LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Energy and Carbon Management Plan

2025

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Foreword

A message from the Director

Since the launch of our Energy and Carbon Management Plan (ECMP) in 2020, the devastating impacts of climate change have intensifed across the globe, leading to ever more pressing public health challenges. We must redouble our efforts to achieve Net Zero as early as possible.

This milestone review of our EMCP has enabled us to review progress made thus far, and to put in place new initiatives that will help us achieve deep emission reductions.

In the past six years, improvements to our estate have reduced energy-related emissions by 40%. Similarly, we have reduced our work-travel emissions by 44%, through concerted efforts from colleagues across our School. The review highlighted the success of the Sustainable Climate Impact Fund and how its work complements our Net Zero aspirations. Nonetheless, the review also emphasises the challenges we face in reducing our supply chain emissions, which remain high, and sets out actions and procedures that enable us to progress quicker to achieve our Net Zero goal.

Climate change and its impact on human health is the defining issue of our time. An enduring commitment to environmental sustainability is at the core of our mission at LSHTM; a commitment which can only be met through collective effort. A huge thanks to everyone at LSHTM for your contributions to the progress we have made thus far. The continued support and enthusiasm of our community of staff and students is essential for the journey ahead.

Professor Liam Smeeth
Director, London School of Hygiene & Tropical Medicine

Foreword

A message from the SAC Travel sub-group

At LSHTM, environmental sustainability is embedded within our commitment to global health. As academics, it's clear that our research, teaching, and operations intersect with the urgent need to reduce carbon emissions.

This ECMP reflects how far we've come – especially in travel-related emissions, thanks to countless individual choices – and how far we still have to go. It's been inspiring to witness collaboration across the School: from the Sustainable Air Travel Community of Practice and the Sustainability Team to departments and new projects embedding sustainability from the outset.

The development of this plan has been shaped by the LSHTM community, whose engagement and feedback have been invaluable. Looking ahead, we need to maintain momentum on reducing air travel. Over the next few years, we also need to give more attention to our supply chains – our biggest remaining challenge in terms of carbon emissions.

We all have a role to play, and the initiatives outlined in this report offer a clear way forward. Together, we can drive meaningful change aspiring to be among the leaders in global health and sustainability.

Professor Dave Leon and **Professor Joanna Schellenberg**
Sustainability Action Committee (SAC) Travel sub-group

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Introduction

The London School of Hygiene & Tropical Medicine (LSHTM) reaffirms our commitment to achieving Net Zero by 2030. This 2025 milestone review marks a critical point in our journey, allowing us to reflect on the progress made since the publication of our original Energy and Carbon Management Plan (ECMP) in 2019 and to set a clear course for the next five years.

Over this period, we have taken significant steps forward, including the establishment of the Sustainable Climate Impact Fund (SCIF), the achievement of a BREEAM 'Excellent' rating for our Tavistock Place 2 development, and the integration of sustainability into our policies and staff and student engagement. This progress has taken place within a complex broader context, shaped by the COVID-19 pandemic, accelerating climate impacts, technological advancements and the evolution of Net Zero standards.

Introduction

Context to the milestone review

LSHTM is one of the world's leading public health universities. Sustainability is at the centre of our vision for a more healthy, sustainable and equitable world for everyone. Recognising our own impact on the environment, we have committed to a 2030 Net Zero target.

In 2019, we published an Energy and Carbon Management Plan (ECMP) to set LSHTM on course for Net Zero. Integrated into the Plan was a milestone review in 2025 to assess progress and provide an updated ECMP from 2025 to 2030. Now at the halfway point to our 2030 target, this milestone review aims to:

Reaffirm our commitment to sustainability at LSHTM.

Evaluate our progress to date to celebrate our successes and identify development areas.

Consolidate further action to deliver against our sustainability targets.

Introduction

Alignment with our values

Sustainability is central to our mission to improve health and health equity in the UK and worldwide. LSHTM's values continue to shape our approach to a Net Zero LSHTM and the development of this ECMP.

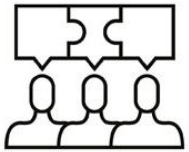
Robust health research should also be driven by sustainability, as climate change and planetary health are integral to global health concerns and outcomes. Projects are increasingly tracking carbon emissions and working to reduce them.

Act with integrity

Embrace difference

Transitions often come with diverse opinions, and climate action is no exception. We acknowledge this and remain committed to offering engagement opportunities for interested parties to share their views and contribute to LSHTM's approach to Net Zero.

We do not operate in isolation; our activities are intertwined with other research partners, funding bodies, and the wider public and private sectors. Net Zero cannot happen without a collaborative mindset and joint up action. This perspective has guided the development of the ECMP.



Work together

Create impact

We look for ways to leverage our capabilities to maximise the impact we can have. For example, to navigate a complicated and opaque offsetting market, we established the SCIF to ensure that our offsetting efforts are robust and aligned with LSHTM's broader mission

Introduction

Context to the milestone review

Since the last ECMP, we have made concerted efforts to improve our environmental reporting and reduce environmental impacts across our operations. These efforts include, but are not limited to:

Scope 1 and 2 mitigation works. The Tavistock Place 2 development achieved an 'Excellent' BREEAM rating, and we successfully applied for funding through the Public Sector Decarbonisation Scheme to improve the energy efficiency of our Keppel Street sites and prepare us for future decarbonisation projects through grid reinforcements.

Engaging and educating students and staff. LSHTM runs a comprehensive programme of sustainability engagement initiatives to improve understanding of sustainability across the organisation. The planned introduction of sustainability inductions and carbon literacy training for staff will further strengthen organisational ownership of the sustainability programme.

Setting up the Sustainable Climate Impact Fund. LSHTM set up a social enterprise subsidiary, built around LSHTM's values, the SCIF. This generates carbon credits for use by LSHTM and other organisations to offset residual and unavoidable emissions.

Integrating sustainability into our policies and ways of working. Alongside our updated travel policy, which makes sustainability a central component of work travel decision making, we have integrated sustainability into our procurement policy and waste management policy, as well as creating a new socially responsible investment policy.

Improving data sources and monitoring. A data platform is now used to regularly monitor LSHTM's Scope 1 and 2 emissions, and we are looking to track Scope 3 emissions in the same way. Data coverage of LSHTM's work-related travel has increased from ~65% to ~95%, improving the completeness and accuracy of our emissions reporting.

Introduction

What's happened since our last ECMP

While we have made changes, the world around us has also evolved. We must continue to take an agile approach to ensure we can maximise the benefits and adapt to the challenges posed by a changing environment.

The pandemic has impacted our ways of working. COVID-19 affected all our lives and continues to shape our daily routines and how we work and travel in ways that we could not have foreseen.

The impacts of climate change continue to impact our planet. Global temperatures are rising, accompanied by further damage to our ecosystems, infrastructure, and human lives. This has contributed to growing public awareness and increasing demand for transparency and accountability from organisations.

Technological advancements. The continued development of renewable technologies and emergence of new technologies, such as artificial intelligence, shapes our capabilities and ways of working, offering opportunities for efficiency and innovation. At the same time, these advancements bring their own environmental challenges, such as increased electricity consumption and water usage, and must be effectively managed.

Polarisation of Net Zero. There have been growing disagreements over the methods and pace of achieving Net Zero. It's become more challenging to reach consensus on the fairness and feasibility of specific policies and targets.

Development of standards and best practice. Guidance related to organisational climate action has continued to evolve: in October 2021, the Science Based Targets initiative (SBTi) consolidated the definition of Net Zero as a 90% reduction in emissions with residual emissions counter-balanced with permanent carbon removal. The International Standards Organisation (ISO) has released a new carbon neutrality standard (ISO 14068) promoting a more robust carbon offsetting process to prevent the greenwashing accusations that beset the previous PAS 2060 standard.

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Our carbon footprint

Our carbon footprint provides a tangible measure of our progress. From a baseline of 23,944 tCO_2e in 2018/19, we have reduced our emissions to 19,906 tCO_2e in 2023/24, a **16.9% decrease**. This has been driven by a 40.4% reduction in emissions from our estates, following refurbishment works at Tavistock Place 2 and energy efficiency works at Keppel Street. There has also been a 44% reduction in work-related travel emissions.

Supply chain emissions make up 69% of our overall footprint and we have seen a 3.7% increase in supply chain emissions since 2018/19, largely due to capital works and changes in national benchmarks. Improving our supply chain emissions data and engaging with suppliers is key to reducing emissions from our largest emission source.

Our carbon footprint

Baseline

We track our decarbonisation progress against a 2018/19 baseline year. We work to continually improve our data availability and quality so we can better report and manage our emissions. Consequently, we have updated the previously reported figures for our baseline year. Exclusions from our emissions boundary are in Annex A.

Our 2018/19 baseline carbon footprint is:

23,944 tCO_2e

To help us understand and communicate our carbon footprint, we can break it down in two ways:

Greenhouse gas (GHG) protocol: the standardised and internationally recognised framework for emissions accounting and a recognisable method of reporting emissions to external stakeholders.

LSHTM focus areas: internally defined emission categories that are identifiable to our staff and students and show how emissions interact with our ways of operating.

Rebaselining is a common activity that organisations undertake to ensure that footprints are consistent and comparable from one year to the next. A survey conducted by the Science Based Targets Initiative (February 2023) found that 70% of organisations had performed a rebaselining exercise in the preceding five years[1].

The need to rebaseline was pre-empted in our previous ECMP due to challenges in data availability and quality. Further iterations may be required going forward as data improvements continue to be made. We will formally publish a change in our baseline if organisational changes prompt a 5% or greater change to our overall emissions inventory. The Sustainability Team is responsible for monitoring and reporting our carbon footprint.

[1] Science Based Targets Initiative, Catalysing value chain decarbonisation – corporate survey results, February 2023

Our carbon footprint

Updated baseline

Below: Specific changes to our baseline and their impact on our previously reported figures. Figures are rounded to the nearest whole number.

Emission category	tCO_2e	Previously reported tCO_2e	+/-	Comments
Natural gas	192	192	0	-
Electricity (location-based)	1,580	1,684	-104	Negligible change due to metering corrections
District heating	545	558	-13	Negligible change due to metering corrections
Purchased goods and services	13,104	2,500	+10,604	Methodological change; previously reported figure was an estimation.
Fuel- and energy-related activities	509	0	+509	Not previously quantified
Waste	6	6	0	-
Water	29	33	-4	-
Business travel	7,981	8,753	-772	Additional analysis of KeyTravel and iTravel datasets performed since the previous estimation
TOTAL	**23,944**	**13,726**	**10,218**	

Our carbon footprint

Communicating our footprint

Greenhouse gas (GHG) protocol: the standardised and internationally recognised framework for emissions accounting and a recognisable method of reporting emissions to external stakeholders.

Scope 1

Direct emissions from sources under our control. For example, when we burn natural gas in our heating systems.

Scope 2

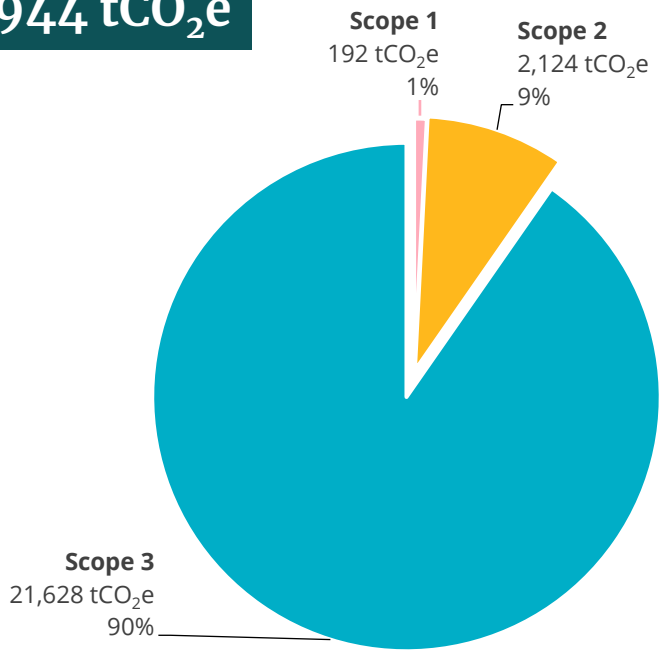
Emissions associated with our consumption of energy, but where the ultimate emission source is outside of our control (indirect emissions). For example, our consumption of electricity or heat from a shared network.

Scope 3

All other indirect emissions that originate outside of our control but arise because of our activities. For example, the embodied carbon of the goods and services we buy, or transport-related activities in vehicles not controlled by LSHTM.

Our baseline carbon footprint (2018/19) is:

23,944 tCO_2e



Our carbon footprint

Communicating our footprint

LSHTM focus areas: internally defined emission categories that are compliant with the GHG protocol but also identifiable to our staff and students and show how emissions interact with our ways of operating.

Estate and labs

Onsite emissions from our London campus. This includes our energy consumption, water use and disposal of waste.

Work-related travel

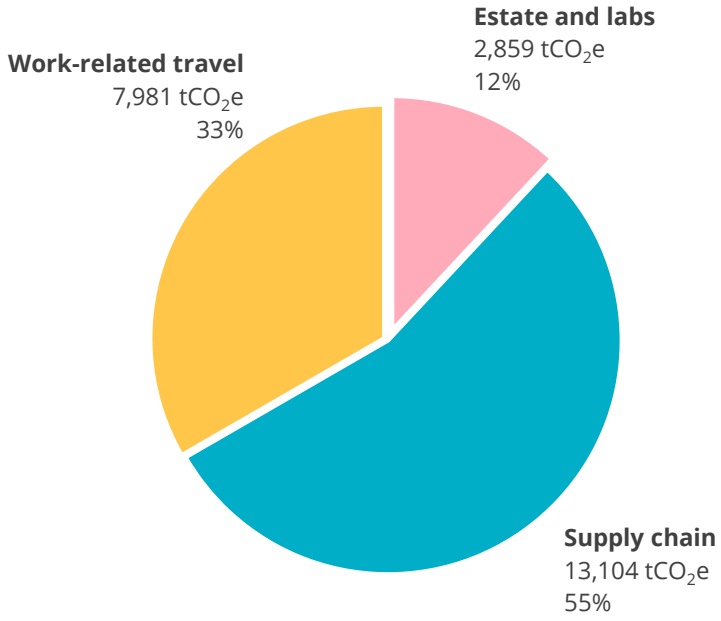
Travel emissions associated with LSHTM work trips, including those undertaken within research projects.

Supply chain

Emissions associated with the goods and services we purchase through central funds to facilitate our work. This includes IT equipment and construction services (e.g., associated with our capital works programme of Keppel Street and Tavistock Place).

Our baseline carbon footprint (2018/19) is:

23,944 tCO_2e



Our carbon footprint

Emissions since our baseline

Since our last ECMP, we have made concerted efforts to better understand and reduce LSHTM's environmental impact. These include:

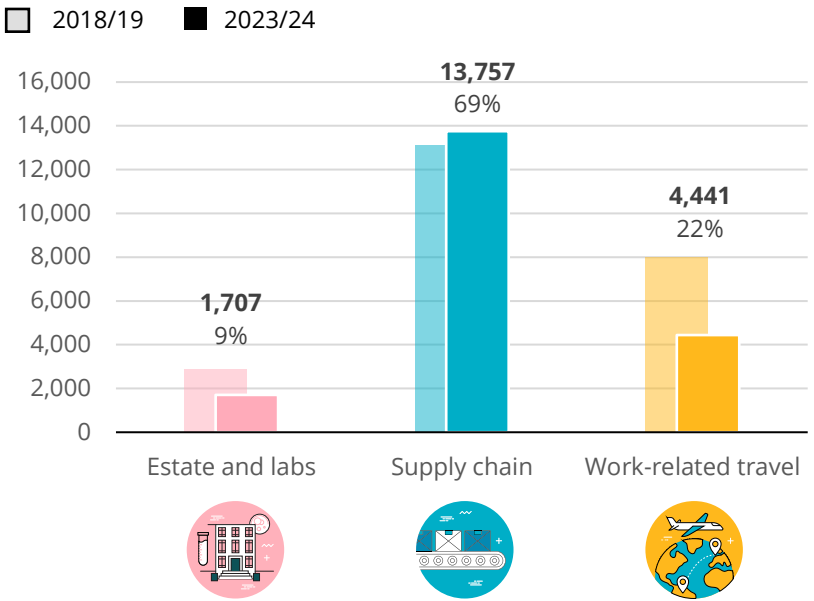
- Disconnecting from Bloomsbury's district heat network following a review of the network's carbon intensity.
- Updating our travel policy, making sustainability a central component of work-related travel decision making.
- An updated procurement policy, integrating sustainability considerations throughout the procurement cycle.

We have also made decisions that haven't immediately reduced our footprint but will facilitate changes into the future. These include the development of Tavistock Place[1] and the reinforcement of the Keppel Street electrical substation to facilitate further electrification projects.

[1] Emissions associated with the construction of Tavistock Place are included in supply chain emissions.

Our 2023/24 carbon footprint was:

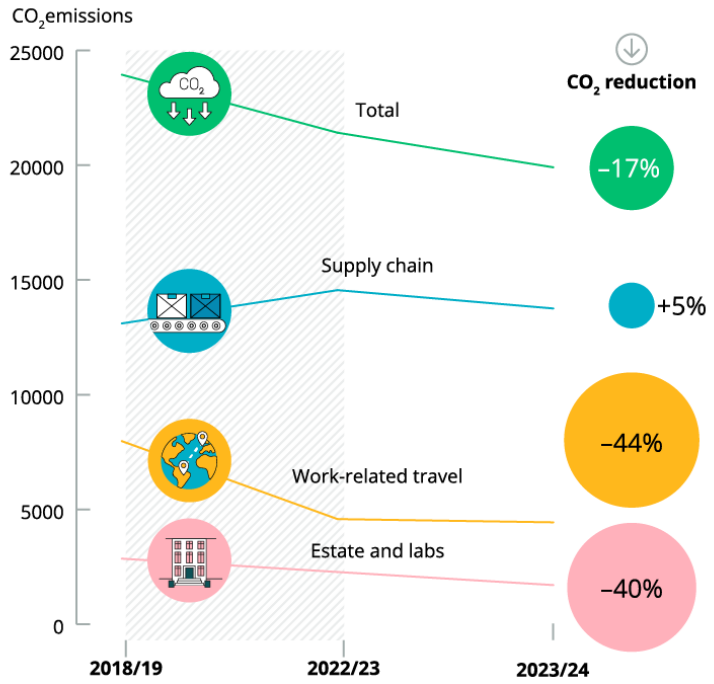
19,906 tCO_2e



Our carbon footprint

Emissions since our baseline

LSHTM emissions tCO_2e
% change relative to baseline



Our reported footprint has decreased by 16.9% since 2018/19. Our largest emission reductions have been realised in work-related travel, which fell by 44% between 2018/19 and 2023/24.

Our supply chain emissions have increased by 5%. A portion of this can be expected with an increase in capital works across our estate, but it is also a reflection of an increase in national benchmarks ($kgCO_2e$ for each pound spent) in some of our high-spend categories.

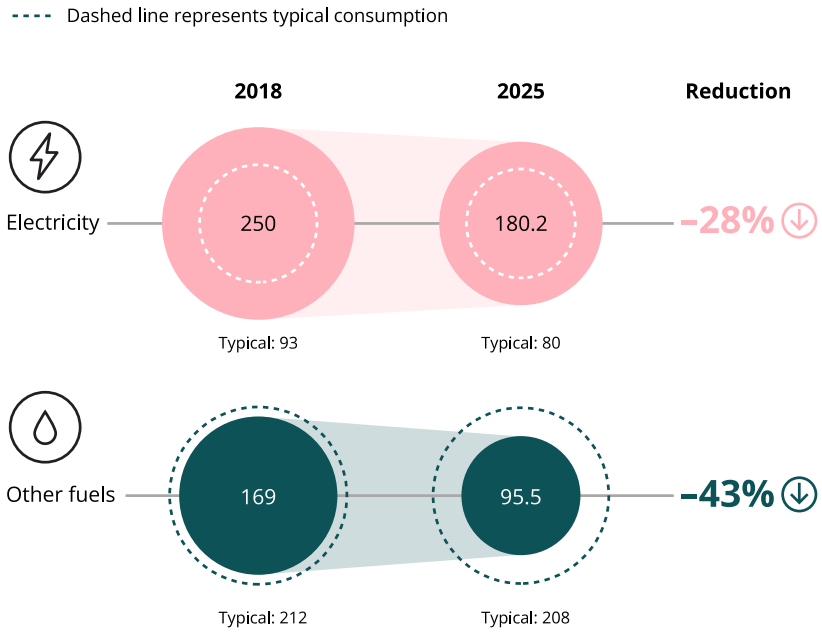
Emission reductions across our estates (40.4% between 2018/19 and 2023/24) are reflective of the improvements we have made in some of our key buildings. This includes the modernisation works at Keppel Street, which have contributed to reducing our overall energy consumption at the site by almost a third.

Annex B contains a summary of annual emissions reporting by LSHTM focus areas and GHG Protocol scopes.

Our carbon footprint

Estates and labs

Keppel Street energy consumption (kWh/m²/year)



Data extracted from Display Energy Certificates. Typical consumption references the national average for buildings of similar use-types.

The implementation of energy efficiency measures at Keppel Street, such as LED rollout and building fabric improvements, has materially reduced the energy required to maintain comfortable and functional spaces. Our consumption patterns are a function of our work, which can be energy intensive, particularly in labs. Continuing to implement energy efficiency measures is crucial for lowering overall energy consumption, minimising both operational costs and environmental impacts.

In addition to reducing our energy consumption, it is essential to meet our energy needs through low-carbon generation sources. This transition will primarily involve shifting from fossil fuels, such as natural gas, to low carbon electricity. By switching our demand to electricity, we can support the adoption of energy efficient appliances like heat pumps and benefit from the emission reductions occurring in the UK's power system. The UK Government has a national target to deliver Clean Power by 2030 which, if met, will ensure that our electrical demand will be aligned to our Net Zero ambitions.

Our carbon footprint

Work-related travel

In 2023/24, LSHTM staff and students travelled 19,153,088 km for work. 99% of this distance was via flights, amounting to 6,838 km flown per full time staff or student per year.

Work-related travel remains an important part of our mission. In-person engagement is often essential for conducting field research, building partnerships, managing complex projects, and participating in global events that keep LSHTM at the forefront of innovation and knowledge exchange.

Given our international focus and the global nature of our work, travel often involves long-haul flights, a carbon-intensive form of transportation. While such travel can be necessary, it presents a significant challenge to our Net Zero ambitions.

Our collective response to COVID-19 has demonstrated that a reduction in work-related travel is possible. Reducing our flight mileage and the carbon intensity of our flying, without compromising on research and professional development opportunities, will remain a key focus for LSHTM.

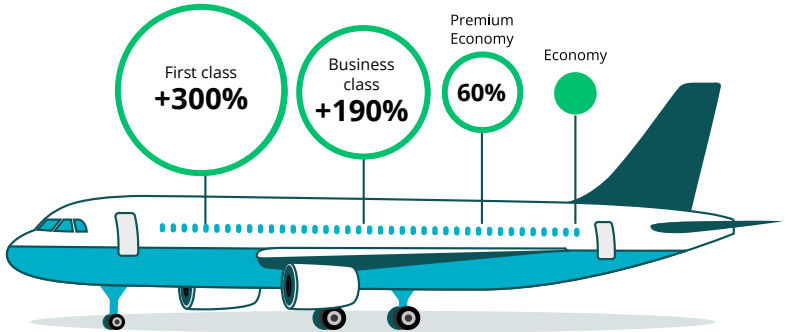
Flight haulage, 2023/24 (km)

Our carbon footprint

Work-related travel

In 2023/24, business travel flights made up 10% of total mileage but 22% of emissions. The emissions intensity of air travel varies significantly by travel class. Business and first-class seats, for example, occupy more space and resources per passenger compared to economy class, leading to higher carbon emissions.

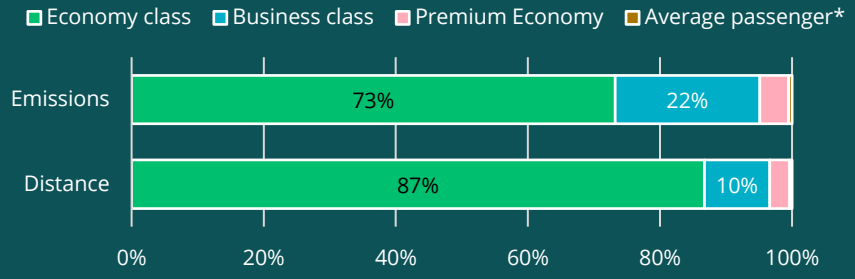
Emissions intensity of flight class, relative to economy:



Higher class travel can be justified in some situations, such as when it is medically necessary. However, balancing this with environmental responsibilities will be necessary to achieve our Net Zero targets. Viewing economy class as the default choice is a necessary step towards our sustainability targets.

We need to enhance transparency in reporting and actively engage staff to uphold our commitment to sustainable travel practices uniformly across LSHTM.

LSHTM air travel 2023/24



*Average passenger is applied to a flight where the class of the flight is unknown. The emission factor provides an average emission intensity. Average passenger flights made up <1% of total mileage for work-related travel in 2023/24.

Our carbon footprint

Supply chain

Our supply chain emissions are associated with the goods and services LSHTM purchases. Like many organisations, we currently estimate our supply chain emissions using spend-based proxies. These proxies assign an emissions intensity ($kgCO_2e$ per pound (£) spent) for different sectors within the economy. We multiply our spend in each sector by the relevant proxy to estimate emissions.

The method is a quick and necessary first step to identify emission hotspots in our supply chain. However, these proxies have numerous limitations that mean efforts we make to procure more sustainably will not be represented in our emissions reporting.

Because of the limitations, this approach is unsuitable long-term and will need to evolve. This will require data sharing along our supply chain, and several initiatives identified in this EMCP are aimed at improving data sharing from our suppliers. As well as increasing accuracy, improvements in reporting practices will help us identify and implement emission reduction measures.

Limitations of spend-based emissions reporting:

- **The emission factors assume that all our suppliers are providing the 'average' product or service for their given sector.** Spend-based emission factors assume averaged activity across the sector, and the reported emissions would be the same whether our suppliers use 100% fossil fuel power or 100% renewable power.
- **The emission factors are calculated at a national level**, meaning that sector-wide shifts are required for a reduction to be observed. Proactive efforts that we make to procure with sustainable suppliers will be poorly represented.
- **Our calculated emissions are inherently linked to our financial spend**. This can lead to perverse reporting outcomes if, for example, we include green premiums in contracts to encourage sustainable behaviour and their impact isn't reflected in emission factors.

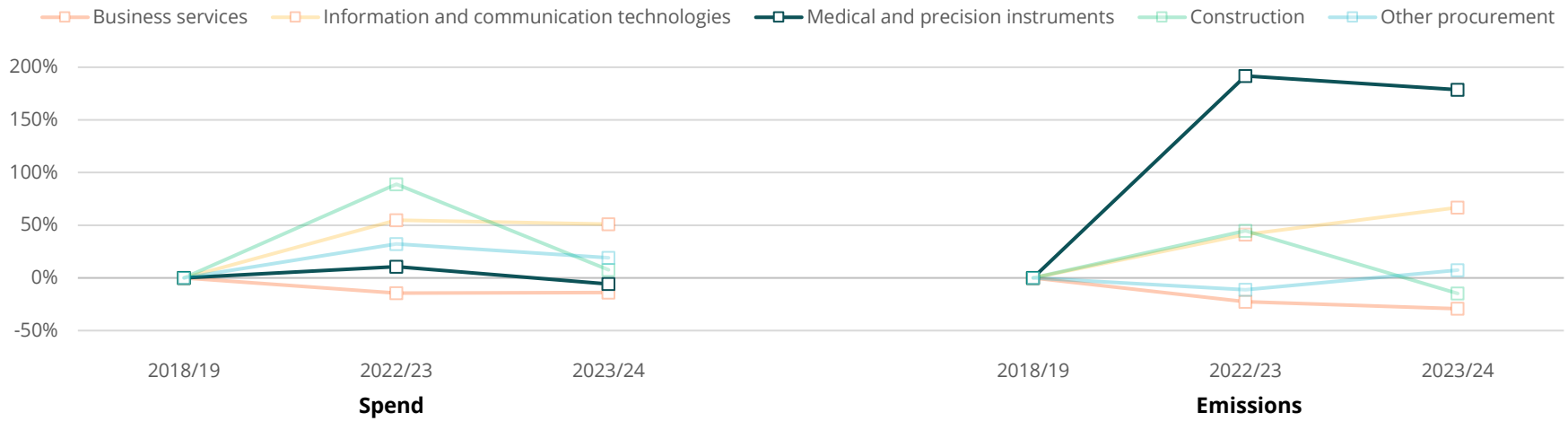
Our carbon footprint

Supply chain

Using spend-based proxies, our supply chain emissions are sensitive to LSHTM's spend and the emissions intensity of a sector at a national level. A driving factor in the increase of our supply chain emissions since our baseline year is the increase in emissions intensity associated with medical instruments, despite limited change in our spending patterns (see below).

We need to improve the accuracy of our reporting to better understand and report year-on-year changes. This will increase the complexity of reporting and will require dedicated resource and systems to be established. A collaborative effort across procurement, sustainability, and researchers will ultimately be required to effectively manage our supply chain emissions.

% changes relative to supply chain baseline



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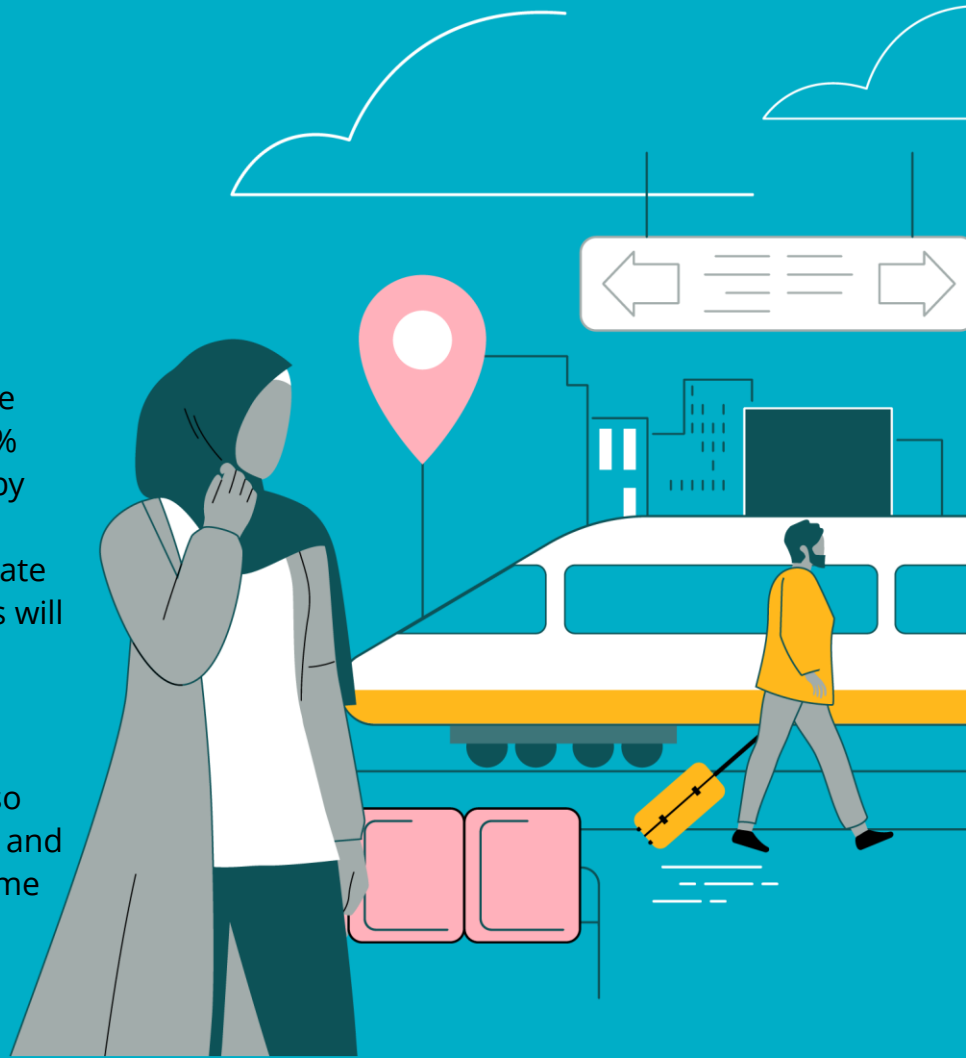
Our approach to Net Zero

We have aligned our approach to Net Zero with the Science Based Targets initiative (SBTi). We have committed to a 90% reduction in emissions from our estates and laboratories by 2030, and a 50% reduction in emissions from work-related travel and our supply chain by the same year. The target date for achieving a full 90% reduction in these latter categories will be determined by 2028.

To address unavoidable residual emissions, we have developed SCIF, which supports Gold Standard-certified offsetting projects that align with our mission. We have also undertaken a climate risk assessment using the EAUC tool and are actively collaborating with funders, such as the Wellcome Trust, to ensure that our research practices are environmentally sustainable.



Our approach to Net Zero

What does Net Zero mean to LSHTM?

In 2019, LSHTM set an ambitious target to achieve Net Zero by 2030 across all our reported emissions. We aligned our approach with the SBTi, which is widely regarded as industry best practice. At the time, the SBTi methodology encouraged organisations to commit to 1.5C-aligned targets by reducing emissions by at least 4.2% year-on-year from a baseline year.

This translated to a 50% reduction by 2030 for LSHTM. We became an early adopter of Net Zero targets and leaders in the field, especially with the establishment of SCIF, generating Gold Standard certified offsets, to ensure that offsetting efforts are transparent and aligned with LSHTM's broader mission and values.

Since then, many organisations have committed to Net Zero, and guidelines around these commitments have evolved to minimise the risk of greenwashing. In 2022, SBTi published its first Net Zero standard for corporations[1], which requires a 90% reduction in emissions before an organisation can claim Net Zero by counterbalancing removing residual emissions.

While LSHTM welcomes this increased ambition and stringency, this change raises questions about how to navigate our previously stated commitment to Net Zero by 2030, which was made before the SBTi Corporate Net Zero standard was published in 2021.

[1] https://sciencebasedtargets.org/net-zero

What is a science-based target?

Targets are science-based if they align with what climate science deems necessary to meet the Paris Agreement goals: to limit global warming to well below 2C above pre-industrial levels and pursue efforts to limit warming to 1.5C.

The SBTi lead this area globally, developing standards, tools and guidance for organisations to set emission reduction targets aligned with what is needed to avoid the worst impacts of climate change.

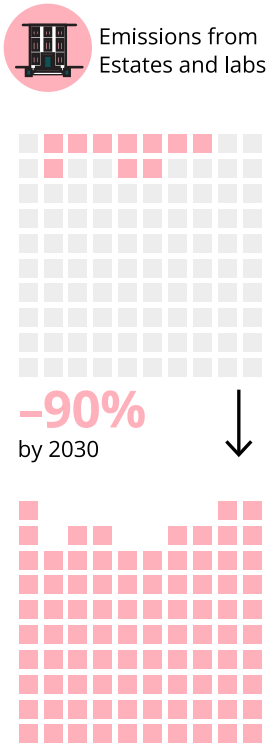
Our approach to Net Zero

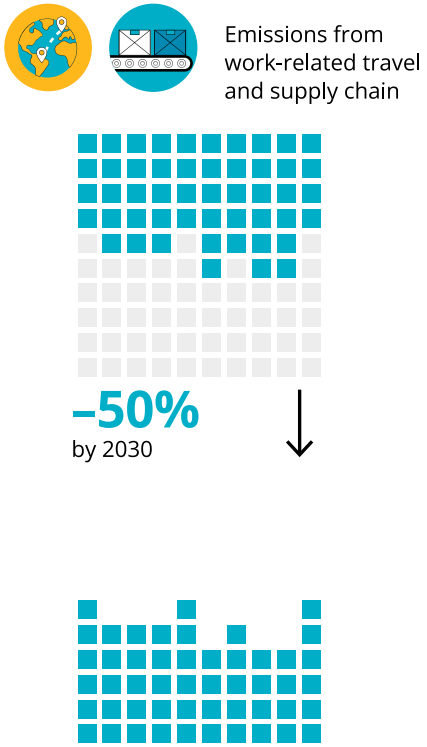
What does Net Zero mean to LSHTM?

LSHTM will retain the original reduction targets set in 2019. Our ambition for Estates and Lab emissions will increase to align with updated guidance, aiming for a 90% reduction by 2030 relative to 2018/19. This will require engagement with estates and project management teams to have longstanding infrastructure plans in place with ringfenced finance approvals.

Reducing emissions from work-related travel and our supply chain remains a complex challenge, influenced by external dependencies and the need for widespread behavioural change across all roles and operations. Despite these hurdles, we remain committed to achieving a 50% reduction by 2030.

Reaching a 90% reduction for Scope 3 will require sustained effort, innovation and time beyond this initial target. Therefore, we propose a two-tiered approach for work-related travel and supply chain emissions: a 50% reduction by 2030 relative to 2018/19, with the target date for achieving 90% reduction, and compliance with updated SBTi guidance by 2028.





Our approach to Net Zero

Outside of target emissions

Our approach to decarbonisation aims to combine ambition with credibility. Emissions included within our emissions boundary require an investment of resource and finance, including an eventual offset requirement for those that cannot be feasibly reduced. We must ensure that this investment is an appropriate use of our funds, including tuition fees and research funding.

The below emission categories are outside of our target Net Zero emissions boundary because the funds and the decision to commit the funding which results in the associated emissions originates outside LSHTM (see Annex A for further detail). However, this does not equal inaction. We will continue to monitor and report on these emission sources, as well as prioritise collaboration with relevant partners to reduce them:

Staff and student personal travel

Including commuting and student/staff travel between their homes and London e.g., at the start and end of term.

3rd party funded research activities

Work carried out by LSHTM and partners and collaborators, including the goods and services procured, using funds that originate with a 3rd party (e.g., research grants).

Investments

Operation of our equity and debt investments.

Our approach to Net Zero

Funders

Our funders are a key stakeholder in our approach to decarbonising LSHTM's research.

Decision making is highly decentralised within LSHTM, and approvals are often conducted at an individual project level. This autonomy is important, but it comes with challenges regarding the implementation of policies and processes, particularly concerning work-related travel and procurement – areas that are essential to our research and mission but highly emissions intensive.

We need collaboration with funders to better understand these emissions and understand how the same research and mission can be achieved with lower emissions.

LSHTM is committed to reducing emissions associated with funder spend and we see collaboration with funders as a key component of our approach to Net Zero. In line with this, we are signatories to the Concordat for the Environmental Sustainability of Research and Innovation Practice[1].

[1] https://wellcome.org/about-us/positions-and-statements/environmental-sustainability-concordat

The Wellcome Trust is a mission led organisation working to understand their Scope 3 carbon emissions and identify priority emissions reduction actions. They have committed to only fund research that is conducted in an environmentally sustainable way.

In April 2024, the Wellcome Trust published an Environmental Sustainability Funding policy setting out expectations for sustainable research practices. They also published a report into 'Advancing Environmentally Sustainable Health Research' in 2023, with 146 tools and initiatives that researchers can use to ensure sustainable research.

We will engage with the Wellcome Trust to share their best practice amongst other funders.

Our approach to Net Zero

Funders

A review of our main funders has shown that most do not currently include emissions generated by their funding in their Net Zero targets or have environmental conditions to their funding*. We expect this to change in coming years and will monitor and encourage progress, to ensure compliance with evolving requirements and seek alignment with our decarbonisation goals.

Funder	Net Zero target	Funding included in target	Target detail	Environmental funding conditions
Wellcome Trust	■	■	2050 Net Zero target, including funding. Have a 2030 Net Zero target for Scope 1 & 2.	■
Medical Research Council	■	■	2040 Net Zero target for operational emissions, excluding funding. Have an action by 2024 to demonstrate 'active influence' of emissions from those they fund via a sustainability score card.	■
European Union	■	■	2050 Net Zero target but minimal details published about their emissions boundary.	■
Gates Foundation	■	■	2025 target to reduce emissions by 15%, excluding most Scope 3 (except waste and transport).	■
National Institute for Health and Care Research	■	■	2050 Net Zero target, excluding Scope 3 (currently not calculated).	■
Foreign, Commonwealth & Development Office	■	■	2050 Net Zero target, excluding most Scope 3 (except work travel).	■

*Accurate as of April 2025.

Our approach to Net Zero

Offsetting

LSHTM will offset unavoidable residual emissions as a last resort, in addition to mitigation. To facilitate this, LSHTM established the social enterprise SCIF[1], ensuring we can offset residual emissions in alignment with our mission and with confidence in the impact of our work.

SCIF projects ranges from safe drinking water projects, to nature-based waste management, regenerative agriculture and other projects. The projects are Gold Standard[2] certified, safeguarding robust carbon reductions.

In addition to lowering and removing carbon emissions, these projects also enhance health outcomes in deprived communities. SCIF will continue to support initiatives that align with our ECMP objectives, while improving the health and wellbeing of the communities involved. Designed for scalability, we aim to partner with other likeminded organisations to expand SCIF's project portfolio.

[1] scif.org.uk/projects

[2] www.goldstandard.org

Our approach to Net Zero

Offsetting

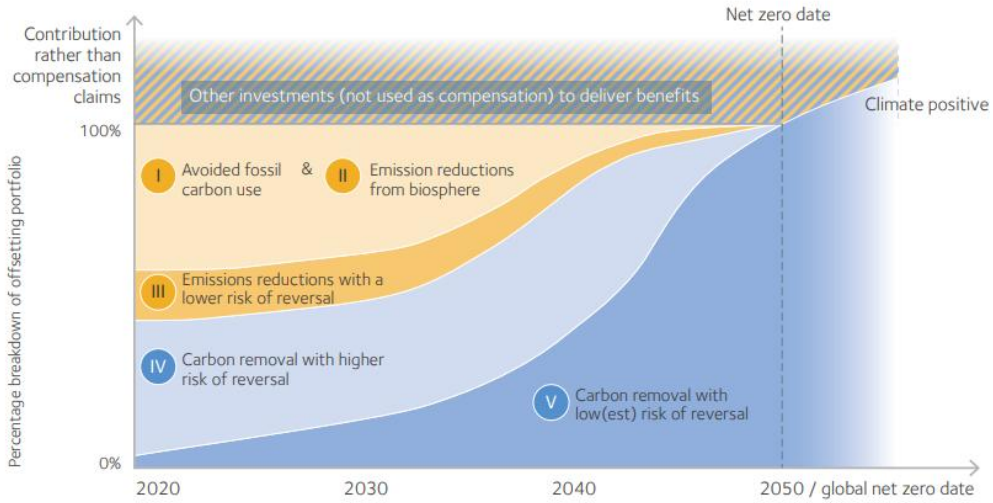
There are various approaches to offsetting, and while we aim for SCIF to align with LSHTM's broader mission, it will also facilitate offsetting in accordance with Net Zero best practice.

Best practice for Net Zero-aligned offsetting typically follows the Oxford Offsetting Principles, which advocate for an evolving portfolio with an increasing share of offsets from carbon removals rather than carbon avoidance, over time.

To meet LSHTM's long-term needs and adhere to Net Zero best practice, SCIF is expanding its portfolio to include carbon removal projects with a low risk of reversal.

As with other aspects of this ECMP, we will stay mindful to changes in best guidance and update our approach as necessary.

Illustrative example of a Net Zero aligned offsetting portfolio, with an increasing proportion of offsets coming from long-duration removals over time:



[1] www.smithschool.ox.ac.uk/research/oxford-offsetting-principles

Our approach to Net Zero

Climate risk

While remaining steadfastly committed to mitigating climate change, we must also adapt to a climate that is already changing. Extreme weather events are increasing in severity and frequency, threatening our ability to deliver our core mission.

We have used the Environmental Association of Colleges and Universities (EAUC) Climate Risk Register Tool[1] to understand the weather-related threats posed to LSHTM (our London-based assets) by climate change. Using the tool, we have assessed:

- Climate vulnerability of LSHTM's assets and operations.
- LSHTM's exposure based on current and future climatic conditions.

A risk register has been created to improve our understanding of the weather-related risks to LSHTM and our operations and their potential change in the future.

The complete tool can be found on our website[2], which will be updated annually going forward to ensure LSHTM is prepared for evolving climate risks.

Climate risk and opportunity actions are integrated throughout LSHTM's list of identified initiatives. These actions are inherently tied to contingency planning and will require evaluation and delivery from a dedicated working group.

With Africa warming at a faster rate than the global average, the continent faces a disproportionate climate change burden. We are committed to working with our facilities in Uganda and the Gambia to understand and adapt to the climate risks that threaten our operations abroad.

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[1] Climate Risk Register Guide and Tool | EAUC

[2] https://www.lshtm.ac.uk/aboutus/sustainability/net-zero-2030/energy-and-carbon-management-plan

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Action towards Net Zero

LSHTM can drive meaningful change through a range of initiatives. In this ECMP, we have outlined 39 specific actions aimed at achieving our Net Zero target. Impact modelling, incorporating our internal efforts and anticipated external progress, such as national grid decarbonisation and the adoption of Sustainable Aviation Fuel, indicates these actions could lead to a 47% reduction in emissions from our baseline by 2030, and a 61% reduction by 2040.

Modelling confirms that LSHTM's 2030 decarbonisation goals are achievable, though they remain ambitious and require timely, effective implementation of the ECMP initiatives. Success will depend on widespread support and a focused effort to translate plans into action.

Action towards Net Zero

LSHTM Net Zero toolkit

Achieving Net Zero will require LSHTM to draw on all our available resources and influence. We have categorised the actions that we can take into a 'LSHTM Net Zero toolkit'. As well as our own decarbonisation targets, this toolkit can impact positive change beyond our own organisational boundaries.

This ECMP uses the toolkit to present initiatives that we will undertake in the short-term in pursuit of Net Zero. However, we must be continually creative in our approach and ready to adapt to changing circumstance. An annual review of the toolkit and associated actions will be undertaken to ensure their continued relevance and suitability.

Collaboration and partnerships

We can influence LSHTM partners and collaborators to encourage positive action, as well as learn from them to inform our own approach

Training and awareness raising

We can work with staff, students, and wider stakeholders to increase awareness of the challenges we face and empower them to act through solutions

Policies and procedures

We can implement organisational policy and procedures that make sustainable ways of working our business-as-usual

Technology implementation

We can implement technologies that directly or indirectly reduce our consumption of fossil fuels and other carbon intensive resources

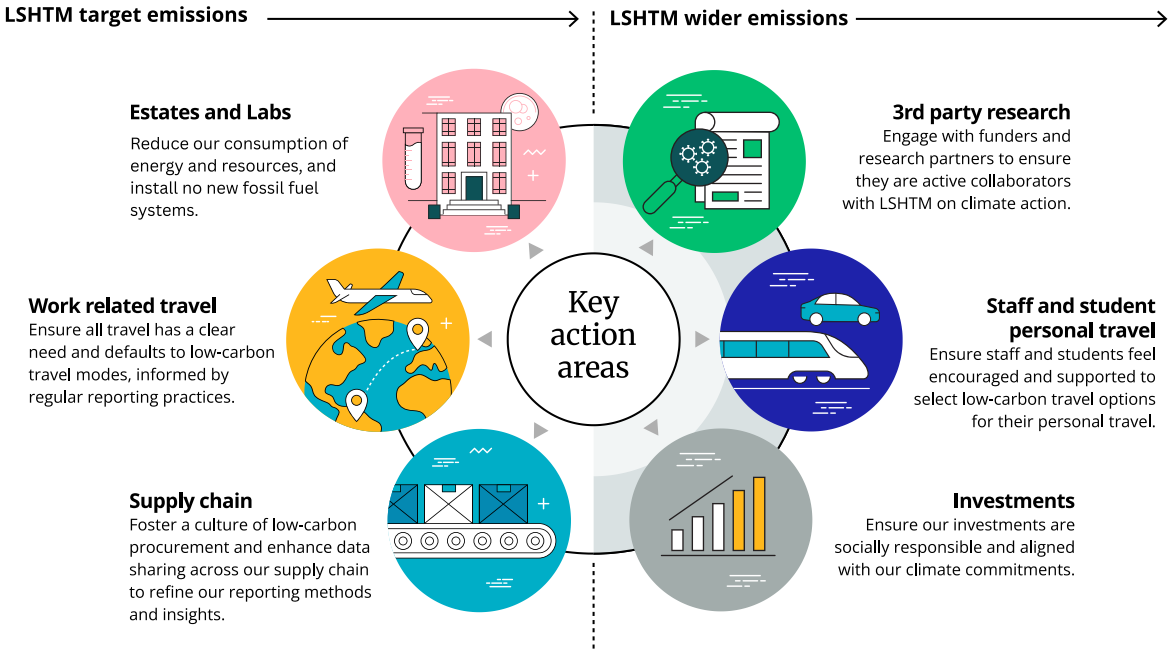
Process optimisation

We can increase the efficiency of our existing operations to do the same (or more) with less resource.

Action towards Net Zero

Key action areas

This ECMP identifies several initiatives to manage and reduce our emissions and make LSHTM more climate resilient. The full list of initiatives can be found on the LSHTM website[1].

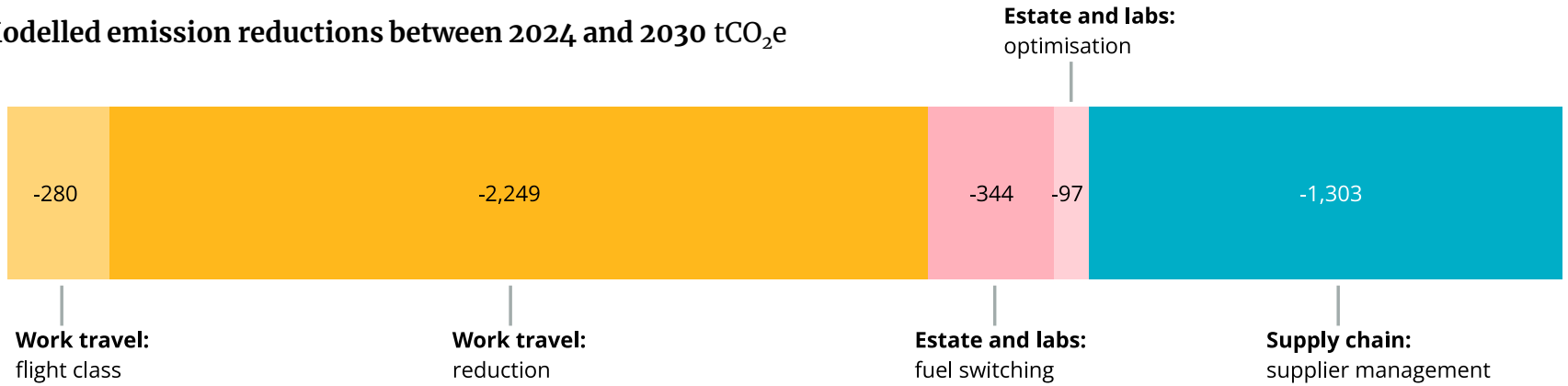


[1] https://www.lshtm.ac.uk/aboutus/sustainability/net-zero-2030

Action towards Net Zero

Net Zero target projection

Modelled emission reductions between 2024 and 2030 tCO_2e



We have projected anticipated changes in LSHTM's environmental impact, considering the initiatives detailed in this ECMP. This projection should not be seen as a guaranteed decarbonisation pathway, but instead as an informative tool to highlight contributing areas for reducing emissions.

As LSHTM aims for Net Zero, the global economy is also undergoing a comparable transformation. Although these changes are outside our control, they will influence our overall impact. We denote the effect of these changes on LSHTM's footprint as 'business-as-usual' (BAU) impacts. The projection incorporates several expected trends, such as the decarbonisation of the national grid and the increasing use of Sustainable Aviation Fuel. Combined, these impacts are expected to reduce our emissions by an additional 2,931 tCO_2e between 2024 and 2030.

Action towards Net Zero

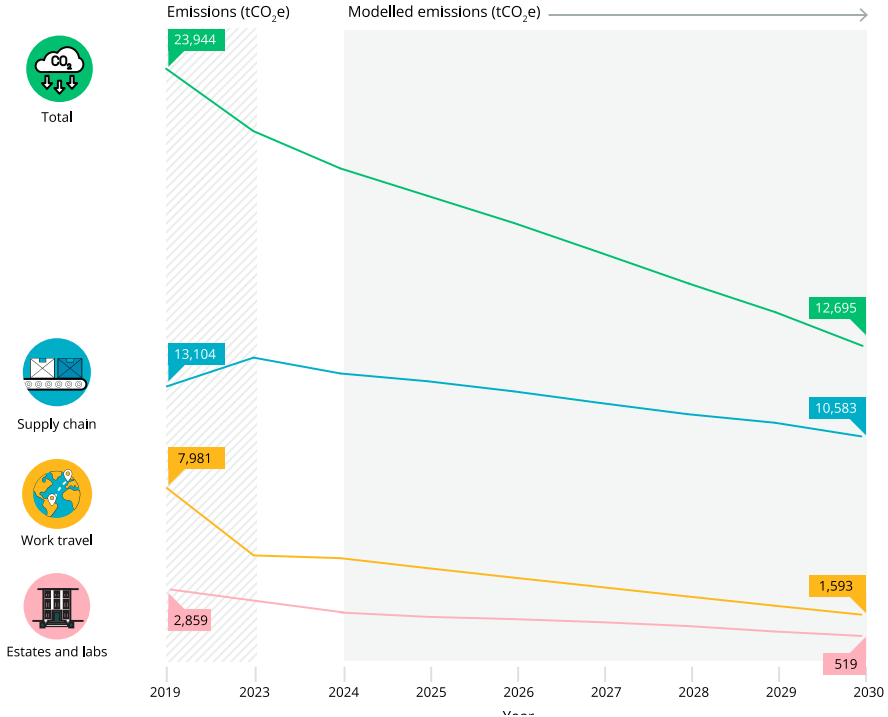
Net Zero target projection

The modelling indicates that our decarbonisation goals for 2030 are within reach. Nonetheless, it emphasises the ambitious nature of these targets and the necessity for effective implementation of the initiatives detailed in this ECMP, allowing little room for delay. Achieving this will depend on broad support and commitment to these initiatives, as well as a focused effort to convert this plan into reality. LSHTM has a separate budget to support decarbonisation initiatives in this ECMP.

Additionally, it underscores the connection between our activities and those of the wider economy. For instance, to meet our 90% reduction target for emissions from estates and labs, LSHTM must move away from fossil fuels, while the UK Government must also deliver on the Clean Power 2030 Action Plan.

Annex C contains a list of assumptions used in the modelling.

Net zero target projection, by emission category



Delivering action

Our governance structure is led by the Sustainability Action Committee (SAC), chaired by our Chief Operating Officer. The SAC is responsible for monitoring key performance indicators, reporting to our Executive Team and driving the implementation of this plan. We are mindful of the challenges ahead, including the need to balance our Net Zero ambition with our core mission, manage dependencies on national infrastructure and policy, and address funding constraints following the 2025 Spending Review.

Nevertheless, we remain resolute in our commitment to embedding sustainability into our decision-making processes and securing the resources necessary to meet our climate commitments.

Delivering action

Monitoring progress

We have identified key performance indicators (KPIs) that will be monitored to indicate our progress. These KPIs (listed below) have been selected based on our strategic priorities and iterated in collaboration with colleagues across LSHTM. The owners and co-owners of the KPIs will report annually against these KPIs. The Sustainability Action Committee (SAC) will track progress, review delivery risks and produce an outlook for the coming year. We also commit to annually reporting and publishing our carbon footprint, across our target emission boundary.

Estates and labs

kWh/m^2 across our estate

% of primary energy (kWh consumed) delivered by fossil fuels

% reduction in waste generated in operations

% of waste generated in operations recycled

% reduction in m^3 mains water consumed

Climate risk register reviews

Work-related travel

Total work-related travel mileage per FTE

Total work-related travel mileage

% of domestic and European work-related travel (mileage) performed using low-carbon travel modes

% of staff and students receiving quarterly reports on work-related travel

% of staff and students viewing the work-related travel dashboard on a quarterly basis

Supply chain

% tCO_2e emitted from our supply chain

Number of active engagements with organisations to leverage and co-ordinate climate action in our supply chains

% of suppliers (by emissions) that have committed to a science-based target

% of reported supply chain emissions derived from supplier data (either benchmark or product/service specific)

% of suppliers providing climate-related disclosures

Delivering action

Governance and finance

The SAC is the working group that drives sustainability efforts and makes key decisions related to sustainability at LSHTM. It was established to ensure the implementation of the first ECMP in 2018/19 and will serve as the central accountability mechanism overseeing implementation of this ECMP. The SAC's membership and Terms of Reference will be reviewed following the publication of this updated ECMP to ensure it is appropriately set up to deliver the ECMP's initiatives.

The SAC is chaired by the LSHTM Chief Operating Officer and consists of representatives from academic faculties, students and professional services. SAC representatives will oversee the monitoring and measurement of the outlined KPIs. The Committee will meet and make recommendations to the Executive Team every 2 months, and the Head of Sustainability will also provide an annual review update to the Executive Team at the end of the academic year.

The SAC also champions LSHTM's wider sustainability work, such as the Centre on Climate Change and Planetary Health and Education for Sustainable Development.

The SAC has no budgetary responsibility but has a critical role in securing senior management support to unlock the necessary resources to implement the initiatives identified in this ECMP successfully. It will require working with faculties, projects, and other internal and external stakeholders to broker consensus for new policies and initiatives needed to embed sustainability, both culturally and operationally.

In the 2025 Spending Review, the UK Government announced that they would no longer be providing grant funding for public sector decarbonisation via Public Sector Low Carbon Skills Fund. Consequently, for larger decarbonisation estates projects, we will likely have to provide capital funding.

We will also keep updated on alternate financing sources, such as UK Research and Innovation or the National Wealth Fund (previously the UK Infrastructure Bank).

Delivering action

Delivery risks

There are some key challenges to reaching Net Zero, some of which extend beyond our own organisational boundaries. It is the role of the SAC to manage delivery risks to our decarbonisation agenda. Delivery risks include:

- **Internal strategic priorities**: Net Zero must be compatible with and delivered alongside our core mission to improve health and health equity in the UK and worldwide. There will be occasions where what is required to deliver our mission conflicts with what is required to deliver deep emission reductions. A key example is the need for our researchers to fly internationally for their work. The ECMP is a starting point for LSHTM to mitigate these conflicts, supporting the development of processes and behaviours that ensure Net Zero is embedded in our operations and decision-making.
- **Influencing others**: Decarbonisation is a collective responsibility that extends beyond our direct operations. To drive meaningful change, we must use our influence to catalyse action across our wider network. Our priorities include engaging with funders to support low-carbon research practices and collaborating with suppliers to reduce emissions from our supply chain.
- **National progress and policy**: Our progress towards Net Zero relies not only on our immediate stakeholders but also external factors at national and international levels – from decarbonising the national grid to the accelerated adoption of sustainable aviation fuel (SAF) across the UK and globally. We must take an agile approach to Net Zero, focussing on what we can control while staying responsive to changes in national progress and policy.
- **Resource**: To reach Net Zero, teams must be equipped with adequate and targeted resources (both finances and staffing). As well as funding the identified initiatives, we must ensure sustainability is embedded into our financial decision making to reduce the risk of decisions that undermine our climate commitments.

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Technical Annex

Annex A

Wider emission sources

Emission source	Comments, including rationale for exclusion	Baseline tCO_2e	2023/24 tCO_2e
Employee and student commuting: Our household emissions when we work from home due to additional heating and appliance use, and our travel emissions when we commute from our homes to campus.	We are a London-based campus with the majority of commutes already undertaken via public or active transport modes (approx. 98% of distance travelled). Reducing these emissions sits outside of our own control, including within student and staff households.	721	1,036
Travel to study: travel between students' home locations and LSHTM (e.g., at the start and end of the academic year).	No data available, with limited ability to influence student travel behaviour between LSHTM and their home locations. Travel to study emissions are being researched through the 2025 travel survey. We will continue to explore mechanisms that support students to understand the carbon impact of their travel and, where appropriate, reduce and/or offset.	Not quantified	
Student accommodation: energy consumption from 3rd-party accommodation paid by LSHTM students.	Students reside in privately rented accommodation where property management and contractual agreements are outside of LSHTM control and influence.	-	13.9

Annex A

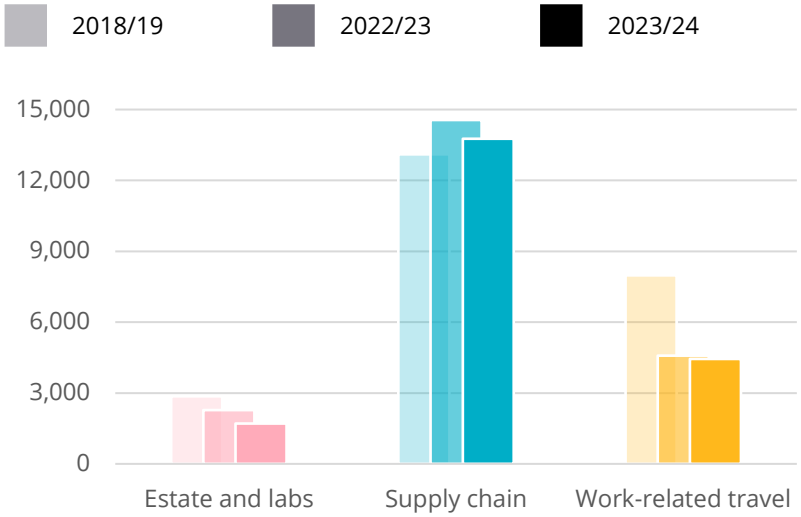
Wider emission sources

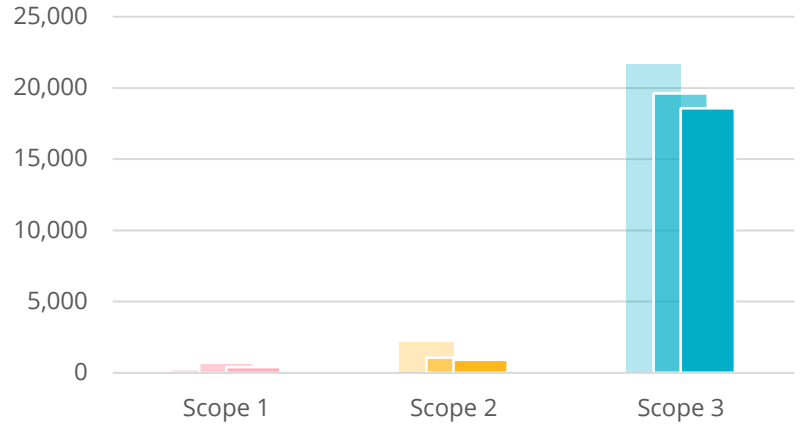
Emission source	Comments, including rationale for exclusion	Baseline tCO_2e	2023/24 tCO_2e
Investments: Operation of investments (including equity and debt investments and project finance).	Investments within subsidiary companies expected to be largely administrative, with emissions from their operations accounted for within the organisation's existing reporting practices (e.g., via consolidated energy accounts and procurement practices). Updated guidance expected by GHG Protocol, which we will remain aware of and ensure our approach evolves as guidance is updated.	Not quantified	
Supply chain emissions from research funding: goods and services we procure using funds that originate with a 3rd party (e.g., research grants).	Ownership of emissions (including the claim to reductions and offsetting requirement) considered the responsibility of external funders from whom the funding originates. We will continue to report on the emissions for the purpose of engagement with respective parties to reduce them.	4,358	8,270
Collaborators and research partners: emissions associated with the work of our collaborators and research partners on projects.	All spend is related to research funding (see above for rationale of exclusion). Additionally, transactions resulting from LSHTM being the paying agent and administrating funding, over which we have limited influence.	19,754	13,263

Annex B

Wider emission sources

Emissions by LSHTM focus area (left) and GHG Protocol scope (right) tCO_2e





2018/19	2,859	13,104	7,981
2022/23	2,277	14,556	4,582
2023/24	1,707	13,757	4,441

2018/19	192	2,124	21,628
2022/23	730	1,068	19,617
2023/24	407	923	18,575

Annex C

Emissions forecast assumptions

BAU		Implementation of the Sustainable Aviation Fuel (SAF) mandate, reaching 22% of aviation fuel by 2040, and an emission saving of 60% for SAF proportion of the fuel.
		15% increase in aviation efficiency through technological advancements, improved air traffic control etc.,
		Sectoral decarbonisation at a rate consistent with national-level progress, accounting for existing and planned Government policies.
		Grid decarbonisation consistent with the 'Electric Engagement' scenario in National Grid's Future Energy Scenarios.
LSHTM		Flight class: 90% of business travel mileage transitions to premium economy by 2030
		Flight reduction: 60% reduction in flight mileage, aligned with LSHTM employee surveys on the need for business travel.
		Supplier engagement: Working with suppliers that prioritise low-carbon delivery, ensuring 67% of suppliers are covered by an SBT-aligned Net Zero target (i.e., achieving a 4.2% annual reduction) by 2040. Modelling assumes a linear increase in % supplier coverage, increasing from a 20% baseline in 2025.
		Fuel switching: replacement of gas-fired boilers at TP2 and Keppel Street with high efficiency air-source heat pumps, and replacement of natural gas steam generators (for autoclaves and cage washers) with an electric boiler.
		Optimisation: 20% reduction in baseline electricity consumption through improved management of large electrical loads (e.g., air handling units)

Work travel Supply chain Estate and labs