University of Reading

# Environmental Sustainability Report

2021–2022

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# 1.0 INTRODUCTION

University of Reading has addressing climate change and ensuring environmental sustainability at the heart of its strategy. This is in recognition of the urgency for the world to take immediate and decisive action if we are to avoid the worst impacts of our changing climate and the rapid decline of the natural world. From our world-leading research informing policy makers; through to educating the next generation of climate experts; to engaging and mobilising everyone in our community; to leading the way in reducing our own environmental footprint; we are doing everything we can to work together to ensure a better future.

## Our vision is to become one of the greenest universities in the world, embedding the principles of sustainability into our culture and our wider community.

We do not underestimate the size of this task and as such have committed to some ambitious targets and activities aligned to this vision, not least our commitment to become a Net Zero Carbon university by 2030. The development of our new Environmental Sustainability Strategy will embody this ambition and inform the direction of our efforts to continually improve our environmental position.

**“In this decade we are at a pivotal moment in addressing the challenges the planet faces, and the choices we make today will have consequences for many centuries to come. As a University, we must play our unique role to respond to this fully, and commit to do everything we can to work towards greater understanding of the challenges and solutions that will secure the planet’s future.**

**This is why we have put environmental sustainability at the heart of our University Strategy, setting an aspiration to be widely recognised for our world-class research in climate change and its impact on the environment and society, and be a leader in global environmental sustainability.”**

**Robert Van de Noort**, Vice-Chancellor

This annual environmental sustainability report aims to summarise progress against our key sustainability targets over the 12 months to July 2022, as well as providing a wider review of our environmental sustainability initiatives, and a look forward to the year ahead. Progress against our targets is highlighted throughout the report, with more detailed reference information on energy, carbon, water and waste included in the appendices.

**“Setting ambitious sustainability targets is all very well and good, but it is delivering against these targets that really matters. Our annual sustainability report is a chance to reflect on progress, celebrate successes and identify areas that need more focus in the year ahead. There is much to celebrate, and much more yet to be done!”**

**Dan Fernbank**, Energy and Sustainability Director



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## Our sustainability highlights

University of Reading prides itself on being an environmental sustainability leader, consistently delivering on its commitments to deliver a better future. Here’s what we’ve achieved so far...

**NET ZERO** carbon emissions commitment by 2030

**ZERO** investments in fossil fuels (direct and indirect)

**51%** carbon emissions reduction on 2008/09 baseline

**87%** sustainable travel target met in 2022

**60%** target for all waste generated to be re-used, recycled or composted met

**2076** different species identified living in the wild on Whiteknights campus

**15th** place ranking in last People & Planet University league

**Top 50** rankings in THE Impact Rankings for 7 of 17 SDG categories

**ISO 14001 / ISO 50001** Integrated and certified Energy and Environmental Management System

**Three star** Food Made Good award attained in 2022

**BRONZE** Hedgehog Friendly Campus accreditation attained 2021

**12** consecutive Green Flag awards for Whiteknights campus

Shortlisted for **3 EAUC 2022 Green Gown Awards**

**43%** water usage reduction against 2011/12 baseline

# 2.0 UPDATE ON OUR 2021/22 SUSTAINABILITY TARGETS

The following table summarises progress against the targets we set for academic year 2021/22. We recognise the global importance of the UN Sustainable Development Goals (SDGs) in creating a future which is sustainable for all, and as detailed further on page 10, we actively work to embed the principles of the goals into what we do. In the table we have highlighted the relevant SDGs for each area, demonstrating how our sustainability activities are contributing to advancing these.

| SECTION | 2021/22 HEADLINE TARGETS | 2021/22 TARGET STATUS | DETAILS | SDGs SUPPORTED |
|---|---|---|---|---|
| **3.0 Environmental Sustainability Strategy** PAGE 8 | Develop environmental sustainability strategy | 🟠 | Strategy in progress and due for publication in 2022/23 academic year | 11, 17 |
| **4.0 Energy and Environmental Management System (EEMS)** PAGE 12 | Maintain the EEMS to the ISO14001:2015 and ISO50001:2018 standard to retain certification | 🟢 | Certification retained following 2021/22 audit | 11, 17 |
| **5.0 Energy and Carbon** PAGE 14 | Achieve 57.5% carbon reduction against 2008/09 baseline by 2024 | 🟠 | Progress made towards 2024 target, with carbon emissions now 51% below 2008/09 baseline | 7, 9, 11, 13 |
| **6.0 Water** PAGE 17 | 30–35% reduction in water for the academic estate by July 2021, against 2011/12 baseline | 🟢 | 43% water usage reduction achieved against 2011/12 baseline | 6, 11 |
| **7.0 Waste & Resource Use** PAGE 18 | Continue to reduce waste generated per person against 2015/16 baseline | 🟠 | Operational waste generated per person is 40% below the 2015/16 baseline but saw a slight increase against last year due to an increase in people on campus following the pandemic | 9, 11, 12, 15 |
| | Reuse, recycle or compost 60% of all waste generated | 🟢 | 60.4% of our waste is reused, recycled or composted | |
| | Reuse at least 11t of waste per annum | 🟢 | 21.9t of waste was repaired, re-manufactured or reused in 2021/22 | |
| **8.0 Sustainable Travel** PAGE 22 | 87% of all commutes to campus by staff and students to be by a sustainable means (not single occupancy vehicle) by 2022 | 🟢 | Our target has just been met with 87% of commutes to campus by means other than single occupancy vehicle | 3, 9, 11, 13 |
| | Launch lift share scheme on staff Doing #UoR Bit sustainable behaviours engagement platform | 🟢 | The lift share scheme was launched for staff in July 2022 | |





| SECTION | 2021/22 HEADLINE TARGETS | 2021/22 TARGET STATUS | DETAILS | SDGs SUPPORTED |
|---|---|---|---|---|
| **9.0 Engagement, Awareness & Behaviour Change** PAGE 28 | Launch student version of Doing #UoR Bit sustainable behaviours engagement platform | 🟢 | The student version of the platform was launched in September 2022 | 3, 4, 11, 16, 17 |
| **10.0 Environmental Protection & Pollution Prevention** PAGE 30 | No more than 3 emissions/discharges incidents from University activities on a rolling 3-year average | 🟢 | No more than 3 emissions/discharges incidents occurred on a 3-year rolling average | 11, 13 |
| **11.0 Responsible Procurement** PAGE 31 | Achieve first Laboratory Efficiency Assessment Framework (LEAF) certification for one of our labs | 🟢 | Bronze LEAF award was achieved by the Food and Nutritional Sciences Department | 1, 5, 8, 10, 12, 17 |
| **12.0 Conservation & Biodiversity** PAGE 32 | Achieve our 12th consecutive Green Flag award | 🟢 | Our Green Flag award was retained for another year reflecting the beautiful grounds in which our University sits | 13, 14, 15 |
| **13.0 Community & Community Involvement** PAGE 34 | Hold a community forum event which includes a sustainability round table discussion | 🟢 | Our community forum was held and included a sustainability round table discussion with members of our local community | 9, 11, 16, 17 |
| **14.0 Sustainable Food** PAGE 35 | Achieve Food Made Good award | 🟢 | The highest rating of three stars was awarded across all of our outlets on campus | 2, 3, 12 |
| **15.0 Education for Sustainable Development** PAGE 36 | Develop and publish an ESD plan | 🟠 | Progress has been made by our ESD group towards developing a new plan, with this due to be published in 2022/23 academic year | 4, 17 |
| **16.0 Ethical Banking & Investment** PAGE 38 | Introduction of Ethical Banking Policy | 🟢 | An ethical banking policy has now been developed and is incorporated within our treasury policy | 8, 9, 11, 17 |
| **17.0 Ethical Careers & Recruitment** PAGE 39 | Investigate introducing Ethical Careers & Recruitment Policy | 🟠 | Some ethical screening criteria are already in our T&Cs for job advertisements, and planning has commenced to develop these further in 2022/23 | 5, 8, 10, 17 |

🔴 No progress made towards target 🟠 Progress made towards target 🟢 Target achieved

# 3.0 ENVIRONMENTAL SUSTAINABILITY STRATEGY

## Our strategy

In line with our aspiration to be a leader in global environmental sustainability, it is a University priority to develop a new environmental strategy with clear targets, timeframes and measures, and adjust policies to drive environmentally sustainable action. This has been a significant piece of work requiring collaboration across all areas of our organisation, and the final strategy is due to be published in academic year 2022/23.

**“Our evolving Environmental Sustainability Strategy encompasses how we can maximise our influence and impact to help achieve environmental sustainability, and sustainable development more widely, across three areas: Education & Engagement; Research & Influence; and a Green University.”**

**Dylan Parkes**, Head of Strategic Engagement (Climate and Environmental Sustainability)





Our new strategy will be underpinned by these three pillars:

### Education & Engagement

The University of Reading can influence societal changes by engaging , enabling and equipping all members of its community – staff, students and alumni – as leaders, decision-makers, consumers, parents and citizens.

For the next generations of students, in particular, the impacts of the changing climate and further decline in the natural world will be their lived reality. We must support all of our students to develop an understanding of the challenges ahead and the skills and knowledge to help address them through their future careers and in their day-to-day lives.

### Research & Influence

The University already makes a hugely significant contribution to our understanding of the climate and environment, such as through our world-leading climate research, our strengths in agriculture, food, health, the built environment and business. We must work to support and increase our impact and ability to create meaningful change.

We must also fulfil our duty as a ‘University for Reading’ by working closely with our neighbours and partners and playing a lead role in supporting Reading and the Thames Valley towards a resilient, sustainable future.

### A Green University

We have already made sector-leading progress in reducing our carbon emissions and minimising our waste, and we are increasingly applying our own research expertise in how we manage our operations.

How the University manages its operations and business activities, how it conducts its teaching and research, and how it works with partners around the globe, will all help us ensure all of our community can work together to deliver a better future.

# Embedding the Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) provide a framework for ensuring a more sustainable future for people and the planet across society, the economy and the natural world. These set the agenda for sustainable development to 2030.

The University is committed to working towards all 17 SDGs, embedding them across our curriculum, our campus, and within the wider community. We strive to integrate the SDGs in all we do including our teaching, operations and behaviours.

In line with our commitment to embed the SDGs, we participate in the Times Higher Education (THE) Global Impact Rankings which scores higher education institutions on their work towards each goal. Although institutions are only required to submit evidence against SDG17 and three others to produce their overall score and ranking, we submitted for all SDGs, reaffirming our commitment towards, and ambition to improve in all aspects of sustainability and global action.

In 2022, we saw our global impact score improve, achieving top 50 rankings in 7 of the 17 categories.

## UoR: top 50 rankings in 7 of the 17 SDG categories


SDG1: No Poverty
20 out of 769


SDG2: Zero Hunger
23 out of 553


SDG8: Decent Work and Economic Growth
30= out of 84


SDG10: Reduced Inequalities
31= out of 796


SDG12: Responsible Production & Consumption
7= out of 604


SDG13: Climate Action
33 out of 674


SDG15: Life on Land
48 out of 521



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# Leading the Way on the Climate Change Response

We are a world leading university in climate change research and put the world we live in, and the people that live in it, at the heart of our approach. Our experts continue to present the latest climate science to policymakers in the UK and around the world, and we are committed to taking action to drive change, as demonstrated through our recent activities.

For nearly a century, University of Reading has been improving people's lives. Today, we remain dedicated to that same ethos of making the world a better place. It's just the UoR way.

Contributed **largest number of scientists** to first working group of the sixth IPCC assessment report

Home of the **climate warming stripes**, an emblem for climate action, downloaded and shared millions of times

Leading role in the **Reading Climate Change Partnership** (and the wider Reading Climate Action Network), working to make Reading Net Zero Carbon by 2030

Our Vice-Chancellor sits on the **Universities UK Task and Finish Group** on Climate Change

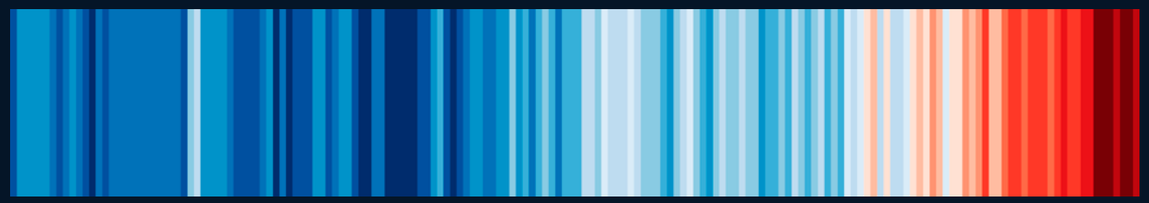
Our **climate research centre**, the Walker Institute, supports development of climate-resilient societies

Active role in creating a **Citizens UK Alliance**, for the region bringing together groups to work on issues such as climate change

## Improving our Sustainability for both People & Planet

People & Planet's University Green League is an independent league table of UK universities ranked by environmental and ethical performance, which is compiled annually by the UK's largest student campaigning network, People & Planet.

We are proud to have been classified in the top tier as a 'first class' university, ranking 15th out of 154 UK universities in 2021. Achieving a top 5 position by 2026 is a key target identified in the University's Strategic Plan and is something we are actively working towards.



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# 4.0 COMPLIANCE & MANAGEMENT SYSTEMS

The Energy and Environmental Management System (EEMS) provides the University with a framework through which its environmental performance can be monitored, controlled and improved. The system enables the University to set out key environmental objectives and targets, maintain compliance with its legal and other obligations, and strive for continual improvement.

## Tracking our progress

- Our EEMS is externally certified to both ISO 14001 (since 2014) and ISO 50001 (since 2015).
- Our certifications were retained following our latest annual audit by an external accreditation body, with no non-conformities identified.
- Our 2021/22 management review concluded that the EEMS continues to help embed sustainability into everyday practices and decision making by giving a framework to set objectives, identify opportunities and risks, and monitor progress via internal audits and management reviews.

**“This was another extremely good audit which has demonstrated that the university are operating a well-managed and effective environmental and energy management system which meets the requirements of the ISO 14001:2015 and ISO 50001:2018 standards.”**

**NQA Auditor – Audit Report March 2022**

## Our Future Commitments

The EEMS is integral to the management of our environmental impacts and improving our environmental performance. As such, we are committed to maintaining the EEMS to the ISO14001:2015 and ISO50001:2018 standards to retain certification.

# 5.0 ENERGY & CARBON

We have committed to becoming a Net Zero Carbon university by 2030, demonstrating our continued leadership in reducing our environmental impacts. Achieving this goal can set the University apart as one of the leading institutions globally in delivering on climate change mitigation.

The University already has an excellent track record, having cut our emissions by 51% since 2009. Reaching Net Zero over the next 8 years will require a whole new level of effort, planning and investment which we will achieve by building on our solid energy management foundations. The scope of our Net Zero Carbon target is detailed in Appendix I.

## Tracking our progress

Substantial Salix Finance grant funding secured in 2020/21 enabled significantly more carbon reduction projects to be implemented than have ever been achieved in a single year before. Here we summarise some of the highlights.

### Carbon Emissions

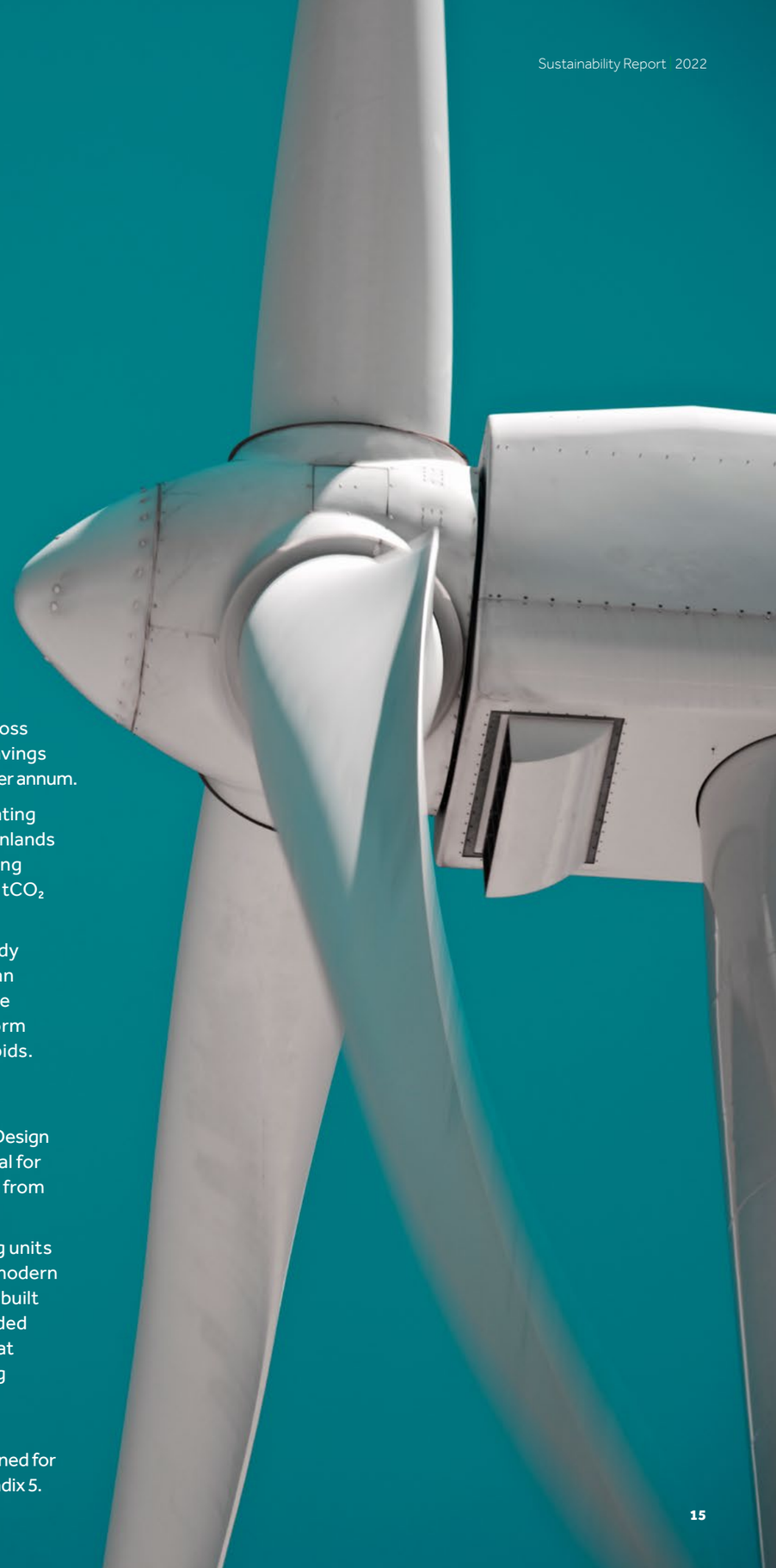
- We set an interim target of 57.5% reduction against baseline by July 2024 and by July 2022 emissions were 61.8% below baseline in absolute terms, and 50.9% below our 2008/09 baseline when adjusting for an assumed increase in travel to no more than 70% of previous levels (which is the University's agreed aim by 2026). These figures are based on geographical carbon accounting.
- Our 'scope 1 and 2' emissions are 55.6% below baseline, slightly less than the predicted 60% in last year's report, principally due to delays due to the pandemic with closing/disposal of buildings whose operations have moved to the new Health & Life Sciences building.
- 2.7% of our renewable electricity is self-generated, from our own onsite solar panels. Appendix 2 shows the emissions we avoided through our own renewable generation of power. We continue to procure 100% certified renewable electricity for our remaining electricity demand. When using market-based carbon accounting, our overall emission reductions stand at 74.3% below baseline.
- We have now saved circa £43.5 m cumulatively since 2009 as a result of our carbon management programme, compared to a business-as-usual scenario.
- Analysis of 2020/21 carbon emissions reported to HESA's Estates Management Records indicate that Reading have again made the third largest percentage carbon reductions of any research-intensive university, despite an increase in our emissions this year, due to the rebound post-pandemic.
- A full breakdown of our emissions with a comparison against baseline and last year can be found in Appendix 3, and Appendix 4 shows our emissions for those areas excluded from the scope of our Net Zero Carbon target.

### Energy

- Overall, Primary Energy use was 1% less than the previous year, when converting all sources of energy back to their primary energy equivalents to enable meaningful comparisons.
- Analysis of our Display Energy Certificates (DECs) indicated that 89% of our assessed buildings perform better than average from an energy perspective, up from 86% the previous year (but possibly benefitting from COVID shutdowns).

### Completed Projects

- Upgrade of approximately 4,800 light fittings to LED across three campuses, targeting savings of 226 $tCO_2$ and 890,000 kWh per annum.
- Implementation of zoned heating controls to the URS and Greenlands Main House buildings in Spring 2022 targeting savings of 138 $tCO_2$ and 660,000 kWh per annum.
- Completion of feasibility study and heat decarbonisation plan for the Earley Gate side of the Whiteknights campus to inform future thinking and funding bids.
- Progressed plans to begin decarbonising the central Whiteknights Energy Centre. Design work is underway and approval for test borehole drills is awaited from the Environment Agency.
- Upgrade of 12 air conditioning units with 10 new, high efficiency, modern units, including some with in-built occupancy sensors. This yielded a 91% saving in the energy that they use, with a carbon saving of 9.68 $tCO_2e$ per year.
- A full list of energy projects completed in 2021/22 and planned for 2022/23 can be found in Appendix 5.

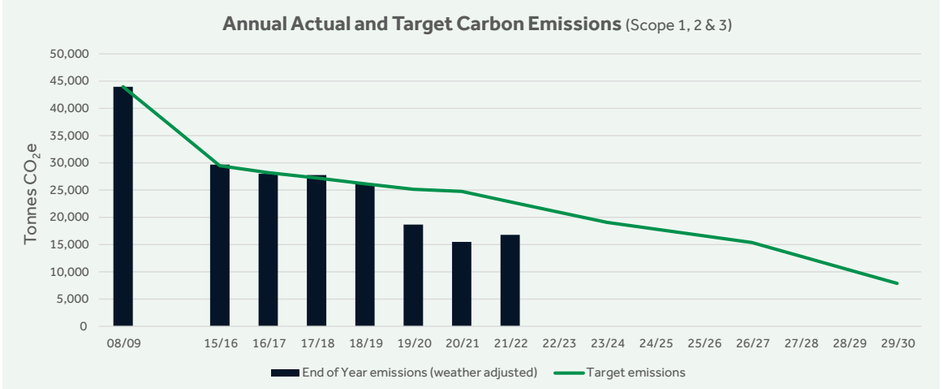


## Our Future Commitments

University operations are returning to business-as-usual, with the vast majority of teaching now face-to-face. Working from home, especially for non-academic staff, is anticipated to be at a higher level than before the pandemic, resulting in a likely continued small reduction in electricity demand.

More substantial energy reductions are anticipated from the Salix Finance-funded carbon projects completed in 2021/22 and further projects to reduce energy are planned for 2022/23. Overall, energy reductions of 5%–10% are anticipated compared to business-as-usual, helping to take us towards our interim 2024 carbon reduction target.

The graph illustrates our target trajectory for carbon emissions to 2030. Remaining emissions at that time will be covered by a robust carbon insetting and/or offsetting programme.




## Planned projects for 2022/23

- Subject to a successful grant funding bid, begin implementation of our first heat decarbonisation retrofit project, in the SportsPark, to replace its ageing gas boilers with low carbon air source heat pumps, targeting annual savings of 489,735 kWh and 121 $tCO_2$.
- Progress plans for decarbonising the central Whiteknights Energy Centre, developing designs and a funding bid for full decarbonisation of the heating supply to multiple buildings across the campus over the next 3 years.
- Insulation of Edith Morley loft space, targeting savings of 22 $tCO_2$ savings and 118,000 kWh per annum.

## CASE STUDY: Solar PV Project

Our ambitious solar panel extension project saw the doubling of Whiteknights solar PV generation capacity to 1 MW. Installations were completed on 7 further buildings, totalling 450 kWp (Whiteknights total = 998 kWp), predicted to generate 395,482 kWh electricity each year, saving £134,000 (at 2022/23 prices) and 91 $tCO_2$ annually. This is equivalent to removing the electricity consumption of circa 136 houses from the grid.[1]

1 Typical Domestic Consumption Values (TDCVs) are industry standard values for the annual gas and electricity usage of a typical domestic consumer. The latest figure released by Ofgem (2020) is 2,900 kWh electricity use for a medium sized house.





# 6.0 WATER

Water is a precious resource which is required to sustain life. Many areas of the world are already severely impacted by water shortages and others are likely to become affected as we see changes to the climate occur. Taking steps to manage and conserve water use is therefore critically important.

## Tracking our progress

43% water-use reduction recorded in 2021/22 against 2011/12 baseline, exceeding our target.

- Water consumption reduced considerably during the Covid-19 pandemic lockdown. Whilst usage has increased since, it has not reached pre-pandemic levels, reflective of the ongoing hybrid working model which has been adopted, contributing to our reduced consumption.
- A project with our local water company, Thames Water, also contributed substantially to water reductions. This entailed detailed site audits to identify and resolve leaky taps and toilets, plus the installation of low flush toilet solutions.
- Analysis of reported 2020/21 water consumption to HESA's Estates Management Record indicate that Reading has the sixth lowest water consumption per head of any research-intensive university.
- This year we have commenced a more detailed assessment of water use by building in order to identify where improved metering is required. This will inform future water management projects.

## Our Future Commitments

- Make progress towards our target of 45% reduction in non-residential and 25% reduction in residential water consumption by 2026, against 2011/12 baseline.
- Conclude detailed water and water metering assessment and identify meter improvement projects.

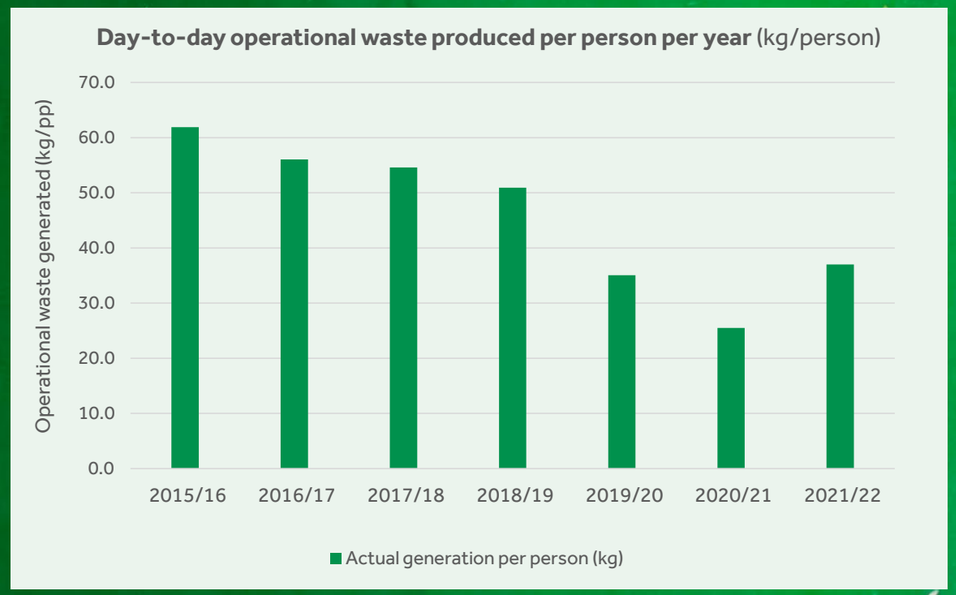
# 7.0 WASTE & RESOURCE USE

The University's new Waste & Resource Use Strategy was published in summer 2021. Covering the period from 2021 to 2030, the Strategy is focused on responsible resource use and sustainable waste management.

Our aim is to increase resource efficiency by doing more and better with less; to move away from the inefficient linear model of 'take, make, use, throw' towards a circular economy; to prevent waste being generated in the first place; to fulfil our legal obligations and align with the Waste Hierarchy; and to promote new opportunities and initiatives across the University.

## Tracking our progress

When compared to the University's 2015/16 baseline of 61.9 kg per person, 2021/22 saw a 40% reduction in operational waste generated per person.



## Reduce

- Total operational waste produced in 2021/22 academic year was 37.0kg per person, compared to our baseline of 61.9 kg per person, representing a 40% reduction.
- The reduction in waste produced reflects key initiatives undertaken to reduce single-use items, to improve the re-distribution of unwanted furniture and equipment, and to reduce packaging waste.
- Even before the pandemic, the University had significantly decreased the amount of operational waste generated per person. In January 2020 waste production stood at 17.6% less per person, when compared to our 2015/16 baseline.

## Reuse and Repair

- 5.4t of items were re-used across the year via our Warp-it reuse platform, with a further 16.5t of additional items repaired, re-manufactured or reused via other routes, equating to a total of 21.9t in 2021/22.
- The Campus Services department has a rolling programme to repair and re-cover teaching room chairs across the University, thereby reducing the number of chairs sent for disposal.
- A new initiative to undertake regular collections of wooden pallets from specific departments has enabled more pallets to be re-used or re-manufactured.

## Recycle

- Our annual recycling rate for operational waste is currently 60.4% by weight (including repair, re-use, anaerobic digestion & composting).
- As part of the new waste contract, from 1 February 2022, pay-by-weight facilities have now been rolled-out for collections of glass and food waste from across the University (in addition to those waste streams already managed in this way).

## Recover

- For our waste which cannot be reused or recycled in some way, the vast majority of this is sent to an energy from waste recovery plant, in which the waste is burned with the resulting steam powering a turbine which generates electricity.

## Landfill

- In 2021/22, over 98% of the University's operational waste was diverted from landfill (98.3%), taking us towards our 2024 target to reduce waste sent to landfill to less than 1%.

## Construction Waste

- Due to the variability in quantities and types of construction waste from year to year in line with major project schedules, information is collated and classified independently from the University's operational waste. In 2021/22, the University's contractors generated 335t of construction waste, of which 64% was sent for reuse, recycling or composting.

A full breakdown of our waste data and the waste management projects completed in 2021/22 can be found in Appendix 6, with more information on management of our food waste in Appendix 7.





## CASE STUDY: Whiteknights Recycling Bin Project

A project was undertaken to replace our external recycling bins at our Whiteknights campus. Importantly, the project included an update to graphics detailing what should be disposed of in each bin to make it easier to understand. This has supported the increase of recycling by ensuring items that can be recycled are more likely to be placed in the correct bin. The project has been well received on campus and has supported our efforts to increase recycling across the University.


## CASE STUDY: Graduation Re-Use Project

Summer 2022 graduation ceremonies were planned to minimise waste generation and promote re-use. The University's Events team, in conjunction with the Catering team, provided graduands and visitors with re-usable cups to be used in cafés/restaurants on campus during the celebrations, and to be taken away afterwards. The re-useable cups were branded with our Climate Stripes image to also raise awareness of climate change amongst attendees.


## Our Future Commitments

- Continue to reduce the amount of operational waste produced annually per person (staff and student FTE) and move the University's waste up the Waste Hierarchy.
- Continue to increase annual repair, remanufacture and re-use of items.
- Develop the 3-year Delivery Plan to enact the Waste and Resource Management Strategy and monitor progress against its objectives and targets.
- Create a more formalised mechanism to increase the amount of IT equipment that is redistributed and re-used, rather than sending equipment to be recycled after its first use.

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# 8.0 SUSTAINABLE TRAVEL

The overarching aim of our sustainable travel plan is to reduce the environmental impact of travel and transport associated with the University, including travel/commuting to campus, and business travel. Our vision is that wherever possible this will be achieved through encouraging positive choice of alternative modes of travel to single occupant vehicles (SOV) for commuting, by increasing their attractiveness to University users, as well as reducing business travel emissions through a reduction in flights.

## Tracking our progress

Our 2022 travel survey confirmed that our target of 87% of all commutes to campus by staff and students to be by a sustainable means (anything other than single occupancy travel – SOV) has been met, representing a significant improvement since 2020.

The results of the travel survey have been instrumental in highlighting barriers to and opportunities for sustainable travel, and this will inform the development of our subsequent travel plan.

## Walking

- Walking remains the most common travel mode to the University as a whole, particularly among the student population, due to close proximity of student accommodation to the University.
- On campus, pathway improvements have reduced conflict between pedestrians and cyclists.

## Cycling

- University cycling initiatives remain popular, including regular 'Dr Bike' sessions where a mechanic will check and fix bicycles for free, and free cycle training for staff and students to help keep people safe on the roads.
- The RUSU led Unicycle hire scheme remains popular, with the highest number of hires in 2021/22 since 2018/19.
- We have sheltered cycle parking facilities at all three main campuses and now have 3,488 cycle parking spaces available to staff and students.

## Public Transport

- There has been a considerable rebound in the numbers of people using bus services 19 and 21, however, numbers remain lower than before the Covid-19 pandemic. This is likely to be a reflection of changes to working patterns and will be monitored further in the year ahead.
- We actively engage with Reading Buses to provide travel offers for getting to the University, and to work on shared initiatives to increase the use of public transport.

## Driving

- We have launched a new lift share scheme to encourage car sharing to reduce single occupancy vehicle travel.
- We have two double Electric Vehicle Charging Points (EVCP's) installed at the Sports Park on the Whiteknights campus and one double EVCP installed at Henley Business School on the Greenlands Campus to facilitate the use of electric vehicles.
- We continue to host the Co-Wheels car club scheme where a car can be hired from two sites on campus for as little as 30 minutes. The need for further promotion of Co Wheels was highlighted in the 2022 University travel survey as demand for the Co-Wheels cars has dropped.

## Business Travel

- We have developed some new, ambitious business travel principles, which will be launched in the autumn, aiming to reduce air travel for business and encourage more sustainable commuting options where feasible.

Appendix 8 contains our annual travel report with more detail on travel metrics for 2021/22.


## Breakdown of travel to University by travel mode

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## CASE STUDY: Our Travel Survey

The University's staff and student travel survey was conducted in January 2022, showing we have achieved our Travel Plan target for 87% of all travel to be sustainable by 2022.

Jackie Simpson, from Sustainability Services led the project and said:

**"The survey revealed that Covid-19 has led to huge changes in working from home and travel patterns. There are noticeable increases for both the staff and student communities saying they work from home more frequently. This has meant that there has been a decline in the frequency of use of all forms of travel."**

Encouragingly high numbers of respondents said they would consider alternative modes of transport, with the most popular being: cycling, travelling by foot or by bus / coach. Interestingly the majority of those selecting these alternative modes live close enough to make their potential switch viable. There was clear support for the changes people want to see.

## Our Future Commitments

- Commission new 5 year Travel Plan, utilising the results from the 2022 travel survey.
- Increase promotion of Co-Wheels scheme.
- Launch trial of new Park & Ride scheme to the University.
- Implement our new business travel principles.

# 9.0 ENGAGEMENT, AWARENESS & BEHAVIOUR CHANGE

Engagement and behaviour change are essential to driving the sustainability agenda forward. In line with our communications objectives to raise visibility, develop relationships, and influence behaviours, the following summarises the significant engagement activity that has been undertaken to meet these.

## Tracking our progress

- Over 600 University staff joined forces at the Show Your Stripes day, which showcased sustainability initiatives at the University and demonstrated to staff how they can personally get involved to lower their environmental impact. Highlights included:
  - Strong engagement with the staff Doing #UoR Bit sustainable behaviours platform, with a 19% increase in the number of staff signed up.
  - Our Vice Chancellor showed his support for sustainable travel by participating in the campus bike ride, led by the Sustainability team.
- A new student version of the Doing #UoR Bit platform has been launched to increase engagement with students and promote sustainable behaviours.
- A new partnership with Reading Football Club led to the launch of their new season kit with the University's iconic climate stripes design. Sustainability experts at the University led a collaborative workshop to support the football club to develop its sustainability goals.
- A low emission bus emblazoned with the climate stripes has resulted from a joint project between the University and Reading Buses, helping to further raise awareness of climate change in our local community.

## Our Future Commitments

- Commencement of a University-wide sustainable behaviours programme.
- All new staff to receive sustainability information, delivered in person at central induction sessions.
- Green festival 2022: A range of different events and sustainability experiences covering: sustainable travel, air quality, community engagement and energy.
- Development of climate change training module for staff by our Walker Institute climate research centre.



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## CASE STUDY: Doing #UoR Bit Student Platform

A student version of the Doing #UoR Bit sustainable behaviours engagement platform was launched September 2022. This has been made possible thanks to the generosity of donors to the University of Reading IMAGINE campaign and the Reading University Students' Union (RUSU) who provided additional prize funding. Extensive collaboration was undertaken between the sustainability team and RUSU to ensure that the platform engages and excites our student community to support them in adopting more sustainable behaviours.

Sheldon Allen, the current RUSU President said:

**"I'm delighted that the sustainability team have developed a student-facing Doing #UoRBit. When I ran for election, I pledged to support students to live more sustainability and reward them for doing so. We have put together a great range of rewards from £30 vouchers to free bus travel. By completing activities, students can make a difference to their environment and learn ways to live more sustainably. I'd like to pay huge thanks to the sustainability team for seeking student views and working with the Students' Union in the development of this app that I hope will be a huge success!"**

# 10.0 ENVIRONMENTAL PROTECTION & POLLUTION PREVENTION

Pollution of the air, land and water can occur through 'emissions and discharges' which generally refers to the liquid effluent, solid waste and airborne matter that is a by-product of an organisation's activities. It is therefore important that we manage and minimise the risk of pollution from our activities. We do so by controlling emissions, meeting regulatory standards, and implementing emergency response procedures, in line with our Energy and Environmental Policy. This is managed through the EEMS and reported to the Environmental Management Review Group.

## Tracking our progress

- A new emissions and discharges plan was developed and published in July 2022.
- Any issues or incidents raised in 2021/22 have been dealt with effectively, with corrective and preventative measures being identified and implemented to prevent recurrence, in line with our EEMS procedures
- Estates staff renewed their Level 1 spill training in 2022, with select staff going on to complete the Level 2 training.
- Following the training, the Estates Spill Plan was reviewed and will be re-issued and a pollution prevention guide for the University will be produced.
- The Emissions and Discharges target was revised with a more robust target and action plan to reduce emissions where possible, to no more than 3 incidents from University activities on a rolling 3-year average. The University will respond promptly and efficiently to any incidents which occur in order to reduce the impact on the environment.
- The University became an official Clean Air Day supporter to support the drive to increase awareness around the need to take action to minimise air pollution.

## Our Future Commitments

- We seek to maintain our target of no more than 3 emissions/ discharges incidents from University activities on a rolling 3-year average and report progress against this.





# 11.0 RESPONSIBLE PROCUREMENT

We procure many goods and services which are essential to the University's operations and to enable us to advance in our research, practices and reach. We recognise that the activities of our supply chain are essentially a part of our own environmental and social impact and we have a duty to positively influence these.

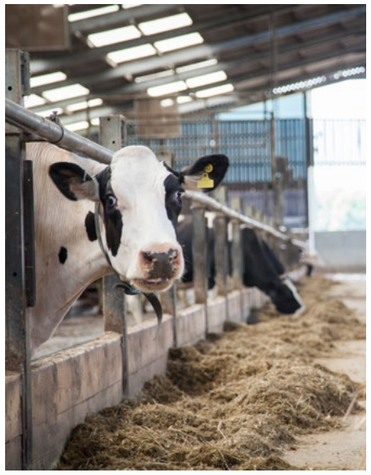
We are committed to providing responsible procurement operations and leveraging our supply chain to benefit the University and our community, both environmentally and socially. This commitment is reflected in our Procurement Policy and it is the role of our Responsible Procurement Group to embed this ethos into our procurement operations.

## Tracking our progress

- To improve our supply chain sustainability, our tenders require that all suppliers have policies and procedures in place regarding environmental sustainability and suppliers are required to sign up to our Code of Conduct.
- We work with Electronics Watch to ensure safe, equitable, sustainable and ethical workplaces in our supply chain.
- The University received its first bronze LEAF award this year in our Food and Nutritional Sciences Department.
- We actively engage with local Reading businesses, particularly Small and Medium-Sized Entreprises (SMEs) to encourage more local sourcing through the Reading Business Network and Federation of Small Businesses.
- We have started to embed circular procurement principles into our practices, for example through the use of eggs and beef from University farms in on-campus cafes, and through the re-use or refurbishment of unwanted IT equipment.

## Our Future Commitments

- Our responsible procurement focus areas for 2022/23 include SMART objectives and cover: scope 3 emissions, ethical workforce, local community engagement and the University of Reading as a responsible consumer.




# 12.0 CONSERVATION & BIODIVERSITY

Our community of academics, professional colleagues and students, which boasts botanists, ecologists, meteorologists and zoologists have been studying our Whiteknights campus, which is set in approximately 130 hectares of diverse parkland, for many decades.

Biodiversity is essential for maintaining healthy ecosystems and maintaining the processes that support life on Earth. We are working to develop and conserve the biodiversity of the green spaces on our campus which is enjoyed by our staff, students, and thousands of visitors from community groups and the local community.

This commitment is supported by our biodiversity policy.

## Tracking our progress

- Designation of two large 'succession areas' – areas of wild meadow being left to grow naturally with no management.
- Established 'pollinator lawns', which cover extensive parts of previously short mown grass on Whiteknights campus to improve diversity of habitats in these areas.
- Launched a self-guided nature trail enabling staff, students and visitors to learn more about wildlife and biodiversity as they visit some of the notable habitats on our Whiteknights campus.
- Launched the Harris Garden audio trail designed to help young children and their families learn more about the rare and unusual plants in the University's 'secret garden'.

## Our Future Commitments

A significant amount of work has been undertaken on further understanding biodiversity across our campuses over the last 12 months. From this work we will develop a new biodiversity plan for publication in 2022/23.

## Langley Mead Nature Reserve Extension

The University owns and manages a community nature reserve at Langley Mead, 18 hectares of wildflower meadows. This supports a significant number of rare plant species. An extension of Langley Mead will allow the University and ERP to further improve conditions for wildlife, with an emphasis on creating highly connected, continuous habitat that brings traditional management practices back to the landscape. Initial works will involve translocating green hay from Langley Mead's existing wildflower meadows, plant hedgerows, and create wetland features – vital for restoring and developing sustainable wildlife populations.

## Natural History Museum, Coming to Reading

The Natural History Museum, has announced plans to develop a new global and sustainable base for high-end natural sciences research and international collaboration with the University of Reading. Subject to planning permission, the centre will be created at the Thames Valley Science Park (TVSP) which is owned and managed by the University. It will widen access to collections for the Museum's 350 scientists, their collaborators and researchers worldwide. Over 27 million specimens, as well as over 5,500 meters of Natural History Museum library material will be rehoused in the largest collections move for the Museum since the 1800s.



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# 13.0 COMMUNITY & COMMUNITY INVOLVEMENT

We are committed to creating a University for Reading that positively benefits our local community and works in partnership to make an impactful contribution to the town and surrounding areas. Many of our community initiatives relate to environmental sustainability.

## Tracking our progress

- The Community Action Partnership was established in 2021 to support the University in exploring dynamic, exciting and innovative ways to connect to, support and value local communities in Berkshire.
- We actively engage with other local stakeholders, working collaboratively to improve sustainability within our community. For example we recently launched our Reading Football Club sustainability partnership, we are taking a leading role in the Reading Climate Change Partnership (and the wider Reading Climate Action Network), and we are working with Royal Berkshire Hospital to roll out the LEAF environmental scheme to laboratories across both organisations.
- A small group of local residents who enjoy spending time at our beautiful Whiteknights campus came together to incorporate litter picking into their campus walks during lockdown. Affectionately known as the 'Whiteknights Litter Pickers' they continue to do so, supported by the University.
- Our 2021 'Hello Neighbour' campaign was run in partnership with Reading Borough Council and the Students' Union (RUSU). The campaign aimed to promote positive relations between students and residents and included providing students with information on waste and recycling to help improve sustainability, and address concerns raised by local residents over student waste.

## Our Future Commitments

- Hold or take part in a clean-up event in our local area.
- Improve the capture of information on community events held, to support the future measurement and setting of annual targets to improve engagement.





# 14.0 SUSTAINABLE FOOD

The University of Reading has extensive activity within food and drink, from its farms, The National Fruit Collection, teaching and research in both Agriculture and Food Sciences as well as an extensive Catering operation. Significant progress has been made in embedding sustainability principles into our food operations in a diverse range of ways.

## Tracking our progress

- We are the first university in Europe to be become a member of Menus of Change Universities Research Collaborative (MCURC), committed to the principles of healthy and sustainable menus. We are also a member of the MCURC network, which aims to cultivate the long-term well-being of all people and the planet.
- In 2022, we were awarded the highest level, three star, Food Made Good certification across all our physical outlets, following an independent audit by the Sustainable Restaurant Association.
- A number of projects have been implemented across our catering venues over the last year to reduce our energy use and carbon emissions, including the installation of replacement heat pumps at our Park Eat restaurant, as well as entirely phasing out the use of gas in this outlet.

## Our Future Commitments

- Make progress towards target of 25% reduction in food emissions intensity (kg of $CO_2$ per kg of protein-based foods purchased) by 2030, as measured by MCURC's Collective Impact Initiative Methodology.
- Develop a plan for reducing carbon emissions from energy used in campus catering facilities, including heating and hot water.

## CASE STUDY: Catering Ovens Replacement Case Study

As part of the Salix PSDS, in the spring of 2021 18 ageing and inefficient catering ovens were replaced with 16 new units, across 7 catering establishments. Energy Officer, Dr Sam Mudie gained her PhD in catering energy efficiency at University of Reading and was keen to make an accurate assessment of the savings.

**"It was a real privilege to use my thesis to report on energy saving at the University itself. It's tricky to assess the energy reduction of catering appliances. To gain accurate, comparable data one must assess the capacity of the appliance, temperature settings, throughput of food, and look at exactly what food uses the specific ovens from the menu. Thankfully I had built a published model for this, and the catering department keep excellent records. Combined, these were used to determine the energy savings on a granular level."**

This project resulted in savings of 446,699 kWh per year (73%) and annual emissions reductions of 67.9 $tCO_2e$. Catering appliances are extremely expensive, and the new units came with a total cost of £139,845. However, they consume a great deal of energy and with an annual cost saving of £30,677 from electricity and gas, a payback period of 4.55 years was achieved (using 2021 energy rates).

# 15.0 EDUCATION FOR SUSTAINABLE DEVELOPMENT

As we head towards our centenary, we are not only reflecting on our past but looking towards the future. Ours is a global, shared future in which we equip our students with the skills and knowledge they need to help build a sustainable future for all. Our Executive Board has agreed that, as one of our priorities, we will embed environmental sustainability across both our curriculum and staff training programmes.

In developing our framework for ESD across the University we are working towards ensuring that ESD is the business of all subjects at the University but experienced in a way that is authentic to the discipline. This can be done by underpinning approaches to ESD with the UN Sustainable Development Goals (SDGs).

## Tracking our progress

- In 2021 the University agreed a proposal to further embed sustainable development in our curriculum, and this work is overseen by our ESD steering group, with the following aims:
  - That all graduates of the University will have a fundamental understanding of the concepts related to Sustainable Development;
  - That our students are enabled and empowered to become effective in positively contributing to sustainability problem-solving in their lives, professions, and communities.
- Our curriculum framework was revised in the Summer 2021 and includes a statement on ESD, to reflect these aims.
- The Department of Meteorology offer an optional module, MT1CC Science of Climate Change, aimed at all students, not just those studying the sciences.
- In 2021 we introduced a range of staff training sessions to support staff in achieving our objectives. These included 'Establishing Education for Sustainable Development' and 'Mainstreaming Sustainability Teaching'.
- In collaboration with STEM Learning, we are leading a new Climate Ambassador Scheme to support schools and colleges in the UK to develop knowledge and skills to equip students to tackle the future in a changing climate. The has been adopted as a core part of the UK government Department for Education's Sustainability and Climate Change Strategy, published in April 2022.

## Our Future Commitments

A significant amount of work has been undertaken on further understanding ESD across our campuses over the last 12 months. From this work we will develop a new ESD plan for publication in academic year 2022/23.

# 16.0 ETHICAL INVESTMENT & BANKING

We recognise the need to ensure that our financial practices are conducted transparently, and in an economically-viable and socially-responsible manner. This is the responsibility of our investment committee. Our responsible investment principles have been integrated into our main investment policy to ensure that these principles are incorporated into our investment decisions.

## Tracking our progress

- In addition to our responsible investment policy, we have now introduced an ethical banking policy within our main treasury policy.
- We completed a banking services tender in academic year 2021/22. In line with our ethical banking policy, ethical, social and governance criteria formed a key part of the tender requirements.
- The University has divested from fossil fuels and we have committed to making no direct or indirect investments In fossil fuels in the future.
- Additional investment exclusions and tolerances include weaponry and armaments, pornography, tobacco, gambling, high interest rate lending, alcohol, oil and gas (extraction, production and refining), tar sands and thermal coal, and non-medicinal animal testing.

## Our Future Commitments

We have committed to reviewing and enhancing the ethical investment principles within our investment policy, with the new policy to be published in academic year 2022/23.



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# 17.0 ETHICAL CAREERS & RECRUITMENT

As a University, we play a key role in the development of the next generation, giving them the skills, knowledge and tools they need to make a difference. In addition to ensuring that sustainability is integrated within our educational curriculum, we recognise that the careers and jobs that we promote will also influence the direction and future of the students that we teach.

## Tracking our progress

We have already added some ethical screening criteria to our terms and conditions for advertising job vacancies through our careers service, such as the requirement to pay in accordance with the National Minimum Wage and Living Wage requirements. We plan to further develop our ethical and sustainable screening criteria.

## Our Future Commitments

Review and enhance our terms and conditions around ethics and sustainability in careers and recruitment.

# 18.0 OUR 2022/23 TARGETS

The following table outlines the key targets we have set around environmental sustainability for academic year 2022/23, and the SDGs that they support.

| SECTION | 2022/23 HEADLINE TARGETS | SDGs SUPPORTED |
|---|---|---|
| **3.0 Environmental Sustainability Strategy** | Publish new environmental sustainability strategy in academic year 2022/23 | 11 SUSTAINABLE CITIES AND COMMUNITIES; 17 PARTNERSHIPS FOR THE GOALS |
| **4.0 Energy and Environmental Management System (EEMS)** | Transfer to new external auditor and maintain the EEMS to the ISO14001:2015 and ISO50001:2018 standard to retain certification | 11 SUSTAINABLE CITIES AND COMMUNITIES; 17 PARTNERSHIPS FOR THE GOALS |
| **5.0 Energy and Carbon** | Achieve 5–10% energy savings to support progress towards our interim 2024 carbon reduction target | 7 AFFORDABLE AND CLEAN ENERGY; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 11 SUSTAINABLE CITIES AND COMMUNITIES; 13 CLIMATE ACTION |
| | Develop an Energy Action Plan, setting out plans for the next 3 years to reduce carbon emissions, energy and utilities costs across the University | |
| **6.0 Water** | Review and develop plan for improved building-level water metering across the estate | 6 CLEAN WATER AND SANITATION; 11 SUSTAINABLE CITIES AND COMMUNITIES |
| **7.0 Waste & Resource Use** | Continue to reduce annual total operational waste produced per person (staff and student FTE) & move the University's waste up the waste hierarchy | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 11 SUSTAINABLE CITIES AND COMMUNITIES; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 15 LIFE ON LAND |
| | Develop the 3-year Delivery Plan to enact the Waste and Resource Management Strategy and monitor progress against its objectives and targets | |
| **8.0 Sustainable Travel** | Produce new 5 year Travel Plan, utilising the results from the 2022 travel survey | |
| | Launch trial of new Park & Ride scheme to the University | 3 GOOD HEALTH AND WELL-BEING; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 11 SUSTAINABLE CITIES AND COMMUNITIES; 13 CLIMATE ACTION |
| | Launch the University's new Sustainable Travel Principles, seeking to cut business travel emissions and encourage the uptake of low-carbon forms of commuter travel | |
| **9.0 Engagement, Awareness & Behaviour Change** | Commence the University's sustainable behaviours programme | 3 GOOD HEALTH AND WELL-BEING; 4 QUALITY EDUCATION; 11 SUSTAINABLE CITIES AND COMMUNITIES; 16 PEACE, JUSTICE AND STRONG INSTITUTIONS; 17 PARTNERSHIPS FOR THE GOALS |
| **10.0 Environmental Protection & Pollution Prevention** | Maintain our target of no more than 3 emissions/discharges incidents from University activities on a rolling 3-year average | 11 SUSTAINABLE CITIES AND COMMUNITIES; 13 CLIMATE ACTION |
| **11.0 Responsible Procurement** | Attain the Fairtrade Universities and College Award, which we are currently working towards | 1 NO POVERTY; 5 GENDER EQUALITY; 8 DECENT WORK AND ECONOMIC GROWTH; 10 REDUCED INEQUALITIES; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 17 PARTNERSHIPS FOR THE GOALS |
| | Consider how to reduce procurement-related scope 3 emissions, led by our Responsible Procurement Group | |
| **12.0 Conservation & Biodiversity** | Develop a new biodiversity plan for publication in 2022/23 | 13 CLIMATE ACTION; 14 LIFE BELOW WATER; 15 LIFE ON LAND |
| **13.0 Community & Community Involvement** | Hold or take part in a clean-up event in our local area | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 11 SUSTAINABLE CITIES AND COMMUNITIES; 16 PEACE, JUSTICE AND STRONG INSTITUTIONS; 17 PARTNERSHIPS FOR THE GOALS |
| | Improve the capture of information on community events held, to support the future measurement and setting of annual targets to improve engagement | |
| **14.0 Sustainable Food** | Make progress towards target of 25% reduction in food emissions intensity (kg of $CO_2$ per kg of protein-based foods purchased) by 2030, as measured by MCURC's Collective Impact Initiative Methodology | 2 ZERO HUNGER; 3 GOOD HEALTH AND WELL-BEING; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION |
| | Develop a plan for reducing carbon emissions from energy used in campus catering facilities, including heating and hot water | |
| **15.0 Education for Sustainable Development** | Develop a new ESD plan for publication in 2022/23 | 4 QUALITY EDUCATION; 17 PARTNERSHIPS FOR THE GOALS |
| **16.0 Ethical Banking & Investment** | Review and enhance our ethical investment policy | 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 11 SUSTAINABLE CITIES AND COMMUNITIES; 17 PARTNERSHIPS FOR THE GOALS |
| **17.0 Ethical Careers & Recruitment** | Review and enhance our terms and conditions around ethics and sustainability in careers and recruitment | 5 GENDER EQUALITY; 8 DECENT WORK AND ECONOMIC GROWTH; 10 REDUCED INEQUALITIES; 17 PARTNERSHIPS FOR THE GOALS |



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# APPENDICES

Please click on the appendix titles below to link through to each appendix document.

1. **NET ZERO CARBON SCOPE**
2. **AVOIDED EMISSIONS THROUGH RENEWABLE GENERATION**
3. **EMISSIONS+ENERGY+WATER BREAKDOWN VS BASELINE AND LAST YEAR**
4. **ADDITIONAL OUT OF SCOPE EMISSIONS**
5. **COMPLETED AND PLANNED ENERGY, CARBON AND WATER PROJECTS**
6. **WASTE DATA BREAKDOWN AND COMPLETED PROJECTS**
7. **FOOD WASTE**
8. **TRAVEL PLAN ANNUAL REPORT**

# Environmental Sustainability Report 2021–2022


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