17 by driving global partnerships that generate research excellence, policy impact, and capacity building. In 2025, new strategic agreements were signed with **McMaster University (Canada)**, the **Indian Institute of Technology Palakkad**, and **three institutions in Shanghai**, alongside long-standing collaborations with the **University of Georgia** and **Sumy State University** (Ukraine). These partnerships expand joint research, student mobility, and staff exchange (17.6, 17.9). Liverpool also announced its first **international campus in Bengaluru, India**, opening in 2026, which will welcome undergraduate and postgraduate cohorts into a global learning environment. Cross-sector collaborations translate research into impact. Partnerships with **Roche Diagnostics UK & Ireland**, the **Manufacturing Technology Centre**, and **Northern Gritstone** (17.16, 17.17) support health innovation, advanced manufacturing, and investment in research-driven spinouts. The **Liverpool Institute of Child Health and Wellbeing**, launched with Alder Hey Children's NHS Foundation Trust, integrates academic and clinical expertise to address health inequalities. Global research programmes such as **CLEAN-Air(Africa)**, which informs clean energy policy across multiple African states, and **Climate Futures**, which advises governments and industry on climate adaptation, further reinforce Liverpool's role as a world leader in building partnerships for the SDGs.

Sustainable campus and operations

The University embeds SDG 17 into its operational and civic practices through strategic, multi-stakeholder partnerships at regional, national, and global levels. Through these partnerships, Liverpool actively contributes to building a greener, healthier, and fairer society, aligning institutional operations with the delivery of the UN Sustainable Development Goals. Nationally, the University collaborates with **Sizewell C nuclear power station**, contributing to delivering low-carbon electricity for around six million homes, and with the **Manufacturing Technology Centre** to accelerate UK-wide innovation in sustainable technologies (17.16, 17.17). As a civic anchor, Liverpool plays a central role in **Knowledge Quarter Liverpool**, working with 40+ civic and industry partners to drive innovation, reduce economic inequalities, and foster inclusive growth (SDG 17.16). Demonstrating institutional leadership in global collaboration, Liverpool is also a founding partner in an **£8 million research centre on equitable low-carbon living**, which unites universities, industry, and government to enable just transitions in energy and urban systems (17.17). Liverpool's global accountability is reinforced through its role as a signatory to the SDG Accord, aligning the University with international sustainability frameworks and ensuring transparent reporting, such as the publication of the annual **SDG Report** (17.16, 17.18).

Education and student experience

The University equips students to become global change-makers through education and experiential learning that directly supports SDG 17. Modules such as **Business Ethics, Responsible Business and Sustainability** explore how multinational corporations engage with environmental, social, and governance (ESG) issues, preparing students to build responsible partnerships across sectors (17.16, 17.17). The **Global Public Health Pathway** within the MPH programme develops interdisciplinary skills for tackling health inequalities and advancing international collaborations (17.9, 17.17). In 2025, over 150 students joined the **Cross-Border Enterprise Challenge**, co-developing entrepreneurial solutions with universities in India and Africa to address clean energy and equitable healthcare (17.16, 17.17). **Enactus Liverpool** engages students with a global network of over 4,000 youth across UK and Ireland universities, contributing to projects that positively impact more than 15,000 people annually, showcasing the potential of student-led collaboration to mobilise social innovation (17.17). Our **Living Lab programme** further enables students to co-create sustainability solutions in partnership with staff and external stakeholders, and we are proud to be the only UK signatories of the **Joint Declaration on Embracing a Living Lab Approach to Carbon Neutrality** (17.17). The **Guild of Students** strengthens civic engagement through partnerships with local charities across Merseyside, enabling thousands of students to volunteer and lead community-impact projects (17.16, 17.17).

Case Study

Building UK–Ukraine academic resilience

In May 2025, the University's partnership with Sumy State University was featured at the launch of **Pillar 8: Science, Technology, and Innovation** of the UK-Ukraine 100-Year Partnership, hosted at the British Academy and attended by UK Minister for Science Patrick Vallance and Ukraine's Minister of Education and Science Oksen Lisovyi. The event showcased Liverpool's twinning programme as a model of sustained international cooperation (17.6, 17.9, 17.16).

Established in 2022, the Liverpool-Sumy partnership has enabled nearly 300 Ukrainian students and staff to continue their education and research through academic exchanges, dual supervision, mentoring schemes, and resource-sharing. At the UK-Ukraine Science and Innovation Showcase, three Ukrainian PhD students co-supervised by Liverpool presented research on renewable energy, dietary transitions, and media regulation in wartime, embedding academic rigour in urgent national priorities.

The partnership extends beyond teaching: Liverpool academics support the UK–Ukraine Academic Mentoring Scheme, contribute to the LinkUA framework for researcher development, and collaborate with policy partners to deliver innovation under extreme constraints. Alumni-led charity Casus Pax, with support from the Micro:bit Educational Foundation, has also facilitated donations of equipment to Sumy.

In May 2024, Liverpool hosted the UK-Ukraine Twinning Conference, bringing together over 200 researchers, students, policymakers, and funders to co-produce recommendations for Ukraine's research system.

By bringing together measurable outcomes, capacity-building, and public visibility, the Liverpool-Sumy partnership demonstrates how universities can support the resilience of global research ecosystems through sustained cooperation.

FIND OUT MORE

Further examples of how the University of Liverpool is supporting the SDGs can be found on our **website**.

You can follow our progress on any of our social media channels:

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Or speak to a member of the Sustainability Team by emailing: **sustainability@liverpool.ac.uk**