



THE CAMBRIDGE *green*  
CHALLENGE

UNIVERSITY OF CAMBRIDGE

# Environmental Sustainability Report 2018



# Introduction

In this, our third annual report, we're taking a reflective look at the University's progress in addressing its key environmental sustainability impacts during the 2017/2018 academic year, from our successes to the areas where further work is required.

We remain committed to our Environmental Sustainability Vision, Policy and Strategy 2015-2020, adopted in 2015 (our Policy). However, to ensure that our commitments around environmental sustainability remain current and challenging, we have built on those made in our Policy over the last year, most notably through the adoption of a revised Carbon Reduction Strategy in May 2018 and the development of a new Transport Strategy, due for adoption in 2019.

Our Policy is divided into nine sections, each covering one of the University's key environmental sustainability impact areas. This annual report follows the same format, so referencing between the two documents is easy and straightforward. The scope of this report does not cover the 31 Colleges, which are independent and autonomous institutions, although we work in partnership with them on a number of matters.

As well as looking back over the past year, this report also highlights some of our key areas of work for the future. We provide several examples of how staff and students are taking action to help create a more environmentally sustainable University - we applaud their successes and hope they will inspire you to join in.

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The University has a deep and long-term commitment to achieve outstanding environmental performance. We take this commitment very seriously. This report gives an update on the work we are doing to deliver against it.

Achieving environmental sustainability presents broad and complex challenges for any organisation. For Cambridge, this challenge is compounded by the University's multifaceted nature and its continuing growth. We are fortunate, however, to be able to rely on a great deal of expertise to inform how we go about meeting this challenge.

This report highlights that we are making good progress in some areas, while in others we clearly need to do more.

Reflecting on those areas in which we have been successful, I note the positive involvement of our staff and students. The report provides some examples of how they have been actively involved in helping us change the way we operate to improve our environmental performance. This demonstrates why providing staff and students with the information and support they need to take action must remain an essential part of our approach to environmental sustainability.

Undoubtedly there is much more work to do, and expectations – our own, and those of the society we serve – are very high. This report highlights, once again, that the University's greatest asset is its staff and students, who we will continue to work with in delivering positive change and progress.

I welcome constructive efforts by all members of the University to help us push ahead with our goals, and I look forward to seeing how much more the University can achieve in the years ahead.

*Vice-Chancellor Professor Stephen J Toope*

## Governance

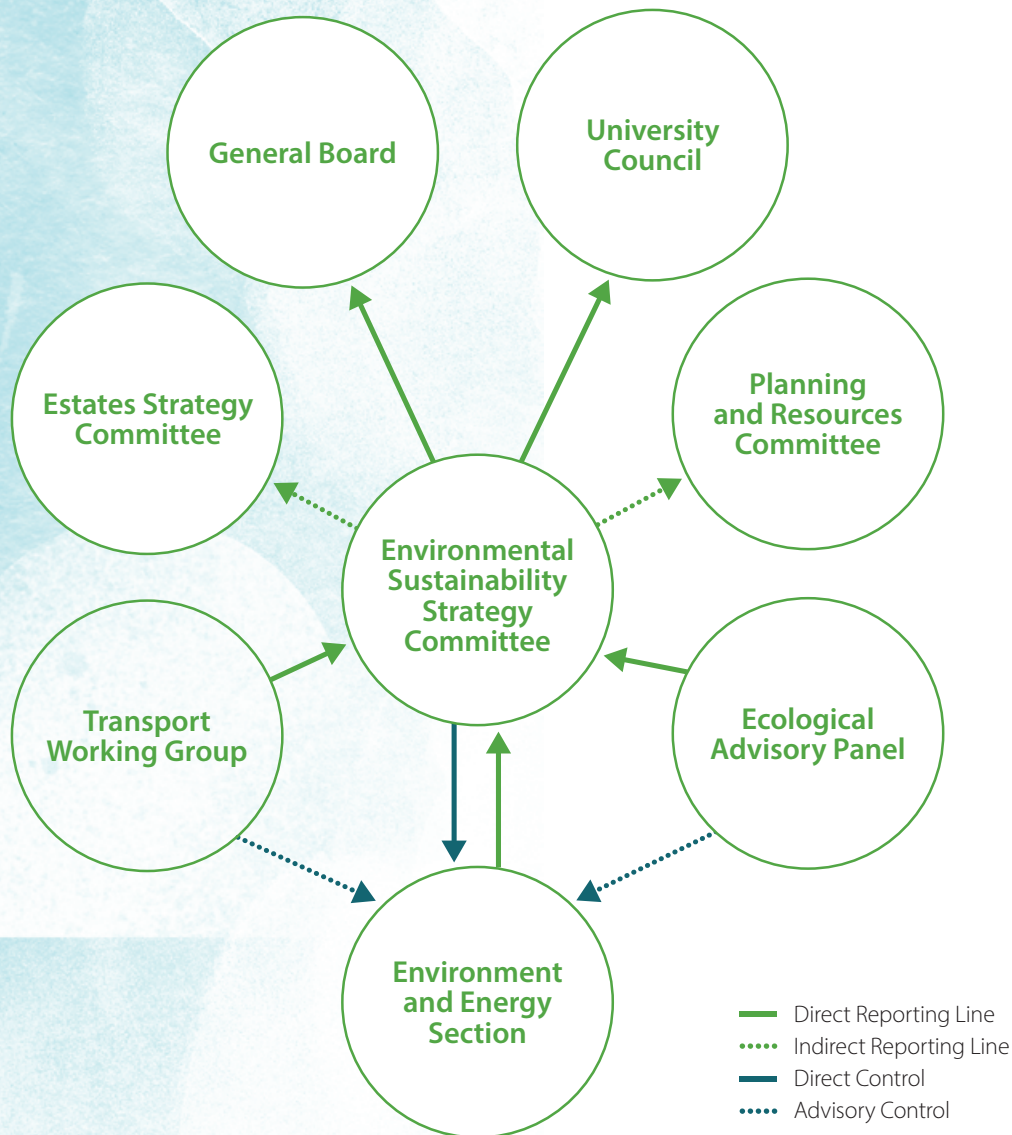
Strategic oversight of the delivery of our environmental sustainability commitments is provided by the Environmental Sustainability Strategy Committee (ESSC), which reports directly to the University Council and General Board.

The Committee is chaired by the Senior Adviser to the Vice-Chancellor with special responsibility for Information System Strategy and Environmental Sustainability, and its membership includes staff and student representatives from across the University.

We have now established a new Transport Working Group to strengthen our governance arrangements around sustainable transport. Over the past year, with input from a number of sub-groups and utilising our own academic expertise, the Working Group has overseen the development of our Transport Strategy and, once the strategy has been approved, the Group will oversee delivery of the commitments the University has made in this area.

Work to deliver against the University's commitments on environmental sustainability is led and coordinated by a dedicated team, the Environment and Energy section (E&E) within the Estate Management Division. As this report highlights, however, valuable contributions to this work are made by staff and students from across the University.

## Environmental sustainability governance structure












## Underpinning principles

- ➔ To build on our academic excellence to enable positive change through our research, knowledge-transfer, learning and education.
- ➔ To maximise the wider positive impact of the University's environmental sustainability actions at local, national and international level through communication, collaboration and partnership.
- ➔ To create a culture where the University community is engaged, empowered and supported in improving their personal and collective environmental sustainability practices.
- ➔ To protect and enhance the natural environment by reducing our direct environmental impact.

## Materiality

Material environmental sustainability issues are those that are of most importance and significance to our stakeholders.

Materiality was central to the development of our Policy back in 2014. We engaged with our staff and students - our largest stakeholder group - to identify the issues that matter most to them. Table 1 describes the nine environmental sustainability impact areas that we have identified as material. These nine areas form the focus of our Environmental Sustainability Policy and Strategy, and we report our progress against each of these on an annual basis.

	<b>Energy and carbon</b>	To reduce scope 1, 2 and 3 carbon emissions while supporting the University's plans for growth in research activity and staff and student numbers.
	<b>Water</b>	To conserve water through efficient use and management.
	<b>Biodiversity and ecosystems</b>	To be a leading organisation within the sector in limiting negative impacts and, where possible, having positive direct and indirect impacts on biodiversity and natural ecosystems so that the University's practical performance in this area matches its aspirations to be a global leader in conservation and food security research.
	<b>Waste</b>	To minimise and actively manage waste through elimination, reduction, reuse and recycling.
	<b>Sustainable procurement</b>	To positively influence the sustainability performance of suppliers and the sustainability credentials of the goods and services that we purchase.
	<b>Sustainable construction and refurbishment</b>	To reduce the environmental sustainability impacts of our construction and refurbishment projects.
	<b>Travel and transport</b>	To provide viable and accessible sustainable travel options for staff and students for travel to work, travel at work and travel for work which results in a reduction of carbon emissions.
	<b>Environmental sustainability in teaching and research</b>	<p>To undertake world-leading research that is related to environmental sustainability and to ensure that our operations are informed by this research where possible.</p> <p>For all staff and students to have access to formal or informal opportunities to develop their knowledge, skills and understanding relating to sustainability matters and solutions.</p>
	<b>Partnership and engagement</b>	<p>To facilitate opportunities where staff and students can develop and share their knowledge, skills and experience to engage with and contribute effectively to achieving the University's environmental sustainability aspirations.</p> <p>To develop formal and informal collaborative partnerships with regional, national and international stakeholders.</p>

# Progress against our targets

We can do better



We are making good progress



We have achieved our target



Impact area	Target	Position 15-16	Position 16-17	Position 17-18	Current progress 2017/18
<b>Energy and Carbon</b>	To reduce total scope 1 and 2 carbon emissions by 6% by 2020/21 against a 2005/06 baseline				Our total scope 1 and 2 emissions fell below our baseline year for the first time this year, and we have achieved the target, set for 2020/21, to reduce our emissions by 6% against 2005/06 levels <sup>1</sup>
<b>Water</b>	To reduce water consumption by 20% by 2020/21 against a 2005/06 baseline				Our water consumption in 2017/18 was 24% higher than it had been in 2016/17, and around 12% higher than in our baseline year <sup>2</sup>
<b>Biodiversity and ecosystems</b>	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				The Ecological Advisory Panel continues to meet. We now have a complete biodiversity baseline and the EAP is focussing on developing a Biodiversity Action Plan and achieving quick wins
<b>Waste</b>	To send zero non-hazardous waste to landfill by 2020/21				Waste to landfill dropped to a historic low of 409 tonnes this year, thanks to the 'zero to landfill' policy of the University's main operational waste contractor, and a reduction in construction waste output in the reporting period
	To achieve continuous year-on-year reductions in waste arising per FTE staff and students				Waste output per FTE dropped significantly to 0.19 tonnes, thanks mainly to reduced construction waste outputs in the reporting year, but also a reduction in operational waste outputs
	To recycle at least 95% of total waste produced at the University by 2016/17				The overall recycling rate dropped this year to 67%. While the operational recycling rate remained relatively stable in spite of a challenging picture for the University's main waste contractor due to prevailing national recycling issues, a reduction in construction waste recycling levels reduced overall performance

<sup>1</sup> Our scope 1 and 2 targets changed in 2017/18, with the adoption of the revised Carbon Reduction Strategy in May

<sup>2</sup> The total water consumption figures reported this year for 2014/15 - 2016/17 differ to those reported previously, following a change to our methodology to ensure we are applying best practice for carbon emissions reporting

We can do better



We are making good progress



We have achieved our target



Impact area	Target	Position 15-16	Position 16-17	Position 17-18	Current progress 2017/18
<b>Sustainable procurement</b>	That central University procurement frameworks are more attractive financially, more environmentally friendly and faster than other routes and, therefore, more institutions use them				Sustainability criteria are included in the tenders for central procurement frameworks as and when they come up for renewal. A University-wide review of our procurement policies, practices and behaviours is being undertaken in 2019 and this will inform future activity in this area
	To achieve at least level 4 'Enhance' across all themes of the Sustainable Procurement Flexible Framework by December 2015				Level 4 achieved in December 2015
	For institutions to consider sustainability criteria within their procurement activity				We have seen an increase in the number of institutions including sustainability criteria within their tender assessment and selection processes
<b>Sustainable construction and refurbishment</b>	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				The 2017 Design & Standards Brief was implemented as a contractual requirement for projects commissioned from February 2018. Stakeholder consultations have been carried out and will inform a revision planned for late 2018, including input from the Ecological Advisory Panel
	By 2020/21, for 95% of certified buildings (by floor area) to have a minimum Display Energy Certificate rating of 'D'				45% of certified buildings have a minimum rating of 'D'. Two large 'G-rated' buildings accounting for approximately 10% of DEC area added in 2017/18 (Li Ka Shing Centre and Museum of Zoology). Without these, the KPI would have barely changed from the previous year
<b>Travel and transport</b>	At least 75% of staff to be regularly commuting to work by sustainable modes of travel by 2016/17				In 2017/18, levels of sustainable travel reduced further to 70% (from 74%). It is likely that this has been caused by the relocation of parts of the estate outside of the city centre and high house prices in Cambridge pushing more staff to live outside of Cambridge in areas with limited sustainable travel options
	To reduce per capita carbon emissions from business flights by 25% by 2020/21				Whilst we are continuing to improve our methodology for calculating emissions from flights, the data we have analysed suggests that per capita emissions increased again in 2017/18 by at least 9%

# Energy and carbon

**Revised Carbon Reduction Strategy built on better understanding of how leadership decisions – such as sustained growth – affect emissions**

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**Equipment Replacement Programme helped deliver energy efficiency measures while providing much-needed opportunities for productive conversations with lab users**

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**First phase of an estate-wide metering upgrade project complete, meaning better energy data for many buildings**

Sustainable energy use is one of the biggest and most complex sustainability challenges for any modern research institution and Cambridge is no different. In this section of the report, we explain how the University is managing the challenge of reducing carbon emissions while supporting its plans for growth in research activity and staff and student numbers.



## Carbon Reduction Strategy

In May, we adopted a revised Carbon Reduction Strategy. The Strategy commits the University to become carbon neutral by 2050. "That's an ambitious target for a University that's continuing to grow," says Sally Pidgeon, Carbon and Energy Manager.

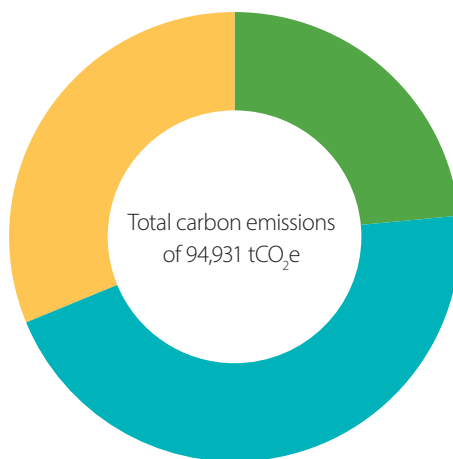
With 19,000 students, over 11,000 staff and an estate portfolio valued at over £1.7bn, difficult decisions will need to be made to reduce our carbon footprint so radically. The good news is we've already hit the first interim target... albeit through fortuitous circumstances.

That target was a 6% carbon reduction against 2005/06 levels by 2020/21. Despite our total energy consumption rising 3% compared to 2016/17, the decarbonisation of the UK electricity grid has helped us deliver that carbon reduction three years early. Ongoing growth of the University estate continues to be the main driver behind our increasing energy use.

### F1

#### Breakdown of our 2017/18 carbon emissions by scope

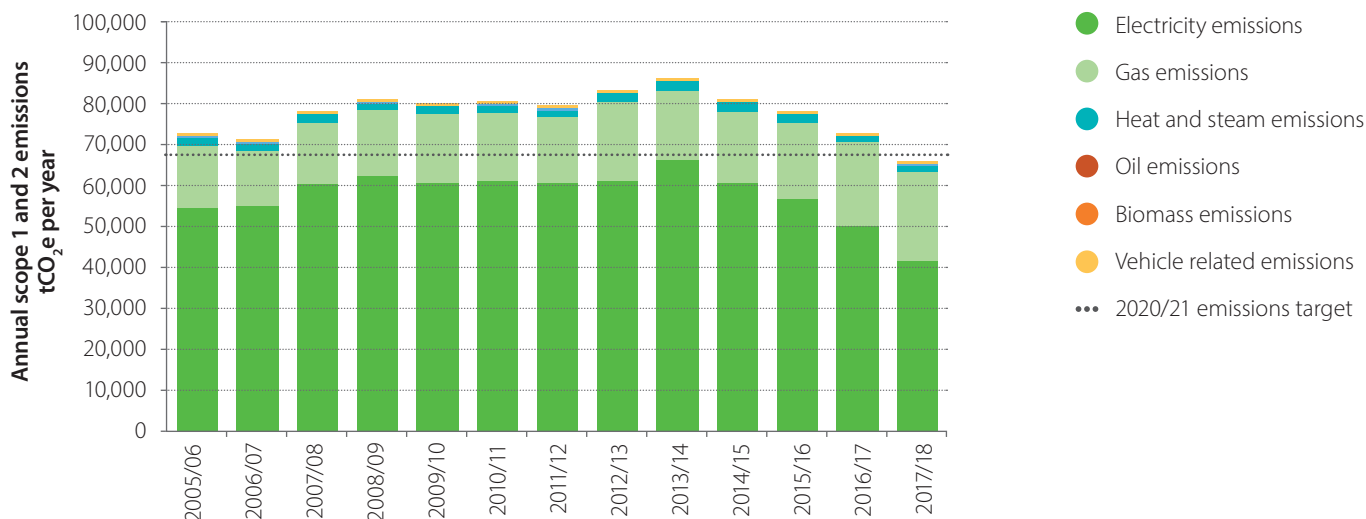
- Scope 1 **22,310 tCO<sub>2</sub>e (24%)**
- Scope 2 **43,012 tCO<sub>2</sub>e (45%)**
- Scope 3 **29,609 tCO<sub>2</sub>e (31%)**



In 2017/18, our total energy consumption was 275 million kWh and cost £18m. The carbon emissions associated with our energy use (known as scope 1 and 2 emissions) represent one of our biggest areas of environmental impact, particularly from electricity use (scope 2 emissions).

### F2

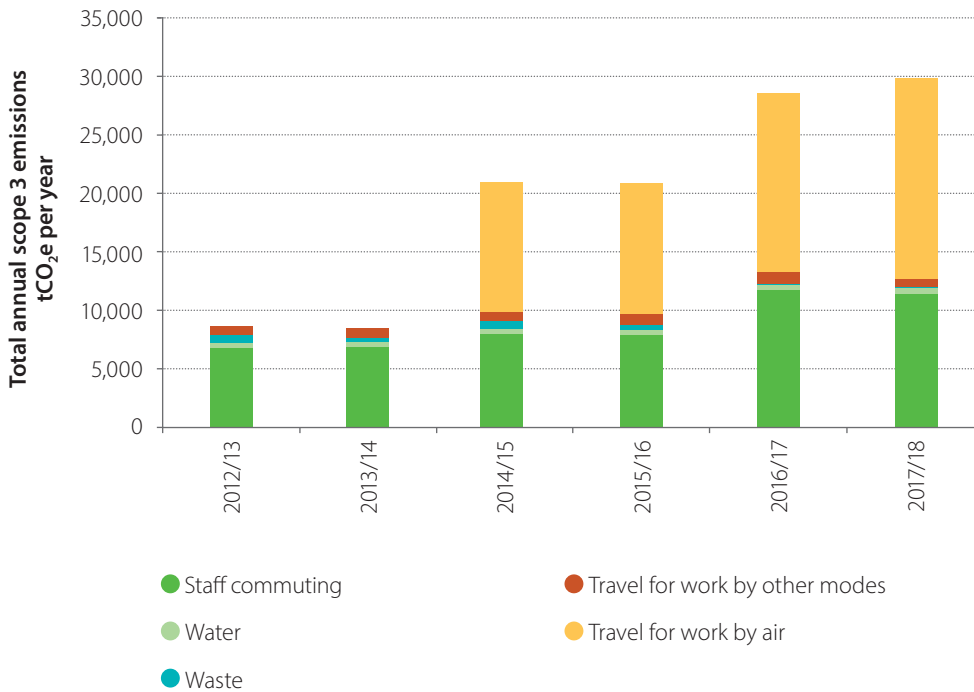
#### Annual scope 1 and 2 emissions



\* A full breakdown of our carbon emissions during 2017/18 can be found at <https://www.environment.admin.cam.ac.uk/energy-and-carbon>

### F3

### Breakdown of scope 3 emissions

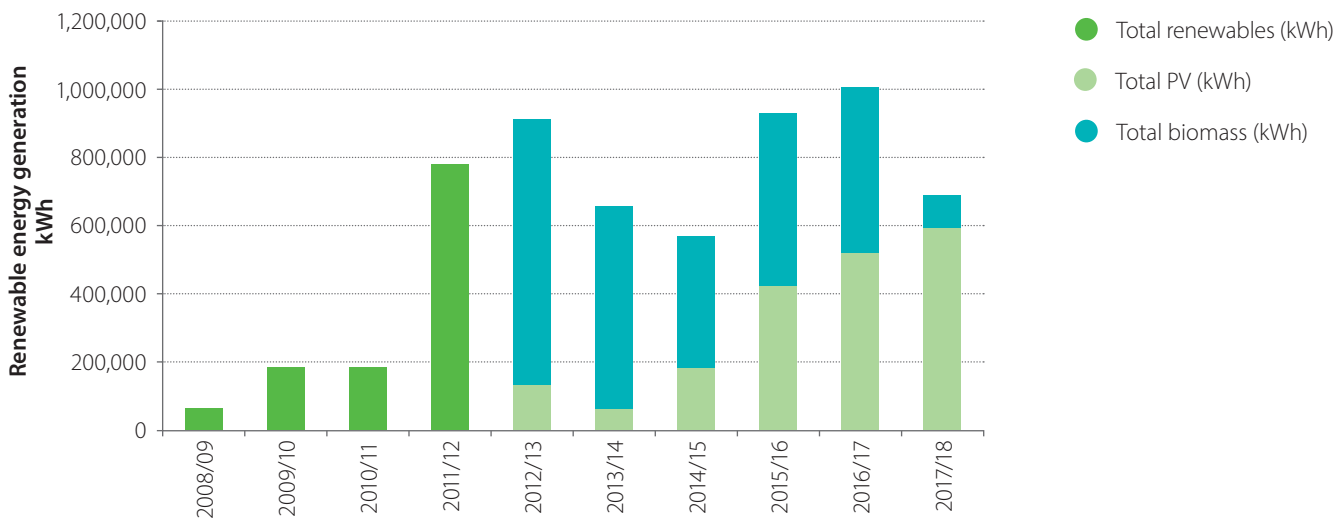


Another significant amount of our emissions are generated indirectly – the result of the goods and services that we consume; the waste that we generate; the water that we use; and the travel that our staff carry out for commuting and business travel purposes.

These are known as our scope 3 emissions. Currently, our data on our scope 3 emissions is patchy – for some emissions sources, such as waste and water, our data is fairly robust, but for others our data is incomplete or includes some estimates. In some areas, such as our procured goods and services, we do not currently report on scope 3 emissions due to the lack of robust data.

### F4

### Renewable energy generation



## IN PROGRESS / FUTURE PLANS

- ➔ **Bringing carbon neutral target forward by a decade.** In June, in response to the report of the Divestment Working Group, the Council asked the Environmental Sustainability Strategy Committee to consider whether the carbon neutral target can be brought forward from 2050 to 2040. Work is in progress to address this.
- ➔ **Assessing business case for large-scale renewables on University land.** We will also undertake a scoping study to identify opportunities for retrofitting renewables onto University buildings.

## Energy and Carbon Reduction Project

2017/18 was a successful year for the Energy and Carbon Reduction Project (ECRP). The team delivered a series of energy efficiency measures at all scales, from large capital projects to lab-level equipment and behaviour changes. Specific examples include installation of a demand-controlled ventilation system in one of our new buildings, a series of whole-building lighting upgrades to LED and an Equipment Replacement Programme for replacing energy-intensive items of plug-in research equipment with energy-efficient alternatives.

*"The projects undertaken by the ECRP team at the Faculty of Law have been transformative. The project to refurbish the lighting in our largest lecture theatre in particular stands out. The introduction of LEDs has seen a dull and uninspiring area transformed into a bright and warm space with the added value of being much more energy efficient. Equally, the process from planning to installation was managed in a seamless way, causing a minimum of disruption to the Faculty's users - an impressive achievement by all those involved and hugely appreciated by the Faculty."*

**Shaun Fry**, Chief Custodian, Faculty of Law

### ECRP in numbers

# 122

Number of energy and carbon reduction initiatives delivered to date



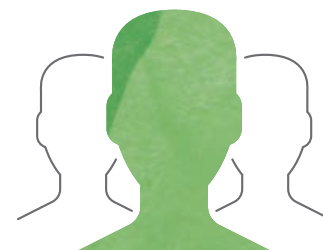
# £20.3M

Total lifetime energy cost savings from projects delivered to date



# 7 years

Average payback period of projects delivered to date



# 4,438 tCO<sub>2</sub>e

Annual carbon savings from projects delivered to date



# £11.5M

Total ECRP expenditure to date

# 57

Number of buildings that have received improvements through the ECRP



### IN PROGRESS / FUTURE PLANS

- ➔ **Devolving electricity budgets to departments.** We've consulted with stakeholders to firm up proposals for devolving responsibility for electricity budgets to departments. The first trials of the proposed scheme are underway in 2018/19.
- ➔ **Second stage of estate-wide metering project.** Implementation ensures we have robust building-level data to support the proposed scheme for devolving responsibility for electricity budgets to departments.

## Focus on labs

The Equipment Replacement Programme has continued to go from strength to strength – not just in terms of replacing old equipment, but also by allowing us to engage with lab users. “It would be fair to say that historically, the Environment and Energy section has struggled to engage effectively with lab users,” Sally explains. “Consequently, we’ve found it challenging to look for ways of starting conversations about reducing energy use.”

This programme is proving successful because it is built on developing a shared understanding of lab users’ needs. It provides a natural platform for wider conversations on energy and resource use in labs. This is feeding into our growing Green Labs initiative, helping us better support lab users by tailoring the information we provide and the workshops we run.



## Equipment Replacement Programme

91

Ultra-low temperature freezers replaced

600,000

Cumulative energy savings in kWh per year

27

Departments benefitted

168

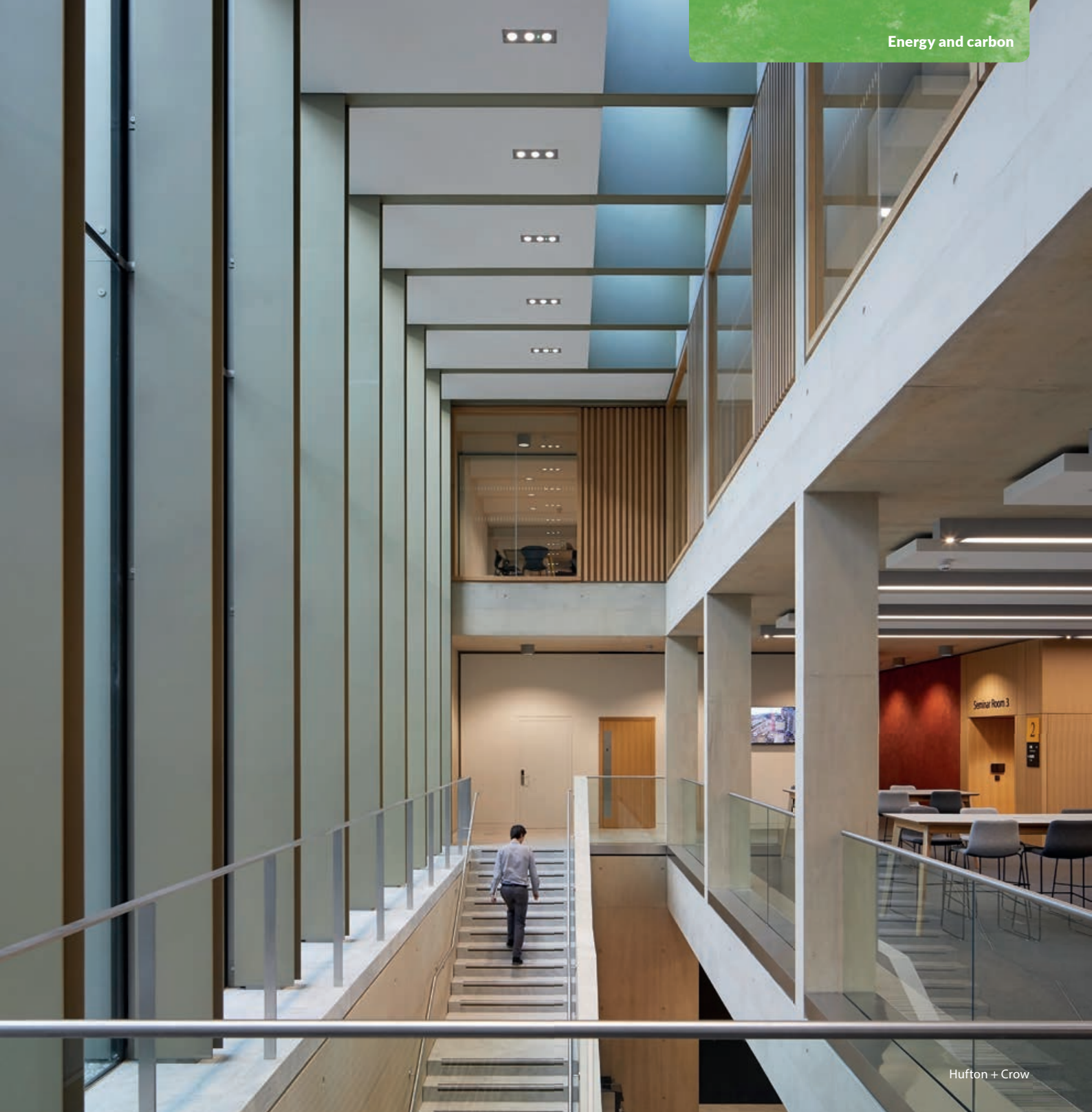
Cumulative carbon savings in tCO<sub>2</sub>e per year

14

Drying cabinets replaced

### IN PROGRESS / FUTURE PLANS

- **Extending Equipment Replacement Programme to microbiological safety cabinets.** We are trialling some energy-efficient models with departments, to assess whether they are suitable to be included in the programme.



Hufton + Crow

## Flight emissions

Strategies for calculating flight emissions accurately are still maturing. The work we are doing to improve our methodology has highlighted underreporting in previous years. However, due to ambiguity in some of the data that we need to calculate flight emissions – most notably staff expense claims – we are unable to recalculate our emissions figures for previous years or give an accurate emissions figure for 2017/18.

Instead, for 2017/18, we have reported a range of figures that represent the lower and upper estimates of our emissions for that year. At the lower end, our total emissions from flights in 2017/18 were around 17,000 tCO<sub>2</sub>e; at the upper end, they were around 27,000 tCO<sub>2</sub>e.

## IN PROGRESS / FUTURE PLANS

- We have begun work to improve our methodology for calculating emissions from the University's business flights and will build on this over the next year as part of a broader piece of work to improve our data on all of our scope 3 emissions.

# Water

Recalculated more accurate water figures for last four years

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Currently expecting to miss 2020 target of 20% water reduction

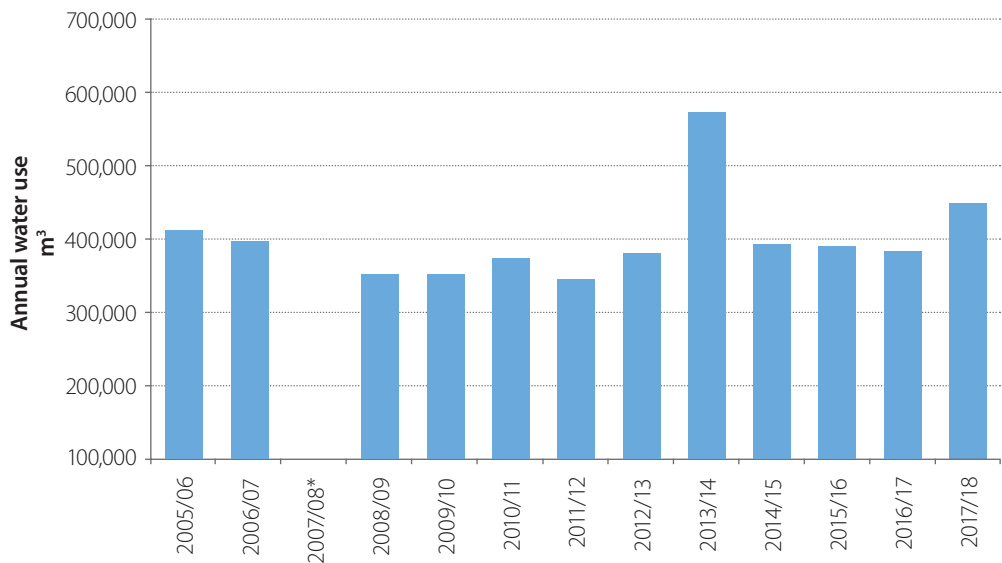
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Will be developing a water reduction plan

The University's progress on reducing water use was limited in the 2017/18 period, but water efficiency standards have been embedded into the University's design standards for new construction projects.



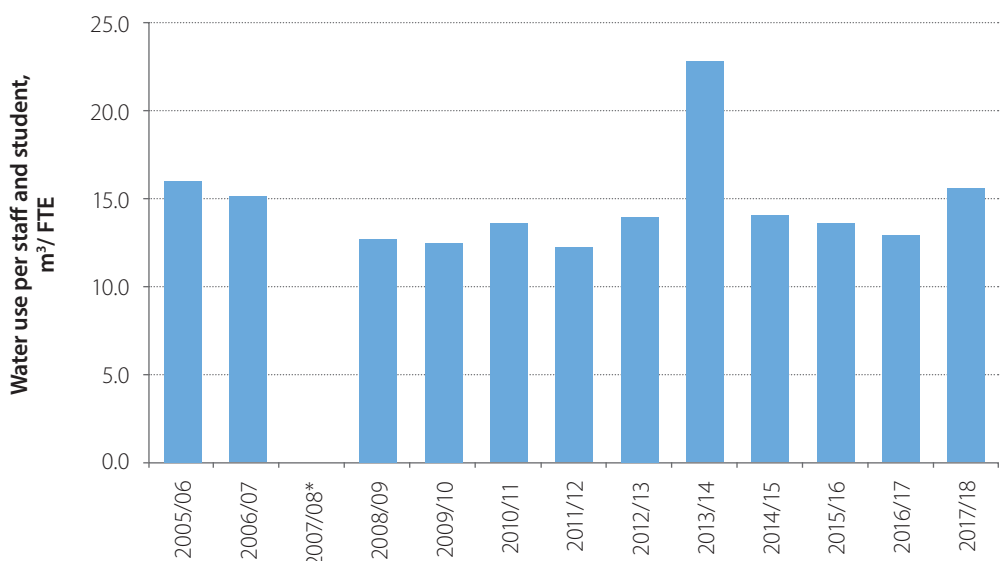
**F5** Total water consumption



We are now applying best practice to how we monitor our water use, borrowed from our work on carbon emissions reporting. Consequently, total water consumption figures have been recalculated for 2014/15 to 2016/17 and differ to previous reports. Our target baseline for water has also been recalculated according to the best practice approach – total consumption in 2005/06 was 414,730 m<sup>3</sup>.

In total, water consumption in 2017/18 was 12% higher than in our target baseline year (2005/06). However, per capita water consumption (m<sup>3</sup>/FTE) was around 3% lower in 2017/18 than in our baseline year.

**F6** Water use per staff and student



Our priority in 2018/19 is improving water consumption data granularity by looking to install Automated Meter Reading (AMR) capability on our largest water-consuming supplies. This will enable better analysis of building-water consumption and identification of opportunities for reductions. We will also conduct water audits on specific sites to identify more measures to reduce consumption.

Our Sustainable Labs Coordinator Martin Howes is working with lab users to identify opportunities to reduce water use – for example, by recapturing and recirculating cooling water or introducing equipment that will remove the need to use water for cooling altogether. “In some instances, we can achieve the same outcome without using water at all,” explains Martin. We will be trialling some equipment to assess its suitability.

**IN PROGRESS / FUTURE PLANS**

➔ **Water reduction plan.** Based on the information provided by improved metering and water audits, we will develop a high-level plan and series of actions for reducing our water consumption.

\* Data unavailable

# Biodiversity and ecosystems

**Biodiversity baseline has been established for the University estate**

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**'Quick wins' for wildlife identified, with some executed, and others being planned or considered**

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**Award underlines the success of our sustainable food strategy**

A number of reports have been published recently highlighting worrying decreases in abundance of both vertebrates and invertebrates globally. As a research leader in this field, the University is committed to ensuring that we progress towards our targets to conserve and promote biodiversity on our own estate.

Many of the drivers of biodiversity loss are associated with agricultural systems. This year we have continued to implement our Sustainable Food Policy to ensure that we reduce our impact on biodiversity loss beyond our estate too.

## **Biodiversity Baseline Report**

"We delivered this in a couple of ways," explains Peter Wilderspin, Rural Surveyor. "First, through the dedicated work of Ben Walton, who took up a short-term contract with the team this year. He pulled together biodiversity data from numerous sources."

This effort to establish the University's baseline was complemented by three ecological surveys. These covered the University's operational estate, which includes everything we use in the centre of town, such as lecture rooms, labs and other associated buildings. All of this data was then pulled together into a single report by intern, Sam Buckton.

A number of sites on the estate have already implemented 'quick win' enhancements for wildlife, including bird and bat boxes, green roofs, ponds

and other aquatic features, log piles, bird feeders and wildflower areas. Notable sites in this regard are the West Cambridge site – which contains extensive aquatic features and green roofs – the Botanic Garden and Greenwich House on the Madingley Rise site. The latter's grounds contain many new roosting, feeding and habitat features for animals. We're also in the process of creating a wildflower meadow on the site.





## Record of notable species

### UK Biodiversity Action Plan priority species

- ➔ Yellowhammer, *Emberiza citronella*
- ➔ Grass snake, *Natrix Helvetica*
- ➔ Great crested newt, *Triturus cristatus*

### Cambridgeshire and Peterborough Local Biodiversity Action Plan priority species

- ➔ Skylark, *Alauda arvensis*
- ➔ Barbastelle bat, *Barbastella barbastellus*
- ➔ Brown hare, *Lepus europaeus*

### UK Birds of Conservation Concern 4 Red list species

- ➔ House sparrow, *Passer domesticus*
- ➔ Grey partridge, *Perdix perdix*
- ➔ Song thrush, *Turdus philomelos*

### Nationally Rare or Nationally Scarce species

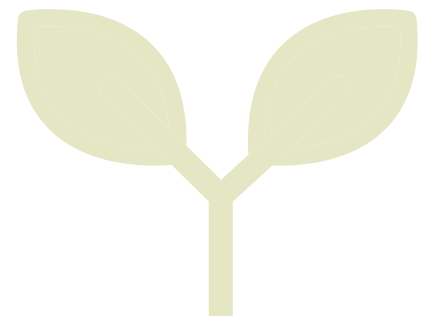
- ➔ Fritillary, *Fritillaria meleagris*
- ➔ Lichen, *Porina Byssophila*

### Specially protected species

- ➔ Bluebell, *Hyacinthoides non-scripta*
- ➔ Badger, *Meles meles*

## Action for Swifts

We collaborated with local charity, Action for Swifts, and students from the MPhil in Conservation Leadership, to develop a swift monitoring citizen science project. In June 2018, a team of students and volunteers carried out standardised swift surveys across Cambridge city centre to assess the numbers of this declining species.



## IN PROGRESS / FUTURE PLANS

- ➔ **Create biodiversity action plan.** We're in the process of commissioning this new plan to enhance and monitor biodiversity across the University.
- ➔ **Monitoring.** Developing a monitoring strategy in order to assess the efficacy of our biodiversity actions.
- ➔ **Student engagement using the latest biodiversity data.** We're looking at how we can build on the work we have done with students so far to develop long-term student engagement on biodiversity.

### Centre for Mathematical Sciences case study

The Centre for Mathematical Sciences worked hard in 2018 to enhance biodiversity onsite and in surrounding areas. Members of the University worked in tandem with the residential community, which has galvanised people from the community to undertake more efforts to improve biodiversity in the area.

Last year, the Green Impact team organised a community daffodil bulb planting session in the Centre's surrounding areas. A similar planting day was organised this year. During the day, seven neighbours helped plant an impressive 1,100 bulbs of English daffodils and bluebells. The University gardening team has also planted lavender flower beds in some areas to attract bees, and a raised bed herb garden has been constructed and planted with species such as curry, chilli, mint and lemon balm to improve biodiversity and people's wellbeing.

The other major initiative was to install 13 bird boxes across the site. A staff member started this initiative by donating a bird box. The donation inspired the Green Impact team to purchase 12 more boxes. Bird feeders have also been added around the Centre to provide food for birds – especially during winter months. These measures have been effective in attracting new species and helping to support the local bird population.





## Sustainable Food Policy

Reducing meat consumption – particularly ruminant meat – and increasing plant-rich diets is core to efficient climate change mitigation. Our Sustainable Food Policy has taken a ground-breaking approach by removing all ruminant meat from UCS catering outlets and providing vegan training for chefs. Research is ongoing on how better to promote plant-based options to customers and create genuine shifts in behaviour.

We anticipate that significant greenhouse gas emissions savings have been made from this policy change and work being undertaken in 2019 should confirm this. We are engaging with other national partners to share good practice.



# Waste

University has reduced landfill waste

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University Catering Service is working towards going plastic free, including a social media campaign to use fewer plastic bottles

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There is over a year's worth of data on how departments have performed

The 2017/18 period saw China dramatically reduce plastic waste imports, leaving Europe with something of a recycling crisis on its hands. All waste contractors are now struggling to recycle, including ours. Consequently, we're focusing on reducing the waste produced by the University.

**67%** of waste recycled or composted (construction and non-construction waste)

## Bin busting

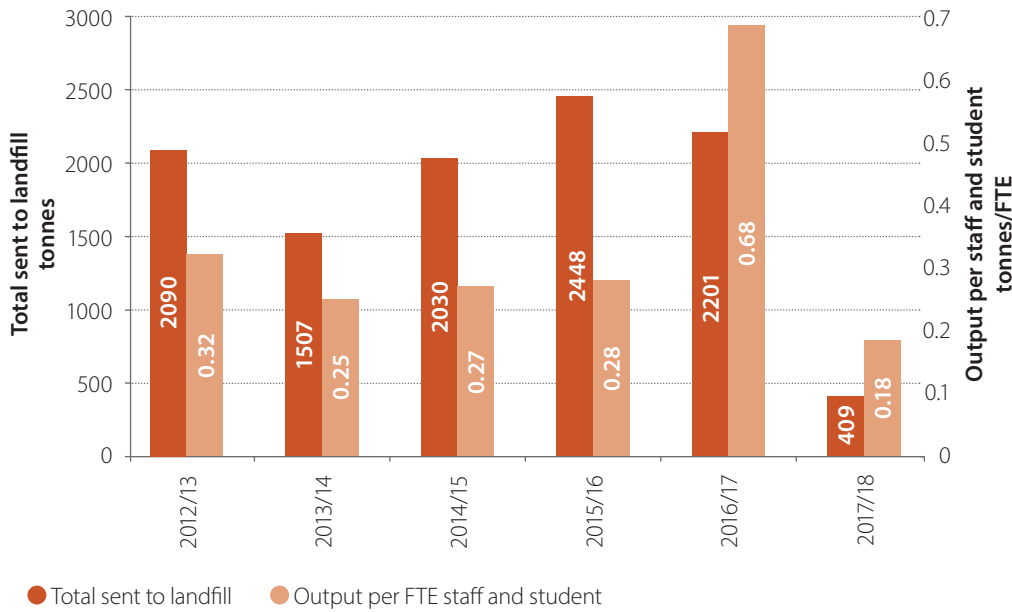
A 'bin-busting' exercise took place in November 2017 to find out exactly what we throw away. Sixteen students participated and the results have been invaluable.

Of the 158kg of waste sorted:

- ➔ Over 74% was placed in the correct bin.
- ➔ 15% of the waste in the general waste bin could have been recycled if it had been placed in the recycling bin.
- ➔ 10% would have been better off composted.
- ➔ Under 1% belonged in a separate waste recycling stream – a seemingly small amount, but the importance of keeping these waste streams out of general waste bins shouldn't be underestimated.

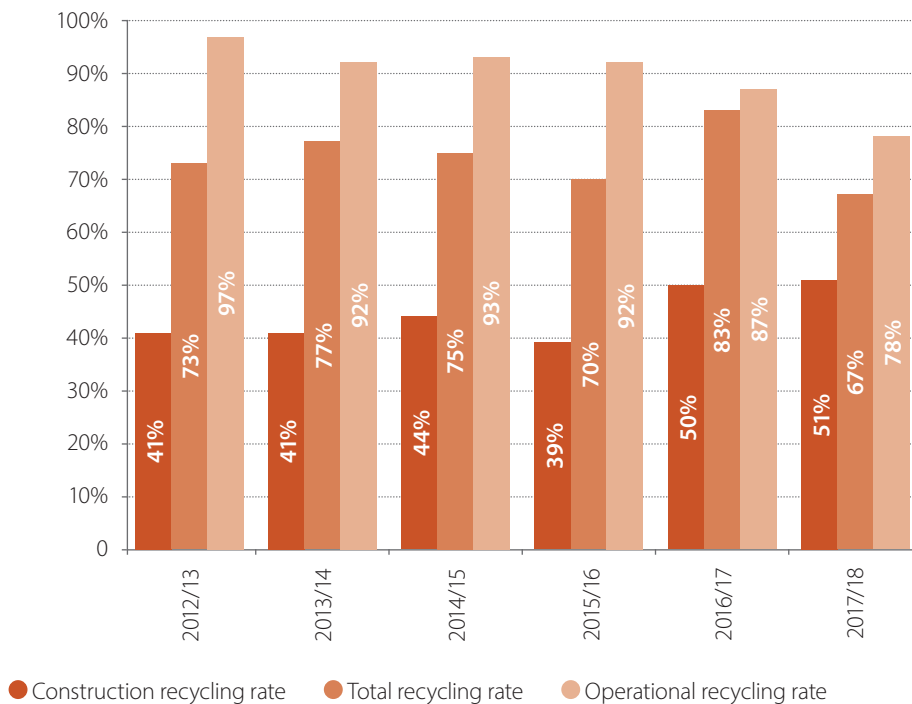
The results have been featured in the University's sustainability newsletter and helped us to create better targeted recycling communications. For example, a large proportion of the waste examined was plastic laboratory disposables, resulting in several departmental initiatives tackling this issue.

**F7** Waste outputs



In 2017/18 the total amount of waste we sent to landfill dropped to less than a quarter of historic levels. While operational waste to landfill had already dropped significantly in 2016/17 thanks to a change in the way our main waste contractor deals with non-recyclable waste, levels of waste to landfill actually increased that year due to significant construction activity. With 2017/18 seeing a reduction in construction activity, the reduction in operational waste to landfill is now much more evident. The reduction in construction waste output, as well as a small reduction in operational waste output, was reflected in a significant reduction in waste generated per FTE to its lowest for 5 years.

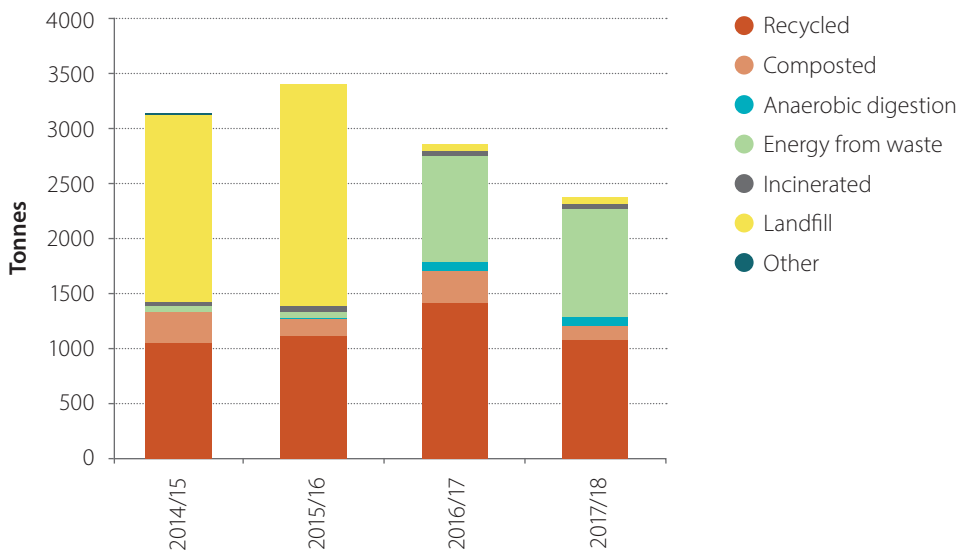
**F8** Recycling rates



The change in our main operational waste contractor led to an increase in recycling rates in 2016/17. This, combined with high construction waste recycling rates, saw us reach an all-time high recycling rate of 83%. Unfortunately, this trend did not continue into this year, possibly due to challenging national issues with waste management affecting the amount that could be recovered. Our recycling rates therefore fell to their lowest level for a number of years.

**IN PROGRESS / FUTURE PLANS**

- ➔ **Create Waste Management Strategy.** We will consult with University staff to inform the development of this strategy.
- ➔ **Increase use of Warp It.** We will strive to improve rates of internal reuse through more effective use of Warp It during office and building moves, and seek ways of minimising furniture waste.



We've dramatically reduced the amount of operational waste sent to landfill. The main reason for this was a change in the University's main waste contractor at the end of 2015/16. The contractor serving most University buildings diverts non-recyclable waste to energy-from-waste rather than landfill.

### The Institute for Manufacturing bin trial

We've collaborated with one of the University's suppliers to develop a standard set of recycling bins and signage at the Institute for Manufacturing. By monitoring before-and-after performance based on bin weight data, we'll be able to see what impact the bins have. Initial figures show the change has been successful, so we're now encouraging other departments and buildings to adopt these bins.

### Catering plastics

We're using less plastic across the entire University Catering Service. Successful trials have taken place this year, with roll out to all catering outlets under way.

Initiatives include:

- ➔ Soft drinks provided in glass bottles or aluminium cans rather than plastic bottles.
- ➔ A proportion of plastic packaging on cakes and biscuits replaced with cardboard packaging and reusable merchandising units.
- ➔ In collaboration with the Colleges, suppliers are tasked with reducing the plastic packaging around food items.
- ➔ Water fountains/dispensers are also available in each outlet and are now promoted with more prominent signage as part of a student initiative called '#OneLessCambridge'.

### Physiology, Development and Neuroscience Lab case study

The Physiology, Development and Neuroscience (PDN) Green Impact team tackled not one, but five types of plastic in their Green Impact project during 2017/18. They looked at ways to reduce and recycle soft plastic packaging, polystyrene, pens, x-ray film and hard lab plastics such as tubes.

The work was not without its challenges. Recycling requirements changed and lab plastics could not be recycled by the University's waste contractor Mick George Ltd. Despite this, the team continued educating suppliers on best practice elsewhere, speaking with staff to encourage reduction and reuse where possible, and collaborating with the team in BioPath stores to reuse polystyrene.

PDN set up two new successful recycling schemes – one for pens and a second for x-ray film. The latter isn't produced in significant amounts, but contains valuable recoverable metals such as silver. Education has been a high priority for the team – PDN meetings and training now include content from the Green Impact team and many staff have become involved in reducing unnecessary plastics where they work.

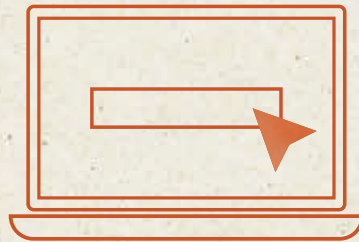


## Encouraging uptake of internal reuse platform

The University's free online reuse platform, Warp It, has facilitated lots of exchanges in the last few months. We have seen a surge in new users and a jump in use of the platform. Staff have taken the opportunity to source and give away diverse items on the platform, helping to reduce waste and cut the time and hassle involved in purchasing, invoicing and paying for new items.

Warp It can be used to source printer cartridges, stationery, furniture, storage units and much more. Users can even set a wish list to be notified of items when they become available.

The **'Warp It'** online portal saw a big increase in users, with staff looking to share unwanted items with others



## 120 items

were claimed by staff using the portal in 2017/18, a **52%** increase on the previous year



## 56 transactions

took place, compared to **29** in the previous year

## 190 staff

signed up to the **'Warp It'** portal, compared to 137 in the previous year

## £16,228

estimated saving by departments which chose to source from other departments rather than buy new



**Sign in**



### Repair Café

The Waste Hierarchy tells us we must reduce, reuse and recycle and in May of this year we added another 'r' to the list – repair. In conjunction with local charity, Cambridge Carbon Footprint, we brought repairers together from across the city who very kindly fixed student and staff items that had been destined for the bin. Over 20 items were repaired and staff and students learned how they could better care for clothes, books, jewellery and mechanical items in a way that would keep them going for longer.

### UniGreenScheme

A common problem at the University is that unwanted research equipment is often disposed of as waste. This redundant equipment is potentially reusable, but options can be limited, especially when research departments are short on time and storage. To help tackle this issue, the University launched a collaboration with the UniGreenScheme equipment resale service in early 2018. UniGreenScheme collect, store and sell surplus equipment for universities, and return a share of sale profits to the department.

# Sustainable procurement

Continuing to operate at Level 4 of the Government's Flexible Framework for Sustainable Procurement

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Kicking off large data and behaviour analysis programme

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Estate Management suppliers migrated to Constructionline platform

Change is in the pipeline. We're set to significantly alter our approach to purchasing across the entire collegiate University. "We're trying to embed sustainability and lower environmental impact in an integrated way rather than treating sustainability as an exception or an add-on," explains Helen Wain, Head of Procurement.

Our journey involves four phases. The first three phases are discovery, evaluation, recommendations. The latter of these – the recommendation phase – will feed into changes in regulation, systems, processes and practices. These changes represent the fourth stage: delivery.



## Constructionline

In 2017/18, the Estate Management supply chain was realigned with the University's current expectations on sustainability for vendors. The supply chain was migrated from the historic managed list to Constructionline – a platform which simplifies procurement tasks, reduces risk and keeps pace with legislation. In doing this, we updated all suppliers that had been vetted when the University had lower expectations.

We are audit ready and can demonstrate that suppliers are now all working towards the Gold standard. The platform also allows us to get any messages out quickly and easily to the supply chain with regard to sustainability news, innovation and other important messages we wish to share.

## IN PROGRESS / FUTURE PLANS

- ➔ **Deliver sustainable procurement plan.** 12 months of evaluation activities have laid foundations for future plans.
- ➔ **Kicking off large data and behaviour analysis programme.** Focuses on procurement and purchasing behaviours across entire University.
- ➔ **Rolling out Small and Medium Enterprise strategy.** This lays out how we can better engage these organisations.

## Annual Supplier Exhibition

In April 2018, 37 suppliers visited to speak to 250 attendees from across the University. The theme was sustainability, with a keynote from Arco discussing modern slavery. Mick George Ltd, our waste management contractor, ran a seminar on 'zero waste to landfill'. This explained how they help their clients on the journey towards achieving that target.

# Sustainable construction and refurbishment

Introduction of new  
Design and Standards  
Brief with improved  
sustainability targets

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Simon Sainsbury Centre  
received BREEAM  
Excellent certification

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The David Attenborough  
Building highly  
commended in the  
2018 CIBSE Building  
Performance Awards

Our improved design standards are promoting investment in good quality, energy efficient buildings that should be more readily adaptable to future change. This should deliver long term financial as well as environmental benefits.

Major refurbishments are also becoming increasingly important opportunities for reducing carbon emissions, whilst avoiding the environmental impact of wholesale demolition and re-build.

## New Design and Standards Brief

This is a guidance document for all designers and contractors working with the University. The Brief includes a range of new and improved sustainability targets. It has come into force for projects where design work commenced after January 2018.

A key improvement is a much greater focus on operational energy – operational energy being the energy a building will actually consume once handed over, rather than the standardised metrics applied by building regulations.

All major new build and refurbishment projects are required to be certified as at least ‘Excellent’ using the Building Research Establishment Environmental Assessment Method (BREEAM), which provides a comprehensive environmental assessment rating for buildings: “BREEAM demands far more than building regulations,” explains Alex Reeve, Sustainable Building Adviser. “It also includes aspects related to energy, water use, health and wellbeing, pollution, transport, materials, waste, ecology and management processes. We have required a BREEAM rating for a number of years now, but within our revised Design and Standards Brief we’ve added extra mandatory requirements that go above and beyond BREEAM”.

“Life cycle costing is the other core mandate we’ve introduced,” notes Alex. “Here, we think about future operational costs alongside the cost of construction.” The focus is on decisions that save money and energy long term, for example, using ground-source heat pumps to efficiently transfer heat to or from buildings depending on the weather.

### IN PROGRESS / FUTURE PLANS

- ➔ **Three buildings predicted to achieve BREEAM ‘Excellent’ in final certifications.** Chemistry of Health Building in Union Road; the Jeffrey Cheah Biomedical Centre at Addenbrooke’s; and the University Library Off-site Store in Ely.
- ➔ **Publishing guide on applying an ‘Energy Cost Metric’ to building design options.** This will capture lessons learnt from the Civil Engineering Building at West Cambridge (which broke ground in 2017/18) on how to minimise life cycle energy for a given budget.
- ➔ **User guidance on how to operate our buildings will be improved.** A template has been produced to guide contractors on what information to provide.
- ➔ **More surveys.** Further building surveys to observe current performance so we can make improvements to future performance and continue to learn lessons.

## Ups and downs

There were a number of success stories from 2017/18. Simon Sainsbury Centre received BREEAM Excellent certification while the Kettle’s Yard refurbishment received BREEAM Very Good certification. The latter possibly only fell short of Excellent due to long gestation, unusual art gallery function and constraints that don’t affect new builds. Meanwhile, the David Attenborough Building refurbishment was highly commended in the 2018 CIBSE Building Performance Awards.

The reduction in percentage of buildings with a Display Energy Certificate (DECs) rating of ‘D’ and above was disappointing. This was mainly due to the addition of two large energy intensive buildings containing medical research facilities and archives with close temperature and humidity control. These two buildings account for approximately 10% of DEC area added in 2017/18.

### IN PROGRESS / FUTURE PLANS

#### ➔ Feedback on the David Attenborough Building.

An occupant survey is happening in February 2019. Our first year of detailed metering data indicates the refurbishment has resulted in a drop in demand for grid electricity of 29% and a drop in demand for natural gas of 37%.

## Design for adaptation

When setting the brief for the Civil Engineering Building at West Cambridge, the Department of Engineering wanted a structure that could be readily adapted to suit changing needs. This has generated some interesting ideas under the umbrella term of ‘Design for Disassembly’.

Seemingly simple things can make a significant difference: for example, instead of the usual practice of burying column-base plates in concrete, a pocket is left so that the covering can easily be removed and the bolts undone. The same philosophy is applied to other connections so that the entire primary structure can be salvaged and reused. This is in contrast to the usual situation where major alterations or demolitions cause so much damage that steel components have to be sent for scrap.

Hufton + Crow



# Travel and transport

Universal bus use keeps growing, cycling for commuting is high but lone drivers are on the rise

Transport Working Group established to develop and oversee University's Transport Strategy

The car club in North West Cambridge Development exceeded expectations

Every October, we ask University staff how they travel to work. This year, 2,803 people responded. We're proud that 70% of University staff are travelling sustainably – that figure is much higher than other commuters from across Cambridgeshire and the rest of the country. Nevertheless, we have fallen a little short of our own high standards – that 70% represents a 4% decrease from last year and leaves us 5% below our target.

## Staff commuting

Mode share for staff commuting	2016/17	2017/18
Single occupancy car	26%	30%
Car share	10%	6%
Bus	7%	7%
Train	6%	6%
Cycling	42%	39%
Walking	8%	9%
Motorbike	1%	1%
Other	1%	2%

We're exploring the reasons for increases in lone drivers. While the causes are not yet fully understood, a rise was predicted back in 2016. The reasons we cited then – parking charges at Park & Ride sites, the ongoing effect of growing staff numbers and rising housing prices pushing staff further from their workplaces – are all being examined.

Our new Transport Strategy is designed to tackle the challenges associated with those trends.



## Transport Strategy

A Transport Working Group is developing a new Transport Strategy, with four sub-groups established to provide input into the development of the strategy in four areas: Car Parking, Cycling and Walking, Public Transport, Transport Electrification. Adoption of the new strategy is expected in early 2019.

## Promoting sustainable transport

We worked hard to promote sustainable transport to staff in 2018. With staff car use rising, we'll need to work even harder next year. The biggest focal point was the Spotlight On Travel month, but we also ran a host of smaller events throughout the year, aimed at raising awareness about cycle training, car sharing and discounts on rail tickets and cycling equipment. "We've also been more actively involved with wellbeing events across the University," says Sara Aziz, Transport Coordinator.

## North-West Cambridge Development

We ran a Cycling Festival in Eddington in June, attended by over 500 people. Visitors included University Pro-Vice Chancellors Andy Neely and Chris Abell, who came to show their support for the University's Eddington Number Challenge, which aims to get more people cycling in the Cambridge area while connecting with other local cyclists using the Strava platform.

Other forms of engagement at the North West Cambridge Development include a cycle loan scheme, cycle training, cycle maintenance workshops and personalised travel planning.

*"My housemate told me about the Personalised Travel Planning sessions. I casually dropped in for one and found it quite useful – especially the information on cycling and cycling routes. I was happy to learn about the different cycling options in and around Eddington and the University."*

**Amogh Mahadevegowda,**  
Eddington (North West Cambridge) resident

## Cycle engagement events

We have been working with contractors to deliver a series of cycle engagement initiatives for University staff: "The new contractors allow us to deliver a schedule of events throughout the year, instead of on an ad hoc basis," explains Andrew Coleman, Interim Transport Manager.

Those events include the hugely popular Dr Bike sessions – which offer bike repair by qualified mechanics – as well as one-to-one cycle training, cycle maintenance workshops and cycle safety seminars.

*"The instructor was excellent. I learned so much in my two-hour session, even though I've been cycling for 40 years ...and for 16 years in Cambridge. We covered all my daily commuting routes and I now feel safer and more confident."*

**Anne Forde,** University staff member

## Cycle engagement events in numbers

- ➔ 18 Dr Bike sessions with 252 attendees
- ➔ 7 cycle maintenance workshops with 81 attendees
- ➔ 14 staff completed one-to-one cycle training
- ➔ 6 cycle safety seminars with 25 attendees



## Bus service

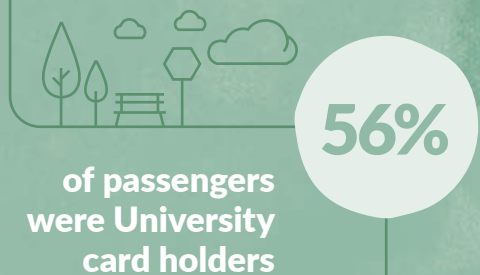
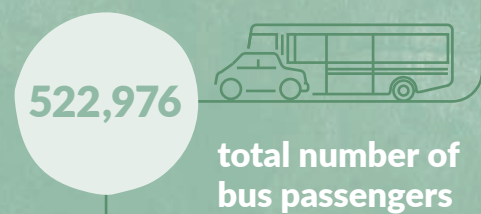
We're always looking for opportunities to improve the Universal bus service. In June this year, an m-ticket app was launched to make payment simple and convenient. In response to user demand, funding was approved to extend the operating hours, along with the addition of a Sunday service, which commenced in late 2018.

### IN PROGRESS / FUTURE PLANS

- ➔ **Contactless payments.** These will be introduced for even greater passenger convenience during 2019.



#### Universal bus service



# omedical Camp

U Maddingley Rd

*"When considering job offers, I factored in travel costs and the U-bus is definitely a good value for money option with the University employee discounts and the weekly £10 ticket."*

**Lisa Salloway**  
University staff member and Eddington resident

## Pool bike schemes

Our pool bike schemes are extending further across the University next year. We're carrying out site surveys to establish potential demand, and further tool stations have been located on the University's estate to encourage people to use their own bikes.

### The pool bike scheme in numbers:

7

pool bike schemes running

63

bikes available

2,379

bookings made throughout 2017/18

## IN PROGRESS / FUTURE PLANS

- ➔ **Improvements to cycle parking and other facilities.** A review is under way to develop a targeted programme of investment.
- ➔ **App-based booking system for pool bikes.** Development work has started - launch due early 2019. The app will simplify the booking process for users and administrators.

*"I was impressed that the University provides a number of electric bikes that can be loaned out to encourage a 'greener' means of travelling, as well as providing a healthier way of getting around."*

**Win Li**, University staff member

# Environmental sustainability in teaching and research

The Cambridge Institute for Sustainability Leadership delivered bespoke training and strategic sustainability projects for over 40 major global organisations

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The Living Lab continued to bring together students, academics and staff with 26 projects to enhance sustainability solutions within the University

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Online training module for all new starters launched in July

A broad range of the University's academic centres, networks, industry-facing research and student programmes are already involved in activities that relate to sustainability. Our work on environmental sustainability in teaching and research has three overarching goals:

- 1 Undertake world-leading research related to environmental sustainability.
- 2 Ensure our operations are informed by this research where possible.
- 3 Ensure all staff and students have access to formal or informal opportunities to develop their knowledge, skills and understanding relating to sustainability issues and solutions.



## Providing opportunities for staff and students

Staff can now choose to attend a face-to-face training session, log on to a webinar or complete an online training module to learn about the University's environmental impact and how they can make where they work more sustainable. The online module is available at all times and at least two webinars and face-to-face training sessions are organised each term.

Training is also available for students and to date, 26 students have completed the Sustainability Essentials course delivered by Cambridge Institute of Sustainability Leadership (CISL).

During February 2018, we ran several events for staff and students to promote and discuss sustainable research across the University. One hundred and twenty four staff attended events on topics ranging from the psychology of sustainability to how to boost lab performance and the use of hydroponics to improve air quality.

## Living Laboratory



<https://www.environment.admin.cam.ac.uk/living-lab/yearly-review>

The Living Lab brings together students, academics and staff to test new ideas, apply research to practice and develop new solutions for enhancing sustainability within the University. Students bring enthusiasm and ideas, academics bring world-renowned expertise and research and staff bring practical advice and assistance, leading to more innovative interventions and effective results.

Twenty-six projects were completed this year and an annual report was developed to report on the Lab's major achievements. "Key successes were the continued implementation of the Sustainable Food Policy and the hydroponics project, which aimed to reduce the carbon footprint for one of our Engineering buildings by improving air quality," notes Amy Munro-Faure, the Living Lab's new coordinator.

## Using research to inform our operations: The hydroponics project

Plant Green, consisting of a group of PhD candidates, aimed to reduce CO<sub>2</sub> levels and temperature in the office, thereby reducing energy use for heating and ventilation, by installing hydroponic plant modules. Hydroponic plant modules are small installations that house plants growing in nutrient-rich water. The advantages are the low weight of the system and ease of maintenance, as the modules only need weekly watering.

The focus is on edible plants, and participants are encouraged to harvest and eat their plants, thus encouraging their maintenance.

We have created a 'Community of Growers', where each participant can take care of their own plants from seed. This has improved cohesion in the office environment and enabled us to scale up the project with limited requirements for external maintenance help.

## Checking the sustainability credentials of our teaching

This year, a team of students undertook a Social Innovation Programme (SIP) project, supported by Cambridge Hub, to map sustainability content in the University's undergraduate curriculum and courses. They scored online descriptions of course content against several criteria: environmental stewardship, global citizenship, future-facing outlooks, social justice, ethics and wellbeing. Their findings suggest wide variability in the amount of sustainability-related content in Cambridge undergraduate courses.

## Developing leaders for sustainability

Through executive and graduate study, the Cambridge Institute for Sustainability Leadership (CISL) gives senior executives the inspiration, understanding and confidence to define and respond to pressing social, economic and environmental priorities.

In the last academic year:

- ➔ Over 1,000 professionals from around the world undertook postgraduate, Master's, Executive or online programmes with CISL.
- ➔ CISL delivered bespoke training or strategic sustainability projects for over 40 major global organisations such as The World Bank, Unilever, TATA Steel and the Guangdong Provincial Government.

## IN PROGRESS / FUTURE PLANS

- ➔ **Integration of sustainability in University's new Education Strategy.** We're investigating how sustainability can be incorporated into its new Education Strategy.
- ➔ **Internship to look at 'Education for Sustainable Development'.** We're planning for an intern to verify the curriculum audit that has already taken place by contacting course organisers and mapping sustainability content in courses.
- ➔ **Centre for a Carbon Neutral Future.** A new research centre that will bring together the many strands of research on sustainable energy taking place across the University.

## Cambridge Global Challenges Strategic Research Initiative

Established to enhance the contribution of University of Cambridge research towards addressing the UN's Sustainable Development Goals through cross-disciplinary research and innovation programmes.

# Partnership and engagement

University received two  
Green Gown Awards in  
November 2017



THE CAMBRIDGE *green*  
CHALLENGE

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Increase in departments  
and Colleges taking part  
in Green Impact

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Three 'Spotlight On'  
months helped provide a  
focus on waste, sustainable  
research and travel  
through several weeks  
of events and activities

Every aspect of the University's activity has some environmental sustainability impact. As this agenda is so broad, each individual working or studying at the University has a role to play in reducing their environmental impact during their time at Cambridge. That's the Cambridge Green Challenge.

The Challenge comprises a range of initiatives, including a network of Environment and Energy Coordinators (EECs), Green Impact, the Living Laboratory for Sustainability and the Carbon Challenge.

*"Being a member of the Environment and Energy Coordinator Network is a great way to get involved in University-wide initiatives and feed that development back to your own department. We've seen a really positive shift in our own attitudes to recycling and energy usage in the department, and to those of our colleagues and the wider community, too."*

**Siobhan Hoffman-Heap and Karin Haack,  
EECs, Sociology**



## Staff engagement research results

In the summer of 2018, an intern with the Environment and Energy section helped us to understand staff attitudes to environmental issues using a survey which gave us useful insights into our communications and engagement activities.

- ➔ 67% of respondents said that communications from within their department would influence them to be more environmentally friendly in the workplace. Therefore, as well as producing our own monthly 'Greenlines' newsletter, we are focusing more on embedding environmental communications within local newsletters. So far, we've reached 42 department or site-level newsletters.
- ➔ Respondents were aware that their workplace promotes recycling (95%), works to minimise electricity and energy wastage (67%) and promotes sustainable travel (65%), but were far less aware that their workplace promotes biodiversity (8%). We are planning a Spotlight on Biodiversity month next year to help raise awareness of the work that the University is doing in this important area.
- ➔ 41% of staff said they do not feel confident when it comes to contributing their own ideas, expertise and efforts to help create action on sustainability issues at the University. We are now providing regular in-person and webinar training sessions for staff to help them better understand how they can support the University's work on environmental sustainability.

## Green Impact

Green Impact is the University's environmental accreditation scheme. The initiative encourages departments and Colleges across the University to reduce their environmental impact. Departments can form small teams which sign up to an online workbook and progress through simple, clear and easy criteria towards recognised awards and targets.

Green Impact is great for those people who want to make a difference but are not sure how. It's one of our flagship engagement programmes. The scheme also provides recognition and support for those who are already working away on environmental and wellbeing causes.

The 2018 Green Impact awards were presented by the Vice Chancellor of the University in a ceremony at the Centre for Mathematical Sciences on 21 June. The ceremony recognised the efforts of staff and students who had worked to improve the environmental performance of their places of work and study throughout the 2017/18 academic year.

## Green Officer meetings

We set up a series of termly networking meetings for College Green and Ethical Officers to come together and share ideas for making environmental changes in their Colleges. This is providing a valuable link between the University's Environment and Energy section and the student body, while also helping to facilitate new discussions and initiatives.

## Engage for Change

We're running this course in partnership with student-led group the Cambridge Hub. It runs for six weeks and usually serves 10-20 students. The training course allows students to consider how they can make change happen, providing space to complete a specific project over the course's duration.

Projects can range from introducing composting bins into their Colleges to looking at recycling reporting in their department. "Engage for Change' is a really exciting way of engaging with students and getting them involved in the University's sustainability efforts," says Amy Munro-Faure, Living Laboratory for Sustainability Coordinator.



## The University Counselling Service case study

In 2016/17, the Green Impact team at the University Counselling Service (UCS) set up a pen recycling scheme. They donated the funds raised from the sale of the recycled product to Centre33 – a local charity.

This year, they expanded the pen recycling initiative into a University-wide collection. The team now receives hundreds of pens each month, having managed to persuade 11 other University departments and buildings to join the scheme.

A network of staff now collects pens for UCS. A new pen collection point was also opened in the Scott Polar Museum (open to the public) along with a collection point in the Central Cambridge Public Library. Through their hard work and dedication, the team has engaged not only departments in the challenge of recycling, but also the wider city population.



## Green Gown Awards

In November 2017, the University of Cambridge won not one but two awards at the prestigious 'Green Gown' awards ceremony, which celebrates sustainability successes across higher education institutions.

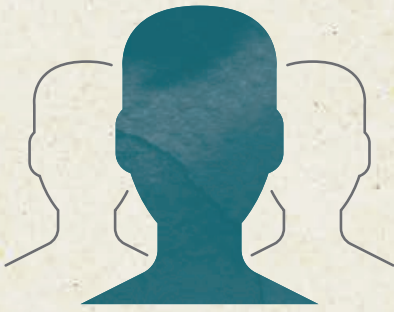
The first award was in recognition of the University's Sustainable Food Policy, launched in February 2017. The policy was developed through collaboration between the University Catering Service and the Environment and Energy section, drawing on academic expertise from a number of University departments. The policy has led to a ground-breaking focus on 'making the right choice easy' – providing and promoting tasty food that is better for the environment.

We also won in the 'Sustainability Reporting' category for the University's first Annual Environmental Sustainability Report. The judges of the category commended the report for its transparent reporting against targets and the inclusion of reasons for both positive and negative performance.

## IN PROGRESS / FUTURE PLANS

➔ **First 'Spotlight on Biodiversity' month.** We are planning to use the biodiversity baseline data that we have gathered to engage staff in initiatives to promote and enhance biodiversity across the estate.

➔ **Extending reach using departmental communications**  
By distributing tailored versions of articles from our newsletter, we're providing more information for 51 departmental newsletters/communication channels. This goes far beyond the reach of our own 'Greenlines' monthly newsletter.



## 663 staff and 2,009 students

received our **'Greenlines'** newsletter, an increase from 655 staff and 1,415 students in 2016/17



In a survey,

## 66% of staff

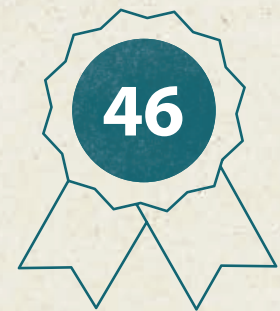
at the University said they would like to do more or a lot more to help the environment

## 67 students

received training in sustainability skills as part of the **Green Impact initiative**

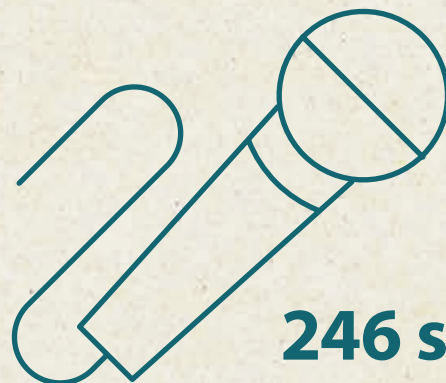
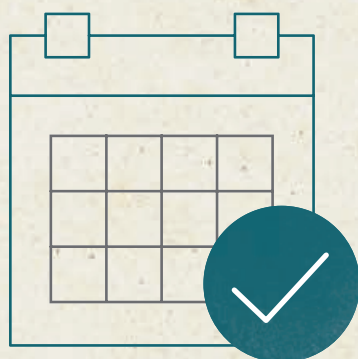


In 2017/18, Green Impact teams made up of **253** staff and students encouraged **5,668** of their colleagues to take sustainability action at the University. They won **46 Green Impact awards** – more than any year in the competition's five-year history



## 590 staff

attended events held as part of **'Spotlight on'** months



## 246 staff

attended networking events for **EECs** and **Green Impact** team members

# Key performance indicators

	2014/15	2015/16	2016/17	2017/18
Total scope 1 and 2 carbon emissions (energy and fuel use) (tonnes)	80,788	77,580	72,484*	65,322
Carbon emissions from water use (tonnes)	383	381	369	457
Total scope 1 and 2 carbon emissions per staff and student (tonnes/FTE)	2.9	2.7	2.5*	2.2
Carbon emissions from water use per staff and student (tonnes/FTE)	0.014	0.013	0.013	0.015
Total scope 1 and 2 carbon emissions per total income (tonnes/£1000)	0.095	0.084	0.079*	0.066
Carbon emissions from water use per total income (tonnes/£1000)	0.0005	0.0004	0.0004	0.0005
Percentage of energy generated from onsite renewable or low carbon sources (%)	0.25	0.42	0.43	0.25 <sup>1</sup>
Total water consumption (m <sup>3</sup> ) <sup>2</sup>	390,099	388,620	375,764	466,002
Total water consumption per staff and student (m <sup>3</sup> /FTE) <sup>2</sup>	14	13.6	12.9	15.6
Percentage of new buildings and major refurbishments confirmed by the Ecological Advisory Panel (EAP) as having no net negative impact on biodiversity	The EAP, having met, has established the need for a baseline against which to judge the impact of developments – see Biodiversity and Ecosystems section for more information			
Waste sent to landfill (tonnes)	2,030	2,448	2,201	409
Waste mass generated per FTE staff and student (tonnes/FTE)	0.29	0.28	0.68	0.18
Percentage of waste generated that is recycled or composted (construction and non-construction waste) (%)	74	70	83	67
Level achieved on the Flexible Framework	4	4	4	4
The percentage of new buildings that are certified at least BREEAM Excellent or equivalent (%)	50 (2 of 4)	50 (1 of 2)	50 (2 of 4)	50 (1 of 2)
The percentage of buildings with a Display Energy Certificate that have a minimum rating of 'D' (%)	42	46	58 <sup>3</sup>	45
External awards for sustainable construction/design	0	0	1	1
Percentage modal split for commuting by staff single occupancy car journey (%)	24	25	26	30
Percentage modal split for commuting by staff car share (%)	8	8	10	6
Percentage modal split for commuting by staff bus (%)	8	7	7	7
Percentage modal split for commuting by staff train (%)	6	6	6	6
Percentage modal split for commuting by staff cycle (%)	42	42	42	39
Percentage modal split for commuting by staff walk (%)	10	10	8	9
Percentage modal split for commuting by staff motorbike (%)	1	1	1	1
Percentage modal split for commuting by staff other (%)	1	1	1	2
Per capita carbon emissions from flights (tCO <sub>2</sub> e)	0.77	0.74	1.00	1.09 <sup>4</sup>
Number of institutions participating in Green Impact	37	43	45	46
Number of members of the Environment and Energy Coordinator Network	97	103	100	98

\* The 2016/17 figures for Total scope 1 and 2 carbon emissions, Total scope 1 and 2 emissions per staff and student, and Total scope 1 and 2 emissions per total income were incorrectly reported in our 2017 report and have been corrected in this report.

<sup>1</sup> The amount of energy generated via biomass in 2017/18 was lower than usual due to one of our onsite biomass boilers being temporarily out of action.

<sup>2</sup> The water consumption figures for 2014/15 - 2016/17 have been re-reported this year to reflect the changes we've made to our recording methodology. This is to better align our approach with best practice carbon emissions reporting.

<sup>3</sup> The 2016/17 figure for the percentage of buildings with a Display Energy Certificate was incorrectly reported in our 2017 report and have been corrected in this report.

<sup>4</sup> The 2017/18 figure is based on our lower end estimate of our emissions in that year. Based on our upper end estimate, per capita emissions are 1.74 tCO<sub>2</sub>e.

# At a glance

in 2017/18



10,991

staff FTE



18,933

students



409 tonnes

historic low amount of waste sent to landfill



46

Green Impact awards

26

Living Lab projects

2

Green Gown Awards



55%

increase in usage of the Universal bus service

30

students have participated in Engage for Change so far

89

members of our Building Managers Network

6%

first interim carbon reduction target, achieved this year!



12,500 m<sup>2</sup>

approximate size of new builds added to our estate in 2017/18

Over 2,000

energy meters installed on the estate so far

# Be part of something special

## Take the Cambridge Green Challenge

The Cambridge Green Challenge is our collective challenge to build a more environmentally sustainable University. There are many ways to be part of it during your time at Cambridge.

### Environment and Energy Coordinators

Why not be part of something truly fantastic and join our staff network? You'll work as an ambassador for our environmental efforts, providing essential communications on all environmental issues in your workplace. It's a great way to be actively involved and be part of the conversation.

[www.environment.admin.cam.ac.uk/EECs](http://www.environment.admin.cam.ac.uk/EECs)

### Green Impact

Have you ever wanted to work collectively to implement a range of environmental improvements where you work or study? We're after team players in every department to help bring about tangible change and get recognition at the annual awards ceremony.

[www.environment.admin.cam.ac.uk/green-impact](http://www.environment.admin.cam.ac.uk/green-impact)

### Living Lab

Could your student project or research benefit from testing out ideas on the University estate? Find out how you could leverage this fantastic resource for your environmental sustainability work.

[www.environment.admin.cam.ac.uk/living-lab](http://www.environment.admin.cam.ac.uk/living-lab)

### Resources

We have posters, stickers and more available on request to help you share the call for action.

[www.environment.admin.cam.ac.uk/resources](http://www.environment.admin.cam.ac.uk/resources)

### The Carbon Challenge

Use this annual competition to develop your own ideas on how best to reduce our environmental impact and make a change for good.

[www.environment.admin.cam.ac.uk/carbon-challenge](http://www.environment.admin.cam.ac.uk/carbon-challenge)

### Find out more and get the latest updates

Keep up to date with all our activity along with relevant news from across the University with our monthly newsletter:

[www.environment.admin.cam.ac.uk/greenlines](http://www.environment.admin.cam.ac.uk/greenlines)

### Social bookmarks

 [@CambridgeSust](https://twitter.com/CambridgeSust)

 [facebook.com/CUenvironment](https://facebook.com/CUenvironment)

 [environment.admin.cam.ac.uk](http://environment.admin.cam.ac.uk)

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