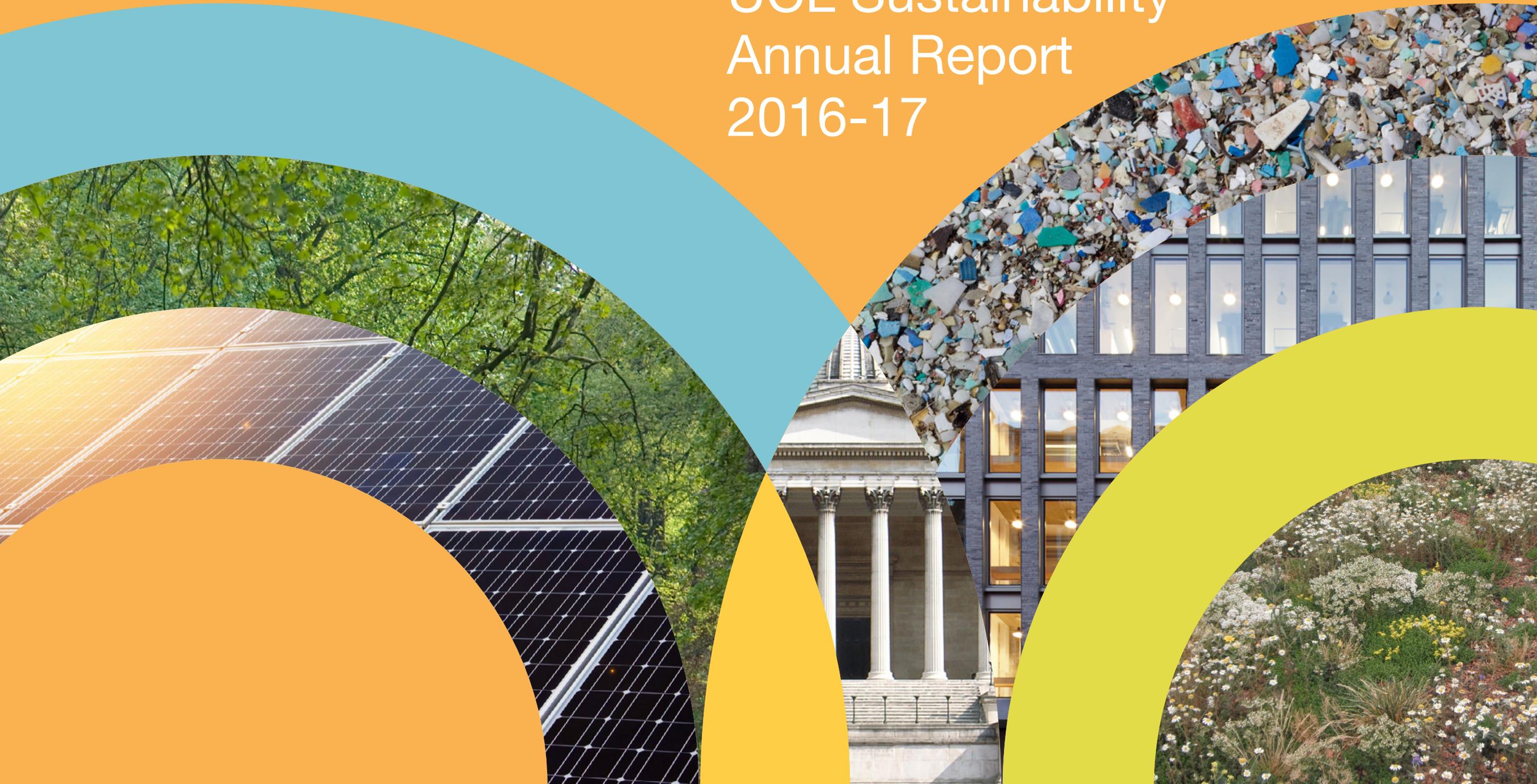


UCL Sustainability Annual Report 2016-17



Executive Summary	p.1
ESSG Chair welcome	p.3
The year in numbers	p.4
Sustainability and UCL 2034: Principles themes	p.6

Campus	p.9
Carbon	p.9
Water	p.12
Building Refurbishments	p.14
Biodiversity	p.18

Community	p.20
Engaging staff and students	p.20
Sustainability projects from the UCL community	p.22
Sustainable consumption and production	p.24
Waste Management	p.26
Food	p.27

Curriculum	p.28
Living Lab	p.28
Education for Sustainable Development	p.30
Research highlights – UCL’s response to our Global Challenges	p.32

Executive Summary

ISO 14001 certification – internationally recognised environmental accreditation



UCL climbed 3 places this year to 26th in the People and Planet league for environmental and ethical performance; ranking 5th in the Russell Group, ahead of both Oxford and Cambridge. 2017 also saw the accreditation of the institution under ISO14001, the internationally recognised standard for environmental management.



A 9% reduction in absolute carbon emissions since 2005/6 despite a growing Estate

UCL’s absolute carbon emissions fell by 7% compared to last year, 9% lower than the 2005/6 baseline. Such carbon savings translate into cost reductions for the institution of £200,000 despite increased occupancy density and greater levels of energy intensive equipment.

Strides taken towards UCL as a sustainable research demonstrator

This year has seen the initiation of a number of opportunities to use the estate as a sustainable research demonstrator including:

- Using UCL’s academic expertise the Wild Bloomsbury project will test greening initiatives around the estate to promote student and staff wellbeing, improve the public realm and increase biodiversity.
- Exploring options for smarter integration of the district energy system with the UK electricity grid, allowing UCL to take advantage of fluctuations in daily electricity pricing and carbon levels.
- The Bartlett are evaluating a number of the innovative sustainability features at the newly opened 22 Gordon Street to inform similar approaches elsewhere on the estate.
- A carbon pricing scheme is being explored to incentivise departments to reduce carbon emissions.

Showcasing the latest thinking in sustainable design

The Transforming UCL programme is providing a unique opportunity to embed environmental performance into the estate. Four projects achieved BREEAM ‘Excellent’ ratings for design over the past 12 months. This level of



environmental performance is being matched in UCL's smaller refurbishments using the new industry standard SKA HE; a scheme developed by UCL and the Royal Institute of Chartered Surveyors.

Engagement from across the UCL Community for a sustainable UCL

Sustainability participation across the institution is increasing year on year, with 60 departments taking part in Green Impact this year; including 15 departments starting the Green Impact Laboratory programme. This has led to savings of £120,000 per year through reduced equipment use, smarter procurement practices and higher recycling rates.

Student expectations around sustainability are high, and UCL is providing support to take action in their accommodation through student switch-off, consider a career in sustainability through environmental careers week and providing a range of volunteering opportunities to help them develop skills and experience. This is being augmented by a wealth of student led sustainability initiatives across all parts of UCL; from the Beekeeping society to a student enterprise developing packaging free pasta.



Plans for the year ahead

A refresh of the UCL Sustainability Strategy provides an opportunity to extend the scope of sustainability "beyond green" to issues of shared prosperity and global justice. In doing this more of the UCL community can engage and provide their contribution to a more sustainable UCL.

There is an urgent need to tackle UCL's plastic waste a mission fully supported by students and staff alike; this will require new solutions to eliminate single-use plastic.

With the increase in the amount of energy from research equipment; we are seeking opportunities to improve equipment sharing and provide research technology platforms (e.g. a central bio-banking facility).



Welcome

Prof Geraint Rees
Dean of the UCL Faculty of Life Sciences

As Chair of the UCL Environmental Sustainability Steering Group, I'm delighted at the progress UCL has made not only in developing solutions to some of the most urgent global sustainability challenges but ensuring that our operations demonstrate a more sustainable way of delivering teaching and research.

The accreditation of the institution under the ISO14001 standard this year is a phenomenal achievement and testament to the ongoing commitment of the whole UCL community to reducing our environmental impacts.

Our progress was also recognised by the People and Planet University League, which awarded UCL a 'First Class Honours' for our environmental and ethical performance for the third year in a row.

That enthusiasm across the institution has led to some wonderful new initiatives ranging from student led campaigns like OneLessBottle to the integration of research, teaching and sustainability at the School of Pharmacy Medicinal Garden.

2016-17 also saw some tangible decreases in UCL's environmental impact, a 7% reduction in UCL's carbon emissions over the last year and a 1% reduction in water use; these are all the more impressive given the growth of UCL during that time.

Laboratory based research is an integral part of UCL academic inquiry so it is fantastic to see so many teams taking

part in the first year of the Green Impact Laboratories programme and identifying new ways to conduct their research in a more sustainable way.

We continue to provide sector wide leadership; as co-developers of a new environmental standard for universities (SKA HE) we were extremely pleased that the new St. Martin's Le Grand project was the first to be accredited under the scheme.

The last year was also a time of new sustainable research endeavours from the launch of the Faraday Battery Institute, the creation of the UCL-Nature Sustainability Expert panel to the London Hub for Urban Health, Sustainability and Equity. Showing UCL's place in delivering world-leading research into sustainable futures.

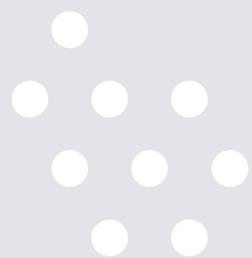
The range of initiatives from staff and students across UCL shows that there is the appetite for sustainability to be even more integrated into the fabric of UCL, which is why 2018 will see the development of a new sustainability strategy for the institution; providing the opportunity for the UCL community to provide their thoughts on our sustainability priorities. I look forward to hearing from you!

Prof Geraint Rees

The year in numbers



ISO 14,0001



7% reduction in UCL's carbon emissions – the same as taking 1,000 cars off the road.



5,636 litres of water saved



90 student environmental auditors trained

2 new green roofs



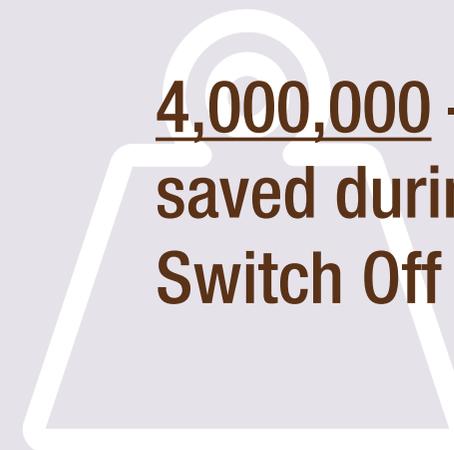
26th place in the People and Planet Green League – A First Class



33 student inductions completed



768 students participated in the NUS Student Switch-Off Programme in halls; with 34 students trained as Ambassadors.



4,000,000 – the weight of carbon saved during the Big Christmas Switch Off in mince pies



Sustainability and UCL 2034: Principles themes

Academic leadership

This year saw the launch of UCL's Nature Sustainability Expert Group. The panel, a collaboration between the City Leadership Lab and Nature Sustainability, brings together 25 internationally recognised urban experts from a variety of disciplines and geographies.

The Panel aims to review the interface between urban science and policy. It will assess the viability of developing urban expertise in relation to the challenges of Agenda 2030 and the 11th Sustainable Development Goal.

Giving our students the best support

We are working with UCL Careers and each of the UCL departments to equip UCL graduates with the sustainability literacy that they need for their careers. Initiatives have included:

- UCL Environmental Careers Week
- Sustainability inductions for 36 courses
- Training for 90 students in environmental auditing
- Global Citizenship Programme for all undergraduates and taught post-graduates

Integrating teaching and research

Through our Living Lab programme we are providing opportunities for our students and staff to use UCL's estate and operations as a test-bed for research and learning.

Last year's programme included: a demonstrator site for solar panels as part of the Laidlaw Scholarship Project; a water saving project with the BASc course in the South Junction toilets; and a new medicinal garden outside the School of Pharmacy.

Accessible and publically engaged

Sustainability is an important platform to engage with UCL's local community. This year we have worked with the London Borough of Camden to promote the consultation for retaining the Tavistock Place cycle lane – an important piece of infrastructure for the local community. This resulted in 4,000 UCL staff and students providing their support the cycle lane.

London's global university

A sustainable UCL is intrinsically linked to a sustainable London. We are collaborating with other London universities to share best practice and to push for changes to London Policy, from improved cycling infrastructure to better air quality.

On a more local scale we are working with neighbouring organisations to look at reducing vehicles entering Bloomsbury and saving delivery costs.

Global Challenges

Sustainability at UCL is about finding solutions to global challenges whether this is through our research and teaching or by demonstrating practical solutions in the operation of our estate. Numerous interdisciplinary initiatives are underway from the Circular Economy Lab to the new Faraday Battery Institute. The Institute is seeking to help Britain develop battery technologies that will drive the electric vehicle (EV) revolution.

Valuing our staff

A key vision within our strategy is to ensure healthy and productive work environments for our students and staff. We are working to:

- Provide more comfortable building temperatures through the UCL Heating and Cooling Policy
- Ensure the design of refurbished spaces draws on health and wellbeing best practice
- Increase access to healthy, sustainable food in our catering provision

Financing our ambitions

Sustainability initiatives are delivering cost efficiencies across the organisation in the form of:

Reducing energy costs due to energy efficiency projects. £360,000 was saved in 2016/17 compared to the business as usual scenario.

Reducing purchasing costs: Considering the whole life cost of procurement decisions has delivered savings in IT and Lab equipment.

Sustainable estate

UCL is world-leading in its research and education into sustainable built environments. Through the new buildings and refurbishments that we are undertaking we are harnessing this expertise to:

- Develop innovative solutions e.g. ground source cooling for the new student centre
- Future-proof our built assets
- Minimise energy use and carbon emissions
- Ensure healthy and productive environments

Delivering global impact

UCL was approached by the British Council last year to help facilitate some Education for Sustainable Development work in Uzbekistan. The British Council was keen to offer UK HEI experience to Uzbek Universities.

UCL facilitated the training by bringing together the Environment Association of Universities and Colleges (EAUC), the NUS with the British Council.

Communicating and engaging

UCL were one of the key developers of a new industry wide environment rating system for refurbishment projects – SKA Higher Education.

The scheme was launched at UCL, and ISD's new home, St. Martin's Le Grand, was the first project in the UK to achieve a Gold standard. UCL is actively involved in setting standards for sustainable refurbishment in the HE sector

Excellent systems

2017 saw UCL achieve ISO 14001 accreditation in recognition of the systems and processes we have in place to manage our environmental impacts.

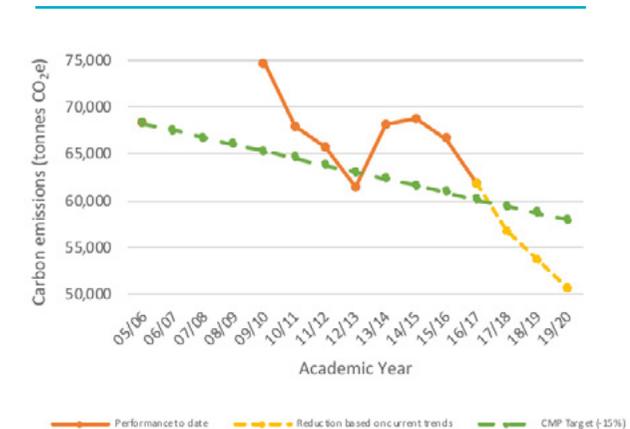
Changes that we have made to UCL systems and processes have resulted in ~£400,000 of efficiency savings. Ranging from a new Heating and Cooling policy, induction and exit procedures for laboratory environments and updated standards for UCL's maintenance activity.

Carbon

In 2016/17 a 7% reduction in UCL's carbon emissions was achieved, ensuring we are on track to meeting the 15% reduction target by 2020.

A number of activities contributed to this reduction including:

- A new Heating and Cooling Policy was adopted in June 2016 and is being implemented on a building by building basis. So far, heating and cooling settings in ten buildings have been optimised; resulting in over a million kWh of energy savings (~£150,000).
- The Science Library had a full lighting upgrade - completed in January 2017, saving 270 tonnes of CO₂. Other smaller lighting projects took place in the Wilkins Cloisters, Roberts building lecture theatres and the Medawar building.
- The district energy strategy developed in 2016 is starting to be implemented; firstly by improving the heating connection to the KLB Building and upgrading the controls systems across the network. These initial works have saved 25 tonnes of CO₂ (£15,000), but the implementation of the full strategy would save £1m /annum
- The first phase of the project to convert UCL's inefficient steam network to hot water was finished this year, a conversion that will save 1,000 tonnes of CO₂ a year (~£115,000) upon completion.



NEXT YEAR WE WILL:



- Develop the framework for a carbon pricing scheme for UCL
- Produce Faculty by Faculty reporting of carbon emissions
- Review building operating hours to reduce out of hours energy usage
- Undertake a Demand Response trial where electricity use is shifted to times of the day where there is less demand on the national electricity grid.
- Explore options for buying renewable electricity. In particular, as a consortium approach with other Russell Group institutions.

Super insulated windows for the Chemistry building

Christopher Ingold Chemistry building has had all its 600 windows replaced with double glazed units saving 166 tonnes CO₂ per year (~£29,000) and improving user comfort. Photographs from a thermal imaging camera clearly show a significant decrease in heat loss from the windows, and the improvements have already been felt by staff in the department. Andrea Sella, Professor of Chemistry, says he has been largely able to keep the heating off in his office since January, and no longer finds his office affected by the dust and pollution of central London.



Water

UCL achieved an 8.6% reduction in indirect (Scope 3) CO₂e emissions for water consumption against a 2013/14 baseline.

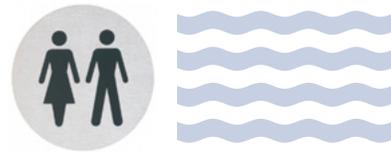
This puts us on track to achieve a 9% reduction by 2020. Our work this year has included:

- An audit of water fountain locations to identify where additional fountains are needed.
- Replacing single use bottled water used for our catered events, in favour of refillable, returnable bottles. This could reduce associated CO₂ emissions by up to 50%.
- Refurbishment projects are also providing an opportunity to install low flow taps, showers and toilets; water metering and monitoring; and leak detection/ prevention.

NEXT YEAR WE WILL:



Install new water fountains in key locations across the campus, which will provide greater provision of drinking water to our students and staff.



Investigating water conservation at UCL

In January, students taking the Engineering Thinking module of the BAsc course worked with Green UCL and the UCL plumbers on a project to investigate water consumption and waste.

The South Junction male toilets are among the busiest at UCL, so they were the perfect location to test whether switching from an automatic flush on a timer to a flush button that needs pushing would reduce water use while maintaining hygiene.

This involved an early start on a snowy weekend morning for a session learning how to isolate water flows, cut pipes and install water meters, under the watchful eye of UCL plumbers Dickie Thomas, Elvis Donaldson and Paul Gill. The new push-button flushes were installed with infra-red sensors built by the students to monitor which flushing system was more popular. Alongside the physical

interventions, the students had devised a behaviour survey, and a poster campaign to encourage people to consider their water use.

The project produced three reports, suggesting that a combination of presence detection & timed flushing provided the most water-efficient, hygienic flushing system.



Building Refurbishments



2016/17 saw the completion of a number of key Transforming UCL projects, including 22 Gordon St.

A number of our major 'Transforming UCL' projects are on track for high ratings under the BREEAM environmental assessment method which recognises best practice in areas such as energy, wellbeing, water and ecology. Four projects have achieved 'Excellent' ratings for design over the past 12 months. We have also been ensuring that our smaller refurbishments deliver an improvement through:

- 'Circular Economy' principles which aim to keep materials in use at their highest possible value, rather than simply recycling or, worse, throwing them away.
- A new 'Cost & Carbon Tool' which measures life cycle carbon savings from our projects.
- Ensuring all of our projects are diverting more than 90% of construction waste from landfill.

22 Gordon Street is the new home for The Bartlett School of Architecture.

The 'BREEAM Excellent' building focused on occupant health and wellbeing; radically improving facilities and space provision.

Retaining the original building's concrete structure significantly reduced the embodied carbon emissions of the building. Meanwhile, efficient design has resulted in a major reduction in operational energy and carbon. At roof level, solar (photovoltaic) panels contribute clean, renewable electricity.



NEXT YEAR WE WILL:



- Two major projects, UCL East and the New Student Centre provide an opportunity to showcase the best of UCL's sustainability research.
- Improve processes for the reuse and refurbishment of furniture.
- Implement more renewable energy technology on the Bloomsbury campus, including a new ground source cooling system for the New Student Centre.
- Increase our focus on designing for the wellbeing of staff and students, e.g. through biophilic design.
- Work with our supply chains to improve the environmental credentials of products and services we procure.



The Bloomsbury Theatre redevelopment presented a major opportunity to improve energy efficiency, and provide an accessible and healthy environment for visitors and performers.

The project is being managed under the Ska HE rating system, and is on track for the highest 'Gold' certification. This was used to identify low-impact materials, as well as opportunities for improved waste management. The teak slats which were removed from the auditorium have been reused for a variety of purposes ranging from furniture to sculpture and even a staircase!



The fit-out of St Martin's Le Grand achieved the first ever Gold rated Ska HE (Higher Education).

In association with Royal Institution of Chartered Surveyors (RICS), members of the UCL Sustainability Team were development partners for Ska HE.

Notable benefits of the project include highly efficient construction waste management, low impact construction materials and new energy efficient lighting. In addition, measures to support personal wellbeing included improved air quality and biophilic design which mimics natural patterns.



Sustainability was a key consideration in the development of the new Wilkins Terrace and refectory.

Major improvements to building fabric and heating and cooling systems will reduce energy consumption and improve occupant comfort. Meanwhile,

improved energy management capabilities will allow UCL to monitor and manage consumption in much greater detail, highlighting energy-hungry areas and activities, as well as opportunities for ongoing efficiencies.

Upgrades to toilets mean lower water use, helping to reduce the impact on UCL's 19th century plumbing and water stress in the surrounding area.

Biodiversity

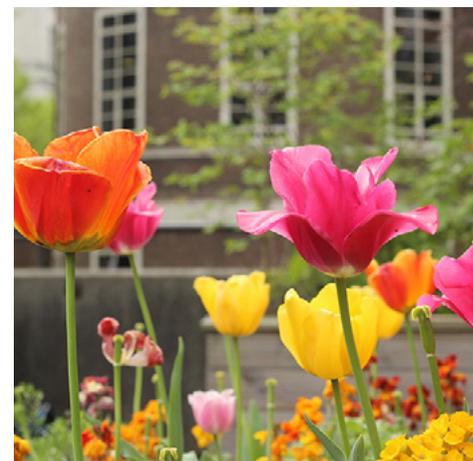


We have set a target of increasing our green space year on year by 50m². This was achieved from a number of new green roofs popping up around campus, most recently on top of the new 22 Gordon Street building and on the new data centre at Torrington Place.

These roofs are planted with wildflower mixes and are nestled around our solar panels. They may not be immediately visible to the UCL community but they provide precious stepping stone habitat for wildlife moving between larger green spaces such as Gordon Square and the Main Quad. Previously there would have been mainly concrete in between these spaces but we are growing our mosaic of green roofs year on year to give insects, birds and other wildlife a home.

Other biodiversity highlights for the year were:

- Sarah's memorial garden at the Institute of Education received a refresh this year through a Welcome Fair gardening event. This helped recruit some new dedicated gardeners to look after the flower beds for the year.
- The School of Pharmacy Green Impact team worked with the Friends of Brunswick Square to create a medicinal garden in the square, adjacent to their building.
- We continued our campus bird walks but this year expanded these to new areas, running walks for the Queen Square House staff and School of Pharmacy staff around St George's Gardens, Queen's Square and Russell Square. Keen birders enjoyed a Green UCL & UCL Conservation Society talk by the urban birder, David Lindo.



CASE STUDY: Where the wild things are

Green UCL joined forces with the UCL Conservation Society, University of London and Zoological Society of London (ZSL) to deploy camera traps in the green spaces around campus.

ZSL have been using camera traps to survey for wildlife in Regent's Park and were expanding the study to nearby areas. As a trial, we deployed 9 cameras in private areas around the Institute of Education and the local squares to train the UCL Conservation students in deploying and securing the cameras and to capture any interest wildlife that strayed across the cameras path.



NEXT YEAR WE WILL:

The challenge for us over the next few years is not just in increasing our green space footprint but also in improving the quality of the green space around us. UCL has over 250 buildings with spaces on their roofs, walls and in their gardens. We are also a key stakeholder in 3 of Bloomsbury's squares. Using UCL's academic expertise we will be testing greening initiatives around our estate. These may include introducing bio-receptive concrete panels to enhance the growth of algae, moss and lichens, these clean the air and turn the concrete green improving the aesthetics of more typical concrete facades.



Above are two of the best photos, which turned into somewhat of a wildlife selfie contest on campus.

Engaging staff and students

With a community of 50,000 students and staff, UCL has both a duty and an opportunity to engage and provide education on how to solve our global challenges of today.



Throughout 2016/17 UCL activities in this area have been:

- 768 students participated in the NUS Student Switch-Off Programme in UCL residences; with 34 students trained as Ambassadors.
- 90 student environmental auditors were trained and provided feedback to our Green Impact teams.
- The Big Christmas Switch Off saw 100 students and staff pledge to switch off, saving the weight in carbon of 4,000,000 mince pies.
- UCL Environmental Careers Week provided a range of advice, training and talks to inspire our students for a career in sustainability.
- 100% score in the Student Engagement category of the 2016 University League

Celebrating 60 departments at UCL's Sustainability Awards

UCL's fifth Sustainability Awards Ceremony celebrated 60 departments and over 100 students and staff who took part in Green Impact, our Sustainability Engagement Programme. From tomato-growing competitions, to increasing energy efficiency in labs, to reusable take-away schemes, our champions have been committed throughout the year to making a positive impact.



Our awards: upcycled from teak from the Bloomsbury Theatre.

Camilla Cerutti (post-doc, KCL) helps audit Abi Li's labs (senior research technician, Reta Lila Weston Institute, UCL).



NEXT YEAR WE WILL:

- Roll out the Green Impact Project Assistants role for 2017/2018 year. The role supports staff with the Green Impact Programme and provides students with the opportunity to gain skills.
- Build on our student engagement in halls by launching Reduce the Juice. This offers our students a programme beyond 'Switch off the lights' giving them a means to create their own sustainability projects.
- Host Sustainability Careers Week – A collaboration between UCL Sustainability, Innovation & Enterprise, Careers, Alumni and the Green Economy Society to inspire students to start a sustainability career.
- Grow the awards within laboratory areas to reach every department in some capacity.
- Develop simple and standard laboratory training to promote good-practice.
- Co-create a new UCL Sustainability Strategy to widen our student and staff reach.



Sustainability projects from the UCL community



With increasing interest in sustainability, UCL's students and staff have continued to set up a range of community-led projects to solve some of our local and global sustainability issues:

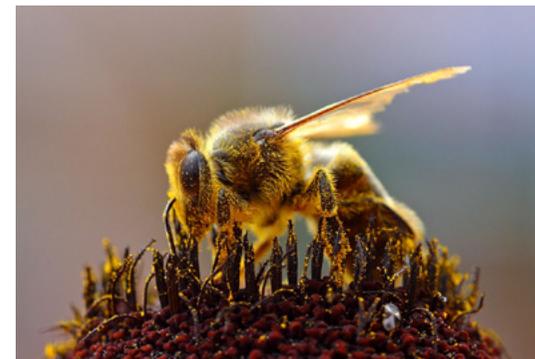
See some of their projects here:

- The OneLess @ UCL campaign is a student-led campaign to reduce the use of single-use plastic bottles on UCL campuses. Their Plastic Pollution Work Café facilitated discussions between various groups to start working on a strategy
- The Green Economy Society hosted their annual Green Business Forum on embedding sustainability within small to large scale business and educating students on how to get a career in sustainability
- The UCL Institute for Global Prosperity Soundbite series, hosted by UCL Grand Challenges put on a series of lectures around the topic of urban sustainability for the public domain.
- Two UCL student start-ups made it to the finals of the 2017 Mayor's Entrepreneur Competition. Stripped packaging-free-pasta eliminates packaging of one of the world's most popular food types. Captum Technology aims to reduce CO2 emissions emitted from industrial plants on a far greater scale than currently possible



CASE STUDY: Our Journey to EcoCampus Platinum (ISO 14001 accreditation)

What is ISO14001? An international standard that sets out and then tests the requirements for effective environmental management within an organisation.



- UCL's new Beekeeping Society aims to propagate and unify the next generation of beekeepers. With practical beekeeping sessions, talks, trips and workshops, they want to provide an environment for people to learn more about beekeeping and honey bees, as well as create a community of young beekeepers.
- Bentham's Farm is a community of food growers who have established allotment space for our 30 volunteers at the back of the Lfor Evans/Max Rayne halls in Camden. They offer UCL staff and students a space to learn about and experience food production.
- The department of Chemistry has been visiting schools in Camden, providing information about air quality and using chemistry tests to identify places that the class predicted would have poor air quality, and places that would be better because there were fewer cars, lorries, vans and buses.

It is there to help organisations of any size become more environmentally friendly, by complying with legislation and reducing environmental impacts.

Having ISO14001 accreditation means our students and staff can now refer to an internationally recognised benchmark for UCL's environmental management; and provide this information to our funders.

In 2010 UCL Estates adopted the Eco Campus programme, achieving the Bronze award in the same year. Since then we progressed through each step to achieve Platinum in 2017, which also results in accreditation to ISO14001.

UCL was audited over 5 days in June during which time the auditors visited lab departments to look at waste and chemical management, and met numerous members of the UCL community taking part in UCL's Sustainability Engagement Programmes.

Eco Campus has been adopted by many other universities, of which far less than 50% have currently achieved ISO14001. The size, scale and complexity of UCL make our remit and scope of environmental management larger than most organisations and therefore there are significantly more areas we can be audited against. This is a great benchmark of our progress and was a massive institutional effort from the academic community, professional services and our external contractors.

What next? Achieving ISO14001 requires continuous progress. We will be audited again in June 2018 – reaccreditation will be a continuous challenge in a fast moving organisation.

Sustainable consumption and production

Building on our Silver award in the Responsible Procurement Code, this year UCL has increased attention and intensity of work supporting responsible procurement. Our target is to achieve the Gold level by the end of 2018.



Key achievements this year have included:

- A “Highly Commended award for Leadership in Green Procurement” at The Camden Business Sustainability Awards, for our construction logistics centre and delivery management across campus.
- 
- Greater use of Warp-it, our redistribution platform; 4,721 items were redistributed this year, over four times more than last year. This saved 42,100 tonnes CO2e and £88,423.
 - UCL appointed two highly-rated ethical investment managers to help oversee the university’s endowment funds. Both are rated A+ by the UN’s Principles for Responsible Investment (UN PRI) survey. This is a significant step to adopting a stronger position on the ethical underpinning of our investment strategy.

- All standard staff computer equipment is now EPEAT Gold rated. The ‘Electronic Product Environmental Assessment Tool’ demonstrates that they are the lowest energy, are designed for longevity, can be taken back by the supplier and can be easily recycled if no longer operational.
- Publishing a range of purchasing guides for items from laboratory equipment to stationery, helping staff make sustainable buying decisions.

CASE STUDY: Supplier engagement

UCL launched the NETpositive programme in 2017, a free tool to help our suppliers to create sustainability action plans for their businesses. 754 suppliers have developed plans so far.

We are using this data to better understand the impacts of our supply chains and importantly ask questions on Modern Day Slavery to ensure this is not present in our supply chains.

The tool also helps to highlight and celebrate the positive contributions of our suppliers.

NEXT YEAR WE WILL:



- Offer the NETpositive action plan to all of our suppliers; prioritising high risk and high spend categories.
- Embed circular economy thinking into our procurement processes.
- Consolidate deliveries to reduce the number of vehicles coming to campus, supporting UCL’s new logistics plan.
- Identify our sources of waste plastic and engage with suppliers to minimise it.
- Conduct procurement mini competitions to secure good deals for energy efficient lab equipment.

Our apprenticeship scheme has been running for more than 30 years

We constantly monitor our supply chain and only use FSC, FIRA, FISP and ISO 14001 accredited companies. All of the above certifications help us to ensure that the materials used in the manufacture of our products only come from responsible and renewable sources

We are in the process of developing a green travel programme and policy for the business



We have regular contractor catch ups to speak about equality & diversity. We also have this as part of our contractor contracts.

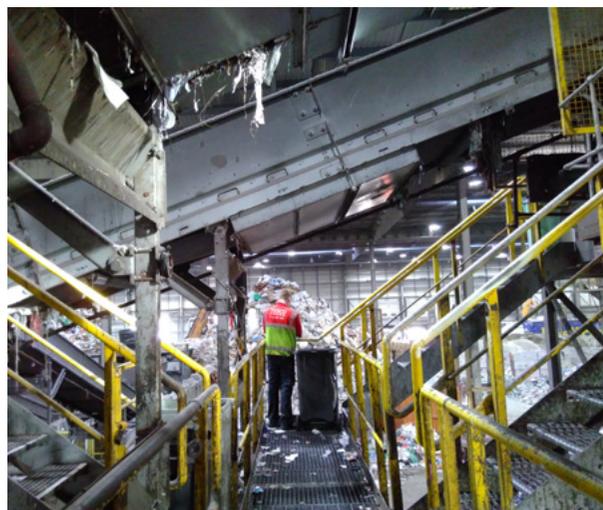
We have over 80 Sustainability Coordinators at our locations and a number have set up ‘Green Teams’ to support our Sustainability Plan



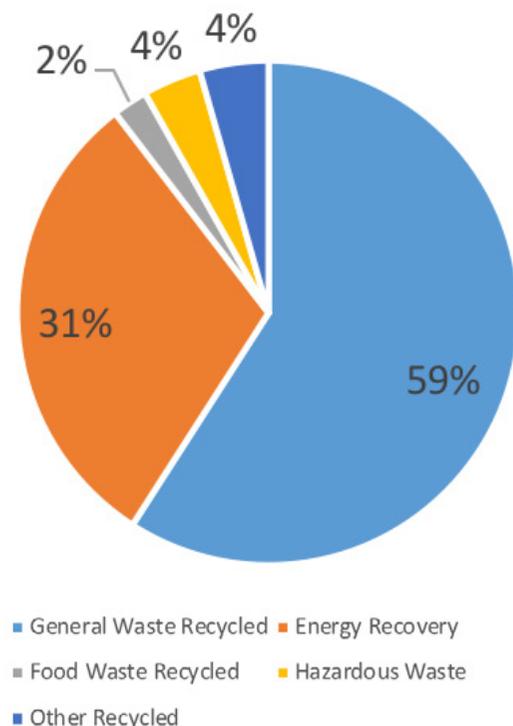
Waste Management

UCL sends zero waste to landfill.

Over the past year, we have seen continued high levels of recycling across the academic estate, totalling around 65% of all non-residential waste. However, we have some way to go to reach our target of an 85% recycling rate, and the increasing number of staff and students on campus presents a challenge for reducing our overall amount of waste.



UCL Non-Residential Waste 2016-17



NEXT YEAR WE WILL:



- Continue to improve on-site recycling points, including better labelling and bins, particularly for residences.
- Work with UCL catering suppliers to build on existing initiatives to reduce single-use coffee cups (e.g. discount incentive schemes)
- Following the provision of new water fountains, collaborate with OnelessUCL to promote the use of refillable water bottles, minimising single-use plastics on campus.

Food

UCL recognises the importance of providing healthy and sustainable food, whether this be in catered accommodation, cafes, bars and restaurants or at catered events. To ensure this happens, our catering suppliers follow UCL's Healthy and Sustainable Food Policy.



Keen growers at the Mullard Space Science Laboratory near Dorking

Key achievements include:

- 60% of our catering staff attended sustainability training covering healthy eating, responsible fishing, recycling and pollution control.
- 29% of products sold in our catering outlets in 2016/17 were Fairtrade.
- Meat-Free Monday was promoted through the campus refectories.
- The trial of an Eco-Takeout scheme at the School of Pharmacy and Institute of Child Health to reduce the use of disposable take-away containers.
- Our partnership with Bio-Bean turns our coffee waste into sustainable, clean biofuel used in London's buses and 'Coffee Logs' designed for use in wood burners and stoves.
- UCL offered our students and staff free reusable coffee cups during Fresher's week.

Discounts are given to students and staff in our canteens if they bring their own reusable cups.

- All our university catering outlets are certified to Marine Stewardship Council standards.
- UCL is audited and verified by the Food for Life Catering Mark award. Sodexo, UCL's catering partner has achieved the Silver Food for Life Catering Mark at UCL.

NEXT YEAR WE WILL:



- Work with our catering suppliers to increase the range of vegetarian and vegan options available
- Secure Fairtrade status for UC



Living Lab

In 2016-17 the sustainability team continued to apply our Living Lab approach, using UCL's estate as a resource for teaching and research.

- We continued our association with the Bachelor of Arts and Sciences (BASc) course, acting as the client in an exercise in finding an engineering solution to minimise water wastage.
- As part of our Environment Week we ran a training day for student environmental auditors, surveying the Student Central building to see what impacts they could identify and what improvements they could suggest.
- We shared energy consumption data with students carrying out a range of analytical projects for their masters and PhD studies. We have also been uploading data to our online platform Carbon Culture for everyone to see their building's energy performance.



NEXT YEAR WE WILL:



- Investigate how changing travel choices could help us reduce our Scope 3 emissions, with a pilot study at the Bartlett School of Planning.
- Work with a new student society to identify suitable sites for new solar panel installations, making the most of UCL's potential to generate energy and test novel technologies.
- Upgrade more of our meters so that more of our energy consumption data is available for our community to study and compare.
- Collaborate with UCL Enterprise, to offer up the estate as a test bed for new innovations.

Living Lab projects Guest article by Imran Mannan on- site, student-led research:

UCL undergraduate and Laidlaw Scholar Imran Mannan has been researching whether solar panels are effective in urban areas. After contacting the Sustainability team for help finding a test location, he was able to use UCL's very own Bidborough House to look at how much energy we could generate, and how much money UCL could potentially save by doing so. These kinds of projects, taking place right here on the campus, are vital for engaging the UCL community in sustainability at UCL.



Renewable energy - what could we achieve?

Currently, most countries are unable to satisfy 100% of their electricity demand with emission-free energy. A big institution such as UCL could invest in our own micro-grid, in order to try and bring about some of the localised benefits that renewables have to offer. These benefits include:

Reducing energy costs:

If UCL generates and stores free energy during the day, it can use it during times of peak national electricity price, saving the university money every day.

Reducing emissions:

By using renewable energy, UCL could massively reduce our carbon footprint. We could not only increase the sustainability of our buildings and operations, but also charge batteries which could power pop up stalls or food trucks, reducing on-site pollution from diesel generators. Similarly, we could store enough renewable energy to create an emission-free back-up supply for vital services such as data centres and medical facilities should our connection to the national grid suffer an interruption.

Encouraging world-leading research and innovation:

An on-site micro-grid would be the perfect statement of UCL's commitment to its 2034 sustainability goals and set a national precedent for social and environmental responsibility. It would also provide a basis for loads of research into renewables and energy efficiency, right in the heart of one of the most respected research institutions in the world.

[Have an idea for a project or research based on UCL's campus or operations?](#)
[Contact the Sustainability Team to discuss it!](#)

What is a micro-grid?

A micro-grid is a small-scale electricity grid that can be used to power a site independently, or in conjunction with the national grid. You can use a micro-grid to transmit or store energy on-site, which you can use whenever you need. Micro-grids allow buildings that generate renewable to make use of that energy when it is needed most.

Education for Sustainable Development



Through UCL's teaching and research, we have the opportunity to have a global impact on sustainable development by educating our 40,000 students, and the wider community, on the sustainability challenges of our times.

UCL offers a wide range of sustainability-related extracurricular and professional development opportunities for students.



NEXT YEAR WE WILL:

Undertake a baselining exercise on ESD. We are asking questions on how far UCL has gone to embed sustainability into education and what we should do next? Following this we aim to bring a working group of academic staff together to start asking questions about embedding ESD more deeply throughout UCL's activities.

Global Citizenship

For two weeks, students from different academic disciplines and cultural backgrounds collaborate to address today's global challenges. The interdisciplinary nature of the groups allows students to develop innovative ideas and solutions drawing on knowledge gained from across the Institution. Students choose from a variety of strands depending on their interests and level of study.



How to Change the World

Engineering students develop solutions for real-world problems with the help of industry experts. Their solutions are then presented to a panel of experts from various organisations. This scenario-based learning allows them to understand the application of their academic knowledge.

Connected Curriculum

This initiative aims to encourage students to learn through research and enquiry. By promoting the integration of research into education and the creation of connections across subjects and out to the world, it encourages students to explore the impact that their work could have on the real world.

Research highlights – UCL's response to our Global Challenges



Planetary health and sustainability is clearly linked to human health, wellbeing and equity.

In 2017, the 'London Hub for Urban Health, Sustainability and Equity' was formed - UCL is a foundation partner with Imperial College London and the London School of Hygiene and Tropical Medicine. As part of this hub Prof Michael Davies (Institute for Environmental Design and Engineering), Prof Susan Michie (Centre for Behaviour Change) and Prof David Osrin (Institute for Global Health), have been awarded £5.15M over 4 years by the Wellcome

Trust for the 'Complex Urban Systems for Sustainability and Health (CUSSH)' project.

The Environment Domain has an active and engaged early career researcher community, known as the Environment Domain Early Career Network EDEN. This year EDEN developed an interdisciplinary seminar series on the environment and wellbeing, funded through the UCL Grand Challenges Doctoral Students' Small Grant Scheme. A range of speakers from across UCL, as well as a host of external organisations, were invited to speak at 5



seminars over October and November on the following topics: "Circular economy", "Transitions & transformations", "Valuing nature", "Social-ecological systems" and "Urban environment". The success of these events has led to planned second seminar series in Autumn 2018.

UCL academics clearly do a lot of research relevant to the environment, and produce many papers, reports and recommendations. One which was publicised in particular from March this year was by Simon Damkjaer (ISR) and Prof Richard Taylor (Geography), entitled "The measurement of water scarcity: Defining a meaningful indicator". The authors found that the definition and metrics for water scarcity are inadequate, particularly in low-income countries – meaning, in short, that we do not fully know the dimensions of the global water crisis. Improving measurement and better understanding freshwater storage could help to explore a wide range of options for addressing freshwater storage requirements.



Case study: UCL driving the electric vehicle revolution

UCL has been selected as a founding partner of the new Faraday Battery Institute that will help Britain develop battery technologies that will drive the electric vehicle (EV) revolution. UCL is one of seven universities including Oxford, Cambridge, Imperial, Newcastle, Southampton and Warwick backed by an initial £65m from the government. With a HQ based at Harwell, Oxfordshire, the Faraday Institute will shape a research strategy aimed at making the UK a global leader in battery technology, bringing together, guiding and supporting researchers throughout the country.

GREEN UCL
UCL
Gower Street
London
WC1E 6BT

green-ucl@ucl.ac.uk
www.ucl.ac.uk/greenucl

[Facebook.com/greenucl](https://www.facebook.com/greenucl)
[Twitter.com/greenucl](https://twitter.com/greenucl)
[Youtube.com/greenucl](https://www.youtube.com/greenucl)

