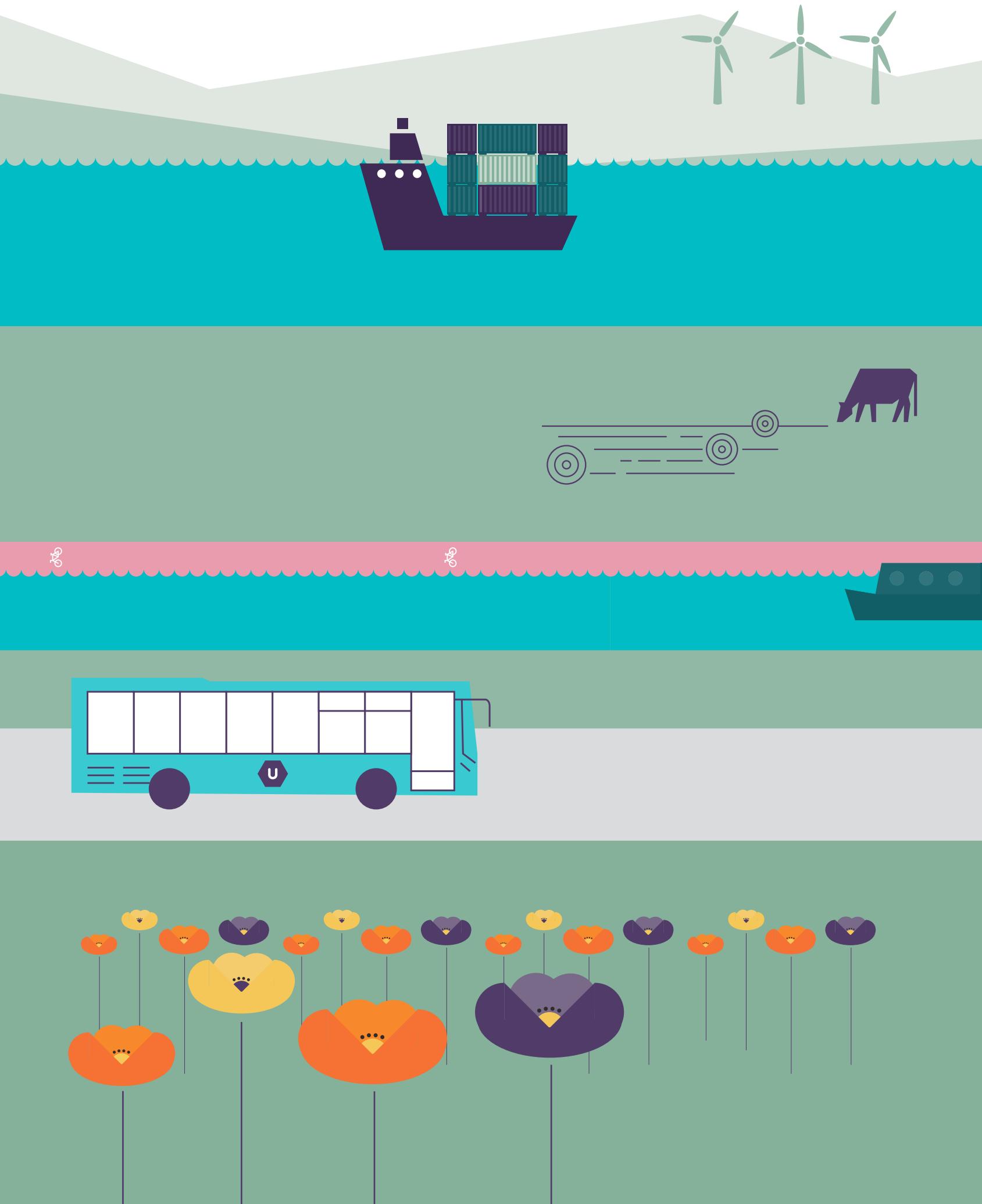


Environmental Sustainability Report 2020-21





■ CONTENTS

Introduction	3
Foreword	4
Progress to date	6
Cutting down, cutting out	8
Working towards our SBT	9
Reducing, recycling and rethinking what we use	13
Biodiversity	17
Delivering against the Biodiversity Action Plan	18
Built environment	22
Increased focus on sustainable refurbishment	23
Get around greener	27
Supporting the switch to sustainable modes	28
Maximising impact	32
Making sustainable purchasing choices	33
Strength in numbers	35
Working together for sustainability	36
Making an impact... remotely	42
Green Impact	43
Beyond the environment	45
Creating a sustainable society	46
Looking ahead	48
A year of change, a year of progress	49
Key Performance Indicators	51

The scope of this report does not cover the 31 Colleges, which are independent and autonomous institutions or our associated businesses, although we work in partnership with them on a number of matters and do highlight a small number of examples in this report.

A continued focus on sustainability commitments

Welcome to the University of Cambridge Environmental Sustainability Report 2020-21. The reporting period runs from 1 August 2020 to 31 July 2021 and, in what has continued to be a challenging year for everyone, we are pleased to be able to report on so many positive initiatives across the University. With Covid-19 impacting on a large part of this academic year, a lot of what we have done has continued to take place remotely. But as the country started to unlock, we have been able to make progress on our plans. It has been a year of uncertainty, but we have met the challenges, realised opportunities, and learnt from our new normal.

The [University's Environmental Sustainability Vision, Policy and Strategy](#) demonstrates the University's commitment to making a positive impact through outstanding environmental sustainability performance. It also sets out our plans for achieving this including objectives, targets and Key Performance Indicators (KPIs).

Last year, we reported on the implementation of our Science Based Target (SBT) for carbon reduction. The target commits the University to reducing scope 1 and 2 emissions to absolute zero by 2048, with an aspiration to be a decade ahead of its decarbonisation pathway at all times and to reach zero carbon by 2038.

Over the past year, we have been working to strengthen carbon reduction commitments and meet this SBT. There is still far to go, and in some cases we need to rapidly accelerate our actions to meet our ambitious target. However, reporting here on what we have achieved shows a commitment to this strategic direction and real dedication from staff and students to make ours a sustainable university.

As described in our [Methodology Statement](#), under the Greenhouse Gas Protocol, the University has adopted what is known as the Operational Control approach, under which the buildings, activities

and operations included in our calculations and reporting are those over which the University has direct control or significant influence. Our KPIs therefore do not cover the Colleges or the University's subsidiary organisations but we work in partnership to support each other. This year, we have facilitated the development of SBTs for Cambridge University Press, Cambridge Assessment and the North West Cambridge Development. We have also created a bespoke SBT model for all 31 Colleges and provided guidance and training on how to develop their targets. Some Colleges have now adopted SBTs and are working towards them.

This report demonstrates the huge range of sustainability actions happening across the University. There are projects from Schools and Departments, as well the Sustainability Team, Cambridge Zero and the Cambridge Institute for Sustainability Leadership. There are also links throughout where you can find more information and keep up to date with all the projects and initiatives mentioned. Every one of the activities featured in this report - and there are many more that we simply couldn't fit in - are helping to meet the goals set out in wider university policies and strategies, as well as working towards our ambitious SBT.

Foreword

The past year – still grappling with the pandemic, yet also learning to work in new and innovative ways – has been a year of transition. Despite the uncertainty, I have been hugely encouraged by students' and colleagues' continued commitment to sustainability.

As this Report shows, progress towards our ambitious SBT is firm, and makes Cambridge a national and global leader in tackling the climate emergency. Our work with government, industry and research partners around the world is critical to a zero carbon future. I am very proud of the work being done by the University's Sustainability Team, Cambridge Zero, the Cambridge Conservation Initiative and the Cambridge Institute for Sustainability Leadership to develop solutions for a fair, sustainable future.

Once again, I thank our staff and students who contribute to sustainability with new ideas and unwavering enthusiasm.

Professor Stephen J Toope,
Vice-Chancellor

MATERIALITY

ANOTHER YEAR FACING THE IMPACTS OF COVID-19

Material environmental sustainability issues are those that are of most importance and significance to the University and to our stakeholders. Back in 2014 - when we were developing our Environmental Sustainability Vision, Policy and Strategy - we asked our staff and students what was important to them in terms of sustainability and considered the risks and opportunities of each. From this, we identified nine environmental sustainability impact areas as most material. These nine areas are energy and carbon; recycling and waste; water; biodiversity; travel and transport; sustainable procurement; sustainable construction and refurbishment; partnership and engagement; and teaching and research. We report progress and activities in these areas but, as we look to draft the University's next Sustainability Strategy, we are reassessing materiality to make sure it reflects any changes in priorities and impact.

This year, our work has once again been shaped by a global pandemic. Virtual teaching and events continued, and many staff worked at home. However, towards the end of this reporting period, restrictions were being lifted and we could start to plan and deliver more of our initiatives. The University is still not operating as it was pre-pandemic, and it may never return to the 'old normal'. A new hybrid working pattern may help us to reduce the University's overall carbon emissions. However, this is not a given, and the challenge we face is to make sure our new ways of working do not lead to an increase in emissions, or simply transfer some of the University's emissions to our staff and students' homes and communities.

In November 2020, Cambridge Zero published [A Blueprint for a Green Future](#), in which senior academics examine how we can build back greener. It looks at how the UK needs to face the threats posed by growing social inequality, the destruction of nature, and climate change, with a series of recommendations for policymakers and industry.

Our commitment to sustainability means that there are initiatives, projects, research and commitments right across our University. In compiling this report we engaged with our Departments, Facilities and Institutes to get a full picture of sustainability here at Cambridge.

STAKEHOLDER ENGAGEMENT

THE UNIVERSITY'S ENDOWMENT FUND

In October 2020 Cambridge Investment Management Limited (CIML) announced its ambition to reach net zero greenhouse gas emissions from the Cambridge University Endowment Fund's portfolio by 2038. CIML works with third-party fund managers and partners across the University to remove exposure to fossil fuel specialists, invest in renewable energy, and engage with managers on emissions from all investments in the portfolio. A full update on activities can be found in the [Endowment Fund's Annual Report](#), but key actions over this year are:

October 2020: New sustainable investment strategy announced.

December 2020: All investments with public equity managers specialised in conventional energy investment terminated.

January 2021: The Fund's first investment in a multi-strategy hedge fund screened to exclude fossil fuels.

If you're working on a sustainability project, we'd love to hear about it. Please [get in touch](#) so that we can highlight your achievements in our future reporting.

March 2021: A core public equity manager within the Fund's portfolio announced fossil fuels to be removed from its investment universe, effective immediately.

March 2021: The Fund made its first investment into a dedicated renewable energy infrastructure fund.

June 2021: The Fund's public equity investments were analysed and had 30% lower carbon intensity than global equity markets.

September-November 2021: CIML and CISL launched Net Zero by 2038, an education programme bringing together fund managers to deliver financial performance in a low carbon world.

Climate change is CIML's dominant sustainable investment theme, but this does not preclude other issues being addressed. For example, in 2021 the team engaged asset managers on diversity within the investment industry.

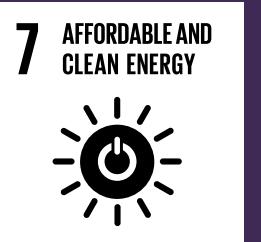
In 2022, CIML will continue to build on steps taken in 2021 to fulfill its mission to serve the University, colleges and trusts by delivering world-class, sustainable, investment performance.

Progress to date

IMPACT AREA	TARGET	POSITION 20/21	CURRENT PROGRESS 20/21
ENERGY AND CARBON	To reduce total scope 1 and 2 carbon emissions to absolute zero by 2048, with an aspiration to achieve this by 2038.	We are making good progress	Our location-based carbon emissions increased by 2.2% compared with the previous year. This was due to increases in gas consumption prompted by an extended winter cold period and the need for additional ventilation in buildings due to Covid-19. However, our market-based carbon emissions (which take account of our procured renewable energy) have decreased by 39% on the previous year, keeping us on track to meet our SBT.
WATER	To reduce water consumption by 20% by 2020/21 against a 2005/06 baseline.	We can do better and have a plan	Water consumption in 2020/21 fell by 0.5% compared to the previous year. We still have a lot of work to do to bring our water use down in line with our target.
BIODIVERSITY AND ECOSYSTEMS	In the expert opinion of the Ecological Advisory Panel, that no construction, refurbishment or maintenance work on the estate has a net negative impact on biodiversity and that, where possible, the impact is net positive.	We are making good progress	We are creating additional biodiverse habitat, restoring and enhancing existing habitat and communicating and engaging with staff and students to support data collection to measure progress.
WASTE	To send zero non-hazardous waste to landfill by 2020/21.	We are making good progress	While waste to landfill from construction projects dropped to zero this year, waste to landfill from 'operational' sources (for instance offices and labs) increased, mainly due to an increase in biological, clinical and other non-recyclable wastes, some of which is tied to increased waste generation resulting from the Covid-19 pandemic.
WASTE	To achieve continuous year-on-year reductions in waste arising per FTE staff and student.	We can do better and have a plan	Construction and operational waste outputs increased slightly on the previous year, partly due to activity picking up after the Covid-19 lockdowns. However they remain below the longer-term trend. Efforts are underway to tackle waste generation through the Waste Strategy.

WASTE	To recycle at least 95% of total waste produced at the University by 2016/17.	We can do better and have a plan	This year 73% of our waste was recycled. The recycling rate for operational waste increased slightly this year, however this was more than offset by a reduction in recycling rates for construction waste. The re-tender of the University's main waste collection contract has been delayed due to Covid-19-related factors, however this will present an opportunity to boost recycling rates in the coming years.
SUSTAINABLE PROCUREMENT	That central University procurement frameworks are more attractive financially, more environmentally friendly and faster than other routes and, therefore, more institutions use them.	We are making good progress	As part of the Strategic Procurement and Purchasing Project, we have appointed a Head of Sustainable Procurement who will lead the work towards adoption, followed by assessment, of the ISO 20400 Sustainable Procurement Standard.
SUSTAINABLE PROCUREMENT	To achieve at least level 4 'Enhance' across all themes of the Sustainable Procurement Flexible Framework by December 2015.	We are no longer reporting against this target	We are no longer reporting against the Flexible Framework as we have changed our approach and are working towards gaining the international standard in sustainable procurement, ISO 20400.
SUSTAINABLE PROCUREMENT	For institutions to consider sustainability criteria within their procurement activity.	We are making good progress	We aim to support the University on a journey to broadening their view of sustainable procurement through education and training, to enable them to take account of social, economic and environmental factors as part of their procurement activity.
SUSTAINABLE CONSTRUCTION AND REFURBISHMENT	To establish and implement a standard for sustainable construction at the University of Cambridge that is context specific and is considered a leading approach in comparison to our peers.	We are making good progress	A CO ₂ impact template has been created to inform crucial early stage decision making, and is being trialled ahead of formal adoption as part of the capital projects approval process.
TRAVEL AND TRANSPORT	At least 75% of staff to be regularly commuting to work by sustainable modes of travel by 2024.	We have achieved this target	This target has been met. The staff travel survey recorded 90% of staff travelling to work via sustainable modes. This unusually high figure was due to the pandemic and 68% (historically around 1%) of staff working from home which is classed as a sustainable mode. Whilst some staff are likely to work from home in the future due to increased agile working, it is unlikely to remain as high as 68%.
TRAVEL AND TRANSPORT	To reduce per capita carbon emissions from business flights by 25% against 2014/15 levels by 2024/25.	We can do better and have a plan	This year, per capita emissions were 97% lower than in 2014/15, but this is due to the impact of the Covid-19 pandemic rather than our progress in reducing emissions.

Cutting down, cutting out



7 AFFORDABLE AND
CLEAN ENERGY



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



13 CLIMATE
ACTION



17 PARTNERSHIPS
FOR THE GOALS

Working towards our Science Based Target

Cambridge is the first University in the world to announce a SBT for carbon reduction, committing the University to reducing its scope 1 and 2 emissions to absolute zero by 2048. The University's approach to carbon reduction is set out in its [Carbon Reduction Strategy](#).

To ensure emissions remain on track with our SBT, the University will need to take significant steps over the next 5-10 years to reduce its total energy use, as well as increase the proportion of its energy that comes from onsite renewables. There are several bodies of work in motion to achieve this. However, some significant interventions are now needed to ensure emissions remain on track with the target.



The Sustainability Team is developing an SBT programme of work, to support delivery of the University's commitment to zero carbon. The main building blocks to achieving zero carbon are:

Decarbonising our energy supply

Reducing energy consumption of the University

Embedding carbon reduction into the University's capital programme

Engagement and behavioural change to reduce energy demand.

For the first time in 2019/20, the University reported its market-based carbon emissions figure, alongside its location-based emissions figure. The market-based emissions figure takes account of the zero carbon electricity the University procures via a **Power Purchase Agreement (PPA)**. In reporting progress against its SBT, the University follows **best practice guidance** and reports both emissions figures. This year location-based scope 1 and 2 emissions increased by 2.2% compared to 2019/20. The increased consumption was primarily due to an upsurge in heat demand prompted by an extended winter season and the need for additional ventilation in buildings due to the Covid-19 pandemic. However, our market-based emissions fell by 39% compared to the previous year, due to the impact of our PPA, keeping us on track to meet our SBT. In calculating the market-based emissions figure, we have applied the carbon conversion factor specific to our electricity supplier's generation mix.

KEY

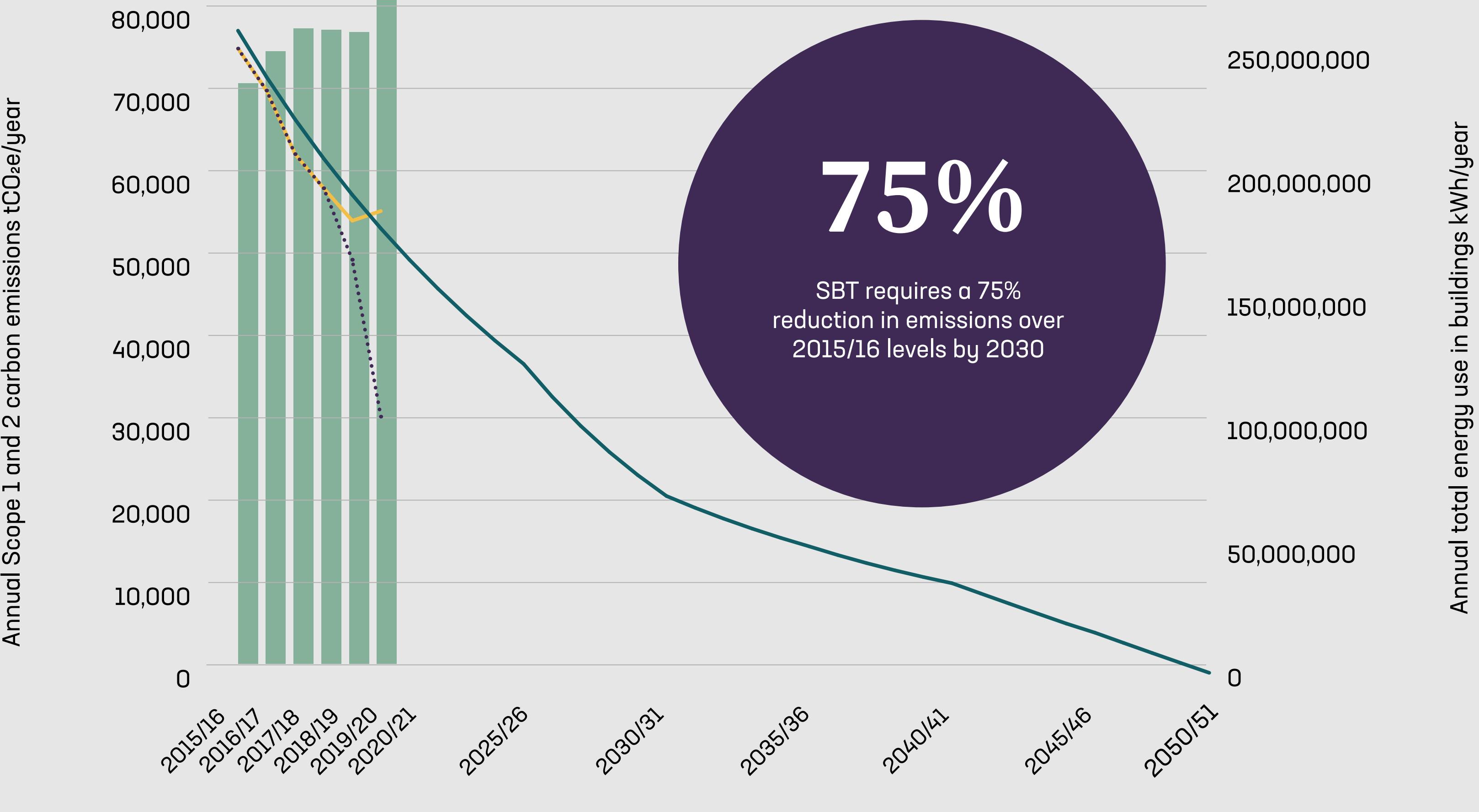
Total kWh

Science Based Target

Actual Scope 1 and 2 carbon emissions (Location-based)

Actual Scope 1 and 2 carbon emissions (Market-based)

TOTAL SCOPE 1 AND 2 AND CARBON EMISSIONS (tCO₂e)/YEAR AGAINST OUR SBT



75%

SBT requires a 75% reduction in emissions over 2015/16 levels by 2030

Here are a few of this year's projects that are, or will be, contributing towards meeting our target of zero carbon...

FROM SLURRY TO SELF-GENERATION

This year, we completed a major project to build an anaerobic digestion (AD) plant at Cambridge University Farm, and it's already generating electricity for the farm.

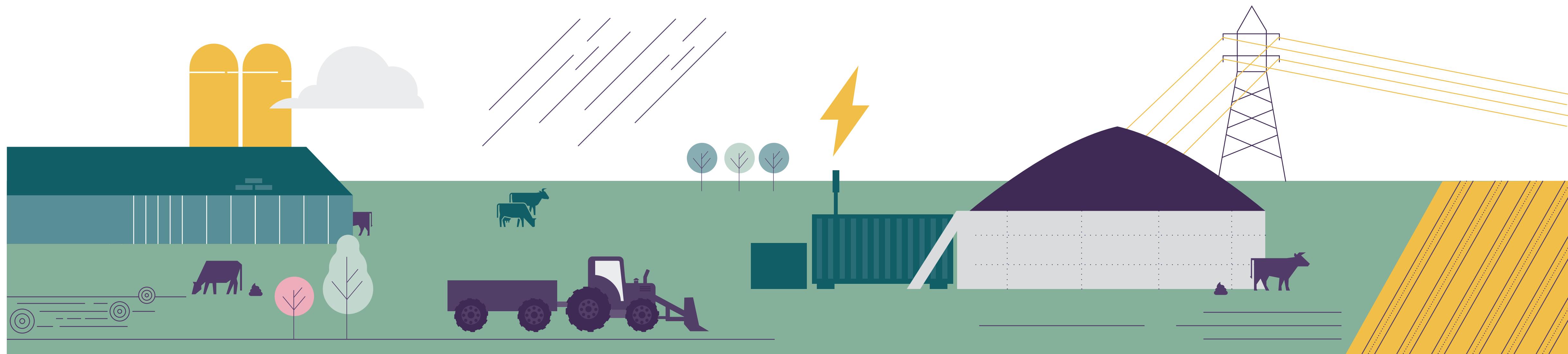
The dairy farm is located in the Cambridge village of Madingley and is used as a teaching resource for the Department of Veterinary Medicine. On the farm, cow slurry is part of a virtuous circle. The slurry is collected and stored in towers and is applied to our grass and cereal crops during the growing season to help to improve yield and reducing the need for artificial fertiliser by providing the grass with required nutrients. The grass is then harvested and 'pickled' becoming silage that is fed to the herd all year round.

The slurry is the only fuel for the AD plant. The system works by collecting fresh slurry from the dairy herd. It's pumped into an insulated, sealed tank where naturally occurring microbes in the slurry multiply and eat the food material to produce methane. This methane is then collected, cleaned and pumped through to two engines where it is burnt to generate electricity. The digestate that is left doesn't go to waste - it's pumped and stored with the slurry for application to the fields to increase grass growth.

"By generating 'green' electricity the AD plant is not only lowering our farm's carbon emissions by reducing the amount of electricity it consumes from

the grid electricity supply, but it's also reducing the amount of methane the farm releases to the atmosphere through its operations. In the future we are looking to switch farm machinery to electric supplies, in part charged from the AD plant, and this will make an important contribution to our aim to remove fossil fuels from the University and achieve our target of zero carbon." Adam Fjaerem, Building Energy Manager, University of Cambridge

The plant came into full operation and started to generate energy in July 2021, and early figures are incredibly promising. We'll be monitoring production and will be able to report a full year's energy data in next year's annual report.

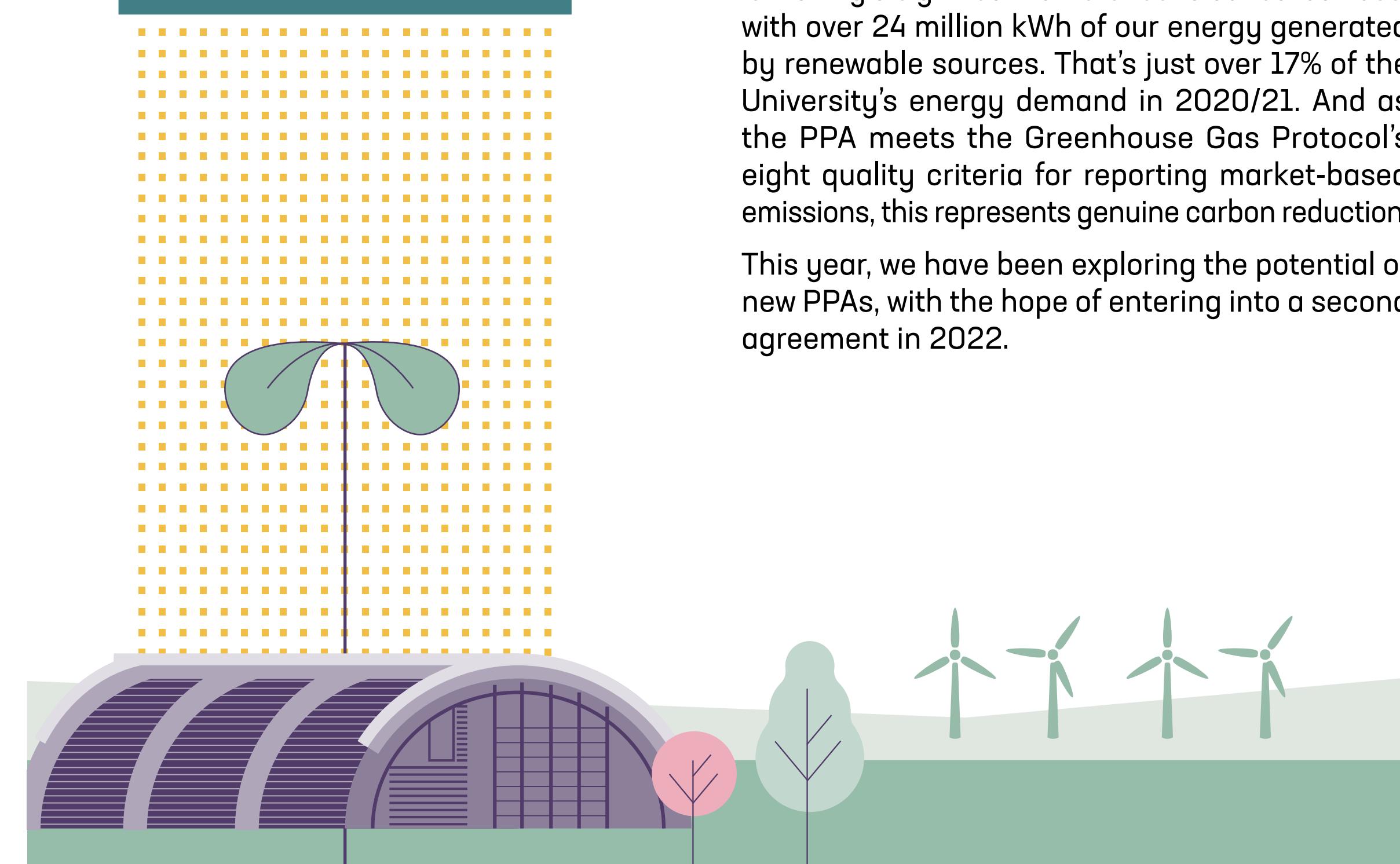


LIGHT FANTASTIC

The dedicated Plant Growth Facility within the Botanic Garden provides state-of-the-art controlled environments to grow a whole range of plants in different conditions. The humidity, light intensity, temperature and composition of the air are all carefully regulated. Lighting may be left on for long periods of time in order to simulate growing conditions. Replicating the sun's light levels is incredibly energy intensive but essential for research.

The project to switch to energy efficient LEDs started in 2014. This year we completed Stage 3 and replaced the lights in five more walk-in chambers, adding to the six already changed. We began with a period of extensive research and development where we worked with the manufacturer to develop LEDs with the right light levels and that the plants were happy with. The lights now provide a better, more consistent quality of light for optimum growing conditions. LEDs are now being introduced across the Plant Growth Facility, with any new smaller cabinets bought with LEDs as standard.

It is estimated that refitting these five chambers will save 49.7 tCO₂e per year. In total, the eleven chambers with LEDs will save over 100 tCO₂e per year, compared to fluorescent tubes. A secondary benefit has come from reducing the cooling needed - LEDs produce much less waste heat, so don't require as much cooling to regulate the environment.



PURCHASING POWER

Last year, we reported on the implementation of our first Power Purchase Agreement (PPA), where we joined 19 other UK universities in a renewable energy deal to buy energy directly from British wind farms. With our SBT now in place, this initiative is going to make a significant contribution to our target of zero carbon.

This year has been the first full year of our PPA and it is making a significant difference to our carbon use, with over 24 million kWh of our energy generated by renewable sources. That's just over 17% of the University's energy demand in 2020/21. And as the PPA meets the Greenhouse Gas Protocol's eight quality criteria for reporting market-based emissions, this represents genuine carbon reduction.

This year, we have been exploring the potential of new PPAs, with the hope of entering into a second agreement in 2022.

AVIATION IMPACT ACCELERATOR

Business travel contributes to scope 3 emissions - something that the University is committed to reducing as much as possible. Led by the Whittle Laboratory and the Cambridge Institute for Sustainability Leadership (CISL), the Aviation Impact Accelerator (AIA) has been building an interactive evidence-based simulator to explore scenarios for achieving net zero flight.

Launched at COP26, the simulator captures the whole aviation sector, from sources of renewable electricity and raw materials, to the production and transport of fuel, and the introduction of new aircraft technologies and operations. Leaders in industry and government can gain an understanding of the potential for change and the trade-offs between decisions. The simulator is set to guide innovation, investment, and policy action, as well as providing wider educational benefits to the public.

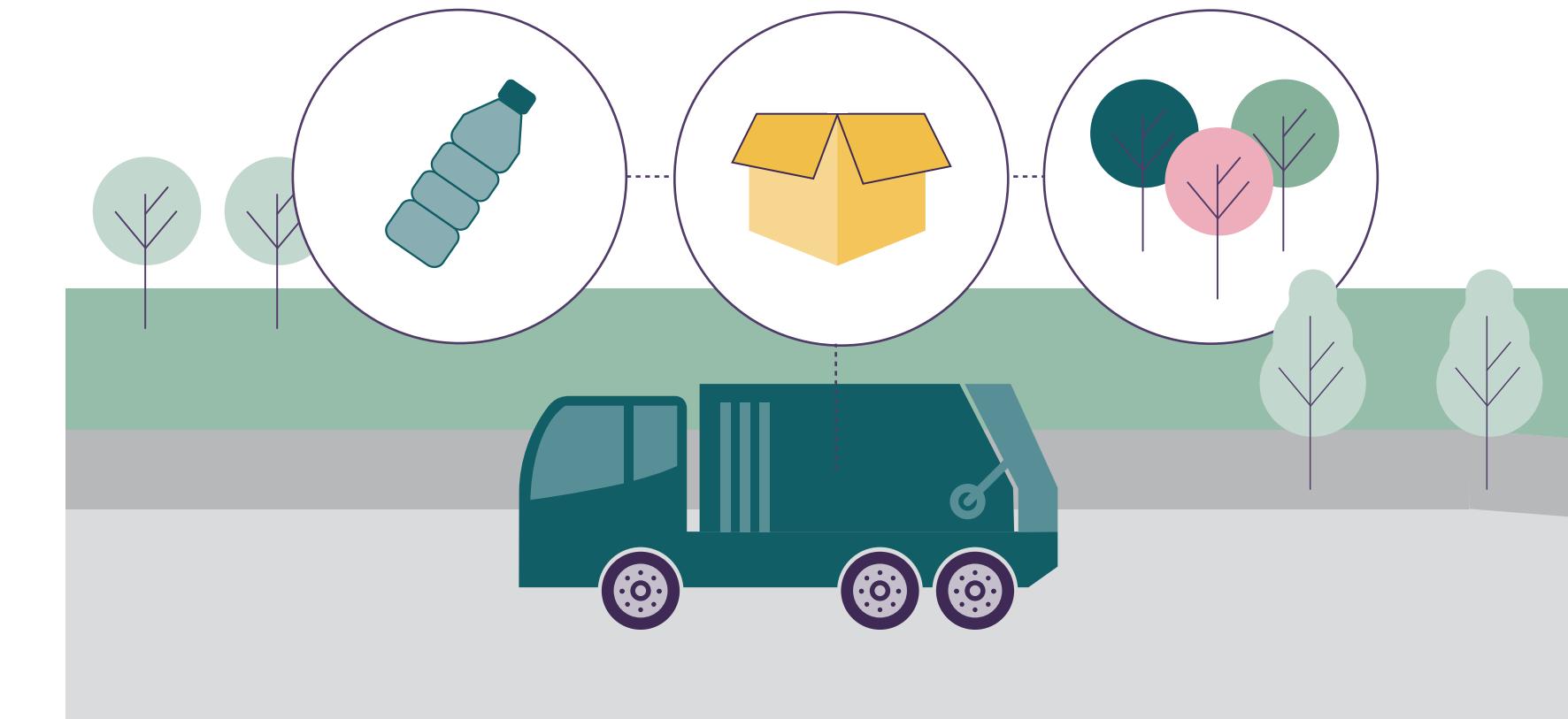
A great example of partnership working, the team includes experts from across the University together with the Air Transportation Systems Lab at University College London and the Melbourne Energy Institute at the University of Melbourne. The AIA is in partnership with HRH The Prince of Wales's Sustainable Markets Initiative, The World Economic Forum, Cambridge Zero, MathWorks, and SATAVIA, and is supported by industry advisors Rolls-Royce, Boeing, BP, Heathrow, and Siemens Energy.

Reducing, recycling and rethinking what we use

The University's Waste Strategy 2019-2023 states that we need 'to minimise and actively manage waste through elimination, reduction, reuse and recycling'. As part of this, three guiding principles set out the standards and approaches we all need to take when managing resources:

1. Eliminate and reduce waste at source
2. Reuse resources
3. Ensure waste is disposed of in a way which facilitates recycling

By adopting these principles, we can all work towards our goal. It's about rethinking our resources - what we buy and use - and developing effective ways to use, reuse and recycle what we have. Everything we have worked on over the past academic year has contributed to the aims of the strategy.



SINGLE OUT

There are many, many ways to meet the University's goal to minimise waste through reducing, reusing and recycling, and this year our Spotlight On! campaign for waste focussed on the issue of single-use items.

It's estimated that 97% of the University's waste comes from single-use items. Our Single Out campaign surveyed staff and students to find out which items we're only using once. Plastics came out on top, but other materials such as paper, cardboard, metals and wood made up over half of single use items. In terms of the source of these items, packaging and research account for over

half the single use items. We know that disposable items from our labs - such as pipettes and petri dishes - produce a lot of waste, and our nitrile glove recycling project is one of the ways we're starting to tackle this.

After the survey, the Sustainability Team and *ourcambridge* ran workshops for staff and students. These workshops focussed on finding practical solutions to eliminate, reduce, replace or recycle the items that add the most to the University's waste. The next step is to develop departmental initiatives to actively reduce single use items.



WORKING HAND-IN GLOVE

Materials and equipment used in laboratories are notoriously difficult to recycle, with issues around safety and contamination. However, with our nitrile glove recycling initiative, the Departments of Physics, Chemical Engineering & Biotechnology, and Materials Science and Metallurgy have been working with their staff to carefully sort and collect nitrile gloves from laboratories and clean rooms across their buildings.

As we discovered in the Single Out campaign, nitrile gloves are the ninth most prevalent single-use item, by weight, across the whole University. Some are contaminated and so cannot be recycled, but thousands could be turned into new items.

And that's exactly what happens. The project was the idea of Paolo Andrich, a researcher in the Physics department, as part of the Engage For Change programme. That was back in 2019, but this year the project has really taken off with two large loads of nitrile gloves sent for recycling to be turned into plastic pellets and then new durable products such as plant pots and garden furniture.

"A big element of the University's Waste & Recycling Strategy is about finding ways to deal with the huge volumes of single-use items from labs, which make up around 70% of our non-recyclable waste. While there are barriers to tackling this kind of waste, with the support, expertise and enthusiasm of staff from around the University we've shown what can be achieved!" Peter Lumb, Environmental Coordinator, University of Cambridge

Although this project was about gloves, what we have learned about how to collect lab items, assess risks and where to send lab waste for recycling is going to prove invaluable for recycling other items in the future.

EFFICIENCY THROUGH DATA

Making the switch to paperless billing has been a success for efficiency - time, energy and costs. Previously, bills and invoices would be manually entered, validated and sent out, as well as being printed and stored. Moving electricity and gas billing to the EDI (Electronic Data Interchange) system has saved around 1,000 pages of printed paper every month. Having all the information online also makes it possible to search and analyse quickly and easily. A data driven philosophy is invaluable as we move towards zero carbon - accurate data allows us to see where we can make improvements to increase efficiency and reduce carbon emissions even further. Next, water and wastewater bills will be moved over to the EDI, saving even more in terms of resources and energy.

The Single Out survey identified paper as the seventh biggest single-use item contributing to our waste, with 45 tonnes disposed of every year.

THE BUSINESS CASE FOR ZERO CARBON

The Cambridge Institute for Sustainability Leadership (CISL) has developed Targeting Net Zero, a strategic framework for companies to deliver net zero in a business context and influence transition towards it. By drawing on CISL's Rewiring the Economy plan and a range of other leading frameworks and insights, it outlines the key tasks to align with net zero. It also includes impact stories from companies already taking leadership on this agenda.

WINNERS

This year, we were shortlisted for five Green Gown awards

The awards ceremony was held just outside this reporting period in November 2021, but recognised work done in the 2020-21 academic year.

WINNER

Reporting with Influence category for our Environmental Sustainability Report 2019/2020

HIGHLY COMMENDED

2030 Climate Action category for our work around our SBT

FINALIST IN THREE CATEGORIES

Building Back Better; Sustainability Champion Award - Staff and Student; and Sustainability Institution of the Year

We are now a member of the East of England Plastics Coalition. Bringing together local authorities, private businesses and NGOs – including Anglian Water, Cambridge Water, National Trust and Marine Conservation Society – the Coalition brings partners together in the fight against plastic pollution.

CLIMATE
CONVERSATIONS

Developed with CISL's Banking Environment Initiative (BEI), Let's Discuss Climate is a guide to bank-client engagement, equipping banks with the context, questions and ideas to have meaningful conversations with large corporate clients about their decarbonisation plans and financing needs.

Biodiversity



Delivering against the Biodiversity Action Plan

In last year's report we announced the launch of the University's **Biodiversity Action Plan** (BAP), the 10-year vision to deliver significant and measurable improvement across our estate. This year has been the first year of developing and delivering the activities to meet our plan - many of which have been very visible across our estate.

The projects and activities carried out are not done in isolation - it's part of a much wider strategic approach. The BAP outlines six action themes, and everything we do contributes to one or more of these.

SIX AREAS OF ACTION

Estate-wide actions - cross-habitat and underpin delivery of the BAP

Built environment actions - to ensure net biodiversity gain after development and establishing initiatives to green the urban areas of our estate

Farmland actions - covers a large area of rural estate, including arable land, permanent agricultural grassland hedgerows and ditches

Non-agricultural grassland actions - encompasses higher value grasslands with recognised botanical value

Woodland and scrub actions - includes orchards, woodland blocks and copses

Wetland and water actions - includes existing lakes and ponds, the Madingley Brickpits County Wildlife Site (CWS) and lakes and ponds at Madingley Hall and Park.

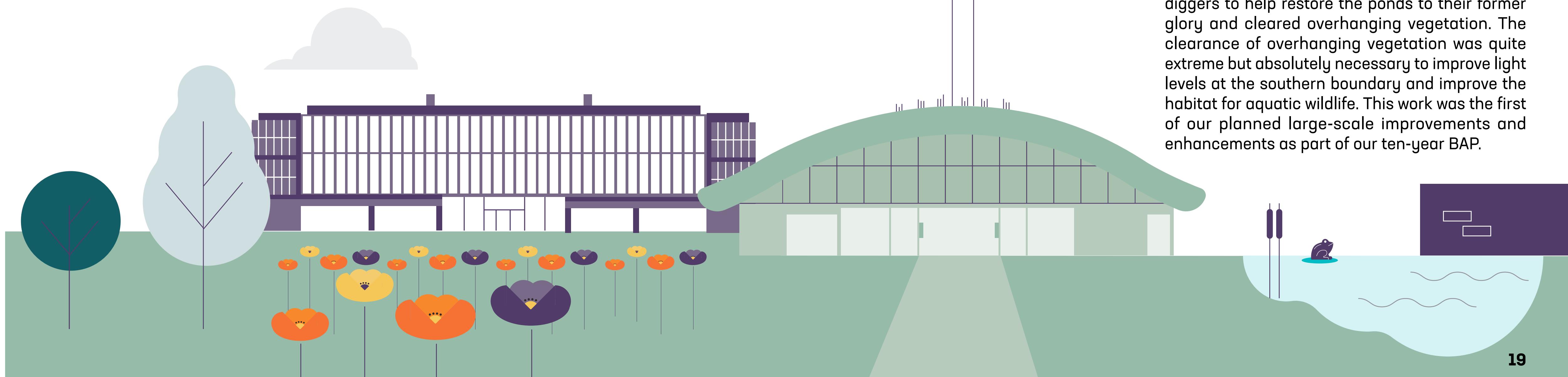
It has also been important to engage other teams, departments and individuals across the estate to lead on much of this work. Our Estates Division - particularly those in rural estate management and grounds maintenance - have been instrumental in the progress made this year.

Here are just some of the projects that have been helping us to meet the actions set out in the BAP...

WONDERFUL WILDFLOWERS

Since launching the University's BAP, our grounds teams have been hard at work on estate-wide actions. This includes creating biodiversity corridors to connect physical areas of high biodiversity value. Wildflower planting is an important and very visual part of this. Just three of these new wildflower areas have been created at the Department of Veterinary Medicine, in front of the Civil Engineering Building and next to the Roger Needham Building.

At the Department of Veterinary Medicine, wildflowers and rowan trees have established quickly since planting in 2020. In front of the Civil Engineering Building and next to the Roger Needham Building, two 75-metre wildflower beds have been planted with a mix of seeds to see what thrives. Six new birch trees have also been planted to provide dappled shade along the seating area. And up on the roof of the Faculty of Mathematics, a 350-metre area of grass and wildflowers has created a welcome and unique biodiversity haven high above the offices.



RESTORING PONDS AT MADINGLEY

As part of our 'wetland and water' actions within the BAP, we are enhancing the Madingley Brickpits County Wildlife Site (CWS) located on the Madingley Estate to create a more diverse habitat for wildlife.

Volunteers got busy clearing litter from the ponds, which made a real difference to the area. The Farming and Wildlife Advisory Group (FWAG) and the University's Rural Surveyor then secured funding from Natural England. This meant we were able to extend this activity to complete works on the northern pond at Madingley Brickpits, while work was also completed on both southern ponds at the site. We dredged the ponds using mechanical diggers to help restore the ponds to their former glory and cleared overhanging vegetation. The clearance of overhanging vegetation was quite extreme but absolutely necessary to improve light levels at the southern boundary and improve the habitat for aquatic wildlife. This work was the first of our planned large-scale improvements and enhancements as part of our ten-year BAP.

ALL EYES ON BIODIVERSITY

The BAP sets out our vision to deliver a significant and measurable improvement in the biodiversity of the University of Cambridge estate, and the Greater Cambridge Area more generally.

To do this, we need to understand our biodiversity and how it's being changed and enhanced by our projects on and off the estate. We asked staff, students and the wider public to share their wildlife sightings with us. Using the iRecord database, people could upload data on what they've seen, when they saw it and where.

Alongside the launch of iRecord, we ran a Spotlight On! campaign during the summer of 2021. A series of workshops and events gave people the confidence and skills to identify and monitor wildlife. From insects and bats to hedgehogs and birds of prey we worked with Cambridge Conservation Initiative and Cambridge University Botanic Garden to run both in person and online events for beginners and

wildlife enthusiasts alike.

It may seem like a fun activity to get people involved in biodiversity – and it is – but it's also a great way of helping us monitor biodiversity. Citizen science data can contribute to national and international datasets, be used for research or conservation, and help inform planning, development and even wildlife legislation. For the University, the results are providing useful data to help us continue to identify the wildlife we have on our estate, as well as highlight areas that need our attention and most importantly measure against targets outlined in the BAP. Recording flora and fauna across the estate is also an important indication as to whether initiatives such as the new wildflower areas and pond restoration are enhancing biodiversity and attracting more wildlife.



PROTECTING EXISTING HABITATS

Establishing new wildlife areas is incredibly important and directly supports the actions set out in our BAP, but it's also important to improve and protect the biodiversity we already have across the estate. Work towards this has included staking known sites for southern marsh and bee orchids to prevent them being accidentally mown, coppicing at West Cambridge Lake to create a varied age structure, and leaving some areas un-mown to establish different habitats on the estate.

SPREADING THE WORD

Thanks to a new Biodiversity Intern, we are increasing the level of information we can give staff and students. Whether it's outlining what we're doing and why – for example, installing signs to explain why certain areas have been left unmown to create different habitats – or providing information and guides so that everyone can do their bit, we're working towards a more strategic and inclusive approach to biodiversity.

CLEANING THE OUSE

Working together with the Rivers Trust as part of its Preventing Plastic Pollution project, staff got together for a litter pick. The project focuses on plastic pollution of the Great Ouse catchment and reducing the waste that ends up in our rivers. It's not just about removing litter though. By recording the type of waste and where it was found we can identify hot spots and take action to stop it. This not only improves the health of our rivers, it also links to the commitment in the University's Waste Strategy to reduce single use waste across our Estate.

**THE 10-YEAR
VISION**

“Deliver a significant and measurable improvement in the biodiversity of the University of Cambridge estate, and the Greater Cambridge Area more generally, in a manner that educates and inspires an appreciation of the natural environment, and that encourages interventions, research and innovation to enhance and protect biodiversity for future generations.”

**SWIFTLY
DOES IT**

At the David Attenborough Building, the Cambridge Conservation Initiative has been attracting swifts. By playing a recording of the swift's distinctive calls through their speakers, they successfully attracted swifts to take up home in their nest boxes.

Built environment



7 AFFORDABLE AND
CLEAN ENERGY



8 DECENT WORK AND
ECONOMIC GROWTH



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



13 CLIMATE
ACTION

Increased focus on sustainable refurbishment

Over this last year, there has been an increased emphasis on refurbishment of existing buildings. It has been estimated that 80% of UK buildings that will exist in 2050 have already been built. This means that, although new buildings with high sustainability standards will be built, there is a major challenge to retrofit existing building stock to meet climate change targets.

A focus on refurbishment is also helping to meet our SBT. As we start to look at using our estate more efficiently, sustainable retrofitting of existing buildings is a high priority. As part of this, the carbon impact of capital projects is now included as part of the business case. This means that operational (scope 1 and 2) and embodied (scope 3) carbon impacts of capital projects are considered from the outset. It also standardises the way carbon emissions are reported. Critically, it takes into account the carbon impact of adding new space to the estate and tends to favour refurbishment over new build, unless a new build would facilitate very significant operational carbon savings.

AIMING HIGH AT 1 REGENT STREET

An exemplary deep retrofit project is underway at the Entopia Building at 1 Regent Street. Set to be the new headquarters of the Cambridge Institute for Sustainability Leadership (CISL), it will be a world-leading retrofitted sustainable office building that should set new standards for low energy use, carbon emissions and impact on natural resources as well as user experience and wider wellbeing. The aim is to create an ultra-low carbon sustainability hub that achieves Passivhaus 'EnerPHit' certification - one of the most stringent standards for energy retrofits - as well as BREEAM 'Outstanding' and Well (Gold) certification.



This is the first time the University has worked to Passivhaus 'EnerPHit' standards and we want the Entopia Building to become an international exemplar for sustainable office retrofits.

"The 1 Regent Street project is a very exciting pathfinder project for the University, as we refine our strategy to eliminate natural gas as a fuel for our many older buildings. It demonstrates that there is a way to transition to low carbon heating whilst conserving Cambridge's outstanding built heritage."

Alexander Reeve, Sustainable Construction Manager, University of Cambridge

CISL has designed the Entopia Building as a manifestation of its mission to support and inspire leadership and innovation for a sustainable economy. As well as hosting its growing staff, a large part of the building will be dedicated to supporting startups and small businesses within CISL's incubator - The Canopy. Startups and small

businesses that share CISL's impact goals will be able to secure office space and support via physical or virtual membership offering participation in accelerators, collaborations, capacity building and knowledge transfer between industry experts, researchers, and major companies.

"Sustainable development can only be achieved with benefit to, and buy-in from, people and communities. From workplaces to wild places, the time is ripe for a new compact between humanity and nature. This can regenerate leadership and transform policy, investment, finance and technology."

"Our future HQ - Entopia - shows how retrofit buildings of all sizes can generate multiple benefits for their occupants, their communities and the living world, whilst remaining commercially compelling."

Clare Shine, Director and CEO of CISL

The £12.8m retrofit has been supported by a £6m donation from greentech leaders Envision Group and a £3m grant from the European Regional Development Fund (ERDF). Work started in this academic year and it's hoped that the building will be open in 2022.

SUSTAINABILITY BENCHMARKS FOR THE ENTOPIA BUILDING

The deeply sustainable - defined by CISL as including social and environmental considerations - retrofit of the Entopia Building will make it an exemplar in the built environment.

75% lower heating demand (compared to average office building)

5x more airtightness than required by building regulations

More than **350 LED light fittings reused** from another building

21,600kg of chairs, tables and storage cabinets donated to local communities - diverting 21,000kg CO₂ from landfill

Favouring **bio-based materials**, e.g. timber studwork and wood fibre insulation

The paint used is made from **35% recycled paint content**

Carried out to **Passivhaus 'EnerPHit'** standard for refurbishment

On track to achieve **BREEAM 'Outstanding'** and **WELL Building Standard 'Gold'**

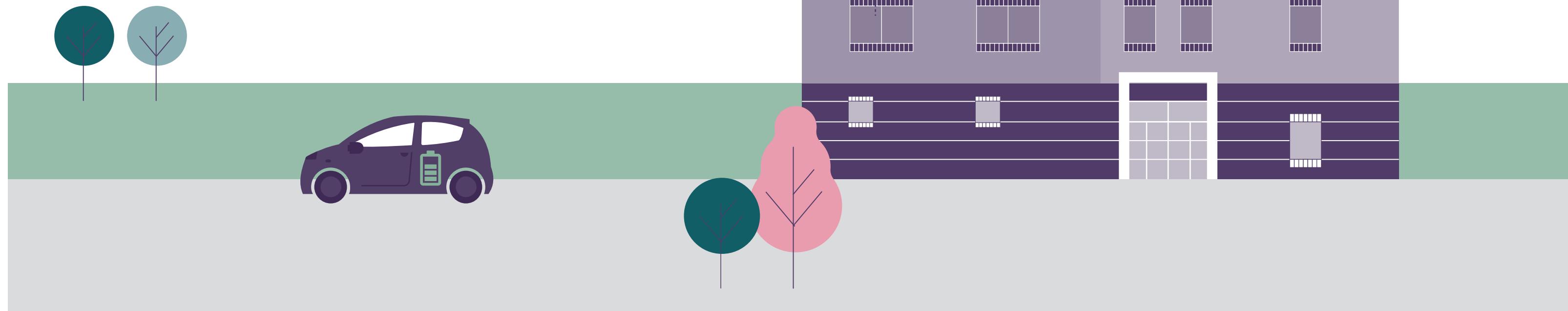


A NEW HOME FOR A MODERN LABORATORY

In January 2021, we completed the refurbishment of the [Gleeson Building](#) and have since achieved BREEAM 'Excellent'. Boasting modern laboratories equipped with state-of-the-art instrumentation, it's now home to the MRC Toxicology Unit.

The BREEAM certification can be challenging to achieve for an existing building, especially one as complicated - and as notoriously energy-hungry - as a research laboratory. Much of this energy is associated with ventilation, so this refurbishment installed high efficiency fume cupboards and fans, a heat recovery system, and controls that adjust to demand. There is also low energy LED lighting with motion sensing controls and water efficient taps and showers.

By refurbishing rather than building a new facility, we have avoided the environmental impact of cement, steel and other materials used in construction.



REDUCING GAS USAGE ACROSS THE ESTATE

We continue to work towards decarbonising our energy supply through a programme of degasification. Moving towards eradicating the use of natural gas in our buildings makes a significant contribution to achieving our target of zero carbon, in line with our SBT.

RESEARCH INTO ENERGY OUTPUTS

Staff at Cambridge Zero have been part of a UK Space Agency National Space Innovation Programme (NSIP) project in collaboration with the Institute of Astronomy, Department of Computer Science & Technology, and Department of Architecture. Part of £7 million funding for radical ideas for tackling climate change through Earth Observation, the project focused on the use of thermal infrared telescopes in space, as well as drone-mounted thermal infrared cameras, to monitor the energy output of buildings and exploring how the data can be used to ensure that government, companies and individuals are on track to meet carbon emission goals. Continued NSIP Phase 2 funding has now been secured for this project to continue from October 2021.

REFURBISHING THE FOUNDER'S BUILDING

The Fitzwilliam Museum's Founder's Building is Grade 1 listed, which can be challenging when it comes to refurbishment. However, by taking a fabric-first approach and installing double-glazing and LED lighting, the Fitzwilliam is reducing energy consumption and playing its part in reaching our zero carbon target.

ACHIEVING 'EXCELLENT'

The University's new Civil Engineering Building has achieved the BREEAM 'Excellent' standard.

Sustainability was central to the design, including its green roof, heat pump and natural ventilation.

WHAT IS BREEAM?

A BREEAM assessment evaluates a building's design, construction and use. It covers a comprehensive range of topics from energy, water use, ecology and materials, to health and wellbeing. Buildings can achieve a five-point scale of Pass, Good, Very Good, Excellent and Outstanding.

Get around greener



3 GOOD HEALTH
AND WELL-BEING



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



11 SUSTAINABLE CITIES
AND COMMUNITIES



13 CLIMATE
ACTION

Supporting the switch to sustainable modes

In the [University's Transport Strategy 2019-2024](#), we set out a target that 75% of staff members should regularly commute to work by sustainable modes. This year, we have focussed on initiatives to encourage the use of sustainable transport, together with improvements to infrastructure.

Of course, the start of this year saw a series of lockdowns during the Covid-19 pandemic, which meant fewer people were travelling to and from the estate, and as a result there were lower carbon emissions from commuting.

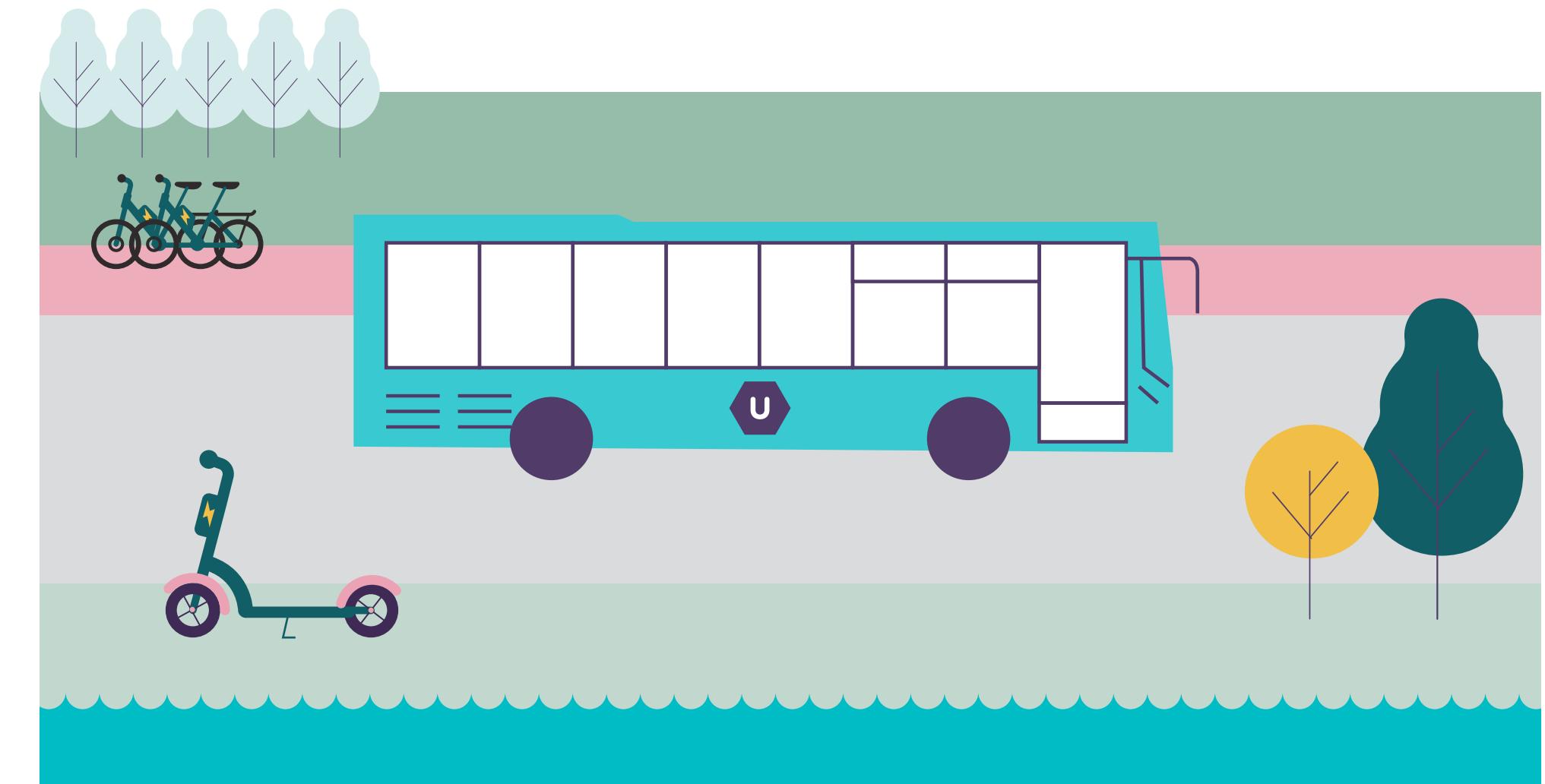
However, towards the end of this academic year, we have been able to start planning and implementing more initiatives as we welcome staff and students back to the University.

The staff travel survey carried out in October 2020 found that the University has surpassed the Transport Strategy target of 75% sustainable travel, with 90% of staff working at home or travelling sustainably to their workplace. This is due to an unprecedented increase in home working due to the Covid-19 pandemic. The survey found that:

68% of respondents worked from home during the survey week, compared to **1%** in the previous year.

10% of staff drove alone to get to work, compared to **31%** in the previous year.

22% of staff used sustainable modes to travel to work (cycling, walking, bus, train and car share) compared to **68%** the year before.



Getting people using sustainable modes when they do travel to work has been a key consideration. A range of incentives and initiatives including the Travel to Work and Cycle to Work loan schemes have helped staff switch to sustainable modes. This year, we also awarded the contract for our brand new Travel Advisor Service and carried out a soft launch to test the service. Their role is to work one-to-one with staff to highlight the full range of transport choices, and to encourage them to try a more sustainable mode of travel. Due to launch fully after this reporting period, this Travel Advisor Service will hopefully help more people make the shift to sustainable travel.



LET'S TALK TRANSPORT

The vision set out in our Transport Strategy is to reduce the environmental impact of travel, provide sustainable travel options and support staff wellbeing. To better understand and promote sustainable travel options, our Let's Talk Transport campaign ran for four weeks in May and June 2021. Through a series of events, focus groups and surgery sessions, the aim was to gather information on the barriers that exist when it comes to sustainable travel and what we could do to help overcome these. The Sustainability Team and *ourcambridge* ran the sessions on public transport, cycling, and last mile

solutions, with the University Disability Resource Centre helping to provide context and expertise on specific barriers faced by disabled members of our community.

The groups identified a number of key challenges including improving cycling and pedestrian infrastructure; flexibility and reach of public transport; enhanced provision of electric vehicle charging points; and increased park and ride capacity. Actions that could solve these have yet to be decided, but will likely see us working with

public transport operators, the highway authority and other partners to improve infrastructure and make sustainable ways of travelling the best choice for all.

The insights were incredibly useful and were in the 2021 annual Travel Survey to get a much larger sample of responses. We're also going to publicise Smart Cambridge travel information more widely to help people make more informed choices.

AUTONOMOUS VEHICLE TRIALS

Over at the West Cambridge Site, the University hosted a Greater Cambridge Partnership project on running fully electric autonomous vehicle (AV) trials. The 12-seater self-driving shuttles had a safety driver on board but moved around by constantly processing their surroundings and responding appropriately. The shuttles picked up passengers to determine how an AV system could work across the wider city. The trial also aimed to increase the popularity of public transport, and of the 115 passengers surveyed, 97.4% said they would ride the AVs again. And finally, as they were fully electric, the AVs could play a huge part in reducing transport carbon emissions as we head towards our zero carbon future.

3 shuttles	34 million data points in the PointCloud model
2 safety drivers	
5 LiDAR sensors	
4 CCTV cameras	
3 hazard detection cameras	



UNIVERSAL BUS

As much of this year was still affected by Covid-19, our Universal Bus service continued to provide transport for key workers across Cambridge. Extra buses allowed for social distancing, and more robust cleaning regimes were delivered on all services. Passenger numbers continued to increase although, understandably, they haven't reached pre-pandemic numbers. When the Universal Bus service is retendered we have ambitions to electrify the service in future - reducing emissions and contributing to lowering our scope 3 emissions.

ALL THINGS CYCLING

Anecdotally, we know that cycling grew in popularity over the last year - largely due to the fact that it felt like a safe way to get around during the pandemic. We've continued to support staff with online maintenance courses, as well as holding in-person Dr Bike sessions at those places where staff were on-site to make sure their bikes were safe and well maintained. We've also been progressing designs for improvements in cycle parking.

PARTNERSHIP WORKING

We have continued to engage and contribute to strategic partner projects that will impact the University's estate and/or staff commuting options, as well as contributing to a more sustainable city region. Projects such as Cambridge South Station, Cambourne to Cambridge, East-West Rail, Cambridge South East Transport (CSET), Madingley Road cycling improvements and a number of the GCP Greenways have all moved forward this year and we'll report on progress in next year's report.

PARK UP

Covid-19 working patterns has meant much less demand for staff car parking. However, work has continued on developing access controls for car parks; the introduction of a trial of a car parking booking system to enable more efficient use; and a more flexible and fairer approach to managing car parking space across the Estate in future.

SCOOT OVER

Launched right at the end of this reporting period in July 2021, the Voi e-scooters and e-bikes had already clocked up 1,427 rides, and are on track for well over 15,000 trips a year.

BIKE HOW YOU LIKE

The Borrow a Bike scheme and free bike lockers at Park & Ride sites were both launched in June 2021. Early figures are promising, with 11 bikes loaned and 23 lockers allocated to staff. We'll be reporting on these in the next report.

Maximising impact



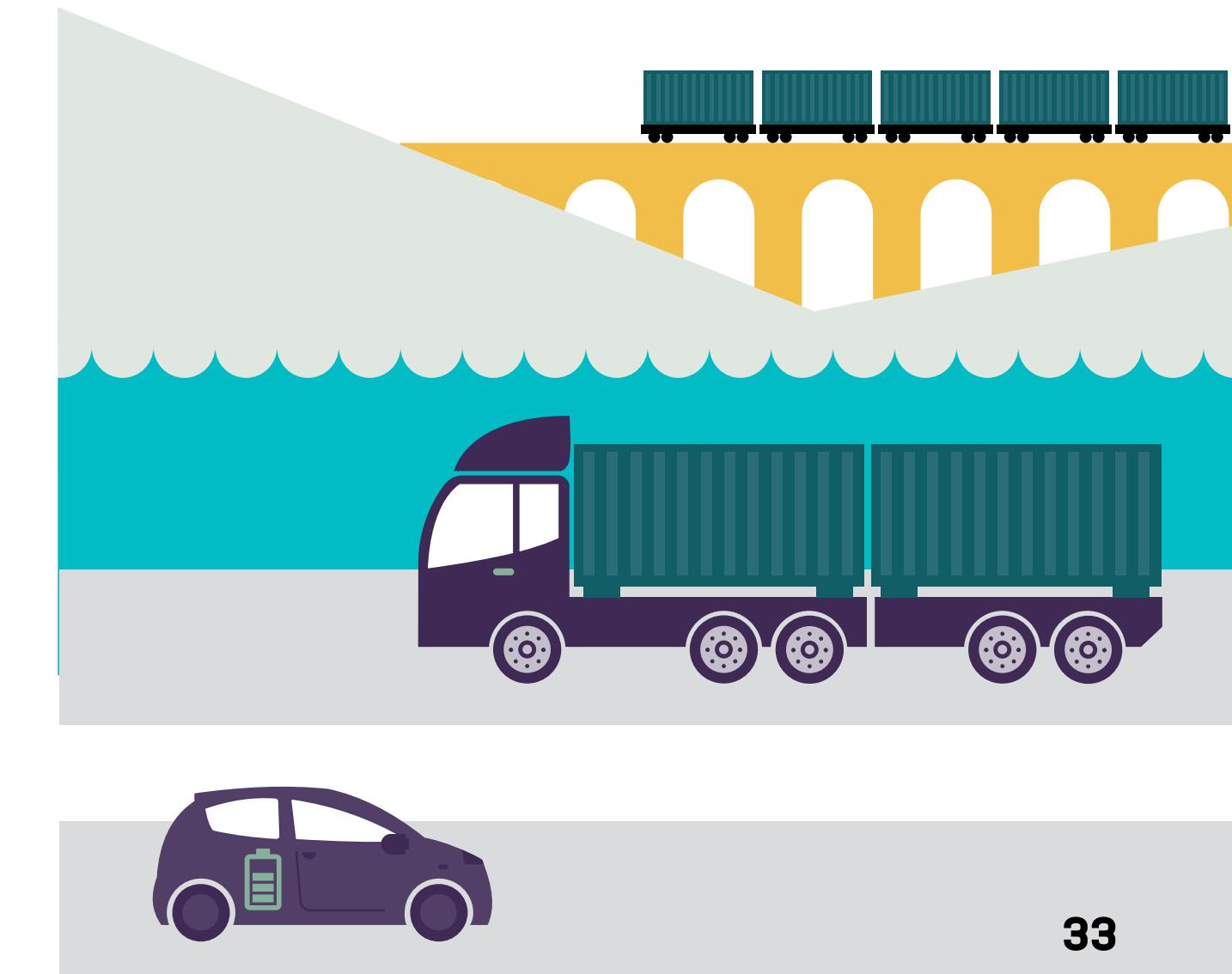
Making sustainable purchasing choices

The Strategic Procurement and Purchasing project (SPP) launched in March 2021 and is introducing a new approach to procurement to make it easier for the University to buy the goods, works and services it needs while enabling it to extract further environmental, societal and economic impact for every Cambridge pound spent. The project is in delivery mode and aims to educate and enable cultural change across the University to ensure sustainability is a priority in all procurement and purchasing decisions.

In 2019, we undertook a comprehensive review to identify and plan smarter supply chain management in order to support the journey to zero carbon and positively contribute on societal and economic principles. As an integral element of the SPP, we are implementing the ISO 20400 Sustainable Procurement Guidance Standard. This standard, which contributes to eight of the UN Sustainable Development Goals, is aimed to support the integration of sustainability within our purchasing and procurement decisions and processes.

THE SUSTAINABLE PROCUREMENT JOURNEY TO ZERO CARBON

The University's strategy for scope 3 emissions is to minimise as much as possible and apply offsetting to address unavoidable emissions in order to achieve zero carbon. We know that there is significant room to further improve our scope 3 data. And these improvements are dependent on structural developments to the University's expenses and procurement processes and data.



Working with global sustainability experts [UL](#), the review identified that our current operating model limits opportunities to understand, manage and measure the University's scope 3 supply chain emissions. This needs to be rectified, as improving our data on scope 3 emissions is a key part of the work going on towards achieving our SBT. Through benchmarking against peer organisations from the Higher Education and private sectors - including the University of Oxford, and AstraZeneca - we developed a road map for the University's approach to sustainable procurement performance.

The SPP is now working to align with peers such as Oxford in the mid to short-term. We have a view to aim even higher and adopt approaches used in the private sector and have appointed a Head of Sustainable Procurement role to drive and deliver on sustainable procurement practices across the University. And finally, we have developed a Procurement Strategy, which includes sustainable

procurement KPIs. We will also be looking at creating a Sustainable Procurement Charter or Commitment paper to underpin this.

"The SPP and its approach to sustainable procurement is crucial to ensuring the University meets its sustainability aims and that of Cambridge. Our more sustainably informed purchasing choices will enhance our societal and economic contribution and reduce our carbon footprint, making a significant contribution to the University's overall sustainability goals."

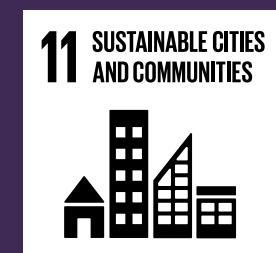
**Helen Wain, Head of Group Procurement,
University of Cambridge**



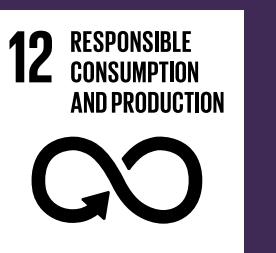
WHAT IS ISO 20400?

ISO 20400 is a standard that helps organisations to implement sustainable procurement through a set of guidelines. It covers the definitions and principles of sustainable procurement and is applicable to organisations of all shapes and sizes.

Strength in numbers



11 SUSTAINABLE CITIES
AND COMMUNITIES



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



13 CLIMATE
ACTION

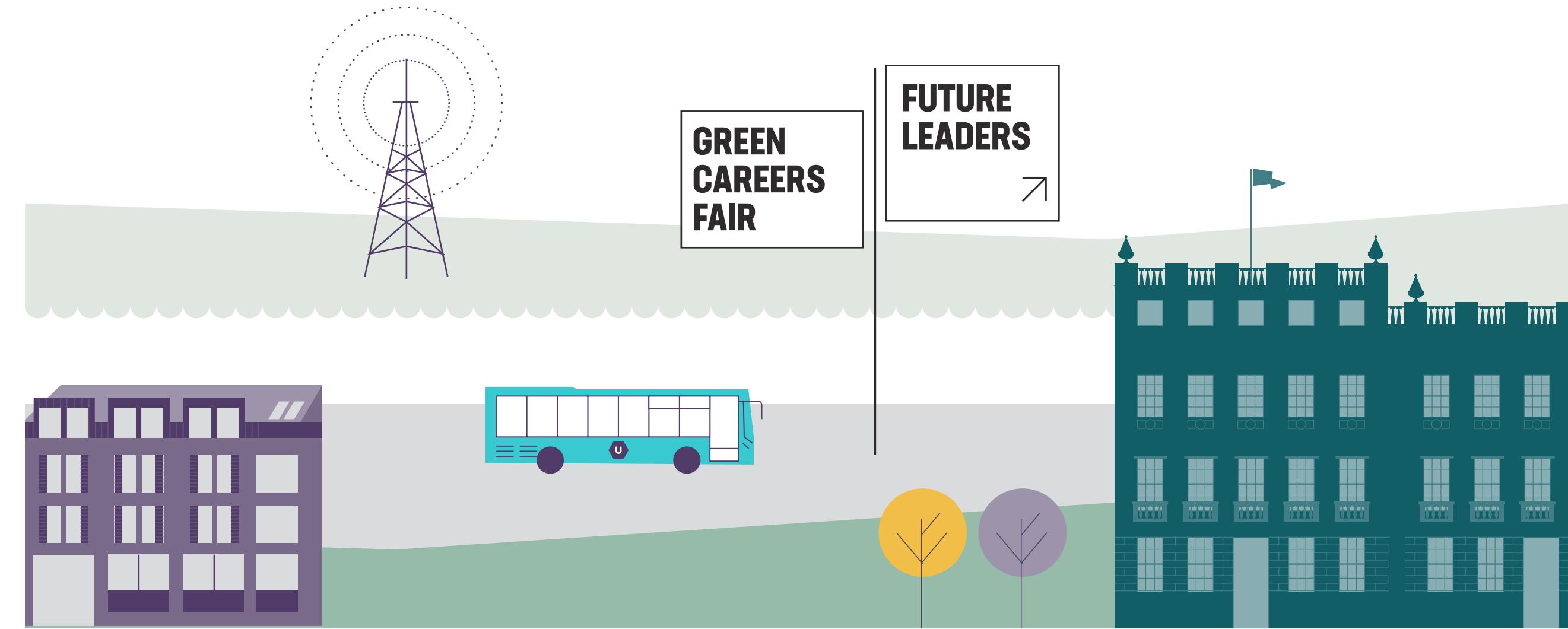


17 PARTNERSHIPS
FOR THE GOALS

Working together for sustainability

To meet our SBT and achieve zero carbon, everyone has to play their part. As well as university researchers, this means each and every one of us increasing our understanding of sustainability and taking action. Enhancing knowledge, inspiring change and getting the whole university community involved will help us to achieve our ambitious targets.

As a university, we also have a role to engage those beyond our boundaries, and it's something we take seriously. By working with others we can share our research, enhance knowledge and innovation, and shape initiatives in our community, nationally and globally. It's about having a positive impact on wider society. We can also learn from others, and share this learning with our staff and students.

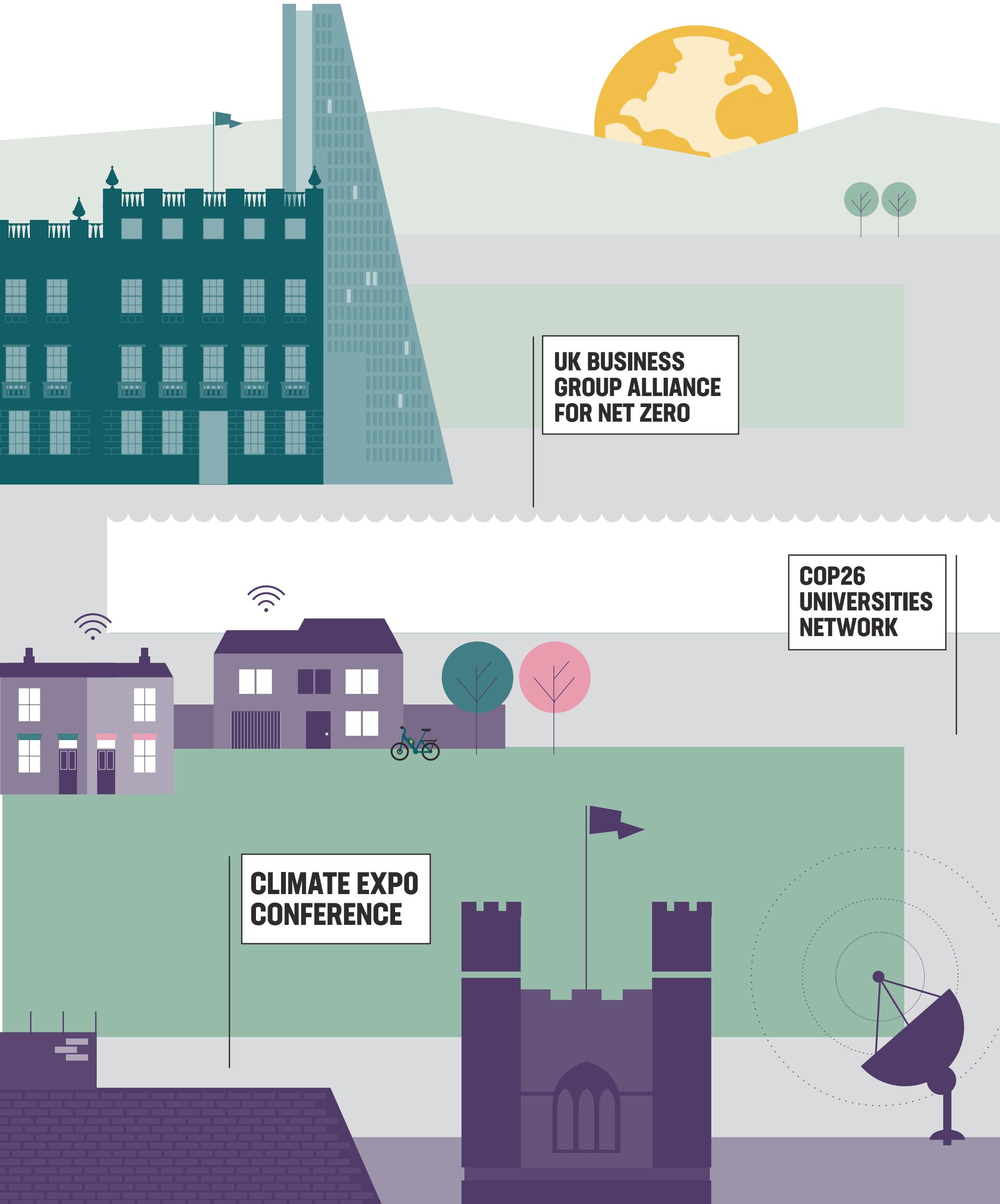


■ STUDENT ENGAGEMENT IN SUSTAINABILITY

Getting students involved in sustainability while at university is key for long-term change and innovation. This year, Cambridge Zero launched the Future Leaders programme, an internship scheme with a strong emphasis on professional skills development and creating meaningful impact. In 2021, there were fifteen paid summer internships on offer including four in the Cambridge Zero team, six at the Centre for Climate Repair, three in the University's Sustainability Team, and two at the University Investment Office.

Last year, we reported on the start of a student-led Climate Literacy Project. This year, the programme moved on apace and ten Cambridge students took the Manchester Metropolitan University Carbon Literacy for Higher Education course, delivered over four webinars and self-study modules. Since completing the course, these Student Trainers have been running courses and certified around 130 students to date.

And looking beyond our students' time with us, the University's Careers Service and Cambridge Zero organised a Green Careers Fair to highlight the environmental and sustainability opportunities in a wide range of sectors. Held in March 2021, it was attended by 22 employers and 245 students.



THE ROAD TO COP26

Held in Glasgow in 2021 (and therefore just after this reporting period), COP26 is the United Nation's international climate summit. The lead up to this pivotal event provided several opportunities to further our climate work and the impact of our activities. As part of its work with the COP26 Universities Network, **Cambridge Zero** hosted and organised Climate ExpO in partnership with Cambridge University Press. This week long virtual conference hosted 500 presenters from 43 countries and was attended by over 5,000 delegates from 150 countries, with high level ministerial representation from both the UK and Italy. It showcased the latest thinking and international research organised around five key themes: green recovery, nature-based solutions, mitigation solutions, adaptation and resilience, finance and regulation.

Cambridge Zero also led the COP26 Universities Network International engagement activities, including supporting the Cabinet Office to link with international academic networks; coordinating a partnership between the Network and Singapore

High Commission to deliver four policy papers through collaborations between UK and Singapore institutions; and working with embassies and the UKFCDO Science and Innovation Networks to promote opportunities for international academic collaboration around COP26.

Launched six months before COP26, CISL convenes the UK Business Group Alliance for Net Zero (BGA). This network aims to increase ambition to achieve a net zero UK by 2050 at the latest. It brings together some of the most ambitious and proactive business groups and organisations, including CISL's own UK Corporate Leaders Group, to work collaboratively with the UK Government and other stakeholders to champion both business and government action on climate change.

And to bring young people into the build up to COP26, the Centre for Climate Repair, Cambridge Zero and the University of Bath have collaborated on youth engagement, producing a film of youth climate voices - **ActNow!** - which was screened at COP26.

SUSTAINABILITY EDUCATION AND CORPORATE ADVISORY SERVICES

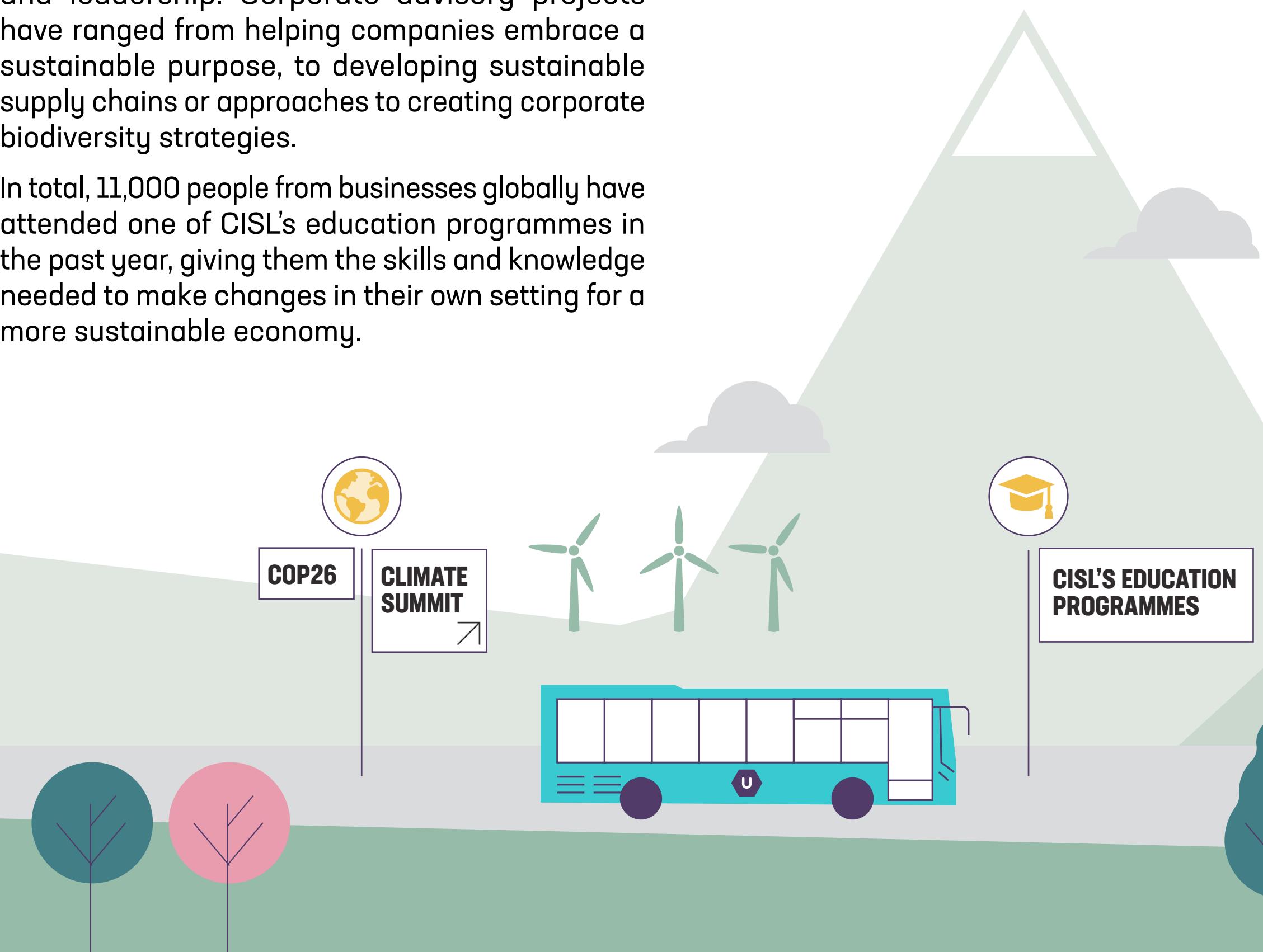
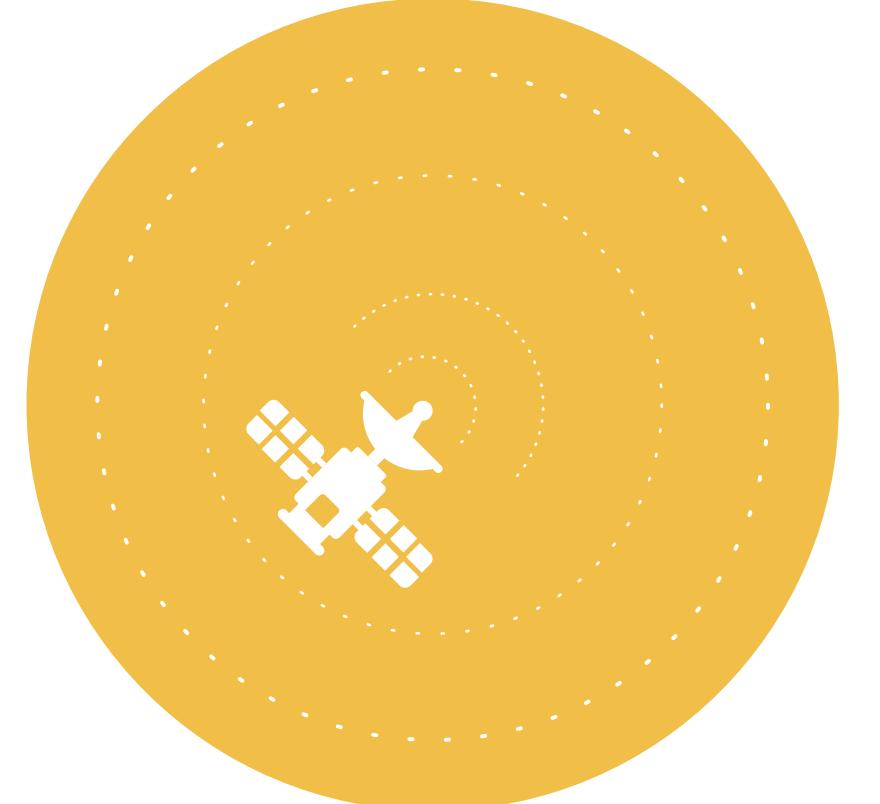
Over the past academic year CISL has seen significant growth in its online, executive and graduate education programmes and corporate advisory services. The availability of virtual and hybrid learning has attracted a more diverse audience, with delegates from 46 countries and a broad range of industries.

Alongside its four established eight-week, tutor-led online programmes, CISL introduced three new online courses on the topics of climate change, sustainable finance and sustainable real estate, and welcomed over 6,000 students onto the courses in the past year. In addition, the self-directed Sustainability Essentials online course has also supported 4,300 professionals on their sustainability journey.

While most teaching continued online, the CISL team has been phasing in the return of in-person teaching. Targeted at mid-level and senior leaders across all business functions, the open executive education programmes - including the Prince of Wales's Business & Sustainability Programme, the Sustainability Practitioners Programme and Earth on Board - have welcomed hundreds of delegates to courses in Cambridge, Melbourne and Cape Town. The team has also worked with major organisations globally to deliver bespoke executive education courses and Board Programmes to help clients

frame a response to sustainability challenges and to take a leadership position. These courses engage stakeholders at the highest level of an organisation to drive real change in both organisational strategy and leadership. Corporate advisory projects have ranged from helping companies embrace a sustainable purpose, to developing sustainable supply chains or approaches to creating corporate biodiversity strategies.

In total, 11,000 people from businesses globally have attended one of CISL's education programmes in the past year, giving them the skills and knowledge needed to make changes in their own setting for a more sustainable economy.



STRENGTHENING ACADEMIC NETWORKS

Here at the University of Cambridge, we are undertaking an exciting range of ground-breaking research on net zero and zero carbon solutions. Building and strengthening our community of academics and researchers can only help to encourage new collaborations and potentially new research themes. To do this, Cambridge Zero launched a [research symposia series](#), with six events over six weeks structured around Cambridge Zero's six core research themes. The events provided an opportunity for both senior and early career academics to present research, discuss findings, and develop cross-disciplinary links. Running in February and March 2021, the research series brought together 62 academics presenting to 657 people at the six events.

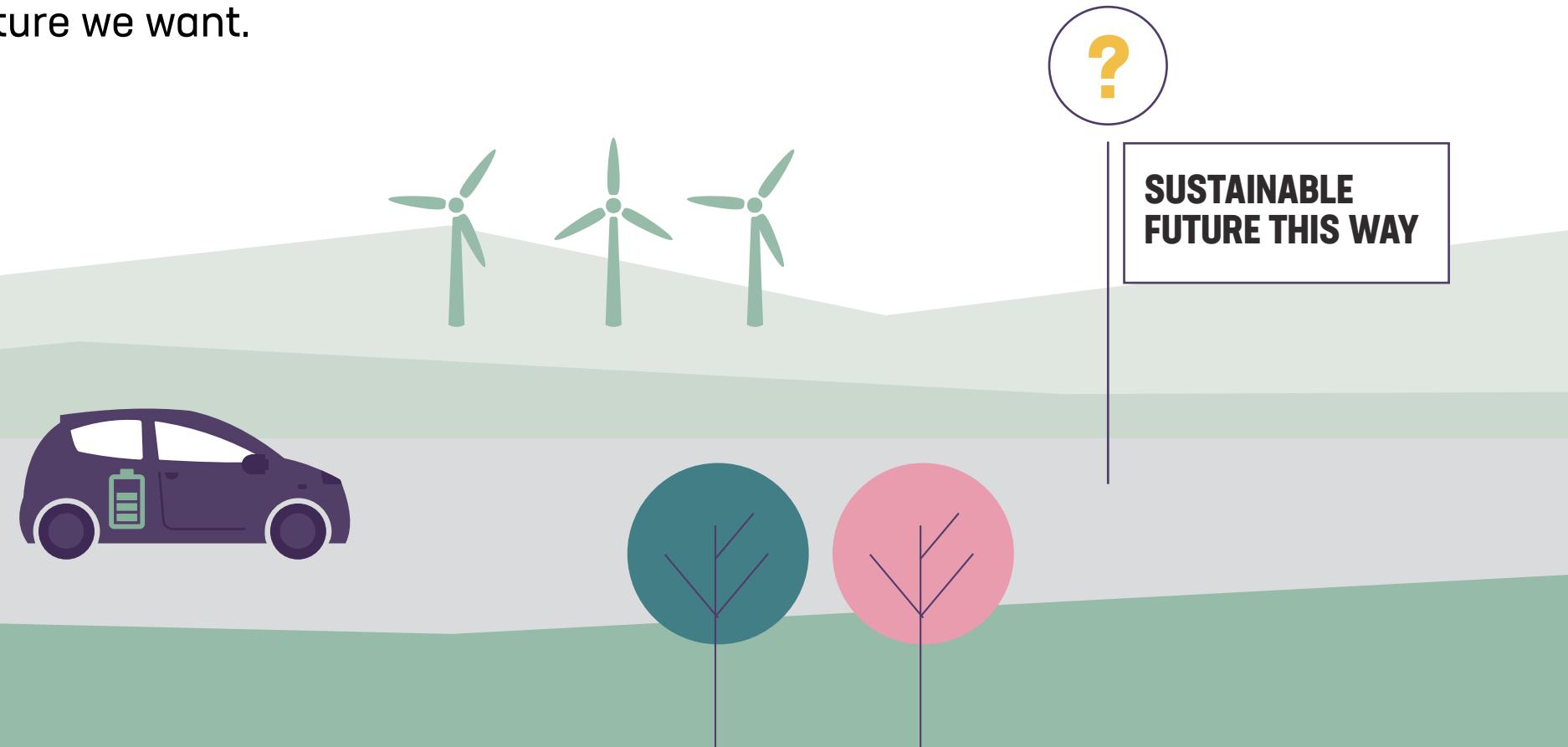


6 WEEKS
62 SPEAKERS

THE FUTURE WE WANT

During the Covid-19 pandemic CISL launched **The Future we Want** initiative to promote a global conversation about our long-term collective future among leaders in business, government, civil society and academia. In May 2020, members of its international network were invited to identify the biggest questions to be addressed in order to find in the pandemic an unparalleled opportunity to shift towards a sustainable economy. Nearly 1,000 questions were received, with many calling for decision-makers to think holistically about the consequences of their actions.

These questions informed a series of six Future we Want leadership discussions with thinkers from business, finance, government and academia. Approaching this from a systems perspective, the debates shone a light on the choices that need to be made, both now and in the long term for the future we want.



A FESTIVAL OF CLIMATE CHANGE

This year saw the launch of Cambridge's first global **Climate Change Festival**. Spread over eight days, over 3,000 people engaged with 82 free online climate-themed events for all ages. Developed and delivered by Cambridge Zero and Cambridge University Press, the festival included live panel sessions, pre-recorded talks, demonstrations, stories and games, led by leading thinkers from science, academia, policy and community groups from around the world.

WORKING IN PARTNERSHIP

Cambridge Zero has been working with the Cambridgeshire and Peterborough Independent Commission on Climate (CPICC) on a risk assessment of the future impacts of climate on the region. This includes extreme heat, drought, and flooding. The report - **Global Challenge, Local Action** - was published in March 2021 alongside CPICC's initial recommendations. Following this, Cambridge Zero will run a workshop for emergency, social, and infrastructure service providers to help better plan for the impacts of climate change.

DITCHING DISPOSABLES

Starting as an **Engage for Change** project in 2020, RE:USE is the brainchild of student, Luisa Deragon. She set up this social enterprise to offer sustainable alternatives to disposable containers. RE:USE has been working with Colleges to introduce reusable containers, which are used and returned before being sanitised by the catering staff and then used again. The initiative is helping to reduce single-use items, with an ambition to remove them altogether. Luisa won a **Green Impact Special award** for Student Leadership for this innovative project.

EEC NETWORK

The **Environment and Energy Coordinator** (EEC) network has continued with online catch-ups, inductions and training. In July 2021, the Sustainability Team provided sustainable behaviour change training for 13 EECs to help in their role of inspiring and implementing sustainable action. The network is made up of 71 members of staff from across the University, and 97% of them would recommend the role to others.

TAKING ACTION AT WOLFSON

A grassroots movement has been developing at Wolfson College with the creation of the **Interdisciplinary Research Hub in Sustainability & Conservation**. Set up in 2020, its first year has been a busy one as it focuses on raising the profile of environmental concern, discussion and action across all levels of the College. Practical actions this year have included rewilding areas of the gardens, looking at alternatives to single-use items, and curating a Sustainability & Conservation Library Collection. They've also set up a Living Lab to come up with ideas and fund projects that will take Wolfson College beyond net zero and lead the way to becoming net-positive. This year, the Living Lab won a **Green Impact Excellence award**.

**ENGAGE
FOR CHANGE**

The Engage for Change initiative run by the Cambridge Hub for students and post-docs has doubled in size and duration. The programme now takes 60 students a year and runs for 12 weeks.

**CONTINUING
EDUCATION**

CISL delivers postgraduate programmes for mid-career professionals on Sustainability Leadership and the Built Environment. This year 165 new students joined the Master of Studies (MSt), Postgraduate Diploma and Postgraduate Certificate programmes.

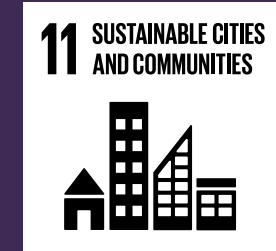
**LEAD BY
EXAMPLE**

Cambridge Zero's partnership with the CPICC was highlighted as an example of best practice in local adaptation planning during the launch of the UK's third climate change risk assessment.

**STARTING WITH
SUSTAINABILITY...**

From July 2021, an Environmental Engagement Intern has been working on a new staff sustainability induction module, which aims to increase the understanding and capacity to meet the University's targets.

Making an impact ...remotely



11 SUSTAINABLE CITIES
AND COMMUNITIES



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



13 CLIMATE
ACTION



17 PARTNERSHIPS
FOR THE GOALS

Green impact

This year, 47 award-winning Green Impact teams had to start and complete their projects in a global pandemic. Despite most people working remotely during this period, a new 'Working From Home' option kept engagement rates up and added a new dimension to sustainable behaviour change.

Although Green Impact at home wasn't something we could have expected, it resulted in some really positive impacts, such as supporting staff wellbeing and a sense of community. Over 10 new teams joined the programme and 368 working from home actions were completed. Despite the challenges, a total of **49 awards were presented to 47 Green Impact teams**. Taking part also created a network of people to keep in touch with when they couldn't actually meet in person.

Here we take a look at what some of the Green Impact teams accomplished over this academic year...

49 awards

21 awards at Gold or Platinum level

13 new or reformed teams

2,400+ sustainable actions

5,000+ colleagues engaged

3 Excellence projects

Over **36** charities supported

44 students from 23 Colleges trained in environmental auditing

Like many other research departments, up to 90% of the staff and students from the MRC Epidemiology Unit were working from home. With only a few key staff in the Unit, they took the opportunity to examine some of their stationery and printing expenses to see how the change in working conditions had affected them. Comparing a period pre and post Covid-19, the team found they had saved over £1,200 on stationery and over 20,400 sheets of paper, which equates to approximately 52kg of CO₂.

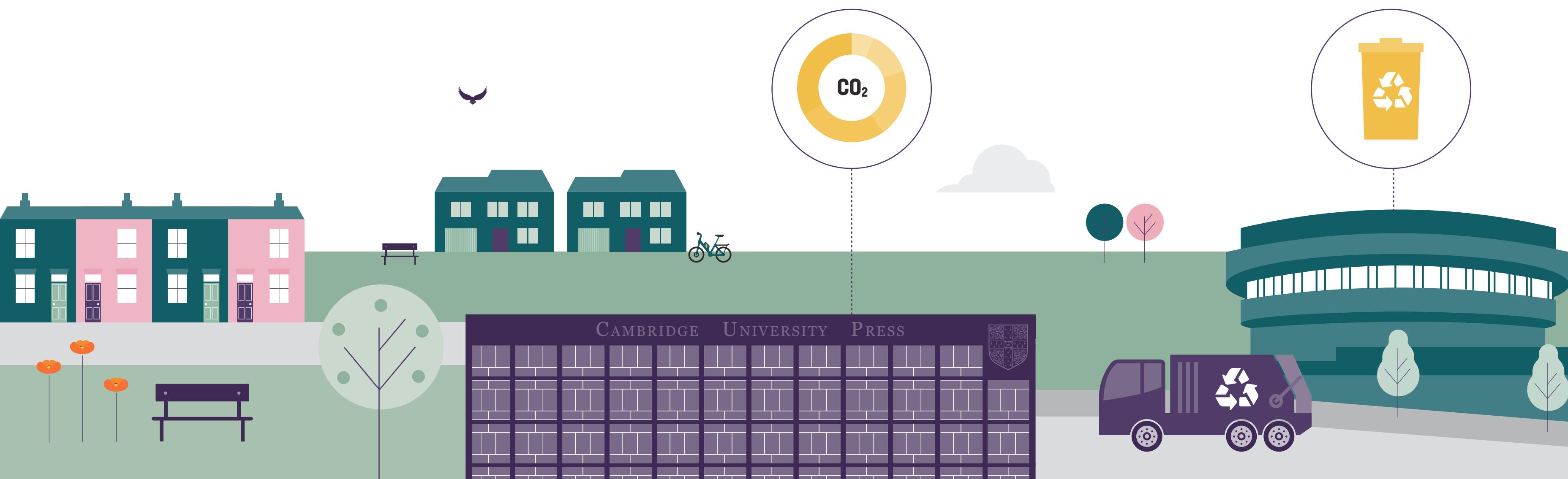
Of course, staff will have been printing while at home, but there is anecdotal evidence they are printing less. As staff return, costs may increase again but the Green Team is continuing to source FSC (Forest Stewardship Council) and EU Ecolabel Certified paper, trialling 'paperless' meetings, and encouraging staff to print less and read more online.



DEPARTMENT OF LAND ECONOMY

This year, all administration, teaching and seminars at the Department of Land Economy continued to take place virtually. It was challenging to keep sustainability at the forefront of people's minds, but the Green Impact team came up with initiatives focused around biodiversity and wellbeing to help keep momentum up.

The team sent all staff a Green Gardening edition of the weekly Wellbeing email packed with advice on caring for the Department's re-homed houseplants, seasonal gardening tips or recipes to use the fruit, herbs and vegetables grown at home. It proved to be a popular activity, with staff requesting seeds and planting their own.



UNIVERSITY INFORMATION SERVICES

For many, the pandemic brought nature into sharp focus, whether it was noticing what was outside their window or getting out and about to enhance their wellbeing. UIS Green Impact team member, Natalie West, wanted to make nature and wildlife more accessible to staff working at home and held a webinar to help identify the birds they might see in their local area. Over 40 people tuned in and were then inspired to take part in the RSPB Big Garden Birdwatch. The spotting continued, with staff sharing what they'd seen and how to attract birds. One member of staff even used the webinar as part of home schooling!

CAMBRIDGE ASSESSMENT AND CAMBRIDGE UNIVERSITY PRESS

Both Cambridge Assessment (CA) and Cambridge University Press (CUP) (now Cambridge University Press & Assessment) took part in the Green Impact scheme. Their staff carbon tracking project was developed to provide targeted support to different offices, and to raise awareness and promote action. All staff had access to an online carbon calculator where they could calculate and record their estimated monthly carbon footprint. The data has helped the Environment Groups at both departments to identify what contributes most to staff carbon footprints, as well as helping to understand how working from home impacted our SBTs.

DEPARTMENT OF CHEMICAL ENGINEERING AND BIOTECHNOLOGY

The Chemical Engineering and Biotechnology (CEB) Green Impact Team formed in mid-2020 and is made up of students, technical staff, researchers and management staff. They started off with a survey to gauge interest and gather sustainable ideas. Once they knew there was an appetite for sustainability, the team started to roll out their actions. First up was the weekly departmental newsletter filled with events, information, volunteering opportunities and a chance to celebrate achievements. These newsletters included ideas for those working at home, from bleeding radiators and changing energy tariffs to planting native plants for pollinators.

There was some real progress this year, too. A focus on waste has led to clearly-labelled recycling bins and seen the plastic biological waste bins replaced with more environmentally-friendly biological bins. The department was also inspired by the [Single Out campaign](#) and has signed up to a nitrile glove recycling scheme. The team also started initial energy assessments of equipment in the department, particularly monitoring the energy consumption of drying cabinets to see if there was scope for replacing them with a more sustainable alternative. They found that sustainable practices are key - such as switching equipment off when not in use, not leaving it running overnight or over the weekend, and not leaving a door open longer than needed.

Beyond the environment

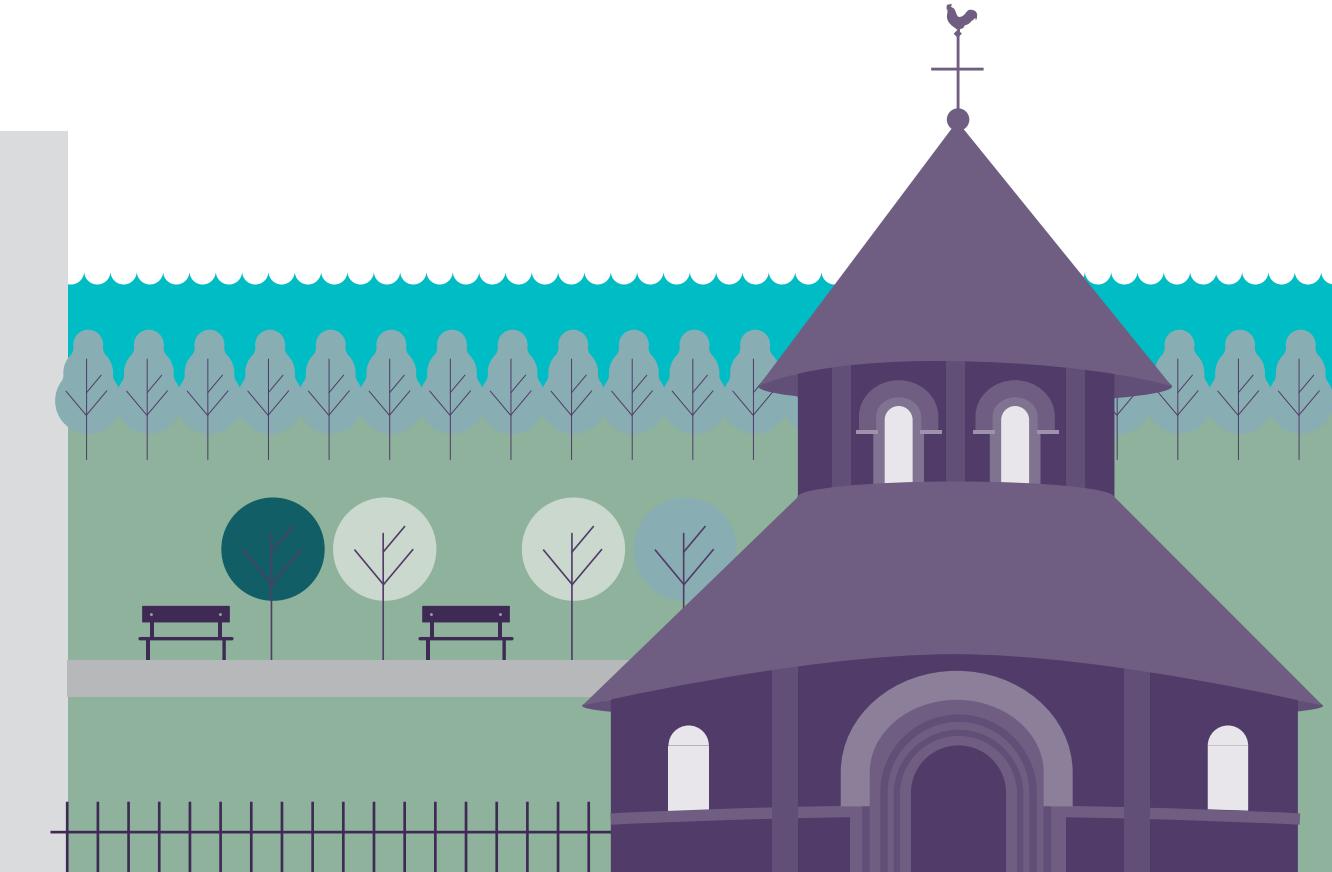
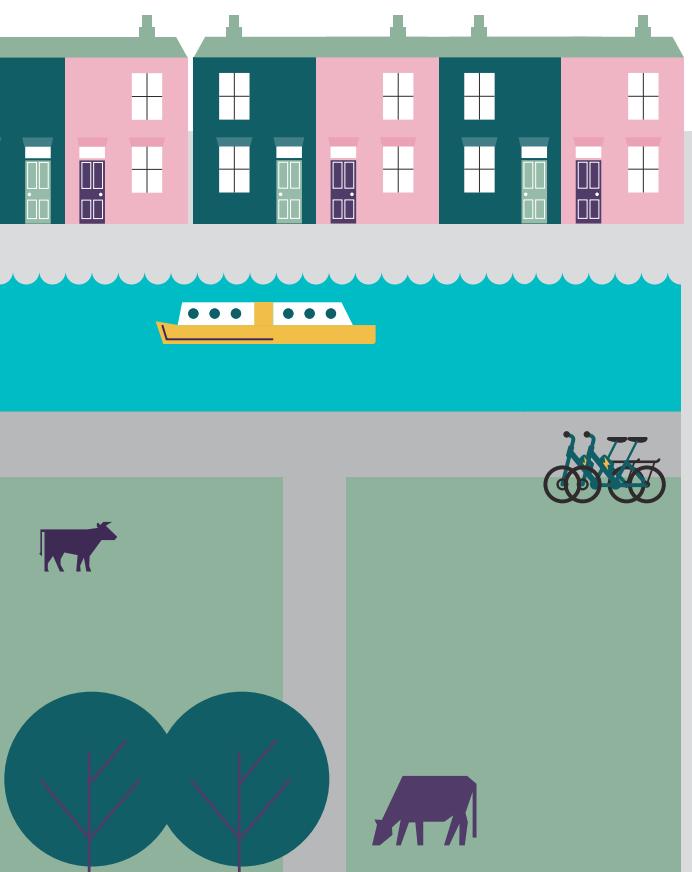


Creating a sustainable society

For us sustainability takes in more than environment concerns, it also includes society. A sustainable society is one that lives in harmony with the environment, and so preserves it for generations to come. It's also about the health and wellbeing of the community, ensuring they have what they need for a fulfilled, high quality of life. And a sustainable society has a fair and equitable economic system, where everyone has access to basic needs. Creating this sustainable society goes hand in hand with our commitment to the environment.

PURPOSE-DRIVEN APPROACHES TO BUSINESS

CISL's [Centre for Business Transformation](#) has produced a working paper, [Unleashing the sustainable business](#) that explains why a purpose-driven approach to business is the optimum route to create a durable, equitable and sustainable future. Given that sustainability is about achieving prosperity and welfare for all of society, business can be seen as central to this. A further report - [Leading with Sustainable Purpose](#) - shares insights into how four leading multinational companies developed, aligned and integrated a corporate purpose and strategy for the transition to a sustainable economy. It is intended to inspire and inform any leader, in any organisation, to make the same transition.



■ FOCUS ON WELLBEING

The University has always taken the wellbeing of staff and students seriously, but it has gained even greater importance during the pandemic. Just one example of how we have supported staff and students comes from the Department of Land Economy, where their Wellbeing Advocate sends out a weekly Wellbeing Wednesday email packed with useful ideas and links to help people stay connected and to cope with the uncertainties of the pandemic. They have also been running online coffee breaks and yoga sessions, a virtual book club and even a bread-making workshop to support their community.

■ SUPPORTING THE CITY

The University's Wellbeing Advocates also ensure that wellbeing is embedded and supported across the University. Every area of the University is encouraged to have at least one Wellbeing Advocate, who is supported to run their own programme of wellbeing. And this year, the Festival of Wellbeing ran a whole series of events over two weeks in June and July 2021. Activities ranged from garden tours, scavenger hunts and cycling workshops to talks on the psychological aspects of lockdown, compassion in the workplace and practicing digital self care.

This year, we have been supporting the [It Takes A City](#) homeless charity, which provides temporary accommodation and food to rough sleepers in Cambridge. The charity partners with City Council, Salvation Army, various churches and local charities. Our Estates Division was approached to help and we coordinated the University Messenger Service to deliver meals five days a week to locations across the city. The University's work with the charity doesn't stop there though, and we've been working with It Takes a City Community Land Trust to explore off-grid and zero carbon solutions for the homes its looking to provide for the homeless and those in hostels.

■ STAKEHOLDER CAPITALISM

The pandemic made us take a fresh look at how our systems work and posed some fundamental questions about what really matters in society. CISL's Emeritus Director Dame Polly Courtice presented the case for 'Stakeholder Capitalism' - the notion of creating long-term value not only for shareholders but also for customers, suppliers, employees and communities - to the World Economic Forum through a contribution to its 'Future of the Corporation' whitepaper and 'meet the leader' podcast.



Looking ahead

Continue with the implementation of the University's Carbon Reduction Strategy, Transport Strategy, Waste Strategy, and BAP.

In consultation with relevant internal and external stakeholders develop a new Sustainability Strategy to replace our existing one.

Continue to decarbonise our energy supply, primarily through developing the degasification programme and by generating and procuring zero carbon energy.

Continue development of a programme of work to reduce the University's scope 3 emissions and establish appropriate targets.

Continue to establish and implement a University-wide Environmental Management System to the international standard ISO 14001:2015.

Develop proposed carbon targets and standards for the University's commercial and non-operational estate.

Plans to introduce electric vehicles at Cambridge University Farm - powered by the energy generated by the anaerobic digestion plant to help reduce scope 3 emissions from transport.

Commencement of the Nordic centralised cold storage project.

Start to look at sustainable transport in terms of our freight and delivery vehicles.

Undertake consultation with staff and students on a new Sustainable Business Travel Policy.

Cambridge Zero will focus on the outcomes of COP26, growing the core team and supporting infrastructure, exploring funding and partnership opportunities and developing the core pillars of activity.

Consider embodied carbon of new builds and continue emphasis on refurbishing existing buildings.

Continue focus on reducing water with focus on waste from labs, new guidance, supporting suppliers and trialling new collection approaches.

Spread wildflower areas to more high profile places across the Estate.

A year of change, a year of progress

In another year that has been impacted by Covid-19, the progress we have made in sustainability has been incredibly heartening. In challenging times, staff and students across the University have kept sustainability at the fore, adjusting activities where necessary and still finding the capacity and enthusiasm to start new projects.

This year, we have been focused on what we need to do to achieve our SBT. We have taken a more strategic approach, approaching everything with carbon reduction in mind. Of course, there is still a way to go, and we need to rapidly accelerate our work in some areas if we are going to meet our ambitious target. However, great steps have been taken this year and I am hugely

encouraged by the commitment shown. As our SBT only covers the academic part of the University, it has also been great to work with Cambridge Assessment and Cambridge University Press on their targets as well as the Colleges.

I want to say thank you to everyone involved in progressing sustainability this year - those featured in this report and the many others we know are working in this area across the University.

Joanna Chamberlain,
Head of Sustainability,
University of Cambridge

RISE TO THE CAMBRIDGE GREEN CHALLENGE

The Cambridge Green Challenge is our way of building a sustainable University, and you can get involved in many different ways:

Become an ambassador for environmental issues as an [Environment and Energy Coordinator](#).

Join a [Green Impact](#) team and make real environmental change in your department.

Test out your research on the University estate through a [Living Lab](#) project.

Download posters, stickers and all the resources you need to [spread the sustainable message](#).

Gamify your sustainable solutions and enter [The Carbon Challenge](#).

Keep up to date with the latest sustainable news and events with our [Greenlines newsletter](#).

Find out what's going on across the University to tackle the climate crisis on the [Sustainable Earth](#) site.

Learn skills to be an environmental leader and get involved in action through [Engage for Change!](#)

BE SOCIAL

FB: [/CUsustainabilityteam](#)

T: [@CambridgeSust](#)

Y: [Join our Yammer page \(staff only\)](#)

W: environment.admin.cam.ac.uk

THE ACCURACY OF OUR DATA

Having accurate data is key to evaluating the success of the sustainability projects we implement and is essential to measuring our progress against our environmental targets and KPIs. It also helps the University address risk 14 within the University's Risk Register: Failure to set and achieve appropriate environmental sustainability targets. This risk can only be managed if we have robust and reliable environmental data. Without it we cannot set appropriate targets or measure our progress against them. Having our environmental data externally assured guarantees our data is reliable.

PricewaterhouseCoopers LLP (PwC) provided independent limited assurance over selected information in our 2019/20 sustainability report, and we are proud to say that PwC has also provided independent limited assurance over the 2020/21 figures in the KPI table on [page 51](#) of this report, marked with the assurance symbol. We want to drive continual improvement in the quality and credibility of our data and the assurance process helps us do this, reviewing the reliability of our data collection and reporting processes, as well as its accuracy.

Within our [Methodology Statement](#), we provide more transparency around how we compile our figures, being clear about gaps or assumptions made. PwCs [Independent Limited Assurance Report](#) can be found on our website alongside this [annual report](#).

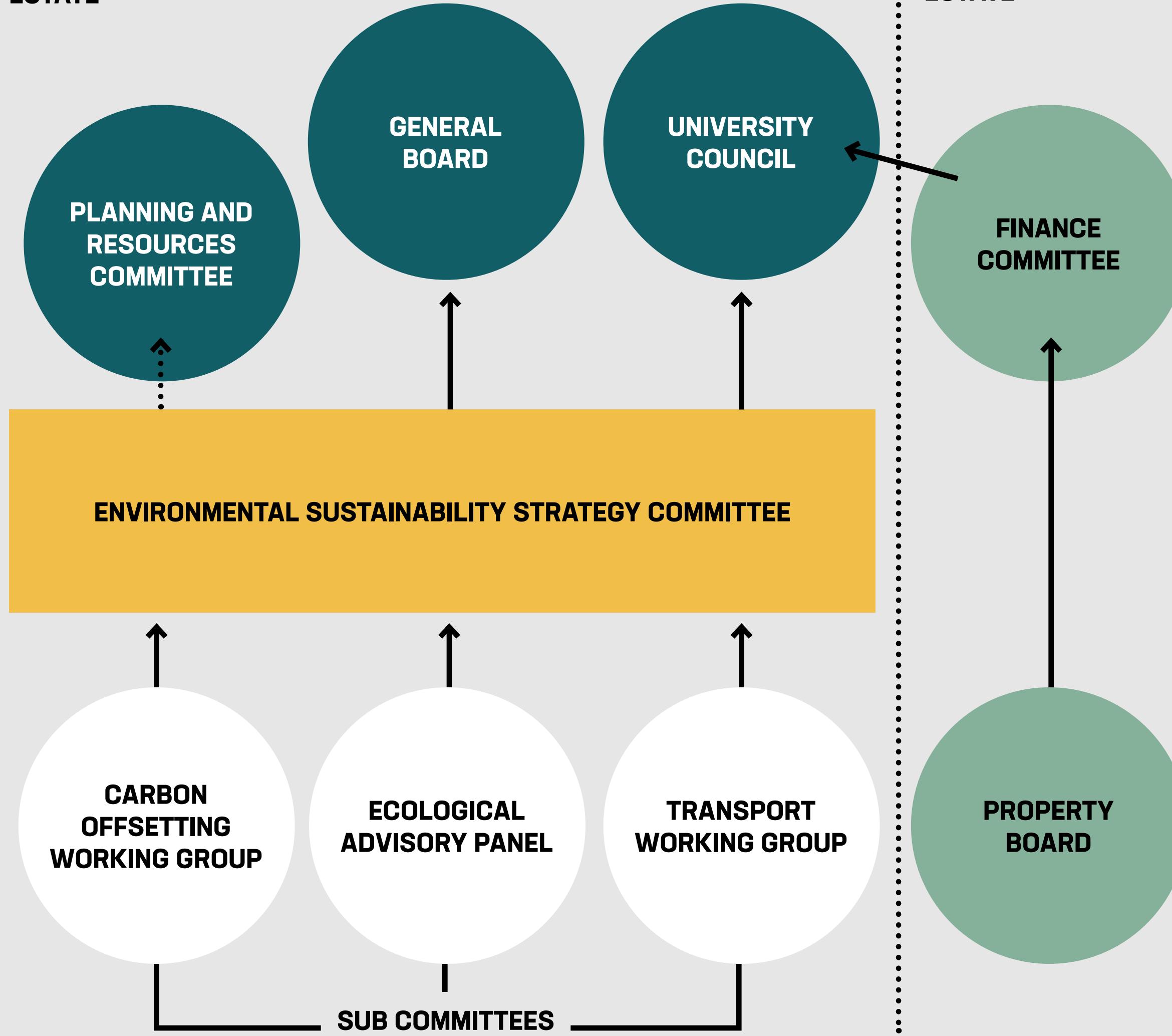
SUSTAINABILITY AS A CORE VALUE

The mission of the University of Cambridge is to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence. Sustainability is key, with a core value under the theme of 'relationship with society' stating 'concern for sustainability and the relationship with the environment'.

In our Risk Management Policy, we set out the University's approach to risk management, including guidance on how to assess and manage risk in their everyday roles. Effective risk management is crucial in protecting the reputation and sustainability of the University. It means we can achieve objectives and make well-informed decisions that make sure the University's activities are sustainable and compliant. Environmental sustainability is on the Risk Register as a factor that has a fundamental impact on the University's ability to deliver its mission.

GOVERNANCE

OPERATIONAL ESTATE



KEY PERFORMANCE INDICATORS

	2020/21◊	2019/20	2018/19	2017/18	2016/17	2015/16	2014/15
Total Scope 1 and 2 Location-based carbon emissions (energy and fuel use) [tCO ₂ e]	55,106	53,931	57,872	62,014	69,734	74,828	80,882
Total Scope 1 and 2 Market-based carbon emissions (energy and fuel use) [tCO ₂ e]	30,141	49,192	n/a	n/a	n/a	n/a	n/a
Carbon emissions from water use [tCO ₂ e]	167	419	456	437	345	357	383
Total Scope 1 and 2 Location-based carbon emissions per FTE staff and student [tCO ₂ e/FTE]	1.8	1.7	1.9	2.1	2.4	2.6	2.9
Total Scope 1 and 2 Market-based carbon emissions per FTE staff and student [tCO ₂ e/FTE]	1.0	1.6	n/a	n/a	n/a	n/a	n/a
Carbon emissions from water use per FTE staff and student [tCO ₂ e/FTE]	0.005	0.013	0.015	0.015	0.012	0.012	0.014
Total Scope 1 and 2 Location-based carbon emissions per total income [tCO ₂ e/£1000]	0.048	0.048	0.053	0.062	0.076	0.081	0.096
Total Scope 1 and 2 Market-based carbon emissions per total income [tCO ₂ e/£1000]	0.026	0.0004	n/a	n/a	n/a	n/a	n/a
Carbon emissions from water use per total income [tCO ₂ e/£1000]	0.0001	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005
Percentage of energy generated from onsite renewable or low carbon sources (%)	0.26	0.29	0.38	0.25	0.41	0.4	0.25
Total water consumption [m ³]	424,785	426,953	461,578	445,578	352,084	363,983	390,099
Total water consumption per FTE staff and student [m ³ /FTE]	13.5	13.7	15.1	14.9	12.1	12.7	14.0
Waste mass generated per FTE staff and student (tonnes/FTE)	0.22	0.20	0.15	0.18	0.47	0.28	0.29
Waste sent to landfill (tonnes)	96	72	257	409	1,402	2,448	2,030
Percentage of waste generated that is recycled or composted (construction and non-construction waste) (%)	73	73	54	67	82	70	74
Scope 3 emissions (water; commuting; business travel; waste) [tCO ₂ e]	4,055	15,197	30,461	29,513	28,581	20,903	21,229
Scope 3 emissions (supply chain) [tCO ₂ e]*	365,961	385,000	395,000	n/a	n/a	n/a	n/a
The percentage of new buildings that are certified at least BREEAM Excellent or equivalent (%)	50% (1 of 2)	50% (1 of 2)	66.6% (2 of 3)	50% (1 of 2)	50% (2 of 4)	50% (1 of 2)	50% (2 of 4)

	2020/21◊	2019/20	2018/19	2017/18	2016/17	2015/16	2014/15
External awards for sustainable construction/design	No awards	No awards	1 award	2 awards	1 award	No records	No records
Percentage modal split for commuting by staff single occupancy car journey (%)	10**	31	31	30	26	25	24
Percentage modal split for commuting by staff car share (%)	1**	6	6	6	10	8	8
Percentage modal split for commuting by staff bus (%)	2**	8	9	7	7	7	8
Percentage modal split for commuting by staff train (%)	1**	8	6	6	6	6	6
Percentage modal split for commuting by staff cycle (%)	13**	36	37	39	42	42	42
Percentage modal split for commuting by staff walk (%)	4**	9	8	9	8	10	10
Percentage modal split for commuting by staff motorbike (%)	0**	1	1	1	1	1	1
Percentage modal split for commuting by staff other (%)	69**	1	1	2	1	1	1
Per capita carbon emissions from flights (tCO ₂ e/FTE)	0.03	0.56	1.00	1.09	1.00	0.74	0.77
Number of awards won by Green Impact teams	49	46	50	46	45	43	37
Number of members of the Environment and Energy Coordinator Network	71	81	112	98	100	109	97

For each of the years above, the reporting period covers 1 August 2020 to 31 July 2021.

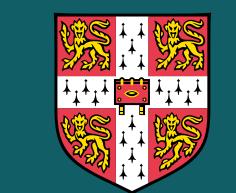
◊PricewaterhouseCoopers LLP ('PwC') have provided limited assurance under the ISAE3000 assurance standard over the 2020/21 figures presented in this table. The 2020/21 [Independent Limited Assurance Report](#) can be found on our website along with our [Methodology Statement](#) - the basis on which the KPIs are calculated and on which the limited assurance is given. As described in our [Methodology Statement](#), the University has adopted what is known as the Operational Control approach, under which the buildings, activities and operations included

in our calculations and reporting are those over which the University has direct control or significant influence. Our KPIs therefore do not cover the Colleges or the University's subsidiary organisations. PwC also provided independent limited assurance over the 2019/20 figures in this table but did not provide assurance for the figures in italics. Our [2019/20 Methodology Statement](#) and PwC's [2019/20 Independent Limited Assurance Report](#) can also be found on our website.

*Scope 3 emissions (supply chain) are included in our Key Performance Indicators for the first time this year. This reflects the use of

a new calculation tool made available to the Higher Education sector for 2020/21. Unlike the previous methodology used, the tool uses annually updated conversion factors and output figures can be compared with other universities

**The modal split for 2020/21 is unusually high due to the Covid-19 pandemic. When home working is removed from the modal split calculation, 32.2% of trips were by car, 41.5% of trips by bike, 11.7% by walking, 4.6% by bus, 3.9% by train, 4.4% by car sharing, 1.4% by motorbike/scooter and 0.3% by taxi.



UNIVERSITY OF
CAMBRIDGE

Get involved

Everyone has a role to play in reducing our environmental impact and creating a sustainable University. Collectively all of our actions add up to make a big impact.

**FIND OUT MORE
AND GET INVOLVED**

FB: [/CUsustainabilityteam](#)

TW: [@CambridgeSust](#)

Y: [Join our Yammer page \(staff only\)](#)

W: environment.admin.cam.ac.uk