



## Executive Summary

The University takes its responsibility for the environment seriously, and understands the need to respond to the challenges we face globally around issues such as climate change, human wellbeing, food, water and energy security. For the purpose of implementing its *Building Excellence* Strategy, the University defines Sustainability as:

“Action by the University, and its staff and students that considers environmental impact from a social, economic and environmental perspective following the principles of inclusivity, integrity, stewardship and transparency, “embedding sustainability into all our activities, operations and processes”.

The pandemic has created a number of challenges for the University and is a sobering reminder of how vulnerable our societies are to threats beyond our control, and of the importance of addressing those risks we can mitigate – such as the climate crisis. The period characterised by Covid19 has provided some opportunities and potential for consideration of environmental benefits and risk management as the institution reviews its strategy and future objectives. Post lockdown, countries could revert to the unequal, unsustainable high-carbon economies of before, or they could shift to more inclusive, resilient and low-carbon development paths for the future. This geo-strategic context is relevant to the work already being done in space saving, IT and flexible working strategies across the two campuses as the University ‘builds back better’.

This report provides an update on LU’s performance over the last year and covers:

- 1.0 Governance, Climate & Environment Task Group and Sustainable Development Goals
- 2.0 A snapshot of progress against objectives in the Sustainability Action Plan
- 3.0 Environmental Management and Compliance
- 4.0 Waste and Recycling figures
- 5.0 Energy Management figures
- 6.0 Sustainable Travel figures
- 7.0 Biodiversity
- 8.0 Sustainability Leadership Scorecard results

## Headline results include:

- **Launch of an Energy Strategy committing to net zero greenhouse gas emissions by 2050**
- **Submission of first United Nations Sustainable Development Goals report**
- **Improved scores in the Sustainability Leadership Scorecard**
- **37% reduction in absolute carbon emissions against the baseline set in 2010/11**
- **Launch of a new Waste Management Strategy**
- **Increase in recycling to 78% with less than 5% of waste going to landfill**
- **Launch of public facing [website](#) on the LU climate and ecological response**

## Origin

Sustainability and Social Responsibility Sub Committee (SSRSC)

### Strategic objective met

The University is committed to acting in a socially responsible way that maximises its positive impact and minimises its negative impact on society and the communities in which it is based. This is reflected in the University's current strategy 'Building Excellence' which states that, "**we will embed sustainability and social responsibility considerations into all of our processes, operations and developments**" and also "**will work closely with local partners to enhance the social, cultural and economic wellbeing of the communities and regions in which we reside**".

This also underpins element three identified in the Higher Education Code of Governance Committee of University Chairs report which states the University;

- **3.3 "must rigorously assess all aspects of the institutions sustainability in the broadest sense, using an appropriate range of mechanisms which include relevant key performance indicators not just for financial sustainability of the institution but also for its impact on the environment."**

and

- **3.4 "In ensuring sustainability, the governing body must be in a position to explain the processes and the types of evidence used and provide any assurances required by funders. Where such assessments indicate serious issues which could affect future sustainability, the governing body must undertake appropriate remedial action."**

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## 1. Governance and Strategy

Led by the SSRSC and chaired by the Chief Operating Officer the committee reports into the Health, Safety and Environment Committee ultimately reporting through to Council.

The Sustainability [action plan](#) provides a set of strategic principles, congruent with the 'Building Excellence' theme in the overarching University Strategy and a rationalised and agreed set of Key Performance Indicators (KPIs) for sustainability. This existing plan will be reviewed later this year as part of the work undertaken by the Climate and Environment Task Group (CETG) to provide identify key elements in the sustainability framework that will be needed to align with the new University Strategy that identifies Sustainability as a key principle. The new University Strategy is due to be published later this year. The CETG continues to plan and articulate the University's response to global climate and ecological change and presented a set of key actions to Senate in June 2020 which they endorsed and are detailed below.

- 1.1 Develop a set of KPIs that can be integrated into the project management process and annual planning cycles, for the following:
  - a. % contribution from any project to be counted against the net zero greenhouse gas emissions target for 2050
  - b. % spend on enhancing and improving the green natural asset year on year
  - c. % funding for sustainable and climate related research
  - d. Evidence learning related to Climate & Environment for all students
- 1.2 Undertake a quantitative analysis of climate risks faced by the University. These include drought and water restrictions, impacts on key infrastructure and facilities, teaching, student experience, business continuity and supply chains. Primary concerns are likely to be flood, health and

biodiversity impacts on both campuses, along with some international dimensions such as student travel and supply chain.

- 1.3 Establish key priorities to inform the next University Strategy and produce an action plan framework aligned with it.
- 1.4 Align targets, KPI's and University activity with the UN Sustainable Development Goals in support of the sector Accord and UN Sports for climate framework.
- 1.5 Prioritise climate and environment work for internal research and enterprise funding (including PhD studentships) to ensure we meet our commitments in line with the Accord and more widely promote our climate and environment activities.
- 1.6 Identify, assess and implement new technology and aligned with our own research as well as future requirements for a low carbon estate (e.g. boiler replacement and renewables as the main campus moves towards low thermal demand infrastructure).
- 1.7 Undertake a programme of training for staff and students affiliated to the [Carbon Literacy Project](#) based on the premise that if we are to achieve net zero, then we will need to change behaviours as well as technology.
- 1.8 Review external sustainability indices that include environment and climate and identify those which align with LU priorities. Pro-actively engage with those chosen.
- 1.9 Make the Global Citizenship framework (or similar) element of 'Personal Best' compulsory for all participating students.
- 1.10 Work with other universities to develop a sector wide strategy/options appraisal for off-setting scope 3 emissions (waste, water consumption, staff/student commuting, business travel and procurement).

## 1.2 United Nations Sustainable Development Goals (SDGs) Accord and Report

LU signed the SDG Accord in the Autumn of 2019 supporting the critical role that education has in delivering the [SDGs](#) and the value they bring to governments, business and wider society. The Accord is a commitment learning institutions are making to one another to do more to deliver the goals, to annually report on each signatory's progress, and to do so in ways which share the learning with each other both nationally and internationally. Results are submitted annually to the UN High Level Political Forum. A copy of the first LU SDG report can be found [here](#).

The aim of the goals is to free humanity from poverty, secure a healthy planet for future generations, and build peaceful, inclusive societies as a foundation for ensuring lives of dignity for all. Much of LU research and enterprise activity already align with these goals. We are in a strong position operationally to evidence alignment and continue work to improve awareness of the goals.

The SDGs LU has had the highest impact on in the last 12 months are:



## 2. Sustainability [Action Plan](#)

This outlines how we will deliver this aspect of the 'Building Excellence' strategy, linking with the four themes, and connecting all areas (i.e. Teaching, Research, Enterprise and Operations). Snap-shot examples of progress against aims and objectives can be seen below.

### 2.1 Teaching



Work continues to promote the campus as a “living laboratory” with a number of examples of using the campus for students to learn and research. Examples include the Holywell Research Forest, Fruit Routes Project, water course and pond surveying work, phone apps and design school projects, transport collision research group and travel planning support as well as the Forest School.

- 2.1.1 Estates and Facilities Management (E&FM) colleagues continue to work with the School of Architecture Building and Civil Engineering (ABCE) aligning with the objectives in the Sustainability Action Plan, ‘to develop our students as individuals, enhancing their capabilities as creative, confident citizens’ and ensure we provide a ‘high quality student experience’ from the intake forwards. The approach ABCE has taken continues to be a great success with clear benefits to student learning, engagement and attendance.

The Sustainable Development Project element continues to run with E&FM colleagues participating in the programme and student projects being considered as part of the wider University Estates Strategy. This provides students with the type of experience they will have in industry. Specifically, students have been given the library extension and the new LSU project as case studies as well as opportunities to select parts of the campus to improve. The projects are provided by E&FM colleagues and relate to live issues/challenges and opportunities.

- 2.1.2 The School of Geography and Environment use the campus for teaching Geography fieldwork. Examples include the first year field trip compulsory for all geography students using the campus for field activities e.g. mapping, micrometeorology work (normally off-site, but brought on campus for 20/21). River Ecology in its second year uses the brooks alongside the campus perimeter for field data collection and this data is fed back into the campus Biodiversity Action Plan. Forest Ecology in its second year and uses Burleigh Woods and the ‘Loughborough University Research Forest’ for fieldwork regularly during the spring and summer terms each year. This year the forest and the pond near Martin Hall will be used for fieldwork to replace the residential field courses that normally run in second and final year.

Data from the meteorological station continues to be used to underpin a lot of teaching at all UG levels and PGT. Two new MSc programmes have been introduced in the school. MSc Climate Change Politics and Policy and MSc Climate Change Science and Management.

- 2.1.3 School of Sport Exercise and Health Science have been able to support the aim; “To enhance the student experience through informal learning using the biodiverse and exceptionally green campus as a platform to foster sustainable and healthy lifestyles alongside learning” through their Strength and Conditioning (S&C) coaching placements with some students who lead (‘non-performance’) AU team S&C support and there are examples of them using the green spaces

on campus to deliver sessions. Also examples of students who are on placements with the S&C coaches employed by Sports Development Centre. Some of these sessions take place outside and contribute to credit bearing assessment on the Professional Practice module.

## 2.2 Research & Enterprise Projects



2.2.1 Modern Energy Cooking Services ([MECS](#)) is a five-year programme funded by UK Aid (FCDO Foreign Commonwealth & Development Office). By integrating modern energy cooking services into the planning for electricity access, quality, reliability and sustainability, MECS hopes to leverage investment in renewable energies (both grid and off-grid) to address the clean cooking challenge. MECS is implementing a strategy focused on including the cooking needs of households into the investment and action on 'access to affordable, reliable, sustainable modern energy for all'.

The five-year programme combines creating a stronger evidence base for transitions to modern energy cooking services in DFID priority countries with socio-economic technological innovations that will drive the transition forward. It is managed as an integrated whole, however, the programme is contracted via two complementary workstream arrangements as follows:

- An Accountable Grant with Loughborough University (LU) as leader of the UK University Partnership;
- An amendment to the existing Administrative Arrangement underlying DFID's contribution to the Energy Sector Management Assistance Programme Trust Fund managed by the World Bank.

2.2.2 The Climate Compatible Growth (CCG) consortium – led by Prof Mark Howells, comprising Loughborough, Oxford, Cambridge, UCL, Imperial College and the Open University – is delivering the UK Government's £35M CCG programme (2021-2025). CCG is a UK-Official Development Assistance funded research programme helping developing countries take a path of low carbon development whilst simultaneously unlocking profitable investment in green infrastructure, opening up new markets and supporting delivery of the United Nations Sustainable Development Goals (SDG).

2.2.3 SolPV - £496K, Engineering and Physical Sciences Research Council - A key area of expansion in the field of solar conversion to electrical energy, known as photovoltaic (PV), is the integration in building and infrastructure in highly urbanised environments. For instance, the size of the building-integrated PV industry is reaching over \$2Bn in the US alone. SolPV aims at taking the performance of solution-processed solar cell devices to power conversion efficiencies above 15% using scalable manufacturing routes and Cd-free architectures.

2.2.4 In an age where chemical, biological, radioactive or nuclear (CBRN) emergencies, both accidental and deliberate, pose a real threat to society, we are creating new integrated systems and technologies to aid first responders and save lives.

Our multi-million pound [TOXI-Triage](#) project, which brings together experts from across Europe, is creating novel ways to give effective and diagnostically sound medical and toxic assessments to the casualties of a CBRN event amid the confusion, disorder, and dangers it would bring.

<https://www.emc-dnl.co.uk/news/2020/10/28/east-midlands-development-corporation-launch/>

2.2.5 We are also actively working with regional partners to develop a net zero research centre on the site at Ratcliffe-on-Soar. Transforming the UK’s last coal-field power station into ZERO, a global research centre that will develop real-world low-emission technologies, which open up new business markets and help the UK hit its climate change targets.

### 2.3 Loughborough University Science and Enterprise Park (LUSEP)

2.3.1 The Science & Enterprise park continues to prosper with a growing cluster of businesses with interests in energy and sustainability. The striking new global HQ for ‘The Access Group’ was recently opened on the park. Leicestershire County Council has invested in the new office space on [LUSEP](#) in an innovative move which will see revenue generated of £1.6m a year to support vital front-line county council services. It is believed to be the largest, single-occupier office deal in the county this century.

### 3.0 Environmental Management and Compliance

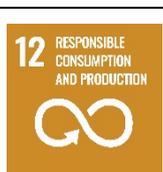
Our environmental performance is managed through the ISO 14001 2015 accreditation, which is an externally verified environmental management system. The 2020 external audit report confirmed the general management of the system provides the required level of control. The organisation’s context is well defined, leadership has been effectively demonstrated and commitment levels are evident.

This is reflected in the levels of compliance with requirements and operational control evident at the organisation which are appropriate to the risks and opportunities identified. There is good availability of documented information to demonstrate that the system is well implemented and well understood throughout the organisation. This audit involved a review of system administration activities, a review and sample of site activities at Loughborough, as well as review of job related records. Evidence was clearly available to demonstrate that the key policy commitments are being adhered to.

Continuation of certification was recommended with no findings identified relating to non-conformance or opportunity for improvement.



### 4.0 Waste and Recycling



Data for waste was severely impacted upon by COVID-19, so the following data varies considerably from previous years. Engagement was limited during the year with only one building specific campaign completed before lockdown struck. Work continues with Procurement to attempt to address waste at source. We are also continuing our roll out of the segregation of food waste into academic areas. A new [Waste Strategy](#) was also launched in 2020.

	2009/10	2018/19	2019/20
<b>Total Waste</b>	1799 tonnes	1898 tonnes	1299 tonnes
<b>Total Recycled</b>	28.53%	76.8%	77.96% (incl 20.85% food waste)

<b>Waste to Energy</b>	0%	18.0%	17.1%
<b>Landfill</b>	71%	5.2%	4.95%

Donations to British Heart Foundation continued in this period but unfortunately no data was available.

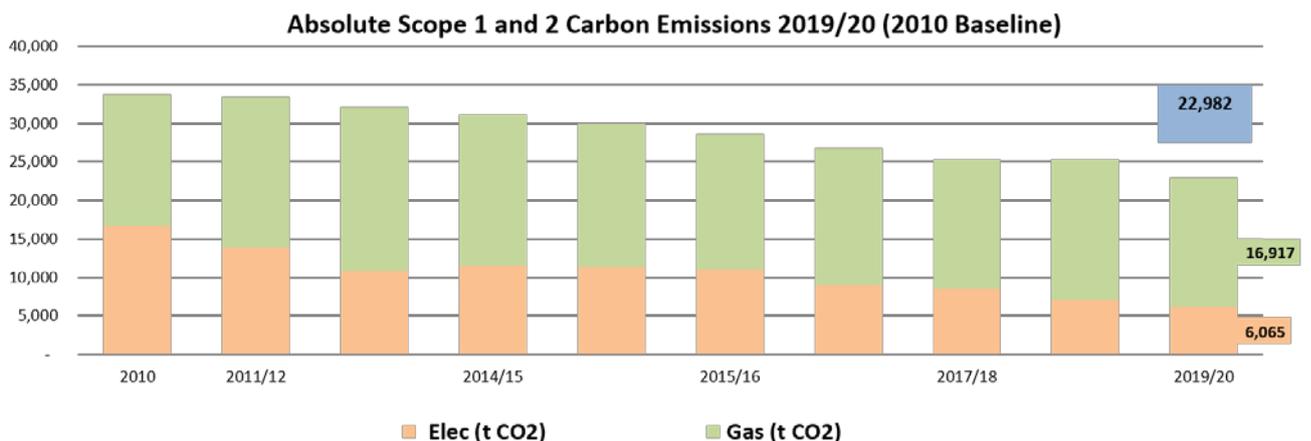
In February 2020 we launched our single use supplement, in the first three weeks of implementation we saw an increase in both customers drinking in (20% of sales) and those using a reuse cup (27% up from 10%). The sales of drinks in disposables reduced to 53% generating a fund for Environmental initiatives. The Single Use Supplement was suspended as a result of COVID-19 but will return in 2021 when it is safe to do so.

## 5.0 Carbon Management

 13 CLIMATE ACTION	 7 AFFORDABLE AND CLEAN ENERGY	The absolute emissions and emissions relative to student numbers for 2019/20 student numbers for the 2019/20 academic year have reduced by 37.2% compared to the baseline year
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	20010/11	2019/20
<b>Absolute Carbon Emissions</b>	33.820 tCO <sub>2</sub> e	22,982 tCO <sub>2</sub> e
<b>Emissions per FTE student</b>	2.10 tCO <sub>2</sub> e	1.32 tCO <sub>2</sub> e

*Note – The carbon emission data has been calculated using the latest Department for Business, Energy and Industrial Strategy (DBEIS) carbon emission factors for electricity and natural gas and reflect the increased decarbonisation of the national grid over recent years.*



The University Energy Strategy 2020-2050 was endorsed by Estates Management Committee (EMC) in November 2020. The purpose of the Energy Strategy is to set out a development framework covering a thirty-year period from 2020-2050 to provide a sustainable energy future for the University.

Key objectives of the strategy are to:

- Support the delivery of the Estates Strategy 2020-2040.
- Align with Government targets of achieving “net zero” greenhouse gas emission by 2050.
- Safeguard the University against escalating energy costs.

- Provide resilience and support business continuity.
- Support business development opportunities.

The Energy Strategy will be supported by a detailed delivery plan that sets out the road map to “net zero” greenhouse gas emissions by 2050.

### 5.1 Combined Heat and Power and carbon

The University has three Combined Heat and Power (CHP) Units:

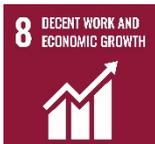
- Central Park Energy Centre
- Holywell Park Energy Centre
- Claudia Parsons/ EAC Energy Centre

The CHP units continue to form an integral part of the University thermal and electrical infrastructure, providing 31% of the annual University electricity consumption and saving £1 million in energy cost in 2019/20.

The investment in CHP technology has historically produced both carbon and financial benefits for the University. The units continue to provide significant financial savings due the difference in the unit cost of electricity to gas. With the de-carbonisation of the national grid the carbon benefits associated with CHP operation have demised over the years as the electricity carbon emission factors approach parity with the gas carbon emission factors, as such CHP technology can no longer be considered a “low carbon” technology.

The CHP plant will continue to operate to support the University infrastructure until the units are life expired in around 10 years time, at which point the options for low carbon energy generation to support the University thermal and electrical infrastructure will be reviewed in line with the University Energy Strategy.

### 6.0 Sustainable Travel

 	<p>The pandemic has greatly impacted travel with less people travelling to, from and within Campus. As we begin to move back to campus the Travel Plan will need to be monitored and reviewed in light of new working patterns and travel behaviours.</p>
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Staff have still been accessing LU travel incentive schemes:

- 48 staff used the cycle to work scheme in the last 12 months
- 491 campus users are now signed up to the SmartGO Leicestershire travel discount scheme
- 31 new Electric or hybrid vehicles registered on the permitting system in the last 12 months
- 4 new charge points installed specifically for LU fleet vehicles

## 7.0 Biodiversity

	<p>In 2020 a new Gardens Strategy was produced. The University continues to monitor and manage the campus through the Biodiversity Action Plan, Woodland Management Plan and Loughborough Science &amp; Enterprise Park Ecological Management Plan.</p>
	<p>The University continues to maintain its accreditation to Green Flag status for the University campus. The scheme recognises and rewards well managed parks and green spaces, setting the benchmark standard for the management of recreational outdoor spaces across the United Kingdom and around the world.</p>
	<p>The University's Gardens team received exceptional feedback from the judges, with comments including <i>'the high standard of maintenance at the University grounds, including excellent herbaceous perennial beds designed by a member of the gardening staff, made the facility a pleasure to visit'</i> and <i>'the University takes environmental responsibility seriously with students encouraged to become conservation volunteers in woodland management and wildlife areas'</i>.</p>
	<p>The campus apiary continues to go from strength to strength and the bees produced 350lbs of Loughborough Gold Honey in 2020.</p>

## 8.0 Sustainability Leadership Scorecard (SLS)

The Sustainability Leadership Scorecard includes a direct link to the Estates Management Record data. It covers sustainability issues beyond the estates function and allows a coordinated whole-institution approach to sustainability providing reports that can be used to communicate the critical drivers within the institution set targets and monitor progress. There are numerous ways to manipulate the data and results link to the UN SDGs. The continued aim is to provide a useful management and developmental tool for reporting at a strategic level.

### Overall progress to date

**Improvement continues to be made across a number of areas with the overall score being retained as Silver.**

An institution overview can be seen in **Appendix 1**. Framework leaders through the completion of the index continue to learn how Sustainability and Social Responsibility might be embedded into their respective areas. Other areas of improvement have come from an increased understanding of applicability through discussion. The dashboard aligns with areas of weakness and opportunity in the Environmental Management System and reflects the findings from the SDG report submitted in 2020.

## Priority Area Scores

<b>Leadership &amp; Governance</b>	-	<b>Silver</b>
<b>Estates &amp; Operations</b>	-	<b>Gold</b>
<b>Partnership &amp; Engagement</b>	-	<b>Silver</b>
<b>Learning, Teaching &amp; Research</b>	-	<b>Bronze</b>

The framework areas where improvement has been seen in the last reporting cycle are:

- Health & Wellbeing
- Energy
- Climate Change Adaptation

The areas with little improvement or movement are currently:

- Student Engagement
- Learning & Teaching

The scorecard is meant to evidence the complex nature of sustainable development issues and promote discussion and analysis at a strategic level. More detailed reports can be provided for each priority area.

## Appendix 1

### Sustainability Leadership Scorecard: Institution Overview

The Sustainability Leadership Scorecard (SLS) provides the Higher and Further Education sector with a development framework that allows institutions to understand their current position with regards to issues of sustainable development and assist in developing routes for improvement.

The framework is designed to align with the wider challenges facing the sector, highlighting that sustainable development issues are a key part of the overall business strategy of an institution. The framework is intended to inform discussions around the role of sustainability within wider issues of reputation, student engagement and satisfaction, Excellence Framework performance and graduate attributes / outcomes.

Based on your institution's current SLS self-assessment, the overall performance for all frameworks is summarised in the figure to the right.

The SLS comprises 18 standard frameworks developed to address current and emerging sustainability themes important to the sector. Frameworks are grouped within four priority areas: Leadership and Governance; Partnerships and Engagement; Learning, Teaching and Research; and Estates and Operations. Each framework is made up of 8 activities and scoring is given at an activity level.

No overall score is generated as each institution had individual priorities that should not be reduced to one comparable number. Instead, the scorecard invites discussion and analysis by representing the complex nature of sustainable development issues. More detailed reports for each priority area are also available.

