Environmental Sustainability Strategy

CURRICULUM | RESEARCH | CARBON | FLIGHTS | BIODIVERSITY | FOOD | INVESTMENT

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1. Vice-Chancellor's foreword

We are living in extraordinary times. We are experiencing what happens when we all ignore warning signs and fail to act to avert adverse consequences. There had been numerous indications that we were vulnerable to a global pandemic; we ignored them and are paying the price. We cannot do so again.

Today there are innumerable warnings of the impending dangers of climate change and biodiversity loss. We must heed them. Doing so will entail real changes to how we live and work. Just as we have had to challenge all aspects of business as usual in order to be resilient during the pandemic, dealing with the consequences of climate change will require significant, often unwelcome, changes in our daily lives.

In my 2019 Oration I asked whether we were doing enough at the University to address these challenges within our own community. The resounding conclusion from a consultation with staff and students was 'no'. In response to that engagement, we have developed this ambitious strategy – the outcome of the Environmental Sustainability Strategy Working Group, which is made up of academics and our Environmental Sustainability team. They have worked together to set targets and identify the key areas where we can act. This strategy will have implications for us all.

The University of Oxford is committed to leading the way on environmental sustainability through its research and teaching. This strategy extends that commitment to our operational impact, our supply chain, our investments, our daily working lives. Our aspiration is that staff, students and stakeholders will embrace the strategy in all aspects of University life.

Professor Louise Richardson

2. President of the Student Union's foreword

As a Student Union we are very proud to endorse this strategy and its targets and commitments. We were consulted throughout the development of the strategy and the result is a direct reflection of a shared vision which the community of environmentally concerned students brought to the administration.

This strategy follows years of advocacy from the University's students. In autumn 2019, we hosted our first-ever Oxford University Climate Assembly, which filled the Sheldonian Theatre with over 750 attendees and hundreds more online. This forum formed the first step in consulting with students and the academic community to draft an Environmental Sustainability Strategy, whose goals have received overwhelming support from students. Over the last three years students have brought dozens of representations through the Student Council of Oxford SU to the University. Common rooms across almost every college have passed resolutions on topics from sustainable dining to energy efficiency to divestment and environmentally conscious investment. The Oxford Climate Society, one of many environmentally focused student groups, has grown to become the largest student society. Their self-organised School of Climate Change offers students free lectures in climate solutions by climate professors each week. Members and leaders of student environmental groups have provided input, and Ethics and Environment representatives in every college are helping connect the strategy's goals with college sustainability plans.

We are especially proud that this strategy will bring the University of Oxford into alignment with the Paris Agreement, and that it requires us to work deeply across our operations and supply chain to facilitate a post-carbon transition in our lifetimes. This is just the start for Oxford in preparing a

proportional response to the urgency that we feel as young people who will inherit the future under a changing climate.

Ms Nikita Ma

3. Executive summary

Oxford University[1] is setting a target to achieve net zero carbon[2] and biodiversity net gain[3] by 2035 to address the global challenges of climate change and biodiversity loss in our organisation. The strategy focuses on these ten priorities:

Research	Increase research and engagement in environmental sustainability.
Curriculum	Offer all students the opportunity to study environmental sustainability, either within or outside the examined curriculum.
Carbon emissions from University buildings	Reduce carbon emissions related to our energy consumption to a minimal level.
Biodiversity	Identify and address the University's principal biodiversity impacts from its operations and supply chain, and enhance biodiversity on the University's estate.
Sustainable food	Reduce the carbon emissions and biodiversity impact of our food.
Sustainable resource use	Reduce the environmental impacts of our consumption and supply chain.
International travel	Reduce aviation emissions from University staff and student travel, and offset the balance of emissions.
Local travel	Limit transport emissions by reducing the need to travel, encouraging walking, cycling and the use of public transport, and managing the demand to travel by car.
Investments	Ensure that the University, as an investor, is part of the solution to climate change and biodiversity loss.

[1] Oxford University - for purposes of this Strategy excludes Oxford University Press and all Colleges, except Kellogg and St Cross Colleges.

[2] Net zero carbon – the University will account for carbon emissions associated with its Scope 1, 2 and 3 activities, reduce them as much as possible and then balance residual emissions through carbon offsetting to reach net zero carbon by 2035. The University will use its peak energy consumption of 2009/10 as its carbon baseline. Scope 1 emissions are direct emissions, primarily from gas used for heating buildings. Scope 2 emissions are indirect emissions from electricity generation for use in University buildings. Scope 3 emissions are all other indirect emissions from activities of the organisation including travel, procurement, waste, water and investments.

[3] Biodiversity net gain – the University will account for the biodiversity impacts from development on its estate, management of its estate and its operations, and supply chain, avoid and reduce its impacts as much as possible; remediate impacts and use biodiversity offsetting to compensate for any residual impacts. Biodiversity will be overall demonstrably enhanced as a result of the University's ongoing activities across its whole portfolio by 2035. The University will use 2018/19 as its biodiversity baseline.

Learning from the pandemic	Build on the experience of the pandemic and the potential shift to more environmentally sustainable working practices.

The strategy is underpinned by these four 'enablers':

- Embedding environmental sustainability in the University's governance and decision making;
- Developing a system of annual reporting of carbon emissions and biodiversity impact within the first twelve months;
- Establishing the Oxford Sustainability Fund to fund the programme of action required to reach net zero carbon and biodiversity net gain by 2035;
- Establishing a policy to guide our use of carbon offsetting[4] and biodiversity offsetting[5].

We will develop a large-scale engagement programme to build support and involvement for the strategy with staff and students.

We will tackle the major sources of carbon emissions from the University. We will achieve net zero carbon through a variety of measures: engagement, energy efficiency and carbon emissions reduction projects, a reduction of flights and carbon offsetting.

The University's major biodiversity impact is from our operations and supply chain. We will quantify this impact and achieve biodiversity net gain by avoiding and reducing these impacts; by achieving a net gain on new developments; by enhancing biodiversity on and off the estate; and by biodiversity offsetting.

4. Vision

An unstable climate, increasing carbon emissions and accelerating biodiversity loss require urgent action.

The University is already playing a leading role in tackling these issues through the application of its research, policy advice and educating its students. In this strategy our focus is on addressing the negative impacts of our own operations. We will prioritise a programme of carbon reduction and biodiversity enhancement in our organisation. The University's environmental impacts will be identified, avoided and reduced. Our approach will be transparent; we will publish an annual account of our environmental impacts and progress towards our sustainability goals.

By 2035, the University, working in partnership with government, sustainability leaders and its own communities, will be exemplary in its institutional response to the environmental and climate emergency. Our ambition is to play an important role in protecting, restoring and enhancing nature.

The University acknowledges the three pillars of sustainability: social, economic and environmental. The University takes action on economic and social sustainability in other areas, such as access and participation, race equality and closing its gender pay gap. This strategy is focused on environmental sustainability, but the social and economic impacts of implementing it will also be taken into consideration

[4]Carbon offsetting – a process whereby carbon or carbon-equivalent gases are removed from or prevented from entering the atmosphere and stored securely, for the purpose of compensating for carbon or carbon-equivalent gases emissions.

[5]Biodiversity offsetting – conservation and restoration activities undertaken to enhance biodiversity for the purpose of compensating for biodiversity losses and impacts that arise from the University's development, management of its estate and its operations, and supply chain.

5. Context

The University has already worked for many years to reduce its environmental impact. The University's new, more ambitious target of net zero carbon by 2035 will supersede our existing carbon target of reducing carbon emissions by 50% from their peak of 2009/10.

The University's Strategic Plan 2018–2023 already refers to new buildings adhering to the highest environmental sustainability standards and to increasing sustainable travel opportunities for staff and students.

Energy consumption in University buildings	For the last decade all the University's electricity has come from renewable sources. Since 2013 our Carbon Management Programme (CMP) has invested £1 million a year in carbon reduction projects across our estate. The CMP has contributed to the 40% decline in the University's Scope 1 and 2 emissions from utility use from their peak in 2010. Our Sustainable Labs programme addresses energy reduction, energy-efficient equipment, waste and recycling in laboratories, which are responsible for around 60% of the University's total energy consumption and carbon emissions.
New developments on the University estate	All building projects over £1 million must be designed using the Passivhaus method according to the Sustainability Design Guide; this significantly reduces their carbon emissions and energy running costs. The Guide informs design to achieve long life, flexibility, low environmental impact, accessibility, low maintenance, end-of-life recycling and net gain in biodiversity.
Sustainable travel	We fund sustainable transport initiatives including promotion of walking, cycling and use of public transport through income from staff parking charges, which raise over £400,000 a year. Over several years parking provision has been gradually reduced, prioritising those with disabilities or caring responsibilities.
Research	'True Planet' brings together Oxford's global research on climate, energy, food, water, waste and biodiversity, showcasing the worldwide impact of the University's cross-disciplinary research. Our researchers collaborate with industry, government, the third sector and other universities to solve real-world sustainability problems. The Oxford Networks for the Environment (ONE) mobilise the University's expertise in science, technology, business and society. They enable Oxford to find solutions to the complex, converging challenges of energy, water and food security, climate change and threats to biodiversity. ONE contributes to humanity's capacity to make sustainable use

of our natural resources for the benefit of all people and the natural world.

While all these actions have advanced environmental sustainability at the University, they are not enough to achieve our new 2035 target. We need to do more.

6. Our strategy

The University will achieve net zero carbon and biodiversity net gain by 2035 and will act in nine priority areas.

We will set interim five-year targets and we will share our progress annually. Opportunities will be provided for the University community to engage with and contribute to achieving the goals of the strategy. There will be a review of the strategy every five years.

The priority areas are detailed in section 7.

6.1 Achieving net zero carbon and net biodiversity gain

We will tackle the two major sources of carbon emissions from the University: the use of gas and electricity and international air travel. We will achieve net zero carbon from gas and electricity usage through a combination of engagement to reduce energy consumption, changing heat sources from gas to electricity, improving building fabric and fittings to increase efficiencies, recovering the utility cost savings from the carbon emissions reductions from departments to repay the capital expenditure, and carbon offsetting. Net zero carbon emissions from aviation will be achieved with a combination of engagement to reduce flights taken, levying sustainability charges on flights and carbon offsetting.

Our greatest impact on biodiversity is from our operations and supply chain. These impacts will be identified, avoided and reduced. We will achieve a net gain in biodiversity through avoidance and reduction of the negative impact of our operations and supply chain, biodiversity enhancements on and off the estate, achievement of a 20% net gain on all new developments and biodiversity offsetting.

Climate change and biodiversity loss are separate but interacting issues. They need to be tackled separately yet there are also benefits to addressing both in combination, in particular through natural climate solutions, such as restoring peatlands, which increase biodiversity while also capturing carbon. We will use these approaches wherever possible.

6.2 Key enablers

Underpinning the strategy are these four ‘enablers’:

6.2.1 Governance

We will embed environmental sustainability in the University’s governance and decision making and as a University priority. A new Environmental Sustainability Subcommittee will be set up to oversee implementation of the strategy, reporting to the Planning and Resource Allocation Committee (PRAC).

6.2.2 Reporting

We will develop a system of annual reporting of carbon emissions and biodiversity impact within the first year; the reports will be published in Oxford’s Annual Review and the financial accounts.

6.2.3 Funding

We will establish the Oxford Sustainability Fund to receive the funding and manage the expenditure of implementing the strategy to reach its targets by 2035. The Fund will use existing sustainability funding and new sources of funding.

The Fund will rely on funding allocated from the following sources:
Existing sources of sustainability funding;
Recovering savings from upfront investment in carbon reduction measures;
A sustainability charge on business flights;
Hypothecating a portion of the unregulated student fee income.

Other sustainability charges may be introduced over the lifetime of the strategy. Staff and students will also be able to make voluntary contributions to the Fund for offsetting their personal emissions.

The Fund's finances will be transparent, and its income and expenditure will be approved by the Environmental Sustainability Subcommittee and published annually.

6.2.4 Offsetting

Carbon offsetting is a process whereby carbon or carbon equivalent gases are removed from the atmosphere, or prevented from entering it, and stored securely in order to compensate for emissions. A range of offsetting options are available, with more being researched and developed. We will regularly review our offsetting options to reflect this.

We will prioritise reducing our own emissions to minimise the need for offsets before starting to use offsetting from 2030 onwards. This is consistent with the Oxford Principles for Net Zero Aligned Carbon Offsetting[6]. It will not be possible to eliminate all our emissions, so we will need to rely on carbon offsetting to balance the residual emissions and reach net zero carbon.

Biodiversity offsetting involves undertaking conservation and restoration activities to enhance biodiversity, for the purpose of compensating for biodiversity impacts. In the University's case, these impacts arise from its development, estate management, operations and supply chain.

We will prioritise avoiding and reducing our biodiversity impacts in preference to biodiversity offsetting. It will not be possible to do this completely and we will need to carry out proactive conservation actions to achieve biodiversity net gain. We will use biodiversity offsetting from the outset but will aim to reduce our reliance on it over time as we reduce our impact.

We will develop a policy to guide our carbon and biodiversity offsetting activities and will regularly assess new offsetting opportunities and technologies being developed.

6.3 Staff and students

Implementing this strategy will involve engagement and changing practice and culture across the entire University. As Oxford's most important asset, its staff and students will be the main drivers for change and improvement of our environmental sustainability performance. The needs of people with disabilities will be taken into account in all aspects of implementation of the strategy.

We hope to inspire staff and students to embrace change and to find new ways of living and working sustainably.

[6] https://www.smithschool.ox.ac.uk/publications/reports/Oxford-Offsetting-Principles-2020.pdf

6.4 Colleges and partnerships

The Working Group has worked with college representatives in drafting this strategy. Although the colleges, as separate entities, are not bound by the strategy, the Conference of Colleges are currently developing a college-focused approach to environmental sustainability. We already work with the vast majority of colleges in jointly purchasing all our energy, including electricity solely from renewable sources. There are many areas of overlap – such as food, teaching, travel and estate management – where we will continue to work in partnership with colleges towards a more sustainable Oxford.

The University values its relationships with Oxford City Council, Oxfordshire County Council, the surrounding District Councils and our local and regional community. We will engage with our community and its civic organisations. We will work together to improve environmental sustainability in our city and county.

7. Priorities

7.1 Research

Increase research and engagement in environmental sustainability.

Ground-breaking research and innovation are at the heart of our success in global university rankings. Oxford's researchers are improving our understanding of global temperature increases, extreme weather and biodiversity loss.

From water to weather, fuel to food; from how we power our homes to how we protect and restore nature, Oxford's cross-disciplinary research is helping us to better understand the complexities of the interaction of human activities and the environment, and to make a positive impact on our changing world.

Our researchers work with partners in industry, government, the third sector and other universities to address these challenges and to propose innovative approaches and solutions.

Commitments

7.1.1 Promote communication, coordination and collaboration between environmental sustainability and environmental justice researchers through the Oxford Network for the Environment (ONE) and other mechanisms.

7.1.2 Support interdisciplinary sustainability research teams in responding to major funding opportunities.

7.1.3 Seek to influence the priorities of research funders, including UK government and charities, to meet sustainability research challenges.

7.1.4 Fund research into negative emission technologies and net gain in biodiversity, in line with the aims of the strategy to address environmental and social justice concerns and acknowledge the University's historical impact in these areas.

7.2 Curriculum

Offer all students the opportunity to study environmental sustainability, either within or outside the examined curriculum.

Oxford provides an exciting, challenging learning environment, training future generations of researchers, innovators and leaders in sustainability.

We will give our students the opportunity to develop their knowledge, skills and understanding and become the sustainability leaders of the future. The University curriculum reflects its wide expertise in the fields of climate change, biodiversity and sustainability. Sustainability-related opportunities for internships and training courses are offered to students and student societies are pioneering extra-curricular courses. These opportunities will be improved and extended to all students.

Commitments

7.2.1 Ensure courses with core and optional sustainability content are easily identifiable.

7.2.2 The Education Committee will encourage and monitor existing degree programmes' development of further environmental sustainability streams in the core curriculum.

7.2.3 Consider and support new courses related to interdisciplinary environmental and social sustainability questions.

7.2.4 Extend existing opportunities for extra-curricular study of environmental sustainability, internship programmes and short courses to all students.

7.3 Carbon emissions from energy consumption on the University estate

Reduce carbon emissions related to our energy consumption to a minimal level.

The University records and reports its Scope 1 and 2 carbon emissions in accordance with the Greenhouse Gas Protocol. Scope 1 emissions are direct emissions primarily from gas used for heating buildings and Scope 2 emissions are indirect, coming mainly from electricity used in buildings.

The University purchases 100% renewable electricity although its carbon emissions are still measured according to the UK National Grid average carbon emissions in line with the Higher Education Statistics Authority methodology. This means it is not enough to purchase renewable electricity; we must go further, reducing reliance on gas, reducing electricity use and increasing on-site or sourcing locally generated renewable power.

The University will reduce its reliance on natural gas, used mainly to heat buildings, by replacing gas heat sources with electric ones across the estate, thereby reducing its Scope 1 emissions. The forecast reduction in carbon from the National Grid makes electricity a lower carbon heat source than gas in the longer term.

We will establish district heating networks at Old Road Campus and the Science Area, and heat pump technology will be used across the estate to increase electrical efficiency. More efficient use of energy will be achieved by encouraging engagement in energy saving, by retrofitting buildings to reduce heat loss and by using energy-efficient appliances. These measures will reduce our Scope 2 emissions.

We will help departments achieve carbon savings. Carbon offsetting will be required to balance the residual emissions remaining after prioritising emissions reductions, but we will only start to use it from 2030 onwards.

Commitments

7.3.1 Roll out a large-scale engagement programme to encourage energy saving across departments.

7.3.2 Recover utility cost savings from investments in low carbon technology from departments to finance carbon reduction measures.

7.3.3 Introduce a building retrofit programme to maximise energy efficiency.

7.3.4 Install heat networks using new energy technology as an alternative to gas.

7.3.5 Explore the installation of large-scale photovoltaic systems and locally generated power.

7.4 Biodiversity

Identify and address the University's principal biodiversity impacts from its operations and supply chain and enhance biodiversity on the University's estate.

Biodiversity loss is caused by multiple interacting factors, of which climate change is increasingly important among these, both directly (such as through increasing temperatures) and indirectly (such as through invasive species). However, addressing climate change alone will not solve biodiversity loss. For example, the Global Footprint Network estimates that the UK population's consumption currently overshoots the planet's capacity to provide about fourfold. This overconsumption has led, among many other things, to the halving of UK farmland bird populations and to loss in resilience and functioning of our soils, water bodies, pollinators and woodlands. Our decisions about food, information technology and building works in the University can be traced back directly to destruction of nature in South America, central Africa and south-east Asia.

The University harms biodiversity both directly and indirectly. Most of our direct impacts relate to the management and development of our estate. We can mitigate these through commitments to increasing biodiversity in our estate management and in our developments.

The indirect impacts from the University's operations and supply chain on biodiversity is much greater. This includes our sourcing, consumption and disposal of food, water and materials. We also have both positive and negative biodiversity effects through activities such as advising policymakers, education, research and investments.

Our biodiversity impacts need to be accounted for, with negative impacts mitigated and positive impacts enhanced, so that we can demonstrate an overall gain in biodiversity from all our activities. The Oxford-developed framework known as the Mitigation and Conservation Hierarchy will be used to address our impacts through these actions:

1) *Refrain – refrain from actions that damage biodiversity*
2) *Reduce – reduce the damage our remaining actions create*
3) *Restore – restore biodiversity that has been damaged*
4) *Renew – renew and enhance nature*

We will achieve biodiversity net gain through avoidance and reduction of the negative impact of our operations and supply chain (Refrain and Reduce), biodiversity enhancements on and off the estate (Restore and Renew), and biodiversity offsetting (Renew). The best available metrics for biodiversity will be used.

Because biodiversity impact is caused across all priority areas we focus in this section on biodiversity-specific commitments which are not covered elsewhere.

Commitments

7.4.1 Measure, report and compensate for the damage to biodiversity caused by the University's operations and supply chain.

7.4.2 Agree and implement a plan to enhance biodiversity on the University estate and beyond, taking the wellbeing of the University's staff and students, and wider community, into account.

7.4.3 Set a target of quantifiable biodiversity net gain of 20% for all development projects on University land, achieved and measured in accordance with industry-standard best practice.

7.4.4 Bring the University's biodiversity research and actions to the wider community, for example through engagement events at the University's museums and gardens, to stimulate interest in and concern for biodiversity, and to strengthen the links between biodiversity and wellbeing.

7.5 Sustainable food

Reduce the carbon emissions and biodiversity impact of our food.

Food production accounts for 25% of total global greenhouse emissions[7] and is the leading cause of biodiversity loss. The food we consume affects biodiversity loss, deforestation, carbon emissions, climate change, water scarcity and water pollution. Oxford research shows that the most effective way to reduce the climate impact of our diet is to consume less meat and dairy and eat more plant-based foods[8].

We have already acted to reduce the impact of catering at the University. Half the meals available at most University outlets are vegetarian or vegan. All outlets under the main University catering contract have a sustainability certification. Environmental sustainability food labelling is being trialled to evaluate behavioural change linked to better awareness of the impact of food production.

Commitments

7.5.1 Report the biodiversity and carbon impact of our food on an annual basis.

7.5.2 Develop an action plan to significantly reduce these impacts by 2030.

7.5.3 Make all food at University catered events vegan or vegetarian by default, with meat and fish available on demand.

7.5.4 End the use of bottled water and ensure tap water is freely available to all staff, students and visitors.

7.5.5 Use an externally verified certification scheme to assess the sustainability credentials of the food offered at the University. This will encompass local and ethical sourcing, food waste, waste packaging and workers' rights.

7.6 Sustainable resource use

Reduce the environmental impacts of our consumption and supply chain.

A University baseline review revealed that the biodiversity and climate impacts of our supply chain and consumption dwarf those from our buildings and energy use.

Some of the biggest areas of environmental harm from our supply chain are laboratory consumables, paper and information technology. However, sustainably implemented information technology can also help us to achieve our carbon reduction targets. Reducing the environmental impact of our consumption can be addressed by engagement to reduce use and minimise waste. The University's annual recycling rate of 35% is significantly lower than Oxfordshire's rate of 58% for household waste.

Scrutinising our supply chain includes assessing suppliers for their water use, waste generation, sourcing of raw materials, energy efficiency, packaging and compliance.

Commitments

7.6.1 Avoid and reduce the biodiversity and climate impacts of our supply chain.

7.6.2 Set a target to increase the recycling rate, potentially using a building recycling league table.

7.6.3 Limit the impact of information technology procurement and operations.

7.6.4 Procure information technology to support agile working, including avoiding duplication of devices where possible and providing the functionality to work away from the office.

[7] https://ourworldindata.org/food-ghg-emissions

[8] https://science.sciencemag.org/content/360/6392/987

7.6.5 Explore the environmental sustainability trade-offs involved in more extensive use of IT-based approaches to substitute for in-person activities such as meetings, conferences and teaching.

7.6.6 Avoid the use of single-use products where possible.

7.7 International travel

Reduce aviation emissions from University business travel and international student travel and offset the balance of emissions.

Global air travel has almost doubled in ten years, from 2.2 billion passengers per year in 2008 to 4.2 billion in 2018. Aviation is one of the fastest-growing sources of greenhouse gas emissions. The UK has particularly high aviation carbon dioxide emissions per capita, accounting for 4% of global emissions from flights.

Flying is particularly damaging for the environment because emissions at high altitudes from burning jet fuel and from soot and water vapour have a greater environmental impact than emissions at ground level.

As a global university we attract students and staff from around the world and our academics travel for international conferences and meetings, as well as to conduct research, all of which generates demand for more flights. International flights are currently core to our business model. We need to reduce flights and to address emissions from aviation.

In 2018/19, staff flying on University business emitted an estimated 30,000 tonnes of carbon, and international students travelling to Oxford to study produced an estimated 21,000 tonnes more. These figures exclude emissions from visitors invited to collaborate or attend conferences in Oxford.

Commitments

7.7.1 Agree the extent of University staff and student flights to be calculated and report on these emissions annually.

7.7.2 Develop and implement a Travel Policy which incorporates a Travel Hierarchy for all domestic and international travel for staff and students as follows:

- *avoid travel;*
- *reduce travel demand to and from the University;*
- *travel without flying;*
- *fly when there are no alternatives and offset these emissions through the Oxford Sustainability Fund.*

7.7.2 Roll out a large-scale engagement programme to encourage use of the Travel Policy across departments.

7.7.4 Set a target to reduce flights.

7.7.5 Levy a sustainability charge on business flights to contribute to the Oxford Sustainability Fund.

7.7.6 Offset emissions from all business and international student flights, starting from the 2034/35 financial year.

7.8 Local travel

Limit transport emissions by reducing the need to travel, encouraging walking, cycling and use of public transport, and managing the demand to travel by car.

Transport is responsible for more emissions than any other sector of the UK economy, accounting for 28% of all greenhouse gas emissions in the UK in 2018. Transport is the source of 75% of nitrogen dioxide emissions in Oxford. Staff and student commuting, operational needs and freight deliveries all

contribute to the University's carbon emissions. Vehicle movements endanger vulnerable road users and create noise pollution and congestion.-

Around 60% of staff live outside the Oxford ring road, often resulting in lengthy commutes. In 2018/19, 75% of staff and 97% of students travelled to work and study by sustainable modes. The University supports staff and students with disabilities who need a parking permit and will continue to take the travel needs of people with disabilities into account, including users of wheelchairs, people with visual and mobility impairments and those with assistance dogs. Any measures introduced to manage the demand to travel by car will not restrict access to parking for those with disabilities and caring responsibilities.

The University's vehicle fleet is now 11% electric. Freight and post have already been consolidated through the University internal mail service, which delivers more than a million items per year by bike and zero-emission electric vehicle.

Commitments

7.8.1 Support and lobby Oxford City Council, Oxfordshire County Council and central government to implement proposals aimed at reducing congestion and improving air quality, by investing in walking, cycling and public transport infrastructure in Oxford.

7.8.2 Reduce the need for staff to travel by supporting remote and agile working.

7.8.3 Support sustainable choices of public transport, walking and cycling.

7.8.4 Where possible, reduce commuter parking, prioritising parking for those with disabilities and caring responsibilities, in order to make better provision for cyclists and pedestrians.

7.8.5 Develop proposals and work with partners to improve public transport and walking and cycling connectivity between sites used by the University.

7.9 Investments

Ensure that the University, as an investor, is part of the solution to climate change and biodiversity loss.

The University has substantial investments, most of which are perpetuity, charitable endowment funds, managed by a specialised investment team, Oxford University Endowment Management (OUem). This is a wholly owned subsidiary of the University and manages over £4bn of charitable money on behalf of the collegiate University. Investment policy is set by the University's Investment Committee and implemented by OUem.

OUem actively manages the Endowment Fund to be part of the solution to climate change and biodiversity loss. The Oxford Endowment Fund has recently placed restrictions on direct investment in fossil fuels. Investments are thoroughly analysed for potential environmental and social risks to prevent poorly managed negative environmental and social outcomes.

Commitments

7.9.1 Publicly disclose an Investment Policy Statement that describes how the University manages its investment assets, outlining the governance structure, investment objectives and processes relevant to environmental sustainability and climate change.

7.9.2 Implement the resolutions of Congregation on Fossil Fuel Divestments and Net Zero Investment[9].

7.9.3 Actively engage with fund managers using the Oxford Martin Principles for Climate-Conscious Investment.

[9] https://gazette.web.ox.ac.uk/files/26march2020-no5272pdf

7.9.4 Publish the Investment Committee's annual Socially Responsible Investment report.

7.9.5 Ensure a member with relevant expertise in investment management and environmentally sustainable investment is appointed to the Investment Committee.

7.10 Learning from the pandemic

Build on the experience of the pandemic and the potential shift to more environmentally sustainable working practices.

The March 2020 lockdown started just weeks after we had opened our consultation, in which we set out measures being considered by the Working Group including 'departments to improve the provision of hardware and software to support remote working and participation in meetings', 'provide for remote participation at all conferences organised and hosted by the University' and 'set a target to reduce paper consumption'.

We could not have foreseen how quickly our lives changed as most staff were required to work from home and students began learning remotely. With no phasing in, we were forced to adapt quickly and learned to work in different ways, many of which support the aims of this strategy.

The University has set up a project group to develop a 'New Ways of Working' framework to support professional services and support staff teams across the University identify the priorities for more appropriate and flexible ways of working once we return to the 'new normal'. We will offer input to the emerging Estates Strategy to reduce the University's carbon footprint and biodiversity impact.

Commitments

7.10.1 Introduce policies to support agile working.

7.10.2 Support the New Ways of Working group with data on the carbon impact of business activities and recommendations for more flexible ways of working and estate efficiency.

7.10.3 Build on the experience of the pandemic to reduce environmentally damaging travel.

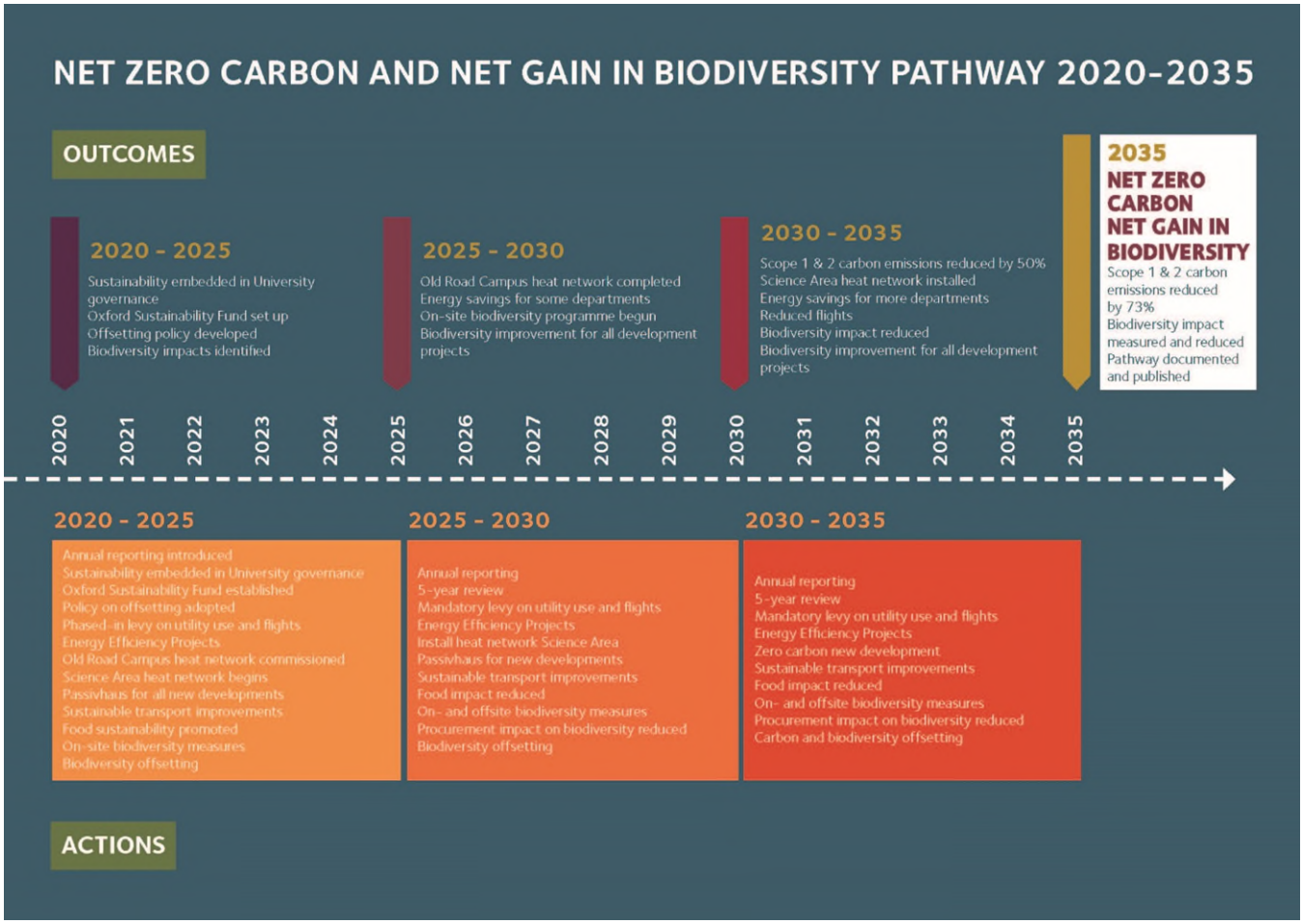
7.10.4 Reduce the impact of paper use through measures such as follow-me printing, reducing printed handouts to students, encouraging paperless systems, using recycled paper and reporting on paper consumption annually.

8 Closing, timeline and outline costs

We all face an unprecedented threat from multiple, intersecting environmental problems. These pose an existential threat to human society as we know it across the planet, and it is vital that every individual, company and institution does their part to address them.

This Environmental Sustainability Strategy provides a framework for the University of Oxford to do this. We are under no illusion that putting it into practice will be easy, but we believe that the targets and commitments principles set out above will put us on the road to becoming part of the solution to the environmental crisis.

The timeline below shows the major actions and outcomes of the strategy to 2035.


NET ZERO CARBON AND NET GAIN IN BIODIVERSITY PATHWAY 2020-2035
OUTCOMES
2020 - 2025
Sustainability embedded in University governance
Oxford Sustainability Fund set up
Offsetting policy developed
Biodiversity impacts identified
2025 - 2030
Old Road Campus heat network completed
Energy savings for some departments
On-site biodiversity programme begun
Biodiversity improvement for all development projects
2030 - 2035
Scope 1 & 2 carbon emissions reduced by 50%
Science Area heat network installed
Energy savings for more departments
Reduced flights
Biodiversity impact reduced
Biodiversity improvement for all development projects
2035
NET ZERO CARBON
NET GAIN IN BIODIVERSITY
Scope 1 & 2 carbon emissions reduced by 73%
Biodiversity impact measured and reduced
Pathway documented and published
2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035
2020 - 2025
Annual reporting introduced
Sustainability embedded in University governance
Oxford Sustainability Fund established
Policy on offsetting adopted
Phased-in levy on utility use and flights
Energy Efficiency Projects
Old Road Campus heat network commissioned
Science Area heat network begins
Passivhaus for all new developments
Sustainable transport improvements
Food sustainability promoted
On-site biodiversity measures
Biodiversity offsetting
2025 - 2030
Annual reporting
5-year review
Mandatory levy on utility use and flights
Energy Efficiency Projects
Install heat network Science Area
Passivhaus for new developments
Sustainable transport improvements
Food impact reduced
On- and offsite biodiversity measures
Procurement impact on biodiversity reduced
Biodiversity offsetting
2030 - 2035
Annual reporting
5-year review
Mandatory levy on utility use and flights
Energy Efficiency Projects
Zero carbon new development
Sustainable transport improvements
Food impact reduced
On- and offsite biodiversity measures
Procurement impact on biodiversity reduced
Carbon and biodiversity offsetting
ACTIONS

Outline Revenue and Capital costs of implementing the Strategy		
Project classification	**Detail**	**Costs 2019/20 – 2034/35 (£m)**
Capital costs		**210**
Estate infrastructure	**Install Old Road Campus heat network:** Install district heating network throughout the Old Road Campus to replace existing heat raising plant with central combined heat and power (CHP) plant. When scalable renewables become feasible (around 2030), replace CHP with these alternatives to remove fossil fuel heat sources.	25
Estate infrastructure	**Install City Centre heat network:** Link existing heat networks in the Science Area. Increase utilisation of existing plant and supplement with heat pumps in the short term. When scalable renewables become feasible (around 2030), replace traditional boilers and CHP with these alternatives to remove fossil fuel heat sources.	40
Estate infrastructure	**Upgrade other dispersed buildings to heat pumps:** Where buildings are not near a district heat network, traditional boilers can be replaced with air or ground source heat pumps. This technology is currently best suited to small applications but is expected to become more scalable as it advances.	14
Departmental infrastructure	**Electricity efficiency retrofit:** Extensive opportunities exist to improve the efficiency of electrical plant and increase awareness of opportunities to reduce energy consumption across the estate. This element would be delivered through the existing sustainability funding. Currently expenditure on electrical efficiency projects is recovered through energy savings in under three years.	8
Departmental infrastructure	**Gas efficiency retrofit:** Extensive opportunities exist to improve the thermal efficiency of buildings across the estate. This element would be delivered through the existing sustainability funding. It is important to ensure that the structure and operation of the building is efficient before sizing its energy systems.	8
External infrastructure	**Sustainable travel funding(capital):** The University invests in sustainable and active travel infrastructure to help staff and students get around the city without using private cars.	3.5
Maintenance	**Maintenance costs:** All heat raising plant requires regular maintenance to ensure that it runs smoothly and efficiently. Buildings are mainly heated by independent gas boilers, providing hot water for heating and services. It is anticipated that replacing individual boilers with heat networks and CHP will reduce maintenance outlay. However, when this plant is replaced with electric equivalents, this maintenance cost is expected to increase.	111
Revenue costs		**237**
Travel	**Sustainable travel fund (revenue):** The funding provides support and engagement on sustainable travel and reducing flights travel.	3.5
Carbon offsetting	**Offset purchasing:** The University will purchase carbon offsets to mitigate any unavoidable emissions. At first this would be limited due to affordability, but in due course net zero would not be	6

	achievable without offsetting. Nature-based solutions and carbon capture and storage solutions would be used, depending on availability and cost.	
Biodiversity improvements and off setting	**Biodiversity management:** Improving the built and natural environment to encourage a rich and wide range of flora and fauna across the estate requires investment. This fund is targeted at improvements across the estate, as well as exploring interventions away from the estate to mitigate the University's supply chain impacts and developing a suitable metric for measuring and reporting biodiversity impact.	3
Utilities cost	Total utility spend across the University (electricity and gas)	224
Total		**447**

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Oxford University Sustainability Strategy Glossary of Terms	
Baseline	A date against which the University will measure its progress, 2009/10 for carbon emissions and 2018/19 for biodiversity
Biodiversity	The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.
Biodiversity net gain	The University will account for the biodiversity impacts from development on its estate, management of its estate and its operations, and supply chain; avoid and reduce its impacts as much as possible; remediate impacts and use biodiversity offsetting to compensate for any residual impacts. Biodiversity will be overall demonstrably enhanced as a result of the University's ongoing activities across its whole portfolio by 2035. The University will use 2018/19 as its biodiversity baseline.
Biodiversity offsetting	Conservation and restoration activities undertaken to enhance biodiversity for the purpose of compensation for biodiversity losses and impacts that arise from the University's development, management of its estate and its operations, and supply chain.
Carbon emissions	The release into the atmosphere of carbon dioxide or carbon dioxide equivalents, a metric measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global-warming potential
Carbon Management Fund	The existing fund that manages carbon reduction projects across the University
Carbon offsetting	A process whereby carbon or carbon-equivalent gases are removed from or prevented from entering the atmosphere, and stored securely, for the purpose of compensating for emissions of carbon or carbon-equivalent gases
Environmental Sustainability Strategy Working Group	A group of academics who have worked with the Environmental Sustainability team to draft this Environmental Sustainability Strategy
Net zero carbon	The University will account for carbon emissions associated with its Scope 1, 2 and 3 activities, reduce them as much as possible and then balance residual emissions through carbon offsetting to reach net zero carbon by 2035. The University will use its peak energy consumption of 2009/10 as its carbon baseline. Scope 1 emissions are direct emissions, primarily from gas used for heating buildings. Scope 2 emissions are indirect emissions from electricity generation for use in University buildings. Scope 3 emissions are all other indirect emissions from activities of the organisation, such as travel, procurement, waste, water and investments.
Oxford Sustainability Fund	A new fund to be established to finance the income and expenditure related to implementing the Environmental Sustainability Strategy
Scope 1 emissions	Direct emissions, primarily from gas used for heating University buildings
Scope 2 emissions	Indirect emissions from electricity generation for use in University buildings
Scope 3 emissions	All other indirect emissions from activities of the organisation, including emissions from travel, procurement, waste, water and investments


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