

Climate Action Roadmap

September 2024





This report was prepared by *UCC Buildings & Estates* and the *UCC Office of Sustainability and Climate Action*. Any queries concerning the content of this report can be directed to UCC's Climate and Sustainability Champion, Mark Poland (BEReception@ucc.ie).

Further information and past years' reports (incl. annual reports, FEE Green Flag Resassessments, AASHE STARS reports, Climate Action Roadmaps) can be found at the [UCC Office of Sustainability and Climate Action](#) and [UCC Green Campus](#) websites.

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FOREWORD

UCC is one of Ireland’s oldest institutions of higher education, and our historic campus is situated in a global tourist destination, serving a community that is both local and global. In 2024 UCC was ranked 67th in the world by the **Times Higher Education Sustainability Impact Rankings** and has been named Sunday Times Irish University of the Year a record breaking five times.

In 2010, UCC was the first university worldwide to receive the Green Campus award, and we still proudly fly our Green Flag over the magnificent quad following continued successful renewals, the 5th of which was achieved this year. UCC has held a top ten place in the **UI GreenMetric** World University Rankings since 2010 and is now ranked 6th in the world for sustainability.

Sustainability is core to everything we do at UCC from our education of future and current decision makers, engaging with communities in Cork and beyond, improving the organisation’s environmental footprint and our world leading research on sustainability topics. Showcased in detail in UCC’s **Annual Sustainability Report 2023** for all 17 SDGs.

2024’s update to UCC’s Climate Action Roadmap illustrates our progress since last year and outlines our ambitions to go further. It is another marker along UCC’s journey to not only achieve our statutory targets per CAP24, but also in becoming a net zero carbon campus by 2040. I would like to thank everyone throughout the university community for their continuing efforts and innovations. And especially *UCC Buildings & Estates* and *UCC Office of Sustainability and Climate Action* for preparing this document.



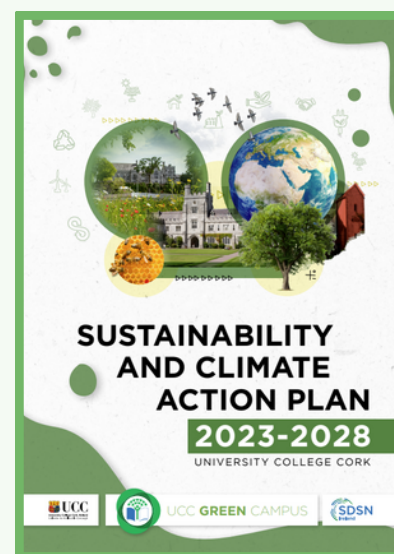
Professor John O’Halloran
President, University College Cork

SUSTAINABILITY AT UCC



Sustainability is central to the operation of University College Cork. Including procurement, energy, water and landscape management. UCC's world renowned green campus is 'student led, research informed and practice focused'. UCC was awarded its fifth consecutive green flag from *An Taisce* on behalf of the *Foundation for Environmental Education*.

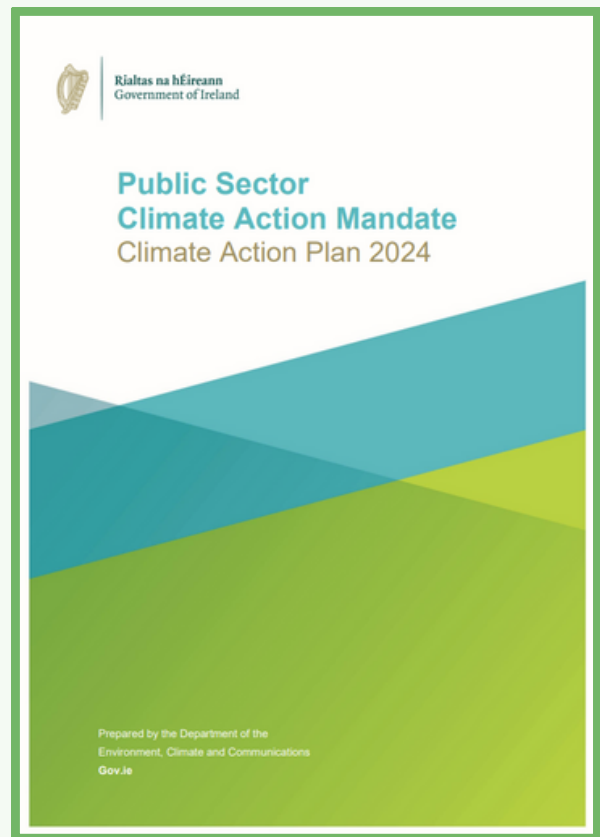
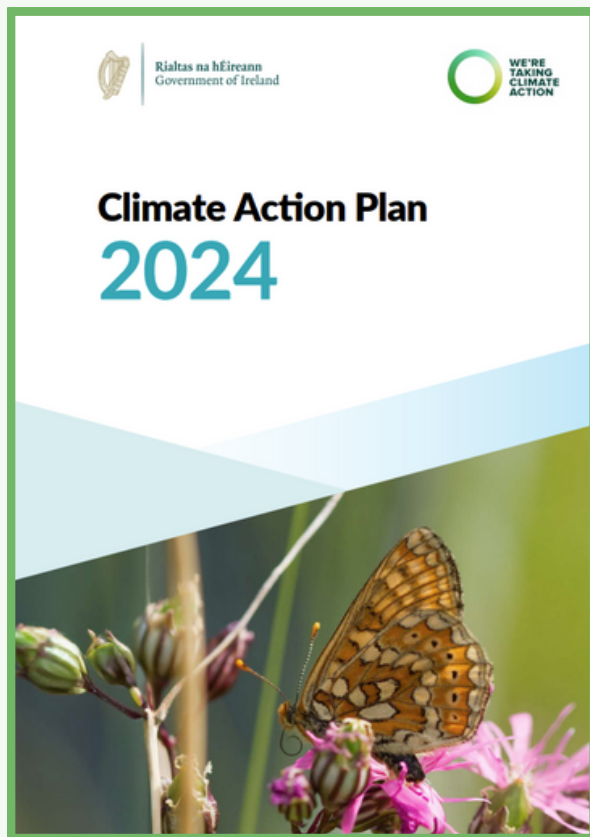
At a university policy level, sustainability is reflected throughout. Especially in Goal 5: Our Place, Our Footprint of the university's Strategic Plan to 2028 and the concurrent Sustainability and Climate Action Plan (2023-2028). UCC has a goal to be a net zero carbon campus, across all three scopes of emissions, by 2040.



SUSTAINABILITY AT UCC

Per the updated Public Sector Mandate outlined in CAP24, UCC's Climate Action Roadmap 2024 concerns four areas:

- **(1)** our targets,
- **(2)** our people,
- **(3)** our way of working,
- **(4)** our buildings & vehicles.



Following the *Cork Climate Conversations*, hosted by Cork City Council in Summer 2023, UCC is also committed to collaborating with other public sector bodies on projects of common interest to both **(1)** accelerate achievement of the public sector mandate **(2)** inform, support and facilitate Cork's journey in EU Mission Cities and **(3)** demonstrate leadership and sustainability best practice to other sectors.

(1) OUR TARGETS



Mandate Actions

(1.1) Reduce GHG emissions by 51% in 2030.

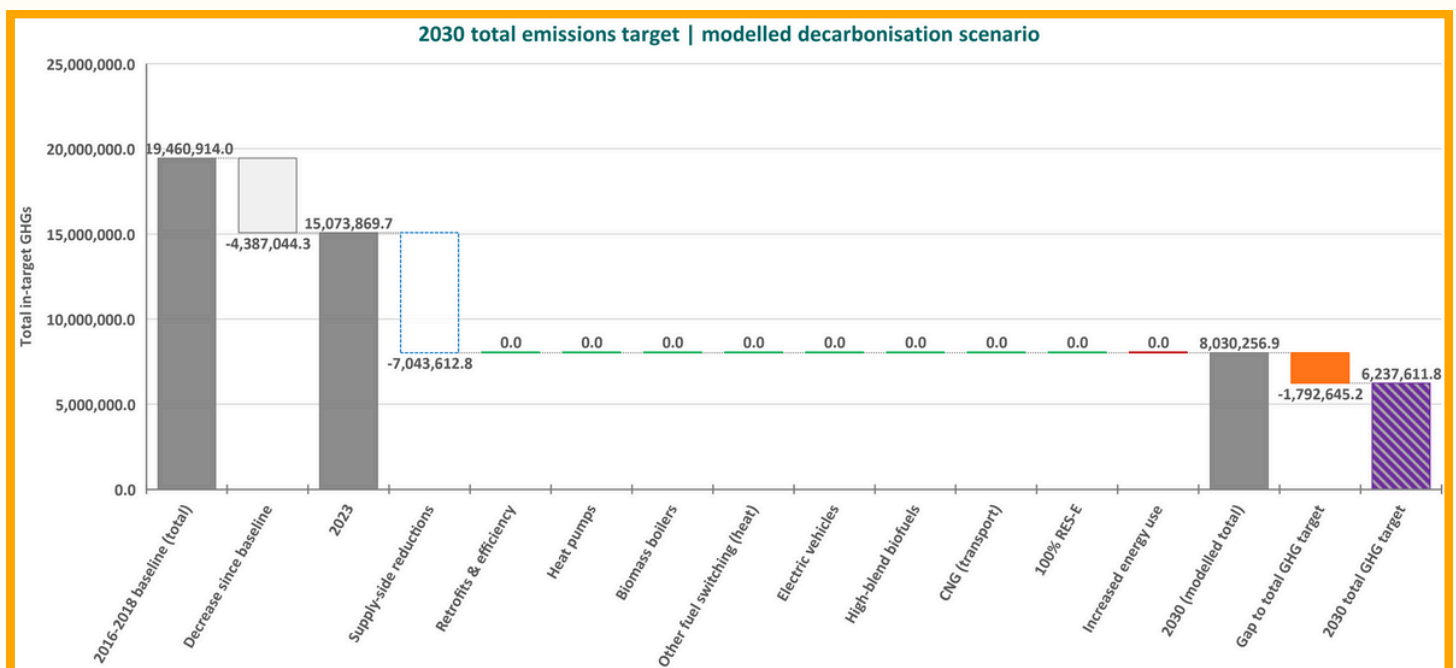
(1.2) Increase the improvement in energy efficiency in the public sector from the 33% target of 2020 to 50% by 2030.

(1.3) Update the Climate Action Roadmap annually.

Current Performance

At the end of 2023, UCC achieved a **22.5% reduction** in GHG emissions, against a 2016-18 baseline, and a **47.6% improvement** in energy efficiency, against a 2009 baseline. Through ongoing energy management campaigns and decarbonisation projects the University reduced the GHG emissions from its **thermal** sources by **30.6%**.

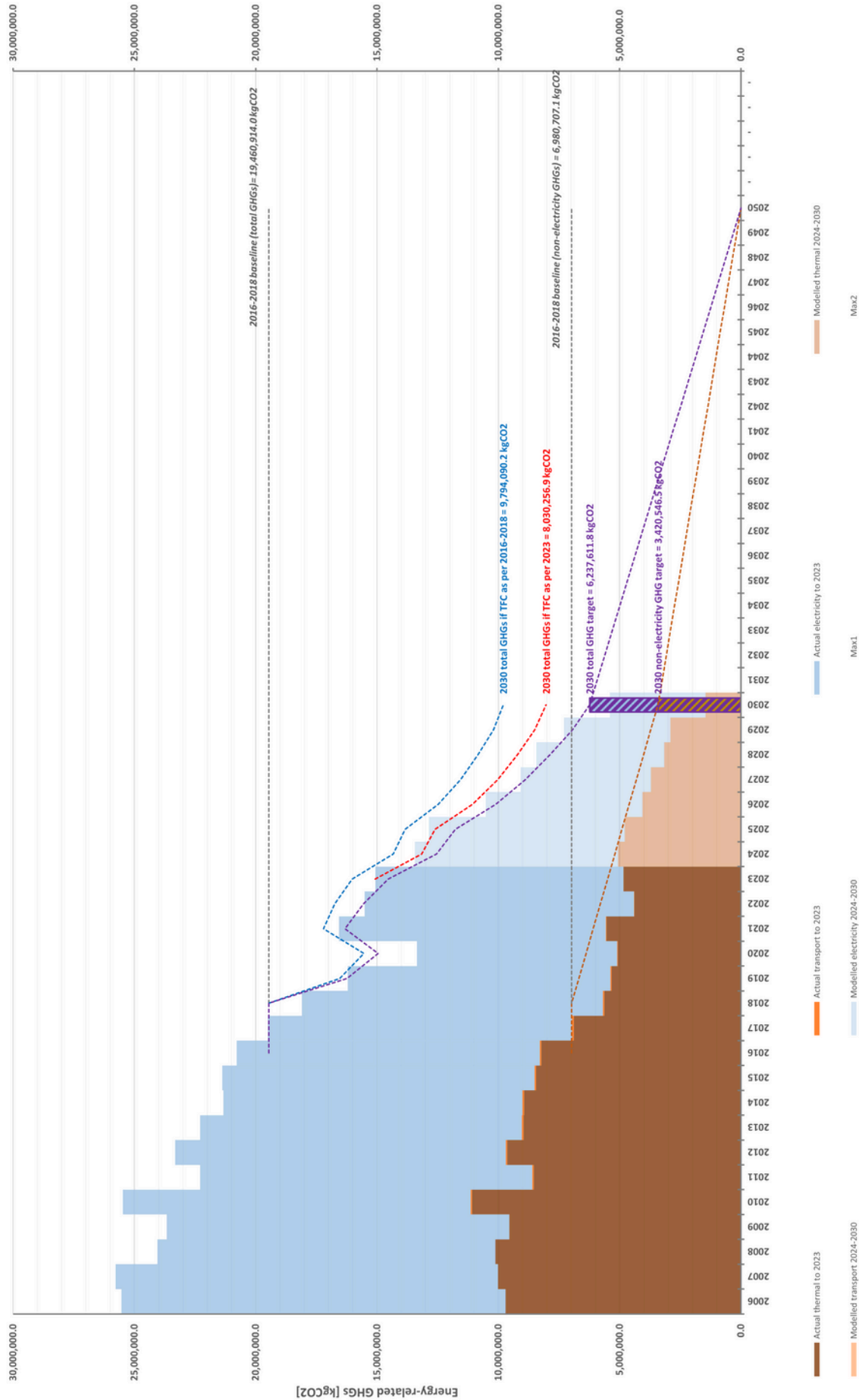
Electrical consumption has remained relatively steady since the baseline and the **18%** reduction in GHG emissions from our **electrical use** can be attributed to supply-side decarbonisation. When modelled for 2030, UCC's gap to target is calculated to be **1,793 tCO₂**.



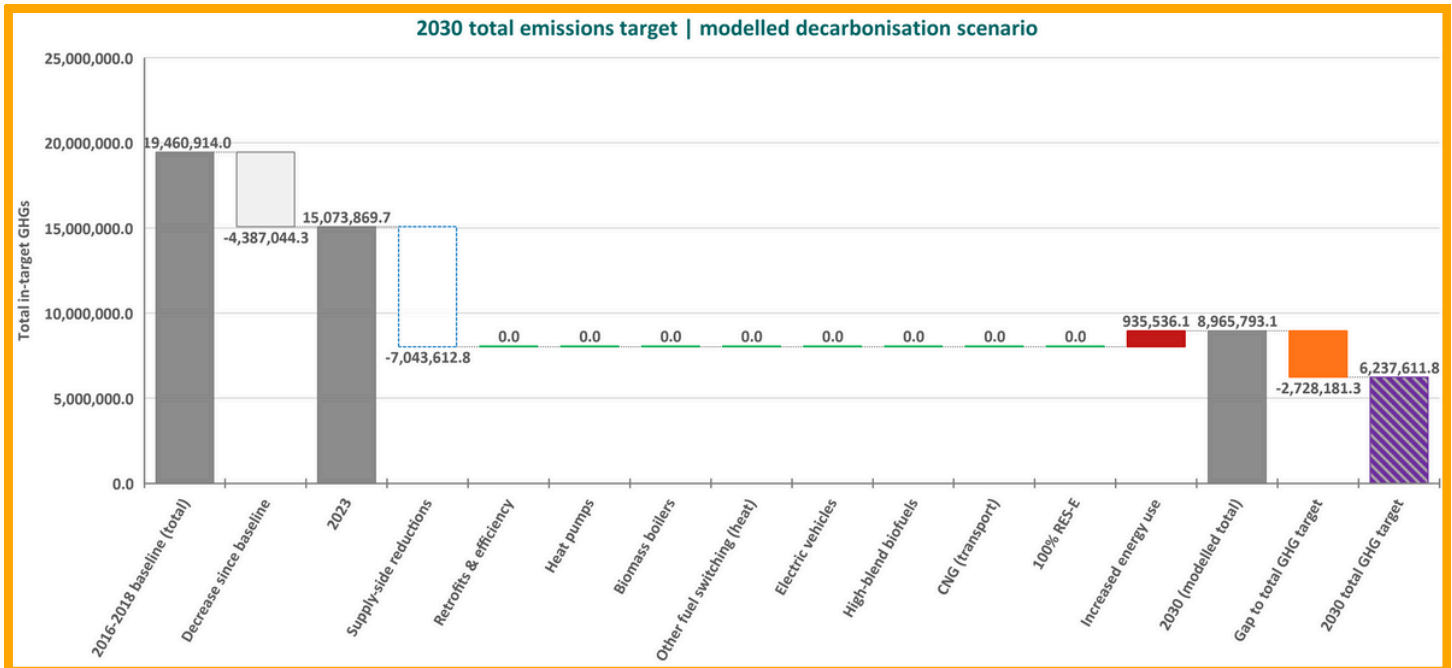
UCC 2030 - BAU Gap to Target



Total GHG pathways & targets | University College Cork



UCC GHG Pathways to 2050



Planned Growth

UCC 2030 - w/ PLANNED GROWTH

For the period **2024 to 2030** the University has committed to a number of expansion projects. While sustainability is a key design element of the projects, the planned buildings will add to our emissions which will have to be saved elsewhere. In addition to the planned growth, UCC's goal to be a **research intensive** University will also increase CO₂ emissions. The combined result of expansion and increased lab utilisation will lead to an additional **936 tCO₂** to the GHG emissions of the University, increasing our gap to target to **2,728 tCO₂** from 1,793 tCO₂.



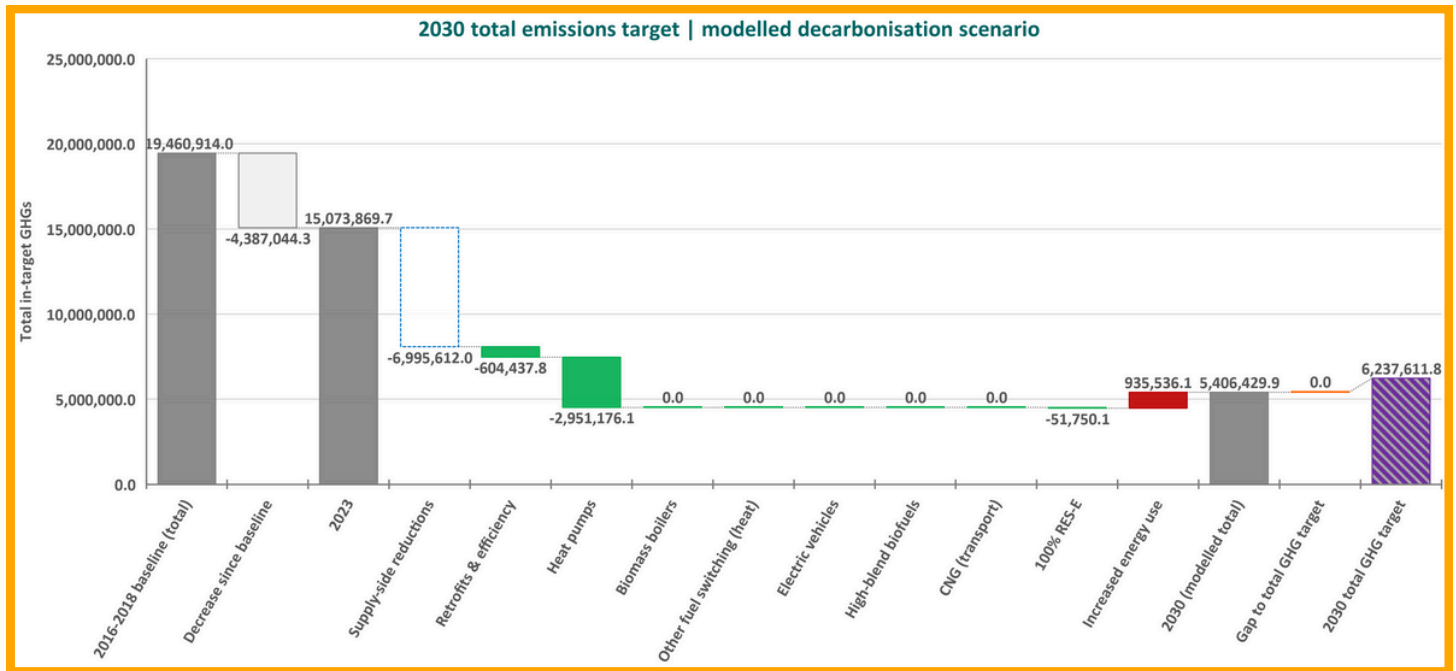
Image of the planned Tyndall National Institute expansion.

A new 16,000 m² research intensive facility expected to be completed in 2027.

Building/Activity	Additional tCO ₂
Tyndall National Institute Expansion	392
CUBS City Centre Campus	117
Crow's Nest (Student Accommodation/Health Centre)	320
Marydke Arena Squad Gym	22
Food Ireland Expansion	86
Total Additional tCO₂	936



PATHWAY TO 2030 TARGETS



UCC Decarbonisation Model to 2030

The University has identified a substantial body of work that will need to be implemented to meet our 2030 climate targets despite the planned growth outlined on the last page. The programme should exceed UCC's goals for 2030 and is continuously tailored to suit the short timeframe to 2030. The planned projects can be grouped into:

Energy Efficiency and Awareness

- Achieve a 1% annual reduction in energy use through awareness and rolling energy upgrades, i.e. lighting, BMS optimisation and pump replacement programs.
- Expand Saver Saves Scheme and Green Labs Programme.

Decarbonisation of Heating Systems

- Change out of heat generation plant to heat pump technology without significant fabric upgrades.

PV Installations

- Roll out of PV installations from 2025 to 2028 to supply 500 MWh of on site renewable energy.

Building Retrofits

- Complete at least 3 building retrofit programmes as part of UCC's pathway to net zero.

Supply Side Decarbonisation

- The planned decarbonisation of Ireland's electrical grid will assist in decarbonising our remaining electrical loads.

The University's pathway schedule aligns to Ireland's carbon budgets; 2021-2025 (4.8% per annum) and 2026-2030 (8.3% per annum).



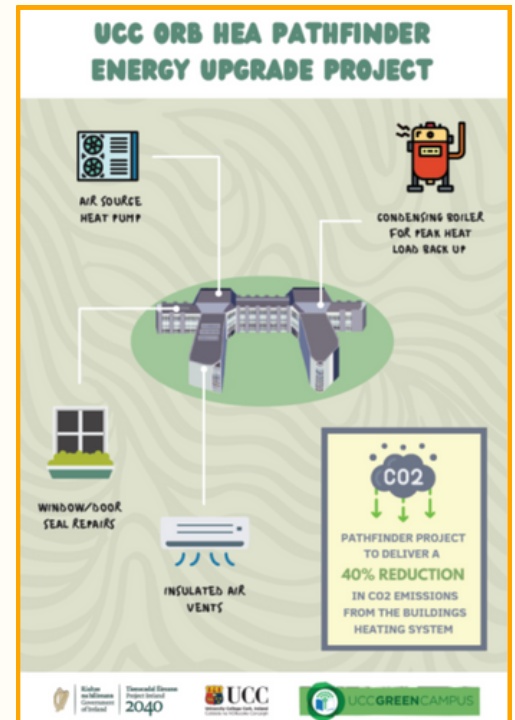
DECARBONISATION PROJECTS COMPLETED

In 2021 the University undertook decarbonisation projects with support from the HEA Pathfinder and SEAI grant programs.

In the O'Rahilly Building a new hybrid heat pump and boiler upgrade project resulted in a 40% reduction in GHG emissions and will meet 1.5% of the GHG reductions required.



ORB 200 KW AHSP



HEA PATHFINDER PROJECT ORB



TYNDALL HT HEAT PUMP

In 2021, Tyndall carried out a project to optimise its low-pressure hot water system and data centre cooling. This project included the consolidation of distribution network pipework and pumps, and the installation of a high temperature heat pump on the site's data centre cooling system. This project has resulted in a reduction in thermal energy demand of over 0.94GWh and a net electrical saving of 0.14GWh. In total, this amounts to an annual carbon reduction of 236tCO₂ or 6% of UCC's 2030 target, greatly assisting the Institute and UCC on its decarbonisation journey.



DECARBONISATION PROJECTS IN PROGRESS

In line with our EnMS energy action plans a number of strategically selected projects will be undertaken over 2023-2025, as part of UCC's decarbonisation plans.

ENTERPRISE DEEP RETROFIT

Project Objective / Scope

Deep retrofit with geothermal heat pump.

Budget Cost:

€4,400,000 (HEA Pathfinder support).

Carbon Reduction

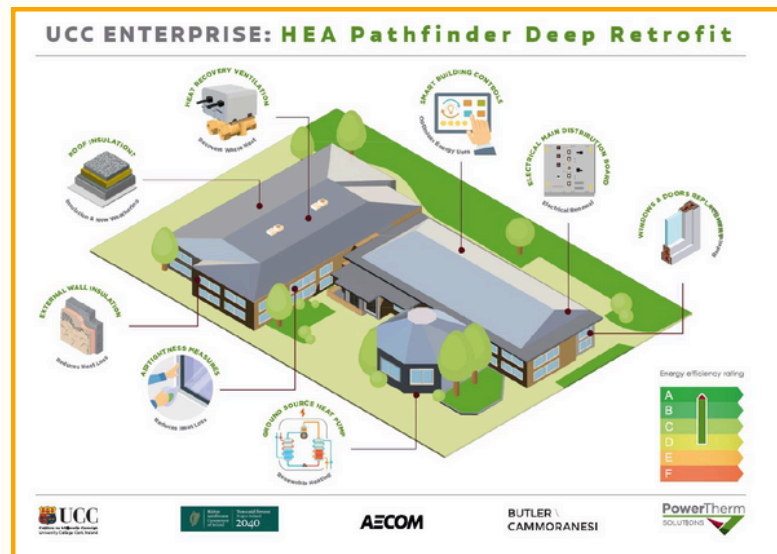
61T CO₂ (2030)

Schedule:

Summer 2023 & 2024.

Commissioning:

On-Site



PHARMACY ASHP INSTALLATION

Project Objective / Scope

ASHP installation to meet 95% of heat load.

Budget Cost:

€410,000

Carbon Reduction

96T CO₂ (2030)

Schedule:

Summer 2024

Commissioning:

Stage 6- Tender





PROJECT PIPELINE TO 2030

Category	Project	tCO2 Reduction by 2030	Status	Planned Year	Cost (M/€)
Energy Reduction	Energy Conservation Campaigns & Projects	573	Ongoing	Annually	4
	Connolly Boiler Upgrade	12	Construction	2024	0.2
	Boole Library AHU 1-4 VSD Controls	7	Design	2026	0.5
	Food Science Block B Retrofit	10	Concept	2026	3.3
Heat Pumps	Enterprise Deep Retrofit	40	Construction	2024	4.4
	Brookfield DHW HP	47	Complete	2024	0.2
	Pharmacy Heat Pump	105	Construction	2024	0.5
	ERI Heat Pump	43	Concept	2025	0.5
	Special Collections Boole Library Reverse Cycle HP	74	Concept	2025	0.8
	Tyndall 4 Pipe Heat Pump Installation	509	Design	2025	3



PROJECT PIPELINE TO 2030

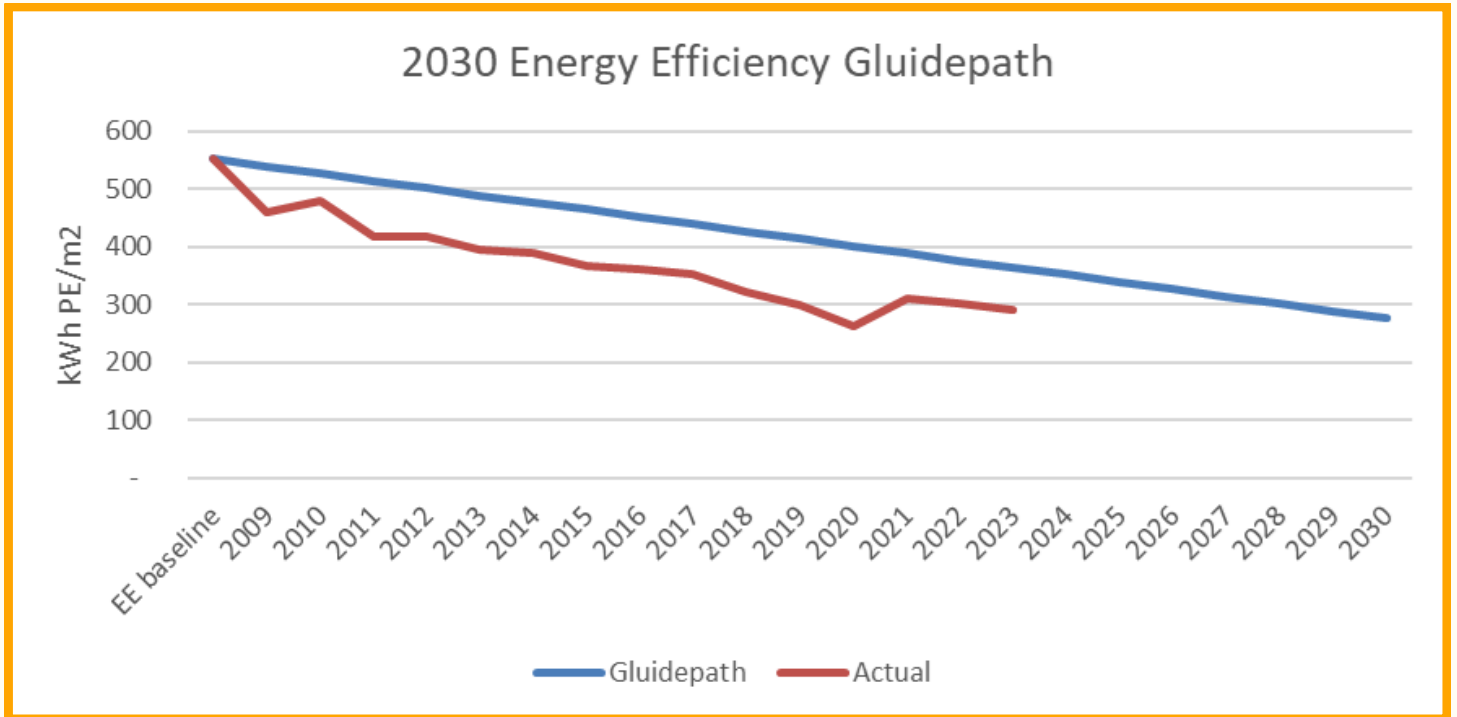
Category	Project	tCO2 Reduction by 2030	Status	Planned Year	Cost (M/€)
Heat Pumps	Arena - AHU, DHW HP & CHP Retirement	258	Concept	2026	1
	Food Sciences Block E ASHP	194	Design	2027	1
	Brookfield Heat Pump	242	Concept	2027	1
	Arena - LTHW Heat Pump	172	Concept	2028	1
	Main Campus Heat Pump EPC	1,249	Concept	2029	17
Solar PV	PV Installations	52	Concept	Ongoing	1
Total Projected tCO2 Reduction by 2030 from UCC's own actions		3589	-	-	-
Supply Side Reductions		6996	-	-	-
Additional Energy Use (planned growth campus & increased lab use)		(936)	-	-	-
Total Savings (tCO2 & €) (incl. planned growth & grid decarbonisation)		9649	-	-	39.3

[^]UCC ENERGY PROJECT LISTING (2024-2030)

NOTE KANE SCIENCE BUILDING PROJECT SUBMITTED UNDER HSEIF II AND NOT INCLUDED IN THE ABOVE LISTING.

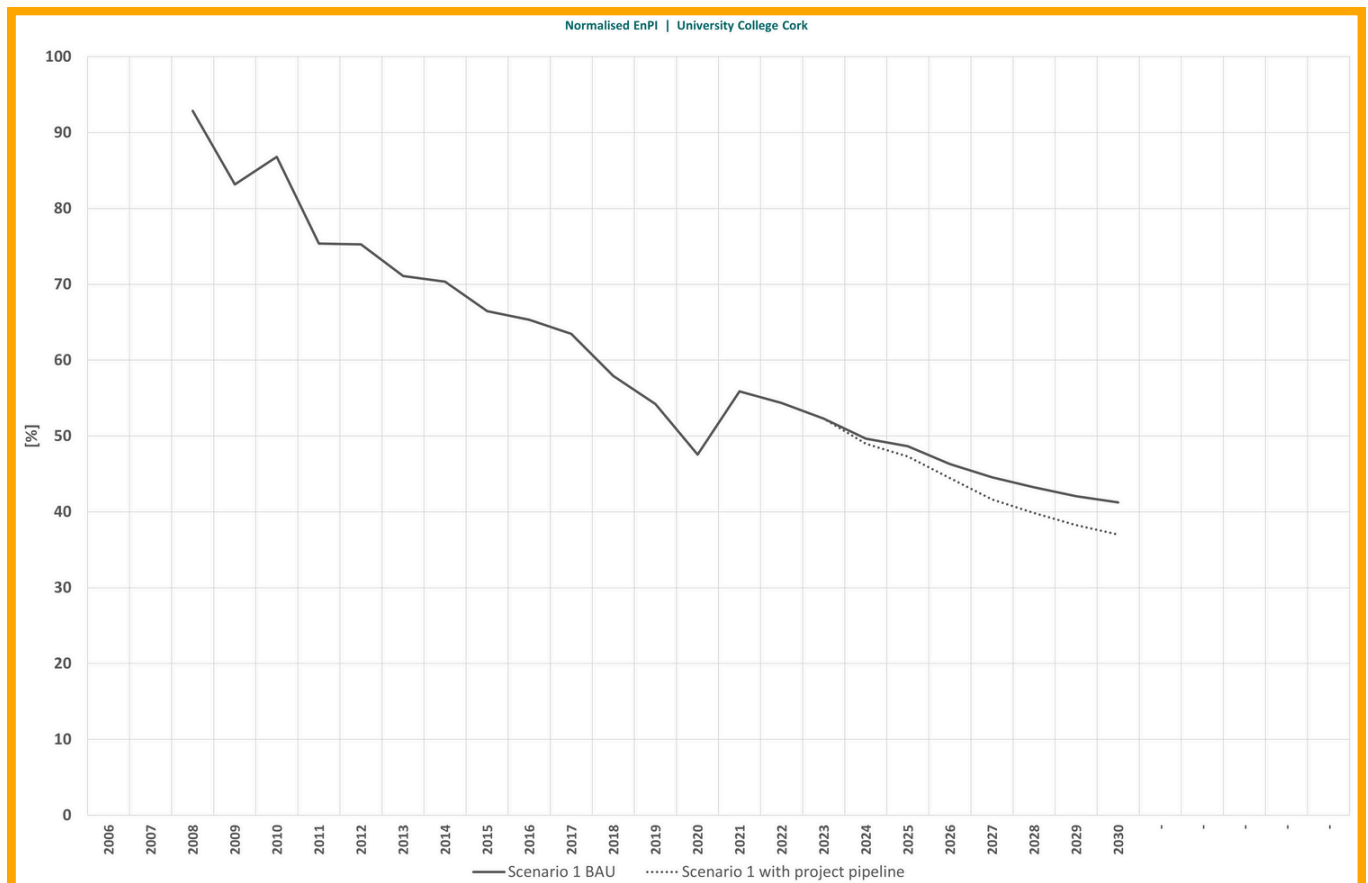


ENERGY EFFICIENCY TARGET



By the end of 2023 the University reported a **47.6% improvement** in energy efficiency, against a 2009 baseline.

By implementing the pipeline of projects the University will achieve a **63% improvement** in energy efficiency by 2030.





	Mandate 2024 Action	Status	Indicator of Conformity
1.1	Reduce energy related GHG emissions by 51% in 2030.	Ongoing	By year end 2023, University College Cork achieved a 22.5% reduction in scope 1 and 2 GHG emissions relative to our baseline years 2016-18.
1.2	Improve energy efficiency in the public sector by 50% by 2030.	Ongoing	By year end 2023, University College Cork achieved a 48% improvement in energy efficiency relative to our baseline year 2009.
1.3	Update Climate Action Roadmaps annually within 6 months of the publication of the Climate Action Plan. Develop Climate Action Roadmaps if none are in place.	Ongoing	UCC's first climate action roadmap was published in 2023. This year's update is publishing in September 2024.

(2) OUR PEOPLE



(2.1) Establish and resource Green Teams, reporting to senior management, to become integrated drivers of sustainability in every public sector body.

(2.2) Nominate a member of the Management Board as the Climate and Sustainability Champion with responsibility for implementing and reporting on the mandate.

(2.3) Incorporate appropriate climate action and sustainability training (technical and behavioural, including green procurement training) into learning and development strategies for staff.

(2.4) Organise staff workshops (at least annually) to engage on climate issues, including a focus on decreasing the organisation's carbon footprint.

(2.5) Ensure all senior management (P.O. level or equivalent and above) and members of State Boards, complete a climate action leadership training course.



(2.1) ESTABLISH AND RESOURCE GREEN TEAMS

UCC has long established fora for incorporating sustainability into the operations, engagement, teaching and research activities of the university. Ranging from the University Leadership Team's Subcommittee on Sustainability and Climate Action to the student led Green Campus Committee to UCC Buildings and Estates' Utility Manager to the interdisciplinary university wide module in Sustainability.

The functioning of several sustainability drivers in the university community are highlighted on the following two pages.

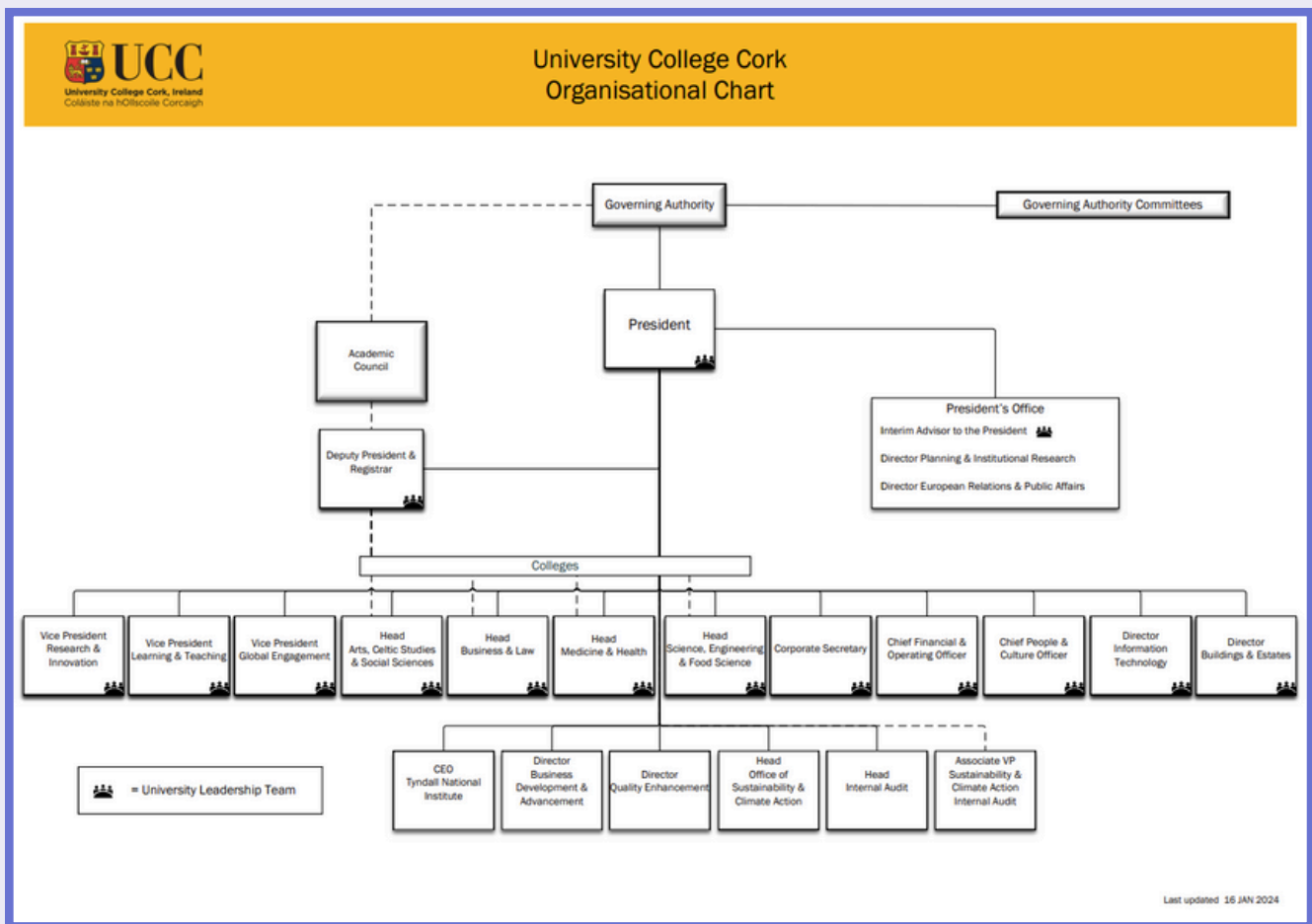


ULT SUBCOMMITTEE FOR SUSTAINABILITY AND CLIMATE ACTION

The sub committee is a university-level committee, chaired and led by the University President, that:

- (1) supports UCC's sustainability management from a strategic and operational perspective and,
- (2) monitors implementation of the *Sustainability and Climate Action Plan's* 62 actions and any associated policies and procedures.

The committee is crucial in ensuring a whole-of-institution approach to reaching UCC's ambitious sustainability targets, including becoming a net zero campus by 2040.



ASSOCIATE VICE PRESIDENT FOR SUSTAINABILITY

An **Associate Vice President for Sustainability** was appointed during 2023 with the aim of providing scientific, research and academic leadership and vision to UCC Futures: Sustainability and consolidating all elements of research and activity on sustainability and climate action within the University.



Professor Brian O'Gallachoir was appointed UCC's Associate VP for Sustainability and Director of ERI in 2023.

UCC OFFICE OF SUSTAINABILITY AND CLIMATE ACTION

Given the criticality of our sustainability objectives to the University's vision, a new Sustainability and Climate Action Office was created in 2022. Led by Dr Maria Kirrane, the office sits within the President's Office and reports directly to the University President. The office leads on reporting to international metrics such as THE Sustainability Rankings, UI Green Metric and AASHE STARS amongst others. While also delivering the Greenshoots Green Campus Programme, two Erasmus+ projects and managing the SDSN Ireland Network.



UCC BUILDINGS & ESTATES

The B&E team lead many of the day-to-day operational actions and delivering strategic capital projects key to achieving a net zero and energy efficient campus. The University's energy management team is chaired by the Director of Buildings and Estates (named Climate and Sustainability Champion) and has representatives from the Capital projects office, the Estates operational team and the academic community. The team provides resources and support to the utilities manager to implement the agreed energy actions plans while also promoting and emphasising energy efficient practices within their departments. The team convenes quarterly to review the energy performance and the progress made against the energy action plan. The utilities manager is responsible for promoting energy efficiency and conservation across the University community as well as the management and implementation of UCC's ISO 50001 energy management system.



(2.2) CLIMATE AND SUSTAINABILITY CHAMPION



Mark Poland was appointed UCC's Climate and Sustainability Champion in 2023.

Mark Poland (Director of UCC Buildings & Estates, Energy Performance Officer, member of University Leadership Team) was appointed as UCC's Climate and Sustainability Champion, for the purposes of reporting on UCC's progress in implementing the Public Sector Mandate, in 2023.



(2.3) & (2.4) ENGAGEMENT & TRAINING

Building on the training and sustainability awareness campaigns implemented over the last decade, theme 4 of ***UCC's Sustainability and Climate Action Plan***, Sustainability Citizenship, has a strategic aim to "support, enable and influence our staff and wider community in the achieving the SDG's and establish sustainability citizenship as a core ethos of UCC". With a diverse population, spread across 131 buildings UCC engages and offers training/professional development opportunities to its diverse community in a number of ways. Several examples of Engagement and Training are highlighted on the next two pages.

Engagement on Sustainability

Our '**Saver Saves Scheme**', which runs in a number of our significant energy use buildings, rewards departments for any energy savings made by devolving the financial savings to the Department, which are then spent on environmental projects within that department.

UCC's world renowned Green Campus and **Green Campus Programme** have evolved significantly since the University became the first higher education institution in the world to be awarded an FEE Green Flag in 2010. The university received its fifth consecutive FEE Green Flag in 2023/24. The programme is used to communicate climate action and sustainability awareness throughout the UCC community and beyond, to encourage sustainable behaviours and to run programs such as Living Labs, Energy awareness campaigns, eco grief awareness and self help.

The student-led **Green Campus Committee**, co-chaired by the **SU Environmental and Sustainability Rep.** and a nominee from the **Environmental Society**, meets regularly to discuss ideas and campaigns to improve our campus. These meetings feed into triannual meetings of the **Green Forum**, which takes its membership from across all functions within the University. The forum ensures continuity and strategic oversight throughout the academic cycle.

Multiple events organised within the University community promote and advocate for sustainability on campus and beyond. **Climate Action Week** and **Green Week** are Green Campus Programme led engagement events run in the autumn and spring semester respectively.



The University also hosts a multitude of events, seminars and interactive engagements coinciding with national and local festivals, many of which reflect UCC's sustainability ethos. Examples include; **Culture Night**, **Cork Learning Festival**, **Heritage Week**, **Biodiversity Week**, **Cycle Week** amongst others. We wish to thank countless personnel throughout the UCC community for their efforts to engage communities, locally and nationally, making the University active and accesible to more people.



Training for Sustainability

Since 2016 the University has offered a **University Wide Module on Sustainability (UW0005/CPD1640)** which is open to any staff, students and the general public. Staff and the general public can complete the module for a UCC Digital Badge or 'interest only'. Students can receive university credit. The module is completed over 12 weeks from every January to April. 62 people participated in the module in 2023, comprising 19 staff members, 34 Students and 9 people from the general public.



Lecturers and Contributors to UW0005 Sustainability receiving the UCC Presidents Award for Excellence in Teaching and Learning 20/21

In 2022, the University launched its **Carbon Literacy Training** for staff and students to further enhance the knowledge of our staff and students on climate change and their carbon footprints. From 2024 onwards the program is being offered as a UCC Digital Badge but is also accredited by the Carbon Literacy Project.

In 2022, the University commenced the **LEAF program** to promote energy efficiency and sustainability in our Labs.

UCC's **SDG Toolkit for Teaching and Learning** was developed in 2022 to support our teaching staff in integrating the UN SDGs into their teaching modules and learning outcomes, ensuring that our students leave the University with a heightened sense of awareness and understanding of sustainability and the UN SDGs. A new training course, offered as a UCC Digital Badge, for the toolkit was developed internally to support the use of the tool. Another version of the toolkit is under development as a part of the SDG4U project, one of the projects under the portfolio of the UCC Office of Sustainability and Climate Action.

(2.5) ULT CLIMATE ACTION LEADERSHIP TRAINING

The University Leadership Team (ULT) completed their climate action leadership training in Autumn 2023. A new requirement arising from the CAP23 update to the public sector mandate. The training was delivered by academia from UCC's *Environmental Research Institute* and *Office of Sustainability and Climate Action* with input by the Students' Union and the UCC Sustainability Officer. UCC was the **only** public sector body to design and deliver the mandated Climate Action Leadership training internally.



The training was delivered across two 2-hour sessions in November 2023:

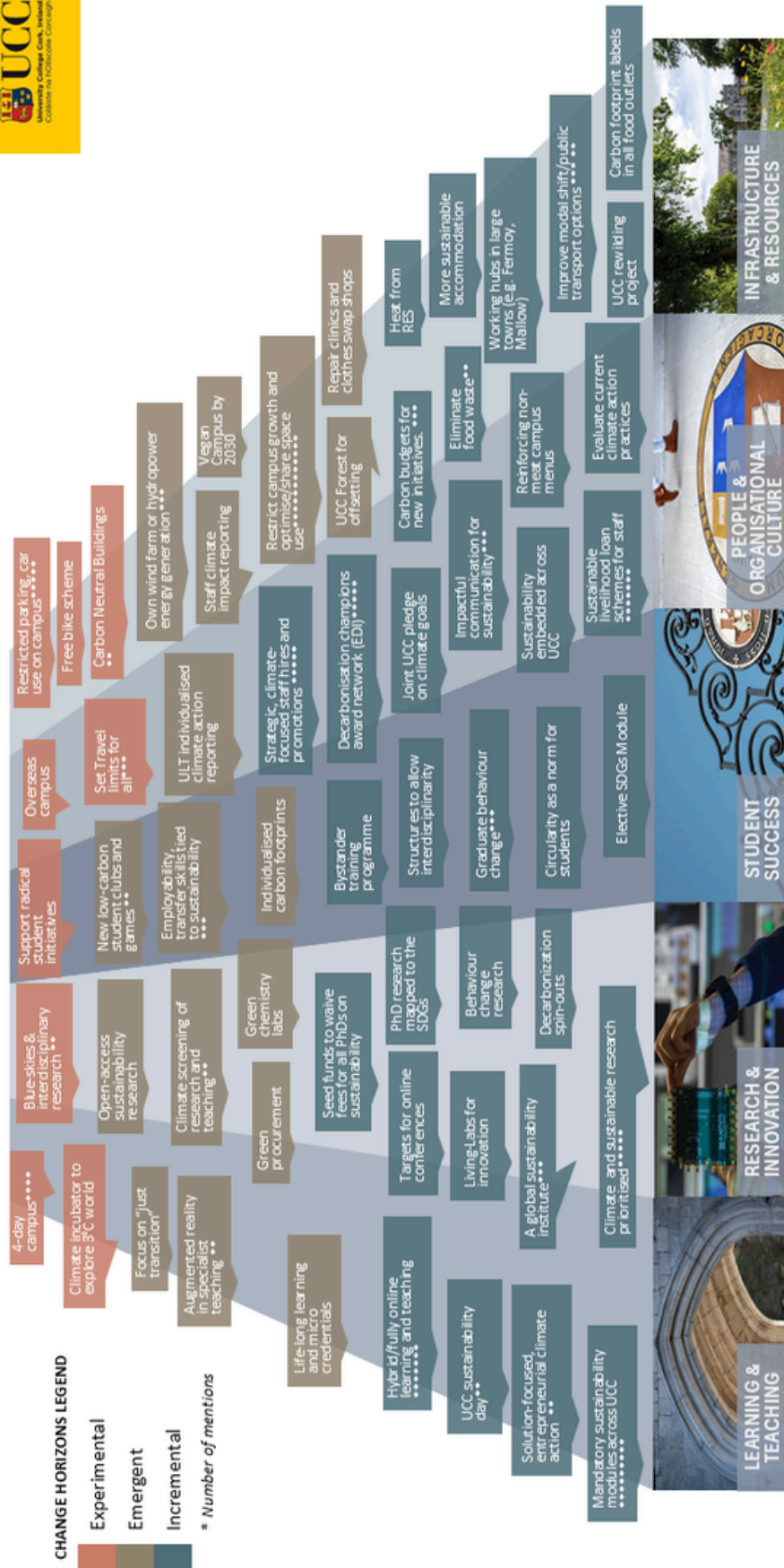
- **Session 1** was delivered by Hayley O'Connell Vaughan (UCCSU, on behalf of Dearbhla Richardson), Dr Maria Kirrane, and Professor Brian O'Gallachoir. The session outlined the need for radical and transformative action in universities, the current landscape of sustainability and climate action in higher education, and an in-depth analysis of UCC scope 1, 2 and 3 carbon emissions.
- In **Session 2**, Professor Hannah Daly delivered a lecture outlining the immediacy of the climate crisis; this was followed by an interactive workshop with Drs Alexandra Revez and Evan Boyle. The workshop utilised a horizon scanning methodology to explore potential actions across the five pillars of UCC's Strategic Plan. Participants were asked to think beyond the current strategic planning cycle towards possible emergent and experimental initiatives that might be implemented in 5 to 10 years' time. The outcome of this exercise is presented in the image on page 2.

Some of the main findings from the leadership training included:

- Not all ULT members were familiar with the actions within our current Sustainability and Climate Action Plan. Better communication of the Plan at School (or College?) level may be needed.
- There was a tendency toward more incremental, near-term solutions at the start of the workshop. As time went on more experimental ideas began to emerge.
- The strong potential for “seed funds” to stimulate transformative change projects was highlighted.
- The need for greater alignment between innovation and sustainability was also discussed.
- Some of the more “popular” ideas included:
 - *A mandatory sustainability module for all students,*
 - *A sustainable loans scheme for staff,*
 - *More hybrid/fully online teaching options,*
 - *A restriction on campus growth,*
 - *A UCC-owned windfarm,*
 - *Restricted car parking on campus,*
 - *A four-day campus.*



SCANNING THE HORIZON FOR SUSTAINABILITY IN UCC



Output of ULT Leadership Training Horizon Scan



Mandate 2024 Action	Status	Indicator of Conformity
Establish and resource Green Teams, reporting to senior management, to become integrated drivers of sustainability in every public sector body.	Complete	ULT Sub Committee on Sustainability and Climate action established in 2023. Cross functional energy management team in place. Green Forum and Green Campus Committee active.
Nominate a member of the Management Board as the Climate and Sustainability Champion with responsibility for implementing and reporting on the mandate.	Complete	Mark Poland (Director of UCC Buildings & Estates) is a member of the ULT and was appointed as UCC's champion in 2023.
Incorporate appropriate climate action and sustainability training (technical and behavioural, including green procurement training) into learning and development strategies for staff.	Ongoing	As of July 2024 the following training programs are in place: (1) CPD1640 module in Sustainability, (2) Carbon Literacy Training, (3) Digital Badge for Teaching with the SDG Toolkit, (4) Eco-grief program, (5) Graduate Attributes Programme, (6) Greenshoots Programme
Organise staff workshops (at least annually) to engage on climate issues, including a focus on decreasing the organisation's carbon footprint.	Ongoing	UCC facilitates a variety of workshops on sustainability matters throughout the year. Organised and hosted by a variety of departments. Examples include: (1) Green Forum held three times per year. Provides an open forum for all staff and students to contribute to and engage in further reduction of UCC's carbon and ecological footprint. (2) Events, seminars and workshops organised as part of Green Week, Climate Action Week, Campus Cycle Week, Biodiversity Week, Culture Night and Cork Lifelong Learning Festival. (3) Ongoing podcast series with staff, students and suppliers on green and sustainability initiatives across the university.
Ensure all senior management (P.O. level or equivalent and above) and members of State Boards, complete a climate action leadership training course.	Complete	The University Leadership Team completed their climate action leadership training in Autumn 2023. The training was delivered by academia from UCC's Environmental Research Institute with input by the Students' Union and UCC Sustainability Officer.

2.1

2.2

2.3

2.4

2.5

(3) OUR WAY OF WORKING



(3.1). Report on the following in the Annual Report of the public sector body: GHG emissions, implementation of the mandate, sustainability activities and compliance with Circular 1/2020.

(3.2). Using SEAI's Public Sector M&R System, public bodies are to report annually on implementation of the individual mandate requirements using a "comply and explain" approach.

(3.3). Achieve formal environmental certification for large public sector bodies, such as ISO 50001 or ISO 14001, with a view to going beyond ISO 14001 to adopting Eco Management and Audit Scheme (EMAS).

(3.4). Implement Green Public Procurement, using the EPA Green Public Procurement Guidance and criteria/Office of Government Procurement's online Green Public Procurement Criteria Search tool as resources.

(3.5). Sustainable practice with construction materials including low carbon construction methods and preparing Resource and Waste Management Plans for any construction/demolition projects.



(3.6). Segregate, monitor and reduce food waste per EPA guidance, including within contracted arrangements related to both operational and event canteen/food services.

(3.7). Measure and monitor paper consumption and review any paper based processes with a view to digitalise as much as possible. Any outstanding procured paper should be ensured to be of recycled origin.

(3.8). Provide suitable drinking water refill points for all staff and in any premises accessed by the public and measure and monitor usage of the refill points.

(3.9). Progressively cease use of single use items within the organisation and from events organised, funded or sponsored (excluding clinical environments and publicly funded advertising or broadcasting).

(3.10). Other Materials: **(i)** Support Ireland's Producer Responsibility Initiatives in the collection and recycling of products & **(ii)** use waste collection services that are segregated into a minimum of 3 streams – residual/general waste, recycling waste and organic/biowaste.

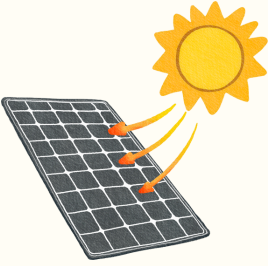


(3.1) ANNUAL REPORTING ON SUSTAINABILITY

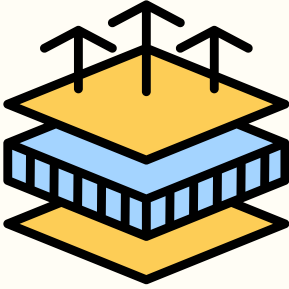
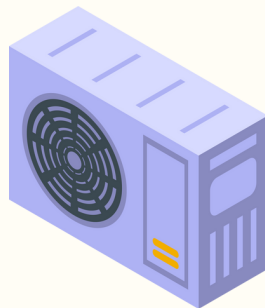
UCC publishes an Annual Report on the progress to date in implementing the University Strategic Plan 2023-2028. Wherein, Goal 5: Our Place, Our Footprint reflects our high level sustainability targets. The most recent progress report contained sustainability metrics such as: GHG emissions, energy efficiency and no. UCC research articles by SDG.

The University also publishes an Annual Sustainability Report which goes into significant detail on UCC's activities in **(1)** research, **(2)** operations, **(3)** engagement and **(4)** teaching across all 17 UN SDGs.

Furthermore, the University regularly reports its GHG emissions to:



SEAI's M&R System	DECC via annual updates to Climate Action Roadmap	HEA, as a result of the University's compact
AASHE STARS	UI Green Metric	Principles of Responsible Investment
FEE/Green Campus Ireland	UNFCCC Race to Zero	Cork Local Green Deal (Cork Chamber / Intelligent Cities Challenge)

(3.2) SEAI PUBLIC SECTOR M&R SYSTEM

UCC reports annually on our energy use to the SEAI's Monitoring and Reporting System. The most recently published results can be viewed [here](#) on the SEAI website.



(3.3) ACHIEVE FORMAL ENVIRONMENTAL CERTIFICATION

UCC was the first university in the world to be certified in energy efficiency per ISO50001. This was rigorously and successfully recertified most recently in November 2023.

As a whole institution, UCC is aspiring to achieve certification in ISO14001, as set out in our Sustainability and Climate Action Plan (2023-2028). Mardyke Arena has achieved both ISO14001 and ISO50001 for its own campus.



^Achieved
(university-wide)



^In Progress
(university-wide)

(3.4) GREEN PUBLIC PROCUREMENT

The Irish public sector, including Higher Education, has significant collective influence as purchasers of many goods and services.

Identified as a critical stakeholder within UCC's Sustainability and Climate Action Plan, the **UCC procurement office** plays a significant role in reducing UCC's environmental impact. Using Green Public Procurement criteria the office has already delivered significant results for the University in the catering, printing and cleaning contracts.

UCC has become a recognised leader in Green Procurement nationally and internationally. Over the past year UCC Procurement Officer, Fiona Thompson worked with Dr Maria Kirrane and postdoctoral researcher Alexandra Revez to write a scientific publication on the experience of UCC in this area:

Revez, A., Kirrane, M. and Thomson, F. (2023) Greening procurement: Exploring evolving practices in an Irish university. Heliyon, 9(11). DOI: <https://doi.org/10.1016/j.heliyon.2023.e21787>



(3.5) SUSTAINABLE PRACTICE WITH CONSTRUCTION MATERIALS

Guided by our internal design policies and guidelines as well as current statutory building regulations the University requires that all new buildings and significant refurbishment projects meet the Near Zero Energy Building (NZEB), achieve a minimum Building Energy Rating of A3 and a BREEAM Excellent Standard.

From the conceptual stage to construction and building operation Sustainability is considered at every phase of the project. The orientation and form of the building as well as the materials to be used are chosen at the concept stage and specified to give the most sustainable design for the purpose and location of the building. Designers are also tasked with achieving and/or incorporating as many Passive House Institute principles as possible into the building design.



In July 2023, the Mardyke Arena's new Strength and Conditioning Squad Gym was officially opened. The gym served as a pilot project for low-carbon design and construction. During the design process, every material was challenged from a cost and carbon aspect. From the outset, much consideration was given to the design of the building fabric, and a life-cycle analysis of the embodied carbon was conducted to compare building fabric options to minimise embodied carbon in the construction. The result was the construction of a building with a 60% reduction in the embodied carbon over a traditional building approach. The low-carbon approach had additional benefits in accelerating the construction schedule while also reducing the amount of construction waste that would be generated using traditional construction methods



(3.6) FOOD WASTE

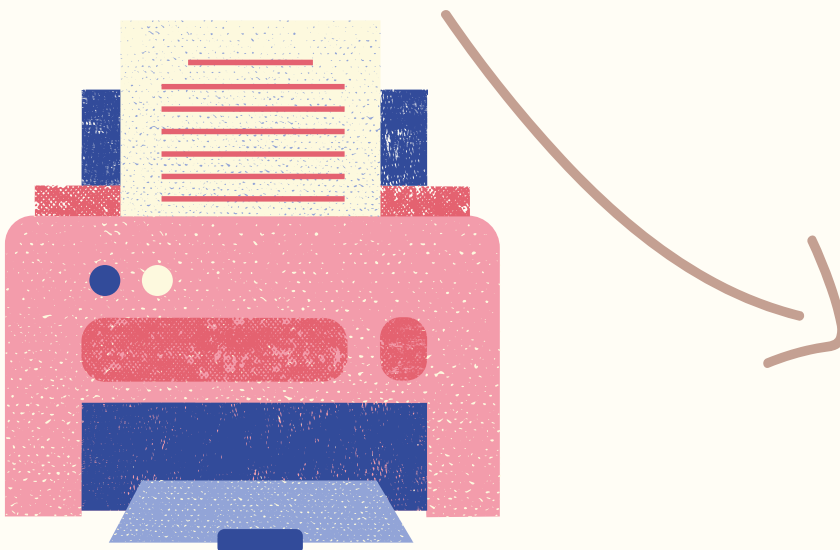
UCC's food and organic waste reduced by 18% in 2023. Contamination of other waste streams by food waste has also reduced.



(3.7) PAPER CONSUMPTION

Several initiatives have already been implemented over the last decade including the installation of managed print services for students and staff which reduced the annual printing demand by 21 million pages for students and 13 million for staff.

The Digital Master Plan, 2022, sets out a pathway for the University to transform our digital services to support students' and staff's needs for flexibility and accessibility to UCC, while also transforming our services and processes to eliminate barriers and strengthening connectivity.





(3.8) & (3.9) PHASE OUT OF SINGLE USE ITEMS AND DRINKING WATER STATIONS

UCC's Sustainability and Climate Action Plan 2023-2028 sets out an ambition for the University to become a zero waste campus by 2030. The University began implementing a new Single-Use Plastic Free Policy in January 2023, focused on plastic bottles, plastic cutlery and disposable cups (including biodegradable options).

New water refilling stations were installed across the estate (approx. 34), a €2 cup deposit scheme was introduced and a social media and communications campaign was rolled out to support the changes.

Since the policy's implementation, the University has avoided over 1,500,000 single-use cups and over 200,000 plastic bottles while overall waste levels, across all waste streams, and contamination rates have decreased significantly. A working group meets periodically to review the effectiveness of the policy and to identify opportunities to broaden the policy to prohibit the purchasing of other single-use products such as electronic vapes.

The policy has been supported by the University's catering suppliers (KSG, Starbucks) and we wish to acknowledge and thank them for coming along our journey to a zero waste campus.

(3.10) OTHER MATERIALS

Breakdown of changes in UCC's dominant waste streams in 2023:

Changes in Dominant Waste Streams (2023)

1.5 MILLION
COFFEE CUPS SAVED
FROM LANDFILL



235,000
PLASTIC BOTTLES
AVOIDED



73%
REDUCTION IN
PRINTING



18%
REDUCTION IN
FOOD WASTE





Mandate 2024 Action	Status	Indicator of Conformity
<p>Report on the following in the Annual Report of the public sector body:</p> <ul style="list-style-type: none"> • GHG emissions; • Implementation of the mandate; • Sustainability activities; • Compliance with Circular 1/2020: Procedures for offsetting the emissions associated with official air travel. 	Complete	GHG emissions via SEAL M&R report. Annual sustainability report issued. Sub working group formed in Q3 2023 to look at Academic / Business travel. Consultants appointed to update the university's scope 3 emissions.
<p>Using SEAL's Public Sector M&R System, public bodies are to report annually on implementation of the individual mandate requirements using a "comply and explain" approach.</p>	Complete	UCC reports to the SEAL M&R annually. Updates are publicly available on the SEAL's dashboard.
<p>Achieve formal environmental certification for large public sector bodies, such as ISO 50001 (Energy Management Standard) or ISO 14001 (Environmental Management System), with a view to going beyond ISO 14001 to adopting Eco Management and Audit Scheme (EMAS). Specifically:</p> <p>3.3.1 All public sector bodies with an energy spend greater than €2 million per annum to achieve ISO 50001 certification by end-2024;</p> <p>3.3.2 All remaining public bodies to implement energy management programmes as per SEAL's energy management guidance (SI. 426 of 2014) and report to SEAL annually on its M&R system.</p>	Ongoing	ISO 50001 certified since 2011. UCC climate action plan 2023-2028 commits the University to achieving Achieve ISO certification for carbon accounting, reporting and management, water management and environmental management.
<p>Implement Green Public Procurement, using the EPA Green Public Procurement Guidance and criteria/Office of Government Procurement's online Green Public Procurement Criteria Search tool as resources</p>		UCC's single-use policy implemented in 2023 led to the banning of disposable items in our catering and campus shop outlets. GPP used for cleaning, catering, waste management and printing contracts, resulting in significant environmental benefits.

3.1

3.2

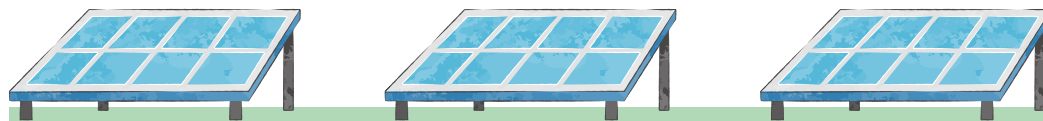
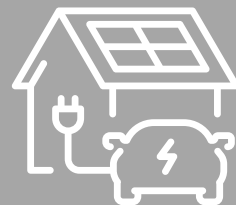
3.3

3.4

Mandate 2024 Action	Status	Indicator of Conformity
<div>3.5</div> <div>Construction:<ul style="list-style-type: none">3.5.1 Specify low carbon construction methods and low carbon cement material as far as practicable for directly procured or supported construction projects from 2023.3.5.2 Adhere to the best practice guidelines for the preparation of Resource and Waste Management Plans for construction and demolition projects for directly procured or supported construction projects from 2024.</div>	Complete	Mardyke Arena Strength and Conditioning gym was designed and constructed using low-carbon methods in 2023, resulting in a 60% reduction in embodied carbon over traditional methods.
<div>3.6</div> <div>Food Waste:<ul style="list-style-type: none">3.6.1 Measure and monitor the food waste generated on premises from 2024, using a standardised approach to food waste measurement set out in the EPA Protocol/Pathway.3.6.2 All new contract arrangements related to canteen or food services, including events and conferences, to include measures that are targeted at addressing food waste, with a specific focus on food waste prevention and food waste segregation.</div>	Complete	All waste streams monitored with cooperation of caterers and suppliers. 2023 food waste reduced by 18% compared to prior year.
<div>3.7</div> <div>Paper:<ul style="list-style-type: none">3.7.1 Review any paper-based processes and evaluate the possibilities for digitisation so it becomes the default approach. Eliminate paper-based processes as far as is practicable. Where paper must be procured, ensure that recycled paper is the default.3.7.2 Measure and monitor paper consumption.</div>	Ongoing	Ongoing implementation of print policies has reduced the University's printing volume by 73% in 2023 alone. Research Thesis Submissions moved to digital copies only. Significant number of administrative processes moved to electronic submissions, i.e. expense claims, tender submissions etc. Examination answer books now REACH free, FSC and PEFC chain of custody certified, biodegradable inks and VOC free.
<div>3.8</div> <div>Provide suitable drinking water refill points for all staff and in any premises accessed by the public and measure and monitor usage of the refill points.</div>		34 drinking water refill stations have been installed across campus.

	Mandate 2024 Action	Status	Indicator of Conformity
3.9	<div>Single Use:<div><div>3.9.1</div><div>Cease using disposable cups, plates and cutlery in any public sector canteen or closed facility, excluding clinical (i.e., non-canteen healthcare) environments, and in publicly funded advertising or broadcasting, where feasible.</div><div>3.9.2</div><div>Progressively eliminate all single use items within the organisation and from events organised, funded, or sponsored.</div></div></div> <div>Other Materials:<div><div>3.6.1</div><div>Support Ireland's Producer Responsibility Initiatives in the collection and recycling of products.</div><div>3.6.2</div><div>Use waste collection services that are segregated into a minimum of 3 streams – residual/general waste, recycling waste and organic/biowaste.</div></div></div>	Complete	1.5M cups redirected from landfill as a result of the sing-use cup ban on campus in 2023. 235,000 plastic bottles also avoided by working with caterers and suppliers to cease their sale on campus.
3.10		Complete	UCC's waste collection services are compliant and segregated into general, recyclables and food waste. Collection points for batteries are also available in the SU Building and Western Gateway Building.

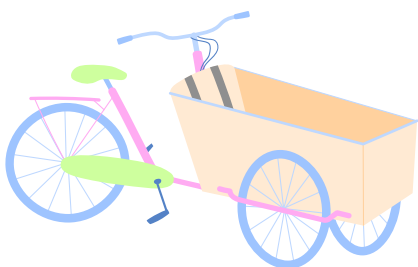
(4) OUR BUILDINGS & VEHICLES



(4.1) Promote the use of bicycles (including push bikes, electric bikes, and cargo bikes) and shared mobility options as an alternative to car use among employees and visitors by creating and maintaining facilities (both inside and outside of buildings) that support such options, including secure and accessible bicycle parking, shared mobility parking, and charging stations, as appropriate, with a view to achieving the National Transport Authority's Smarter Travel Mark.

(4.2) Phase out the use of parking in buildings that have access to a range of public transport services and active/shared mobility options for the majority of staff/visitors, while providing that sufficient accessible parking is maintained for those with physical mobility issues.

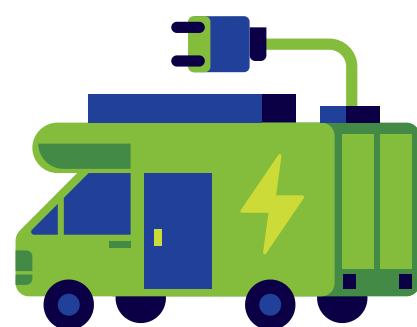
(4.3) Display an up-to-date Display Energy Certificate in every public building that is open to the public to clearly show energy use.



(4.4) The public sector will not install heating systems that use fossil fuels after 2023, in **(1)** new buildings, and **(2)** "major renovation" retrofit projects as defined in the Energy Performance of Buildings Directive (EPBD) with limited exceptions.

(4.5) Public sector bodies with a large estate should commence a deep retrofit of at least **one** building and develop a **Portfolio Building Stock Plan**. As part of this plan, the large public sector body should undertake data gathering and consider the long term (to 2050) retrofit key performance indicators to upgrade their building stock to NZEB or ZEB standards.

(4.6) Procure (purchase or lease) only zero-emissions vehicles from the end of 2022, and act as an international leader in this area.

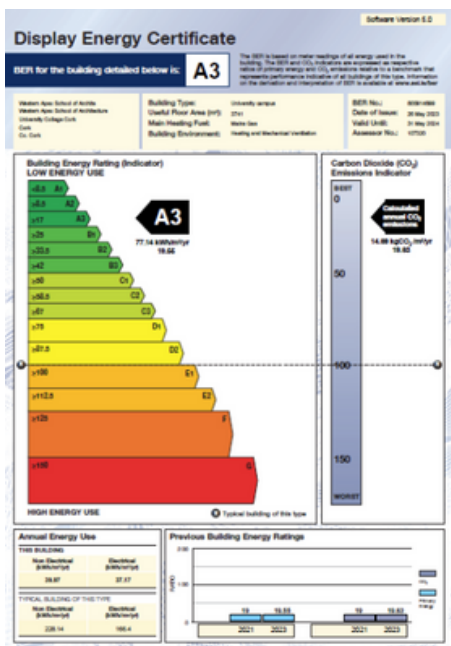




OUR BUILDINGS

DIGITAL ENERGY CERTIFICATE (DEC)

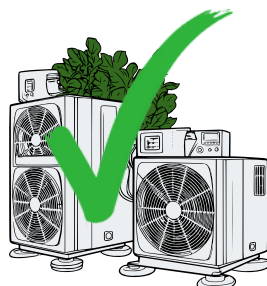
UCC, as a public body, displays an Energy certificate at all our publicly accessible buildings that qualify under the regulations. The process is undertaken annually by a qualified DEC assessor and the outcomes of the assessments are considered for action, as part of our annual energy management review.



^UCC School of Architecture DEC

HEATING SYSTEMS

Our **Capital Project design guidelines** prohibit the use of fossil fuel based heating systems in our **new buildings** or buildings that will undergo **significant refurbishment**. Furthermore, the extent of UCC's planned built footprint is showcased in the Campus Masterplan.

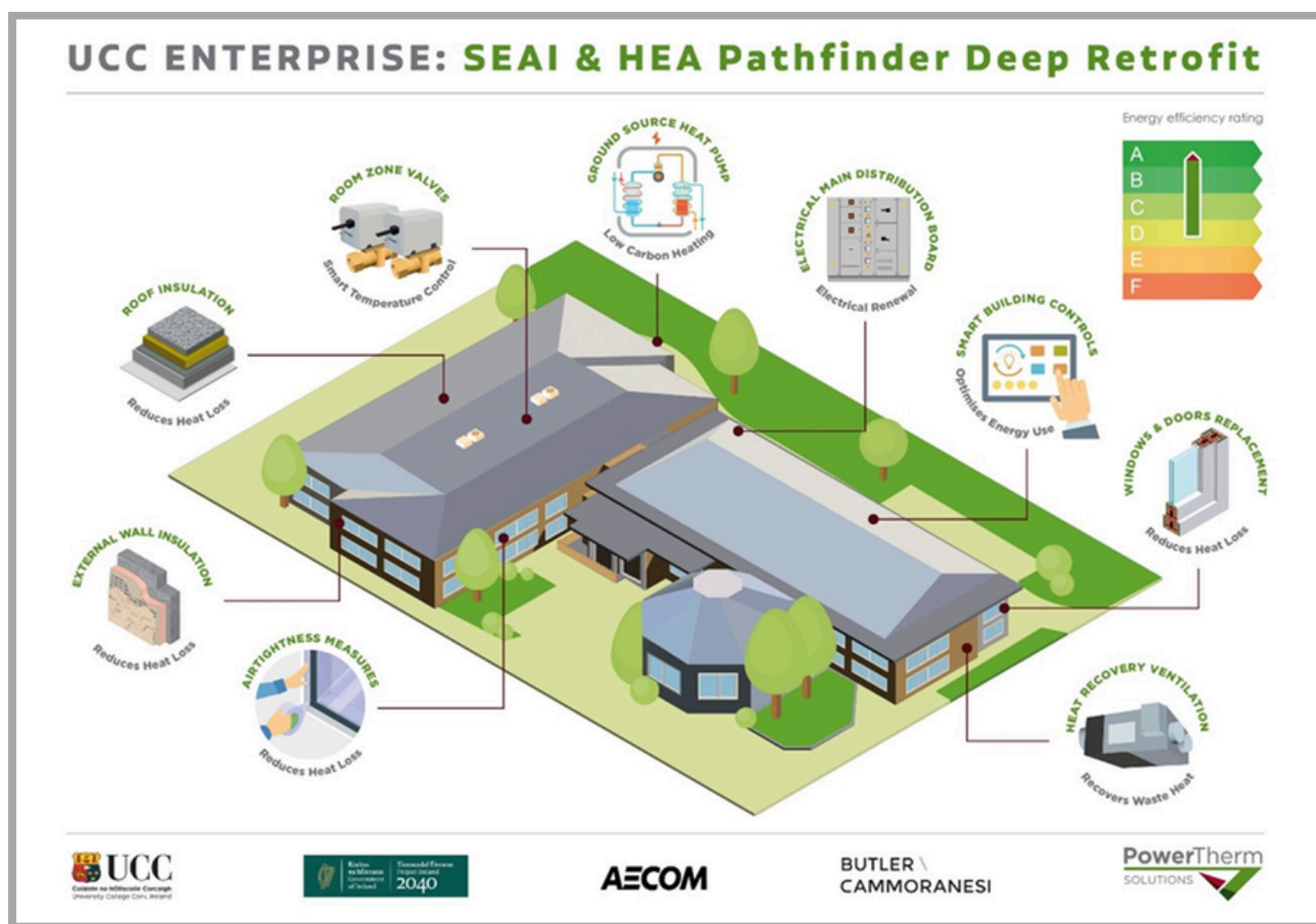




EXISTING BUILDINGS

2024 Retrofit

The second phase of the Enterprise Centre Deep Retrofit commenced in Summer 2024. Funded by the SEAI-HEA Energy Efficient and Decarbonisation Pathfinder Programme. This project will reduce the building's annual GHG emissions by at least 50% after its completion.



UCC Building Stock Plan

At present UCC has over 130 buildings across 20 locations. The Capital Projects team has undertaken a review of the current portfolio of University buildings and derived the priority capital projects and other initiatives to ensure UCC achieves its 2030 decarbonisation and energy efficiency targets (see pg. 10 and 13/14). No building subject to a significant retrofit or renovation will be heated by a fossil fuel system. All major retrofit or renovation projects will be designed to NZEB and ZEB specifications per the *Energy Performance of Buildings Directive* and recast *Energy Efficiency Directive*.



OUR VEHICLES

VEHICLE FLEET

The University has limited fleet of 26 vehicles*. A number of vehicles have already been retired from service or replaced with a **zero emission electric unit**. Additionally, the University has already changed out its petrol driven landscaping equipment, such as lawnmowers, trimmers and blowers to zero emission electrical units. As vehicles near end of life the opportunity to replace with a zero-emission unit will be implemented, subject to the operational needs and availability of a suitable zero emission unit. 14 EV Chargers are installed to date across UCC's campuses.

*UCC STARS Submission 2022
<https://reports.aashe.org/institutions/university-college-cork-national-university-of-ireland-cork-co-corcaigh/report/2022-07-28/OP/transportation/OP-15/>



^UCC Library's Electric Van

PHASE OUT OF PARKING WHERE ALTERNATIVE TRANSPORT OPTIONS EXIST

As mentioned previously the University operates its own park and ride service for students and staff. And UCC's campuses are situated on a number of public bus routes operated by Bus Éireann. These include the 205, 208 and 220/220X routes. Other routes that stop within 10 minutes walking distance include the 216 and 219 routes. Cork Commuter Rail and InterCity Services terminate at Cork Kent Station, where there is some interchange with a few public bus routes and the TFI Bike Share service. The TFI Bike Share service has 36 stations dispersed throughout Cork City Centre. Stations near UCC include;

- Bandfield, College View Road, Fitzgerald's Park and Gaol Walk (main campus)
- Mardyke Walk (Mardyke Arena)
- North Main Street, Wandesford Quay and Dyke Parade (Connolly Campus and Tyndall National Institute).

Spaces are limited and have reduced as the campus has grown. Further phase outs will be considered as more alternative options become more viable, reliable and frequent. The university is also conscious of commuting distances increasing for students and staff find it harder to afford living in Cork.



ACTIVE TRAVEL

A commuter manager has been in place since 2006 and UCC has continuously advocated for and improved the walking and cycling facilities around the campus. The strategic aim of UCC's Commuter Plan is to promote sustainable travel options to campus as well as improving the on campus facilities to support more sustainable modes of transport.



Facilitating Cycling to Campus

Bicycle parking and shower facilities are available throughout the campus.

Under UCC's climate action plan, section 9, a new covered bike parking facility north of the new Student hub building was opened in June 2022 with 70 spaces, including cargo bike friendly spaces. At the South Lodge courtyard 20 spaces have been created with 50% covered and swipe locked access. 3 self-service pumps/repair stations (North Mall, HUB (Main Campus) and WGB), have been created and UCC Campus bike scheme now has its 9th location at Crow's Nest.



UCC has been part of the Cycle to Work Scheme for many years. Participants can purchase a pedal bike (up to €1250), e-bike (up to €1500) or a cargo bike (up to €3000).



Promoting Active Travel

UCC has promoted national initiatives such as **Walktober** and **Marchathon** to encourage sustainable transport and wellbeing amongst its staff.

UCC's Commuter Plan Office organises an annual **Cycle to Campus Week**. Amongst the programme events are a: bike doctor service, safety talks and a group cycle to MTU Bishopstown and back.

The UCC School of Applied Social Studies led the delivery of the **Socio-Cycle** project, exploring the socio-cultural significance of cycling in Cork City.



^Socio-Cycle launch



In September 2022 a “No-Idling Policy”, for all UCC premises and UCC owned/operated combustion engine vehicles, was formally adopted by the University Leadership Team in September 2022 and rolled out in 2023.



SHARED MOBILITY OPTIONS

Park and Ride

UCC has operated its own Park and Ride service since 1999 and was the first Irish HEI to do so. At present, there are three car parks available for UCC P+R:

- Pouladuff Road (near the N40 South Ring Road, Togher exit)
- Dennehy's Cross (PCB sports grounds, single shuttle services only)
- Black Ash (near N40, at Kinsale Rd roundabout, Term time only)

Shuttle buses operate frequent services from the Main Campus (Boole entrance) on College Road and Brookfield (outside gate). In the morning and evening peaks, the service also includes UCC's Lee Maltings Complex (Tyndall) on Dyke Parade / Prospect Row (using the bus stop on Dyke Parade/Mardyke St., opposite the Granary Theatre). Both Pouladuff and Dennehy's Cross car parks are open all year, while Dennehy's Cross operates during the summer months as a Park & Walk facility only (approx 5 mins walk to Brookfield, 10-15 minutes to Main Campus). Black Ash is linked to UCC only during Term times. P+R facilities are open to all UCC staff and students (ID spot checks by security staff may occur). Parking and the use of the shuttle buses are free of charge.

Car Pooling

UCC's Commuter Plan Office has operated a car pooling scheme for several years. Participants share their daily car trip with a partner(s) and will find a guaranteed parking space on campus until 10am. By facilitating this scheme, this leads to a higher occupancy rate within cars and therefore fewer cars on the road and less congestion, air and noise pollution.



Car Sharing

While often confused with car pooling, due to inconsistent use of the respective terms, car sharing is a scheme that provides subscribers access to a fleet of vehicles whenever they need one. Car Sharing in Ireland started in 2008 in Cork, provided by the operator "GoCar", and is also running successfully in Dublin since 2010. Since the start, UCC has a corporate account with GoCar. One car is based on College View/College Road, opposite the Library. UCC staff members can register with this account to use the cars (4 more locations existing in Cork) for work purposes. As the service is open to the general public, anybody can sign up as a private user.





Mandate 2024 Action	Status	Indicator of Conformity
<p>Promote the use of bicycles (including push bikes, electric bikes, and cargo bikes) and shared mobility options as an alternative to car use among employees and visitors by creating and maintaining facilities (both inside and outside of buildings) that support such options, including secure and accessible bicycle parking, shared mobility parking, and charging stations, as appropriate, with a view to achieving the National Transport Authority's Smarter Travel Mark.</p>	Ongoing	<p><u>Active Travel:</u></p> <ul style="list-style-type: none">• Walkway (Cavanagh Way) between western campus and main campus opened in 2024.• Increase in the number of bicycle parking facilities.• Bicycle space and facility requirements incorporated into capital project design guidelines. <p><u>Shared Mobility:</u></p> <ul style="list-style-type: none">• Park and Ride facilities in place• Car pooling program in place. <p><u>Electric Vehicles:</u></p> <ul style="list-style-type: none">• 14 EV Charging Stations deployed.
<p>Phase out the use of parking in buildings that have access to a range of public transport services and active/shared mobility options for the majority of staff/visitors, while providing that sufficient accessible parking is maintained for those with physical mobility issues.</p>	Ongoing	<p>Detailed submissions made to support Bus Connects Cork project. Submission made to reduce speed limit on the public road routes around the University to 30 km/h.</p> <p>Phase out of parking spaces in buildings well served by public transport services underway.</p>
<p>Display an up-to-date Display Energy Certificate in every public building that is open to the public to clearly show energy use.</p>	Complete	<p>DECs posted in applicable buildings and valid and renewed as appropriate.</p>
<p>The public sector will not install heating systems that use fossil fuels after 2023, in (1) new buildings, and (2) "major renovation" retrofit projects as defined in the Energy Performance of Buildings Directive (EPBD) with limited exceptions.</p>	Ongoing	<p>Requirement included in Capital Project guidelines - both CUBs and Tyndall projects will be heat pump buildings. Enterprise building retrofit will be fed by heatpump. Houses / offices currently transitioning to electrical heating.</p>

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4.4

3.3.1

3.3.2

Mandate 2024 Action	Status	Indicator of Conformity
<div>4.5.1</div> <div>In relation to existing buildings:</div> <div>Public sector bodies and sectoral groups with a large estate should commence a deep retrofit of at least one building in 2024 in pursuit of the 2030 51% emissions reduction target. The planning of deep-retrofit building measures will be undertaken at sectoral level for homogenous sectors, e.g., in relation to the Civil Service, the OPW will plan the deep retrofit of Government Departments' building stock.</div> <div>4.5.2</div> <div>Public sector bodies and sectoral groups with a large estate should develop a portfolio building stock plan (including determining the buildings necessary for their activities), in line with guidance published by SEAI, by end 2024 to mobilise large scale programmes towards meeting the Climate Action Plan targets.</div> <div>4.5.3</div> <div>As part of the building stock plan, large public sector bodies and sectoral groups with a large estate should undertake data gathering and consider the long term (to 2050) retrofit key performance indicators to upgrade their building stock to Nearly Zero Energy Buildings or Zero Emission Buildings as outlined in the EPBD proposal and recast Energy Efficiency Directive.</div>	Ongoing	<ul style="list-style-type: none">4.5.1: Phase 2 of Enterprise Centre deep retrofit underway and on track for completion Q3 2024.4.5.2 Capital Projects Office in UCC Buildings & Estates has developed their Building Stock Plan and identified the pipeline projects to 2030.4.5.3 UCC is specifying that all major retrofits and new builds comply with at least NZEB standards. This is subject to review and will aspire to meet ZEB standard where possible in the interim.
<div>4.6</div> <div>Procure (purchase or lease) only zero-emissions vehicles from the end of 2022, and act as an international leader in this area.</div> <ul style="list-style-type: none">Public sector procurement contracts for delivery and haulage should specify zero-emissions vehicles where possible.As an enabler for the switch to zero-emissions vehicles and meeting Climate Action Plan targets, in 2024 public sector bodies with a vehicle fleet should develop a plan for installation of charging infrastructure in relevant locations. The plan should align installation of infrastructure with timelines for decarbonisation of the body's fleet. The plan should be included in the body's Climate Action Roadmap.	Ongoing	<p>UCC procurement office using the EV direct drawdown tender process established. Pre market consultation in place to provide low / zero emission vehicles for the park & ride services. electric mini-bus market still evolving and at a youthful stage.</p> <p>UCC's has a small fleet of 26 vehicles of which 3 are fully electric. 14 EV charging points are installed across UCC's campuses. A company card is used to pay for any cost of re-charging a UCC vehicle. A more specific EV charging plan will be developed as more of the fleet electrifies as older vehicles are retired from service.</p>



Acknowledgments

UCC Office of Sustainability and Climate Action

Daniel Carr - Research Support Officer

Dr Maria Kirrane - Head of Office

UCC Buildings and Estates

Steven Roycroft - Energy Consultant

Oliver Cunningham - Energy & Utilities Admin

Paul Prendergast - A/ Building Officer

Stephan Koch - Commuter Manager

Useful Links

Securing Our Future UCC Strategic Plan 2023-2028 [[link](#)]

UCC Sustainability and Climate Action Plan 2023-2028 [[link](#)]

UCC STARS Report 2022 [[link](#)]

UCC Green Flag Reassessment 2023 [[link](#)]

**Office of Sustainability and Climate
Action**

An Oifig um Inbhuanaitheacht agus
Gníomhú ar son na hAeráide



Coláiste na hOllscoile Corcaigh
University College Cork, Ireland

UCC

Buildings and Estates Office
Foirgnimh agus Eastáit

