

FOR THE YEAR 2023



**DARWIN COLLEGE
CAMBRIDGE**

SUSTAINABILITY PROGRESS REPORT



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Foreword



As a College our commitment to sustainability has deep roots.

It is factored into our day-to-day lives, such as the catering department's approach to food waste, plant-based meals and locally sourced ingredients.

It is demonstrated by our proactive implementation of environmental initiatives on-site, from swift nest boxes and organic gardening to investigating the use of the river as an energy source to deliver our commitment to decarbonise our estate by 2032.

It is reflected in our appointment of a Sustainability Co-ordinator to seek areas of improvement, and in Meg Groom's energetic success in that role from encouraging recycling to introducing Project Second-Life.

And it is visible on a global scale, in the impact of our Fellows and alumni, whose work drives innovation, supports research and responds to the climate crisis in arenas such as Cambridge Zero, the British Antarctic Survey and the Cambridge Masters in Conservation Leadership.

My own background as a conservationist means that I see the support of this aspect of Darwin life as essential to my role. Our commitment to sustainability forms a key pledge in our ten-year Strategic Plan, and I am grateful to Meg for bringing together our efforts to date in this informative report.

Dr Mike Rands
Master, Darwin College

Background

The inaugural Darwin College Sustainability Report provides a comprehensive overview of Darwin's sustainability efforts and achievements over the past year (September 2022 to September 2023). It aims to provide information on progress achieved, encourage participation in ongoing projects, identify opportunities for improvement, and help foster a culture of environmental responsibility within and beyond the College community.

This report positions the College within the broader sustainability landscape of the University of Cambridge, serving as a supplementary document to recent publications by the University. As a legally autonomous organisation, Darwin's initiatives are not wholly captured in the University's publications, but solutions and challenges will inevitably overlap. This report documents the specific steps Darwin has taken to advance sustainability within its own operations while contributing to the University's overall environmental objectives.

Prior to this report, the first-ever [Cambridge Colleges Environmental Sustainability Report](#) was published. The publication (authored by Darwin alumna Juliet Tye) covered the impressive breadth of action and positive progress made by all 31 Colleges, including Darwin's leadership in areas such as food and waste. Building on the insights of that publication, this present report takes a deeper dive into Darwin's areas of strength and weakness, offering reflections on where future efforts could be best focused.

The [Strategic Plan for Darwin College 2022-32](#), published in late 2022, sets out five priorities for the future, including the intention to "Act on and promote solutions to global challenges including sustainability". This report focuses on this key priority – broken down into nine strategic goals – and details how the specific events and activities in the past year have contributed to them. These goals, and Darwin's progress to date, are summarised in the following table:



Strategic goals to act on and promote solutions to global challenges including sustainability

To be at least carbon zero (scope 1 and 2) by 2032.

To ensure all energy sources used in the College are supplied from renewable sources.

To foster behaviours and actions that reduce individual and collective environmental impacts.

To create and promote sustainability best practice guides for use by all the College community.

To establish a rolling programme of College activities (research collaborations, education and outreach initiatives, interdisciplinary seminars, practical actions within College) to contribute to selected global challenges, especially those identified by the Global South.

To establish a College Sustainability Fund to support collaborations that address sustainability.

To collaborate with our highly qualified and globally distributed alumni network to share knowledge and inform key decision makers.

To foster collaborations with other University, College and local initiatives addressing global challenges.

To promote Darwin internationally as a destination of choice for students and fellows committed to addressing global challenges.



Executive summary and outlook

The achievements and milestones of the College community which have stood out this year are: its award-winning student and staff initiatives; an inaugural bespoke day for Families with a focus on biodiversity; the appointment of its first full-time gardener, and announcing its plan to decarbonise the entire estate within the next decade.

Since the publication of the College's ten-year strategic plan, Darwin has made significant progress as a promoter and educator of sustainable practices. A monthly feature, Seasonally Darwinian, and its updated waste guidelines for students living in halls have served to support this aspect of collegiate identity. Furthermore, the nature-focused Families Day, catering-led trips to sustainable suppliers and well-documented decarbonisation journey mark the College's leadership in the broader University ecosystem.

Ambitious plans to fully decarbonise the College estate by 2032 have begun, supported by over £350,000 from successful Salix grants. This includes the 2023 refurbishment of Frank Young House to include air-source heating and the future installation of an innovative on-site heat network from river-source heat pumps.

Areas where the College could improve its domestic practices are in monitoring and evaluating biodiversity, continuing to promoting low-carbon travel, and embedding sustainable procurement policies.

The College membership have received several international awards, and many continue to be global leaders in tackling the challenges of climate change. The Cambridge Zero Darwin College David Mackay Research Associate programme continues to support leaders in climate research, with past cohorts holding national leadership roles and leading change on strategic interdisciplinary research practice. This exhibits Darwin College as a community of excellence, encouraging changemakers to join its growing membership.

In the coming years, the College could look to better harness its talented and international alumni to help it achieve its strategic goals. This could integrate within a rolling programme of events, themed around global challenges.

Overall, in the year since the publication of the Strategic Plan, Darwin is meeting or making progress on seven of its nine goals to promote solutions to global challenges including sustainability. In line with this, the College continues to make progress towards being carbon zero by 2032.

People

Our research community

Darwin fosters an intellectually rigorous environment which supports up to **800 postgraduate students, 50 postdoctoral research associates** and **70 Official Fellows**. Sustainability is a global challenge which spans all disciplines. The current Master of the College, **Dr Mike Rands**, is a conservation biologist, former Chief Executive for BirdLife International and Founding Director of the Cambridge Conservation Initiative. Darwin's Fellowship also includes leaders in biodiversity conservation, climate science, engineering and public health.



Dr Mike Rands, Master of Darwin College and a Deputy Vice-Chancellor of the University of Cambridge



Professor Emily Shuckburgh OBE, Director of Cambridge Zero



Professor Dame Jane Francis, Director of British Antarctic Survey



Professor Carol Brayne CBE, Director of Cambridge Public Health



Professor Chris Sandbrook, Director of the MPhil in Conservation Leadership



Dr Jennifer Schooling OBE, Director of the Centre for Smart Infrastructure

Cambridge Zero Darwin College David MacKay Research Associates

The College has a close working relationship with Cambridge Zero, the University of Cambridge's response to the climate crisis, with its Director Professor Emily Shuckburgh OBE also being a current Darwin Fellow. In 2021, Cambridge Zero, the Centre for Science and Policy, and Darwin College created the Cambridge Zero Darwin College David Mackay Research Associates, named in memory of Darwin College Smithson Research Fellow and author of *Sustainable Energy: Without the Hot Air (2008)*, **Sir David MacKay**. Up to three postdoctoral researchers are appointed for one year to pursue research related to climate change. **Three cohorts** have so far been appointed.

This year, **Dr Angie Burnett** (2021-22) was appointed one of the founding Programme Directors at the UK's new Advanced Research and Invention Agency (ARIA), focusing on future food security. **Dr James Smith** (2021-22) organised a Planetary Health Series, hosting the final workshop at Darwin.

In the autumn of 2022, the second cohort of David Mackay Research Associates each organised events for the **Cambridge Zero Climate Change Festival**, exploring ocean-based carbon dioxide removal, climate litigation, and passive cooling strategies in the UK's built environment.

This summer, three new researchers were appointed:

Tamzin Byrne, whose research focuses on putting nature at the heart of the carbon market with a scalable, automated system to accurately verify and compare credits from natural landscapes.

Dr Catherine Waite, whose research focuses on land-use scenario modelling to identify management regimes and interventions to meet human and biodiversity needs.

Dr Jinying Xu, who aims to develop a standardised model for the digitalisation and automation of carbon data measurement and reporting to collect trustworthy data that facilitates informed carbon management decision-making in highway assets.



Tamzin Byrne, Dr. Jinying Xu and Dr. Catherine Waite (from left to right).

Research talks

This year, Darwin Fellow and Director of the Centre for Smart Infrastructure and Construction (CSIC) **Dr Jennifer Schooling OBE** delivered a well-attended Erasmus Seminar, entitled *Smart infrastructure – how data is helping us deliver infrastructure services fit for the 21st century*.

Five of the lunchtime seminar talks delivered by members of the College covered topics related to the UN Sustainable Development Goals.

A Living Lab

Darwin is a dynamic, research-intensive community, with a large population of PhD students, post-docs and Fellows, as well as an engaged staff who keep abreast of newest and best practices.

Bumble Bee Conservation



Zoology PhD **Sofia Dartnell**, is conducting a project to understand the density of bumble bee colonies within different floral landscapes, including Darwin.

Darwin Kitchens



Catering Manager **Ivan Higney**, has collaborated with academics to conduct experiments within the Darwin Kitchens for several years. This year, he has overseen investigations into mussels as an alternative source of protein and the impact of carbon footprint labels and subsidies on food choices.

Growing our community

Darwin is proud of its diverse community, and aims to continue to attract College members from all backgrounds and disciplines. This year, the College welcomed 12 new members (staff, Research Associates, Fellows, Senior Members and Honorary Fellows) whose work directly contributes to sustainability. These include:

Derrienne Bell, the College's first full-time Gardener, who has begun shaping and maintaining the unique character of the Darwin gardens, bringing sunshine through her welcoming conversations with students, floral arrangements for special events and monthly garden updates.

In recognition of the importance of sustainability to the College, the new role of Sustainability Engagement Coordinator was formed.

The College was delighted to welcome the renowned meteorologist and climate scientist **Professor Dame Julia Slingo** as an Honorary Fellow of Darwin.

"I am delighted that Dame Julia has accepted an Honorary Fellowship at Darwin. Her research and leadership in meteorology has been transformative in the development of science and policy to address climate change. And I warmly congratulate Dame Julia on receiving an Honorary Doctorate from the University of Cambridge."

Dr. Mike Rands, Master of Darwin College



Derrienne Bell



Professor Dame Julia Slingo (middle)

Awards

From grassroots actions to global leadership, Darwin aims to enable, educate and celebrate outstanding people and ideas. This year the achievements and efforts of College members in seeking sustainability solutions have been widely recognised. The College is also proud to once again be a nominator for the **Earthshot Prize**, an award launched by Prince William to search for and scale the most innovative solutions to the world's greatest environmental challenges.

Green Impact is the University's environmental accreditation scheme. This year, Darwin received the following awards:

- Gold - **Darwin College**
- Sustainability Hero - **Ivan Higney**, Catering Manager
- Community Action - **Project Second Life**
- Student Leadership, National (SOS-UK) - **Megan Groom** (2021-22 Environmental & Ethical Affairs Officer)



Meg Groom, Ivan Higney and Giles Greenfield at the annual Sustainability Showcase.

PhD student, **Meg Groom**, was one of the Vice-Chancellor's Social Impact Award winners, in recognition of her efforts to support sustainable initiatives across the College.

In 2023, Darwin College's **May Ball** achieved its highest ever Sustain-a-Ball accreditation, with the top Platinum award across all the University May balls. This year's efforts were led by Co-Presidents, **Joe Cowan** and **Toby Brann**, and Green Officer, **Sophie McSherry**.

Looking beyond Cambridge



Darwin alumna **Dr. Trang Nguyen** (MPhil Conservation Leadership, 2013-14, pictured above) was selected as the overall winner of the Science and Sustainability British Council Study UK Alumni Awards in Vietnam, and a finalist in the Global Awards.

Darwin alumnus **Lhendup Tharchen** (MPhil Conservation Leadership, 2016-17, pictured below) has been recognised by the Explorers Club as one of 50 "extraordinary individuals changing the world".

Dame Professor Jane Francis, Darwin Fellow and Director of the British Antarctic Survey, was given the Award for Planetary Health from the Prince Albert II of Monaco Foundation. The award was created to show support to exceptional people who are committed to saving our planet in each of three priority areas: limiting the effects of climate change, preserving biodiversity, and managing water resources.



Estate



The College is based in a cluster of former family houses with beautiful informal gardens, at the heart of the University and city. The River Cam flows through the grounds, providing around 350m of river frontage at the heart of the estate. The 14 buildings on the main College site are located in a tight triangle, with busy roads on two sides and the river as the border on the third side. These buildings provide accommodation for around 120 postgraduate students as well as housing administrative offices, the Library, Dining Hall and kitchens, student bar and common rooms.

The College's estate also encompasses off-site accommodation, including Causewayside, Malting House, 10 Barton Road and Frank Young House. These properties range from terraced housing to entire detached hostels, offering a variety of options for the diverse needs of our students .

Energy sources and demand reduction

Renewable energy of origins contract

The College is committed to reaching carbon zero (scope 1 and 2) by 2032. A key factor in achieving this is to ensure that all energy is sourced renewably. The College is already supplied with renewable electricity through the College consortium for electricity. This **Renewable Energy of Origins (REGOs) contract** is valid until 2027 for the main site, guaranteeing **100% UK-generated renewable electricity**.

Smart thermostatic radiator valves

In 2023, the College conducted an energy management trial with **Ecosync**, installing **smart thermostatic radiator valves (TRV)s** in student houses, Newnham Terrace 3 and 10, for dynamic energy management and temperature control on a room-by-room basis. The trial aims to compare energy usage with and without the smart radiator valves, to see if energy consumption can be reduced without compromising on student comfort. This will be evaluated in early 2024.

In the summer of 2023, **all radiators in the main building were fitted with TRVs**, and nearly all lightbulbs have now been replaced with low-energy alternatives.

Water source heat pumps

In 2021, Darwin College commissioned an estate-wide review of the buildings and their heating systems. A working group of College members was subsequently tasked with developing an ambitious but achievable **plan to decarbonise the entire built estate over the next decade**. It examined the scope for fabric improvements to reduce energy demand and the various options for renewable heat: air source heat pumps, ground source heat pumps, direct electric heating powered by on-site PV generation, and a closed heat network fed from a water source heat pump using the river Cam as a heat source.

In 2022, in a collaboration with six other riverside Colleges, Mott MacDonald were commissioned to monitor water flow, depth and temperature at four locations on the river and to produce a detailed hydrology study. The report, delivered in 2023, confirms **the considerable potential of the river to supply heat for space and hot water heating** for the adjacent Colleges.

Grants to decarbonise

Darwin has been awarded two grants by Salix under Phase 3b of the Public Sector Decarbonisation Scheme and Phase 4 Low Carbon Skills Fund. These awards allow the College to embark on significant and innovative projects to decarbonise its estate.

The first award, under the **Salix Public Sector Decarbonisation Scheme for £141,000**, is currently contributing to the cost of refurbishing Frank Young House, an offsite hostel with **30 rooms**. Existing gas-fired boilers are being replaced with air source heat pumps, and double glazing, and will be open to students from 1st January 2024.

Darwin is now working up a decarbonisation plan for its main site. Following a grant award of over **£200,000 from the Salix Low Carbon Skills Fund** in June 2023, work is underway to design an on-site heat network, to a RIBA Stage 3 level. The design includes a heat network capable of feeding all **14 buildings** on site from water-source heat pumps at the edge of the estate, and the associated building fabric upgrades. The final report, due in March 2024, will form the basis of a proposal that will work through 2024, with the aim of the works being undertaken in 2025/6.



An ambitious blueprint

In a short amount of time, these innovative ideas including the on-site river-source heat network have evolved into what could become a blueprint for riparian estates for whom ground source and air source heat pumps are unsuited either due to lack of available land, noise or planning restrictions. It has been developed and tested by Darwin as an integral part of the college's strategic ambition to be carbon zero (scope 1 and 2) by 2032, and the information and lessons learnt have been shared with other colleges in a pragmatic and collaborative way.

College Life

Student initiatives

The College aims to foster individual and collective action for the benefit of the planet, much of which is driven by students. As a postgraduate community, many members arrive at Darwin with outstanding ideas and leadership capabilities from their own careers, subjects and backgrounds. This year, students have tackled issues related to food waste, energy and biodiversity, often with significant success.



Plant-based May ball

This year, the student-run Darwin May Ball was **100% plant-based** - a first in Cambridge. May Ball Green Officer **Sophie McSherry** shared her highlights from the most sustainable Cambridge May ball of 2023:

- **“Energy Efficiency:** By prioritising energy-efficient lighting and equipment, we successfully reduced electricity consumption throughout the event.
- **Sustainable Transportation:** We embraced sustainable transportation options, encouraging attendees to choose cycling, walking or public transport.

- **Waste Management:** Accurate estimation and close collaboration with caterers meant only 1% of food was left over. This was donated to the Darwin College community. Additionally, conveniently placed recycling stations facilitated proper waste segregation, empowering guests to actively participate in the ball's sustainability efforts.
- **Locally Sourced and Sustainable Food:** We prioritised locally sourced, seasonal, and organic food options, supporting local businesses and reducing the carbon footprint associated with long-distance transportation."

The Darwin May Ball was accredited as the most sustainable University of Cambridge May Ball of 2023.

The EyeSense project, founded by **Dr. Anna-Marie Kypraiou** and **Tashiv Ramsander** of Churchill College, collaborated with Sophie to monitor energy consumption during the May ball by measuring the temperature, humidity, and carbon emissions at key locations throughout the night.

"This allowed us to not only have a better picture of how green and sustainable the May Ball was, but it also provides a blueprint for future events and developments at Darwin College, providing real-time data on energy efficiency and consumption." **Sophie McSherry, May Ball Green Officer**

Engage for Change

Engage for Change is an initiative run by Cambridge Hub, to support students to enhance their skills, confidence and awareness of environmental sustainability and changemaking. This year, three Darwin students took part.

Paula Weidemüller, PhD in Bioinformatics

"DarWild is a student-led initiative that is concerned with enjoying and understanding Darwin's biodiversity better. We put up wild cameras that capture footage 24/7 whenever they detect movement in front of the lens. We enjoyed several duck couples swimming past, herons finding their next meal and most importantly the occasional nod to the camera from our resident otter, Pebbles. However, the cameras capture more footage than we are able to analyse by hand. So currently we are building an automated infrastructure using neural networks (machine learning) to automatically classify the detected animals and make the data regularly accessible to the Darwin community and general public via a dedicated website. Only through understanding and appreciating the incredible biodiversity in our college can we effectively conserve, protect, and nurture it."

A special thanks to the Darwin students who started this project in 2022: Mariam Weston, Gal Zanir and Fariza Adilbekova (MPhil Conservation Leadership)

“For my Engage for Change project I wrote a report which analysed and evaluated the Cambridge Colleges Environmental Sustainability Report (2023), providing recommendations and reasonings for the highlighted areas that the report focuses on. The report provides a positive reflection of the current and future initiatives and strategies by the Colleges in environmental sustainability, however, on only a couple of occasions are all 31 colleges participatory in the same initiatives and strategies. The report concludes with the following recommendation, to create an individual Environmental Sustainability Action Plan in alignment with the Cambridge Colleges Environmental Sustainability Report for each College which is tailored and suited to the current progression and strategies/mechanism in place at that College.”

Project Second Life

Project Second Life (PSL) is an award winning, student-led reuse scheme, collecting belongings of departing Darwinians and offering them to new members.

In its third full cycle, PSL extended to bike resale and a linen and bedding welcome stall. **Fourteen bikes** from the annual bike cull were professionally repaired and offered to students on a pay-what-you-feel basis. This year, new students were greeted with a choice of good quality duvets, towels, pillows and linens upon arrival.

PSL is driven by students, with the support of College staff. **Nineteen student volunteers** promoted, collected, sorted, packed, weighed and displayed all **850kg** of donated goods. Their efforts culminated in raising **£1,100** and recirculating **430kg** within the Darwin community, including 14 repaired bikes. Leftover items, which are in good condition, have been donated to local charities like **It Takes A City**.



Project Second Life bedding, bike and clothing offerings.

Events

Events enable the College to engage its community, promote best practice and initiate collaboration. Some, such as Green Week, have been an annual feature of the College calendar for some time. Others, like Families Day, are new and draw on fresh perspectives and volunteers to help organise them.

Families Day



The first ever Darwin Sustainability Families Day was organised in June 2023, by DCSA Families Officer, **Chen Ye**, and Sustainability Engagement Coordinator, **Meg Groom**.

All Darwin members were invited to bring their families to enjoy the gardens and learn about its biodiversity, through events organised by staff, students and Fellows. The day was completed with a Hogwarts themed Family friendly formal.

100 day tickets were sold, and 60 families dined together.

“Thanks to all who hosted us including the nice folk in the gardening, bird-watching, face-painting, future-forecasting, punting, kayaking, candle-making and the nice sustainable food too.”

Darwin Member

“It was a joy to see such a diversity of participants and all those little feet streaking around Darwin, taking in the gardens”,

Volunteer

“A very well-organised and well thought-through event filled with fun and diverse educational activities... reminding us to appreciate the beauty and complexity of the natural world”,

Parent

Special thanks to all the volunteers who ran events on this day: **Jana Sebestikova, Derrienne Bell, Torsten Krude, Amelia Urry, Jonny Itcovitz, Sarah Sharp, Ivan Higney, Alexander Augustus, Beau Roberts**, and those who supported them.

Darwin Kitchens trips



The Catering team ran several trips over the summer, on which staff, students and Catering Managers from other colleges toured and sampled:

Chet Valley Vineyard - suppliers and sponsors of the 2023 plant-based May Ball.

Eat Curious - producers of plant-based meat alternatives and vertical growing in a closed-loop system with solar farm, water reuse and XYZ robots.

Green Week



Image credit: Naomi van den berg.



Image credit: Jana Sebestikova.

“Green Week 2023 kicked off on Saturday 20th May with a picnic in the Botanic Gardens with the **APES (Animal, Plant and Environment Society)**.

In the evening the **Music Society** raised money for **Cambridge Community Kitchen** in an open mic night showcasing the wonderful range of Darwin’s musical and artistic acts. Monday saw a celebration of Darwin’s **student-run gardens**, with a very well-received selection of homemade pestos and dips, vegan wines and Darwin-grown produce.

The highlight of the week was the waste tour on Tuesday, where a group of Darwin and **Wolfson College** students, staff and Fellows travelled to the **Thalia Recycling** plant in Waterbeach to see first-hand what happens to our recycling.

The College hosted Green Formals on both Wednesday and Friday, while Thursday’s lunch in the Dining Hall offered vegan options from plant-based food vendor **EatCurious**.

The week was brought to a close on Friday with a pop-up vegan wine tasting in the Richard King room.”

Joshua Bickler
DCSA Green Officer (2022-2023)

Other highlight events include saying farewell to College gardeners of 30 years, **Rod Ailes** and **Ros Keep** and a panel event followed by plant-based BBQ organised by **Plant Based University (PBU) Cambridge** and **Cambridge Zero**.

Food

Darwin is proud of its reputation for high quality catering and recognises its responsibility to provide healthy and sustainable food to its members. Catering Manager **Ivan Higney** and his team continue to demonstrate sustainability leadership within the College, and the wider University. For several years, Darwin has been proud to share its Sustainable & Ethical Catering Statement.

Promoting low carbon diets

As of Michaelmas 2023, the **default option at Formal Hall is vegetarian**. Meat and fish are available by opting in. During daily food service, there is always a vegan and vegetarian option, which is placed first in the servery and subsidised more generously than the meat option. **Catering at events is also vegetarian by default.**



Families Day Hogwarts themed formal dinner.

Community fridge

Set up in 2021 in collaboration with the DCSA, the Darwin Community Fridge allows the catering team to share servings of food left over at the end of the day. The food is freely available to any Darwin members, and minimises the kitchen's food waste. From this year, regular updates of what's available in the fridge are now posted on the X account [@Darwinnowaste](https://twitter.com/Darwinnowaste).

Student allotment

The student-run allotment on the main Darwin site has been revived and rejuvenated since the Covid-19 pandemic. PhD student **Jana Sebestikova** led the student Gardening Society in 2022-23, with the support of College Gardener, **Derrienne Bell**, and Fellow **Dr Edwin Rose**. The allotment provides fresh produce, is accessible to all members, and teaches students about what it is possible to grow in the UK climate.

Biodiversity

Darwin's main site backs on to the river, and its informal gardens offer plenty of sheltered habitats. There are also several walled gardens attached to the off-site accommodation. In previous years, bat audio detectors and camera traps have been installed in the gardens by students to reveal more about the garden's biodiversity.

This year, following expert consultation and participation in the College's Biodiversity Baseline Report, we have installed **four swift boxes** and **one wagtail box**.

In September, Darwin Gardener **Derrienne Bell** spent a day at the Knepp Estate Walled Garden, to find out more about the possibilities for encouraging biodiversity across the site.



Image credit: Jana Sebestikova.



Travel

In February 2023, Darwin launched a sustainable travel grant for students. The grant funds the difference between a short-haul flight for academic purposes and a more sustainable travel option. Working with Cambridge Zero Darwin College David Mackay Research Associate, **Tamzin Bryne**, the College has ambitions to develop and expand this policy to promote and enable best practices for its members.

Procurement

What we buy, how frequently and where from will impact the College's progress to carbon zero. The Catering Department has a Sustainable and Ethical Statement, which informs its purchasing decisions. This year:

- new electric gardening equipment has been purchased, to equip the new College Gardener,
- new soaps have been trialled by Housekeeping, delivered in sachets to reduce the emissions involved in transportation,
- Housekeeping and Maintenance have collaborated to install new highly efficient shower heads, using a colour-coded filter system to ensure regular maintenance. This new product and practice aims to reduce residential water usage within College.

Waste

The College has a responsibility for the waste it produces, but also for the behaviour of its members. We aim to promote best practices, such as waste reduction and responsible waste disposal. The College Catering Department has been a leader within the College, having segregated food, recyclable and non-recyclable waste for several years, well as taking the decision to remove single-use takeaway cups and containers and promote the use of reusable ones. This year, efforts were concentrated on behaviours within College accommodation, which members can continue to practise as they move beyond Cambridge.

Student accommodation

Around **300** members live in Darwin accommodation, sharing **49** kitchens. Head of Housekeeping **Gill Cooper** has worked with Sustainability Engagement Coordinator **Meg Groom** this year to improve waste signage and storage and encourage best practice. The actions taken this year include, new:

- recycling bins and signage,
- in-room collapsible recycling bags,
- signage for food waste caddies,
- guidelines provided at the Welcome Desk.



Communications

Communicating with the College membership is a crucial aspect of maintaining strong relationships, inviting participation and keeping the community informed. The College continues to celebrate the achievements of its membership through news pieces, social media, and its alumni magazine, *The Darwinian*. In the past year, there have been **seven** news articles on the Darwin website with a clear sustainability focus.

Seasonally Darwinian

This May, a new monthly feature called *Seasonally Darwinian* was launched. Curated by Communications Manager **Laura Kenworthy** it features regular updates from College gardener **Derrienne Bell**, and seasonal recipes from Catering Manager **Ivan Higney**. The feature informs members of the seasonal changes happening in College, from plants to menus, while promoting best practices for members to carry out in their own gardens and cooking.



Findings




Having outlined the achievements and efforts of the Darwin College this year, the following section summarises the strengths and weaknesses of the College in light of this past year. First, evaluating the past year in the context of the College's ten-year strategic plan; then, around additional themes of note not covered by the Strategic Plan. The findings of this report could inform the priority sustainability projects of the College in the coming years.

Looking at the strategic plan

In the first year since the publication of the College's ten-year strategic plan, many of its environmental and sustainable efforts have contributed towards one of its strategic aims: 'to act on and promote solutions to global challenges including sustainability.' This aim is broken down into nine goals. Given the efforts outlined in this report, the status of each goal in 2023 has been assessed as either: achieving, making progress or attention needed. Justifications for the categorisations, and planned next steps are included beside each progress assessment. Each assessed status is not fixed, and could positively or negatively change in the coming nine years. The following table should help to focus the College's efforts on its successes and where it requires additional resources to meet its strategic aim.




Measuring our progress towards acting and promoting solutions to global challenges including sustainability

Key:	 <i>Achieving,</i>	 <i>Making progress,</i>	 <i>Attention needed</i>
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Position	Current progress and future plans
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1. To be at least carbon zero (scope 1 and 2) by 2032.

	<p>Progress is being made to decarbonise the built estate with the next decade, supported by two successful applications to Salix. Funding has been awarded under Phase 3b of the Public Sector Decarbonisation Scheme and Phase 4 Low Carbon Skills Fund totalling over £350,000.</p> <p>The first of these awards contributed to the refurbishment of Frank Young House, improving insulation and replacing all gas-fired boilers with air source heat pumps. This project is to be completed by the end of 2023.</p> <p>2024 will see the continuation of the College’s ambitious plans to design and install an on-site heat network from water-source heat pumps. This innovative project is supported by a second Salix fund for over £200,000.</p> <p>Future actions could include decarbonising our small fleet of College vehicles, embedding sustainable procurement policies and expanding the scope of existing low-carbon travel policies.</p>
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2. To ensure all energy sources used in the College are supplied from renewable sources.



Electricity supplied to the College is 100% renewable, with the current renewable energy generation of origin (REGO) contract running until 2027 for the main site.

As well as ensuring sources are renewable, energy demand has been reduced by installing thermostatic radiator valves in all of the main building, and replacing nearly all lightbulbs with low-energy bulbs (on a rolling basis).

Following a viability assessment for a river-source on-site heat network, the College is currently engaged in a design report with intent to fund and carry out the ambitious work by 2025/26.

The continued upgrades to the College built estate, will be enabled by fundraising. Such work will ensure all energy sources are renewable by replacing gas-fired boilers and generating our own renewable energy where possible.

3. To foster behaviours and actions that reduce individual and collective environmental impacts.



The leadership of the College catering team continues through promoting low-carbon meals, informed by academic research, and reducing food waste through its award winning Community Fridge. This year saw new proactive food initiatives such as a plant-based May ball and default vegetarian formals dinners.

This year, award-winning and student-run Project Second Life expanded its offering to members by including second-hand refurbished bikes and bedding. Promoting circular principles to its members.

The newly formed student sustainable travel fund enables lower carbon travel within Europe, by reducing the potential financial barrier. Looking forward, this policy could be expanded to other College subsidised travel.



4. To create and promote sustainability best practice guides for use by all the College community.



The creation and publication of Seasonally Darwinian will culminate in an annual guide to seasonal practices for gardening and cooking, aiming to inform and inspire members.

The updated guidance for waste management within college accommodation also promotes better waste segregation in bedrooms and kitchens.

The creation of an overall guide on sustainability best practice for all members remains a goal of the College. This could be shared with other colleges or created in collaboration with them.

5. To establish a rolling programme of College activities (research collaborations, education and outreach initiatives, interdisciplinary seminars, practical actions within College) to contribute to selected global challenges, especially those identified by the Global South.



This year, progress has been made in research and education activities, including:

- Planetary Health workshops which were hosted and facilitated by Darwin College,
- the appointment of the third cohort of Cambridge Zero Darwin College David Mackay Research Associates,
- a minimum of one lunchtime research seminar per term with a sustainability theme.

Future plans for research include:

- the creation of Education & Research sub-groups to focus on key challenges to conducting research with impact, addressing global challenges.

A further plan, in a collaboration between the Alumni and Development Office and the Education and Research Committee, is the Darwin College Grand Challenges Prize.

6. To establish a College Sustainability Fund to support collaborations that address sustainability.



Within the recently updated College case for support, the Darwin College Grand Challenges Prize is outlined. This fund would support interdisciplinary and interstage research which contributes to the United Nations Sustainable Development Goals. Recipients of the prize would be expected to complete a publishable research output.

7. To collaborate with our highly qualified and globally distributed alumni network to share knowledge and inform key decision makers.



An Engage for Change project which looked into sustainability networks lays initial groundwork for this. More needs to be done to organise impactful events and define the scope of the possible collaborations, to maximise impact beyond the College.

8. To foster collaborations with other University, College and local initiatives addressing global challenges.



Addressing the global challenge of homelessness and poverty: Project Second Life presents an opportunity to form a formal relationship with local charities, such as It Takes A City.

As priority themes are identified by the College, external partners could be sought related to these themes.

9. To promote Darwin internationally as a destination of choice for students and fellows committed to addressing global challenges



The awards received this year, by students, staff, Fellows and alumni effectively promote Darwin as an environment ripe for those wanting to address global challenges.

Beyond the strategic plan

The following section highlights areas of strength and weakness, not fully expressed within the scope of the strategic goals, which deserve discussion.

Darwin's community is made up of motivated, outstanding individuals capable of great achievements through collective and individual action. This is reflected, this year, in the number of awards it has received at a local and global level. Within the College ecosystem, its student-led initiatives stand out, namely its sustainable May Ball and Project Second Life. The Community Fridge is a prominent staff-led initiative, benefiting students. The named student-led projects also required support from members of staff, demonstrating a culture of cross-College collaboration and commitment to addressing issues of sustainability.

The College has begun to develop a portfolio of resources and events which promote sustainable practices. Its monthly feature, Seasonally Darwinian, encourages seasonally cooking and biodiversity-conscious gardening. The recent update to waste guidance for students in halls, with complimentary bedroom recycling bags, sets the code of practice expected of Darwin residency. The introduction of opt-out vegetarian formal

dinners also promotes a lower-carbon diet. Overall, the College is successfully showing leadership when it comes to reducing the environmental impact of day-to-day actions such as diet and waste.

Biodiversity is a theme with which the College has a strong affiliation. The community holds a great sense of pride in its current conservation-biologist Master, and its distinctively 'wild' garden. There have been efforts to educate and engage the Darwin community in the garden's biodiversity, through the nature themed Families Day and the Gardener's monthly updates in Seasonally Darwinian. There have been some small scale practical improvements, such as installing bird nest boxes, which were informed by expert advice. More strategic efforts to embed these practices, and with increased impact, could involve monitoring and evaluation of the biodiversity currently present in the Darwin grounds. This baseline report would then pave the way for a College biodiversity action plan, which would include nature-positive policies to support species present in the garden. Resources and expertise would need to be provided to conduct a baseline survey, and to implement any arising recommendations. The new addition of a full-time gardener presents a novel opportunity for leadership on such biodiversity projects.

This year, the College made fresh efforts to promote more sustainable travel. It lowered barriers to owning a bike for its members through a second hand bike sale, with plans to scale-up next year. It launched its first-ever student sustainable travel grant, encouraging students to take low-carbon transportation, rather than intra-european flights. This policy could be expanded to staff, Fellows and research associates. Whilst it should be noted that travel sponsored or paid for by the College is quite small compared to other Colleges (having no sports or musical tours), this could be viewed as an opportunity to show leadership, tackling its relatively small emissions to pave the way for other Colleges. As such, additional policies could look to incentivise carbon-off-setting of unavoidable intercontinental flights. This may require a review of current and previous funding of travel, followed by updating the guidelines for travel reimbursement.

There is not currently a College-wide policy to ensure minimum sustainable standards for procurement. Although, the catering department has its own sustainable and ethical policy, which includes purchasing fairly traded products and avoiding threatened species of fish. Individuals in other departments have made taken the initiative to purchase sustainable, showing cross-department awareness and commitment to responsible procurement. However, the creation of procurement policies would embed sustainable purchasing across all College departments, and rely less on individual's initiative.

In the future, the College could look to focus its efforts on monitoring biodiversity, low-carbon travel incentives and sustainable procurement policies. It could pull on its strong culture of student-staff collaboration, which has been demonstrated through its award winning projects.





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2023 May Ball

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Seasonally Darwinian

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