



2024 Sustainability and SDGs Update

Contents


















Executive Summary	2
Message from the Pro-Vice-Chancellor Sustainability	4
Context and Drivers	4
Teaching and Learning (Curriculum)	5
Research Programme	8
Reducing carbon emissions	15
Improving Environmental Sustainability	16
Growing Sustainability Networks	21
About this document	24

Acknowledgements

We would like to thank the following individuals for their help and reporting contributions: Ricardo Bello Mendoza, Jim Briskie, Saskia Brown, Christofer Bullsmith, Frances Charters, Malek Connor, Ciara Espiner, Jason Gould, Pip Hawkes, Bronwyn Hayward, Jam Kelly, Seamus Moran, Matt Morris, Heather Purdie, Brodwyne Richards, Tony Sellin, Matt Young.

Cover photo: The Wildflower Biodiversity Meadow in full bloom

By Sustainable Development Goal:

	SDG 1	Page 8, 23
	SDG 2	Page 8
	SDG 3	Page 6, 9
	SDG 4	Page 7, 9
	SDG 5	Page 9, 10
	SDG 6	Page 7, 10
	SDG 7	Page 10, 11
	SDG 8	Page 6, 11
	SDG 9	Page 11, 12
	SDG 10	Page 7, 12
	SDG 11	Page 7, 12, 16, 23
	SDG 12	Page 7, 12, 13, 16
	SDG 13	Page 6, 7, 13, 15, 22, 23
	SDG 14	Page 13, 14, 16
	SDG 15	Page 14, 16, 17
	SDG 16	Page 6, 14, 23
	SDG 17	Page 21, 23

2024 Highlights

26,433

Students
enrolled at
UC in 2024

Participated at COP29 with
delegation led by
Distinguished Professor
Steven Ratuva

2,587

Māori
students
Up from 2,289
in 2023

UC Business School
recognised internationally as
Principles for Responsible
Management Education
(PRME) Champions for
2024-2025

887

Pasifika
students
Up from 792
in 2023

Winner in the Australasian
Green Gown Awards for
our joint work on building a
national climate change
scenario for all NZ
universities out to 2090, and
Finalist for our Nature
Positive initiatives

20,662

Delivered
student-courses
aligned with the
SDGs

GeoHealth Lab celebrated
20 years, addressing societal
health challenges across
Canterbury and New
Zealand

74

Additional
courses mapped
to the SDGs
Now total of 751
SDG mappings

A new Pacific Regional
Security Hub was launched,
aimed at increasing
cooperation and security in
the Pacific region

Our four-yearly Travel
Survey indicated public
transport use to the
workplace has doubled

Hosted a sustainability
showcase for students on
the SDGs

Executive Summary

2024 saw significant progress regarding implementation of the University's Sustainability Plan, and much more integration of the United Nations' 17 [Sustainable Development Goals](#) (SDGs) into a range of our activities. The new Ground Source Heat Pump project was close to completion, which will deliver heating to several buildings in the heart of campus with a fraction of the carbon emissions emitted by our coal boilers. A new biomass silo was installed, which delivers biomass fuel to the boilers, thus again reducing our carbon emissions as we rely less upon coal for heating.

Progress was made in implementing our Biodiversity Plans, with the wildflower meadow trial proving to be a resounding success, predator trapping continuing and native bird numbers soaring. Our four-yearly Travel Survey indicated that use of public transport to the workplace has doubled, while car driving had dropped.

We now have a comprehensive and searchable public database of undergraduate courses which can be aligned with one or more of the SDGs, and our research is regularly aligned with an SDG.

Message from the Pro-Vice-Chancellor Sustainability

Since I was appointed to be Aotearoa New Zealand's first Pro-Vice-Chancellor Sustainability in October 2021, our programme of work to support our sustainability strategy has expanded considerably and the many achievements are reflected in this 2024 Sustainability and SDGs Update. In particular, we have been able to link aspects of teaching, research and operations to one or more of the 17 SDGs.

In 2024 we increased and refined our searchable list of our taught courses that includes topics related to one or more of the United Nations' [SDGs](#). This will assist prospective students to understand which ones include these as a topic or principle. We also developed an online module for all postgraduate students, to help

them understand how to ensure their research and activities can be made more sustainable and fits in with the SDGs, and the national and international context of related sustainability issues.

The Ilam campus boilers were fully tested after being converted to run on biomass, and the Ground Source Heat Pump plant room has been finalised outside the Science precinct to enable heating of several nearby buildings by ground source heat pumps. A reduced use of coal burning for heating will accelerate our progress in the important area of our emissions reduction.

In February 2024, we hosted a sustainability showcase for students, to coincide with the Students' Association Clubs days, to inform students, especially those new to the campus, of our sustainability work across all of the SDGs, which covered a range of activities, from teaching and learning, to research, to campus operations.

In 2024, UC, together with others, was a winner in the [Australasian Green Gown Awards](#) for our joint work on building a national climate change scenario for all New Zealand universities out to 2090.

Ngā mihi

*Professor Jan Evans-Freeman
Pro-Vice-Chancellor Sustainability*

Context and Drivers

Universities are considered by the United Nations' (UN) to have a critical role in helping society achieve the Sustainable Development Goals (SDGs). The [UN Sustainable Development Solutions Network](#) states that the SDGs require deep and radical transformations in each country. Incremental approaches will not be enough to tackle the urgent and complex challenges outlined by the [UN Agenda 2030](#). To play a leading role in these transformations, universities will also need to develop their support for the SDGs.¹

¹ Sustainable Development Solutions Network, 'Accelerating Education for the SDGs in Universities', <https://www.unsdsn.org/dialogue-series-on-the->

[sdsn-report-accelerating-education-for-the-sdgs-in-universities-the-institutional-transformation](#)

Sustainability Policy 2022-2026

The UC [Sustainability Policy](#) frames the values and principles guiding our work towards creating a sustainable community and campus, while contributing towards solving global sustainability challenges.

Sustainability Plan 2022-2030

The UC [Sustainability Plan](#), which expands on our Strategic Vision 2020-2030, outlines the projects that will be undertaken to enact the principles outlined in our Sustainability Policy. It was developed through consultation with our UC community.

Five key areas in 2024 of our Sustainability Plan involve:

1. Contributing to resolving the SDGs (curriculum)
2. Contributing to global sustainability challenges through research
3. Becoming carbon net neutral
4. Improving environmental sustainability
5. Growing our sustainability networks

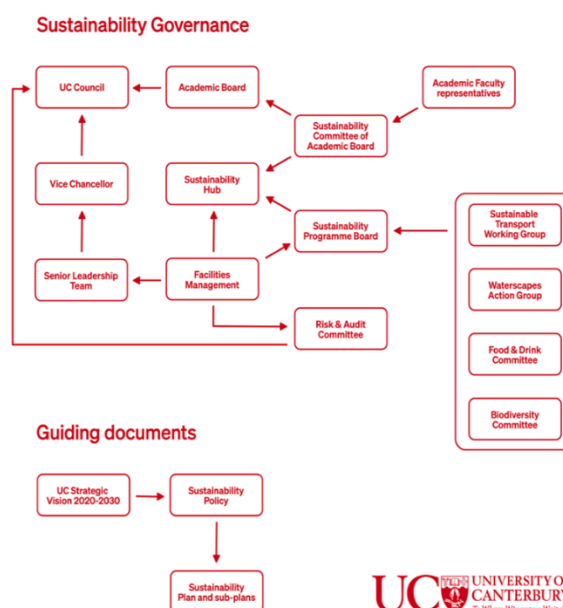
A number of projects and sub-projects flow from these key areas of focus.

Sustainability Governance and Reporting

Implementation of the Sustainability Plan is overseen by a Sustainability Programme Board, chaired by the Pro-Vice-Chancellor Sustainability. Governance and guidance of the Sustainability Plan sits across multiple bodies within the University structure, and these are mapped out below.

The Vice-Chancellor reports regularly on progress on the Sustainability Plan to the University Council. These reports can be viewed [here](#).

Detailed figures relating to the University's carbon emissions are reported via the latest [Annual Report](#).



Teaching and Learning (Curriculum)



Weave opportunities for students to learn and contribute to resolving the SDGs through UC teaching.

SDG Course Tagging

Our SDG course-tagging initiative continued and by the end of 2024 a third of all our courses were mapped to the SDGs. This work has produced insights into awareness of the SDGs, barriers and influencing factors, and potential strategies to effectively integrate sustainability principles into teaching, and a research project was commenced to understand these.

Courses we have currently tagged to the SDGs can be found [here](#).

Teaching and Learning Case Studies

The UC Sustainability Plan states that we will weave sustainability throughout the curriculum. The success of this goal can be seen in teaching across a wide range of disciplines. We saw several courses not only teach aspects of sustainability but also encourage students to gain hands-on practical experience with sustainability issues.

2024 SDGs case studies for Teaching and Learning now follow:

New scholarship for those affected by the mosque terror attacks



Dame Jacinda Ardern



A new 2024 scholarship, initiated by Dame Jacinda Ardern offers educational opportunities to people impacted by the 2019 Christchurch mosque shootings. UC's new March 15 Scholarship has been set up to provide financial assistance and educational opportunities to survivors of the mosque attacks, along with their family members and family members of victims. "I don't believe we'll ever fully understand the impact of March 15 on our Muslim community, and that's why our response to it should have no end point," Dame Jacinda said. The scholarship is also rooted in the legacy of the Christchurch Call, a global initiative founded by Dame Jacinda and French President Emmanuel Macron in response to the attacks. This commitment aims to eliminate terrorist and violent extremist content online, fostering a safe and secure internet for all. UC worked closely with the affected community and the Christchurch City Council to bring this scholarship to fruition.

Bachelor of Social and Environmental Sustainability



ACL provided an invaluable opportunity for our students in the Bachelor of Social and Environmental Sustainability and Civil and Natural Resources Engineering. In 2024, two students from each program undertook a combined internship placement and final-year project with ACL, focusing on ways to reduce carbon emissions and improve sustainability outcomes for the business. Students explored strategies ranging from behaviour change initiatives to fleet management improvements, and presented their findings to the ACL board, demonstrating the value of interdisciplinary collaboration in finding sustainability solutions. The experience allowed students to integrate social science and engineering perspectives and insights.

Partnering to grow regional talent



UC doubles down as strategic partner in Business Canterbury's new model, with the aim of driving economic growth. UC is the second largest employer in Canterbury, with over half of the region's qualified students choosing to study at UC, and one in two UC graduates remaining in New Zealand join the workforce in or around Christchurch. "We welcome the opportunity to work more closely with Business Canterbury as we prepare our graduates for the

rapidly changing world of work, and drive our economy forward," says Assistant Vice-Chancellor Engagement Brett Berquist.



From left to right: Assistant Vice-Chancellor Engagement Brett Berquist, Business Canterbury (BC) Chief Executive Leeann Watson, Vice-Chancellor Professor Cheryl de la Rey, UC Business School Executive Dean Professor Paul Ballantine, and BC Customer Experience and Partnership Manager Kathryn Peat

Biomedical training in Tonga



A group of eight biomedical engineering students, led by Associate Professor Debbie Munro from the Faculty of Engineering, headed to Tonga to create sustainable biomedical solutions for Tongan hospitals. The mission focused on developing a biomedical technician training programme that will equip local healthcare staff with skills to maintain essential medical equipment, to ensure the ongoing functionality of life-saving devices, such as ventilators, blood pressure monitors and oxygen concentrators. Associate Professor Munro led a previous student trip to Tonga in 2019.



From back left to right: George Stilwell, A/Prof Debbie Munro, Julian Phillips, Isabel Andrade-Beltran (staff). Next row: Aden Sadler, Nick Dewhurst, Flynn Wilson, Rokhan Kalim, Seb Van Veen. Front row: Jiwoo Son, Milan Hildreth, Nuha Iskandar-Zulkarnain

UC Trading Competition finds top financial talent



UC's annual Trading Competition saw 175 teams navigate global markets using virtual funds, with top students achieving ROI of 334%. The annual trading competition is sponsored by CMC Markets, and organised by UC in collaboration with the UC Student Association student club, Investment Society. The competition provides students with a valuable platform to apply their financial knowledge in a real-world setting. During the three-week competition, students navigate a simulation of real-world financial markets. Professor Jędrzej Białkowski from the UC Business School has over the years promoted the idea of trading challenges at UC. Noting the fact that the competition gives

students a chance to apply their knowledge and skills in a real-world setting, he says that “It stimulates their interest in key forces moving international financial markets.”

Children’s University turns five



Over six evenings at the Christchurch Town Hall, over a thousand children aged seven to 14 were presented with their graduation certificates in front of proud family and friends, marking the programme’s fifth year of success. The Children’s University programme, a partnership between UC and Lincoln University, has seen year on year growth since its launch in 2019. The programme’s core mission is fostering a love of lifelong learning and raising aspirations for higher education. The Children’s University programme has become the largest of its kind in New Zealand, and to date 4,303 children have graduated. Demand is so high there are many schools on the waiting list.

Geology Students Taking Local Actions



First year students taking the Global Environmental Change GEOG 106 course had the opportunity “To think global – act local”. Students researched a global environmental issue of their choice, and came up with a plan of action, which addressed the issue at the local scale (i.e. within their flat, family, or immediate community). The students also needed to decide how they would measure the impact of their efforts. At the end of the semester, groups reported back to their peers on what global issue they focused on, what action they took, and how they measured their success. A wide range of activities were undertaken including shorter showers, eating vegetarian, planting trees, cleaning rubbish from streams and greenspaces, and opting for climate-friendly transport. At the end, the students individually reflected on their experiences and learning from their own groups activities and tasks undertaken by others, presenting an individually written report.

Childhood literacy expert to advise National Commission



Our current and previous SDGs Updates have highlighted the important work of UC’s Child Well-being Research Institute and the Better Start Literacy Approach, led by Director, Professor Gail Gillon. We are pleased to announce Professor Gillon has been appointed Education Commissioner for the Aotearoa New Zealand National Commission for UNESCO, for a three-year term. Professor Gillon is delighted by the opportunity, which recognises her research team’s years of groundbreaking contribution to early childhood literacy. “Within Aotearoa, our National Commission is supporting UNESCO’s aspirations within the context of our unique Aotearoa context, grounded in Te Tiriti o Waitangi principles and informed by Māori tikanga and values. I look forward to contributing to this work and in sharing our activities within Aotearoa with our UNESCO global partners,” says Professor Gillon.

Engineering Students Visit Tonga



Engineering students from Humanitarian Engineering Community Project (ENHE401) visited Tonga in November 2024 to engage with displaced communities after the 2022 Hunga Tonga–Hunga Ha’apai eruption and tsunami and learn how communities in Pacific Nations can be more resilient to climate change effects. During the visit, the students also serviced three water treatment systems installed by a previous student mission. The systems provide safe drinking water to school children and teachers. The students found applying their technical knowledge and skills to improve school children’s health rewarding and motivating.

Turning waste into wonderful

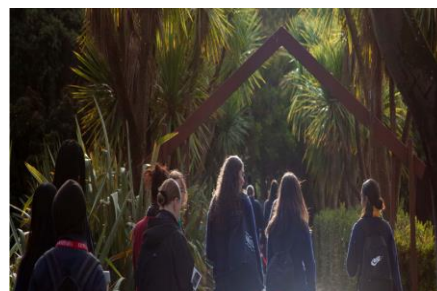


The annual ‘Redesign with Waste Challenge’ inspires students to transform waste into innovative opportunities. Each year, second-year Industrial Product Design students and third-year Chemical Formulation Design students from the School of Product Design collaborate to develop innovative products and business models, transforming waste materials like cabbage tree leaves and discarded batteries into sustainable, purposeful solutions. Since its launch in 2020, the programme has engaged between 60 to 80 students annually, offering a real-world platform to apply academic knowledge to global environmental issues.

Year 12 Māori students welcomed to campus



UC hosted over 200 taiohi Māori from schools across Christchurch for Aukaha Tau 12. Aukaha gives students the opportunity to explore UC and our campus, as well as to understand and develop pathways to help them attend university. The day began with taking a cultural narrative tour of campus run by current ākonga Māori. Students also attended two faculty-run sessions based on their interests, giving them insight into the range of study options at UC. The day finished with a Q&A session and sharing of aspects of student life, including clubs and scholarship opportunities. It was wonderful to host so many taiohi Māori on campus, offering them the chance to build connections and explore the many tertiary education pathways available before starting their learning journey.



Māori year 12 students exploring the UC campus

Research Programme



Ensure that UC research contributes to resolving global sustainability challenges.

2024 case studies for SDGs 1 to 16 are provided below:

Village experience helps teachers connect



A long-running education initiative that has given hundreds of New Zealand teachers the chance to experience life in a Samoan village is now the subject of new research. Dr Tufulasi Taleni from the Faculty of Education leads a group of educators from New Zealand to Samoa, as part of the Pacific Education Initiative. The visitors spend a week in Vaiafai Iva, and take part in village events such as attending church, cultural ceremonies and celebrations, giving them a unique understanding of Pacific students' cultural backgrounds. Dr Taleni says, "We need to understand the culture and viewpoint of Pacific learners to improve their outcomes. For Pacific students, research demonstrates that schools need to prioritise their educational success."




The NZ team of UC researchers who visited Samoa: from left Sieni Tuputala Fesaesaea'i, Dr Nicola Surtees, Vaoita Mauola, Dr Kay-Lee Jones, Toe Moemai Filifili, Temukisa Tofilau, Leali'ie Dr Tufulasi Taleni and Associate Professor Billy O'Steen

New approach to literacy improving outcomes



The Better Start Literacy Approach (BSLA), developed by researchers at UC, is delivering substantial benefits in early literacy achievements for New Zealand children. Designed for the early primary school years, this future-focused approach uses research-backed methods to improve children's reading, writing, and oral language. It is a structured approach to early literacy teaching and includes systematic teaching of phonics, reading, spelling, vocabulary listening comprehension and storytelling skills. UC offers the BSLA as a 15-point postgraduate level micro-credential for teachers, providing professional development and certification to ensure effective implementation, supported by ongoing coaching and resources. This structured support system empowers teachers nationwide to enhance their literacy instruction.



51 publications based on Elsevier mapping
55% of publications have international collaboration
Based on publications from 2020 to 2024

How NZ's appetite for meat could sizzle into a new era




The overconsumption of meat has been related to negative health, environmental, and animal welfare outcomes. As a result, many people are cutting back on meat, with some choosing to incorporate more meat substitutes and plant proteins into their diets, according to Dr Joya Kemper from the UC Business School. "Research shows that Aotearoa New Zealand has likely reached peak meat consumption. As income levels rise, meat consumption often decreases. While meat consumption traditionally signifies wealth and status, in wealthier countries like the UK, US, Australia, and Aotearoa New Zealand, it is now more likely to decline due to growing environmental awareness, health concerns, and shifting values," says Dr Kemper. Dr Kemper suggests organisations and local communities could support individuals who are reducing their meat consumption by providing practical resources such as recipes and meal-planning tools, tailored to different family situations, household compositions and motivators.

Sustainable food future



Baptiste Hamon, an Engineering PhD candidate in agricultural modelling, is developing a methodology to study and understand the future of New Zealand's agricultural system. Hamon seeks to understand the potential impacts on the agricultural sectors and to make informed assumptions that can be scaled up across regions and countries. Hamon emphasises the importance of staying within safe planetary boundaries – to ensure a sustainable future. Hamon says, "We hope that by investigating different scenarios, we can show policymakers the pathways to achieving sustainable outcomes. It's about making informed decisions that consider the long-term viability of our food systems. Whether it's exploring new varieties of crops or reducing our environmental impact, the focus is on finding solutions that will benefit the country and the global community, for now and the future."



95 publications based on Elsevier mapping
67% of publications have international collaboration
Based on publications from 2020 to 2024

Where we grow up may influence mental health

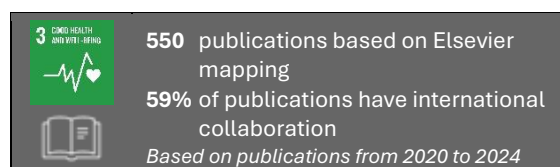


Children who move into more deprived neighbourhoods are more likely to experience mental health issues as teenagers, according to Canterbury research conducted by Susie Bingyu Deng, a PhD student in the GeoHealth Lab. Deng combined geospatial information with data from the well-known Christchurch Health and Development Study which involves more than 1200 people born in 1977, allowing her to track the participants' residential locations over time. She found that where a child grows up can have a significant impact on their future mental health. Children who moved from a relatively well-off area to a more deprived neighbourhood before the age of 16 were almost three times as likely to suffer from depression in adolescence compared to those who had a stable childhood in an affluent area, according to her results.

GeoHealth Lab celebrated 20 years



Since 2004, the GeoHealth Lab at UC has combined geospatial science and public health research to address societal health challenges across Canterbury and Aotearoa New Zealand. The Lab's research has informed nationwide campaigns and local government initiatives, from improving urban design to mitigate health risks to addressing climate-related vulnerabilities in coastal and rural areas. The Lab celebrated its 20th anniversary with a free public seminar led by current and past Directors. Through fascinating case studies spanning two decades, seminar participants learned how the Lab's research maps, stats and data have significantly influenced positive, meaningful change in health policy, across communities.



International recognition for elevating student success



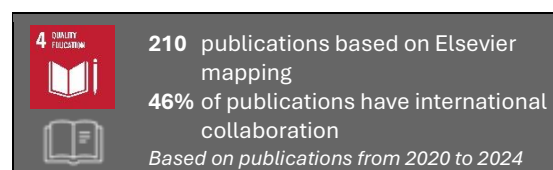
UC won Best in Future of Enterprise Intelligence at the IDC Future Enterprise Awards ANZ, recognising its commitment to technological innovation in education. Our internationally renowned student success programme, Kia Angitu, focuses on the early experiences of UC students, and brings together a range of initiatives to help students transition into their first year and make the most of their studies. A standout component of the programme is Analytics for Course Engagement (ACE), which has transformed how UC approaches student success. ACE employs advanced analytics to identify and support vulnerable students. By analysing data, the system proactively reaches out to students showing signs of disengagement through a personalised text message. Over 75% of these students re-engage and

subsequently invest more time in their studies. For the remaining 25%, UC provides direct support to ensure they receive the help they need.

Digital education professor earns prestigious Chair



Trailblazing UC digital education leader Professor Cheryl Brown from the Faculty of Education was appointed a Chair of the Commonwealth of Learning (COL). COL appoints distinguished experts to advance research, innovation and thought leadership. Professor Brown joins the ranks of the six existing Chairs. "I'm excited to be able to expand my research around tertiary students' access to and experiences with technology-enabled learning in resource-constrained contexts," said Professor Brown.



Sustainability lead elected Engineering NZ President



UC's Professor Jan Evans-Freeman was confirmed as the new president of Engineering New Zealand. Professor Evans-Freeman is UC's Pro-Vice-Chancellor Sustainability, and was previously our Pro-Vice-Chancellor Engineering. In leading Engineering New Zealand, Professor Evans-Freeman said she is keen for the organisation to focus on "raising awareness of issues of the day, such as climate change, the need to be more sustainable and how to support engineers in being able to achieve those goals". Professor Evans-Freeman also advocates for greater diversity within the engineering profession, especially where it comes to gender and Māori. She says that although some groups have been under-represented in the past, things are changing, and universities are equipping the next generation of engineers to be bold and culturally competent.



*Professor Jan Evans-Freeman,
UC Pro-Vice-Chancellor Sustainability*

Female Finalists in the 2024 Young New Zealander of the Year Award



There were three outstanding female category finalists in the 2024 UC Young New Zealand of the Year Award. All women are trailblazers in their diverse areas of influence, each striving to make a positive impact, and improve NZ. UC Bachelor of Science graduate Brianne West is the founder and former CEO of Ethique. West has changed the way we think about beauty through launching the world's most sustainable beauty brand. Ethique has prevented the disposal of over 25 million plastic bottles worldwide. Simran Kaur is the founder of Girls That Invest, a social media platform that aims to close the gender gap in investing. Kaur's podcast's popularity transcends offshore with over 6 million downloads worldwide. She is a 2023 Forbes under 30 Honouree (Asia), and has been featured in TEDx US, Vogue, Business Insider and Oxford Women in Business. Dr Olive Webb has dedicated her life to advocating for people with learning disabilities. She works tirelessly to support not only New Zealanders with intellectual impairments, but their family and support networks. As a UC graduate, Dr Webb is a valued member of our community.



87 publications based on Elsevier mapping
45% of publications have international collaboration
Based on publications from 2020 to 2024

New engineering resource for high schools



High school students around the world are now able to access a new learning module that combines practical engineering knowledge with Pacific perspectives. Dr Matthew Cowan and his team from the Faculty of Engineering have completed the first of two planned modules, which offers high school students around the world an engaging exploration of water treatment within Pacific Island contexts. The module is available for free to high schools, and has been designed with teachers for in-class delivery and provides a dynamic learning experience through activities such as mind-mapping, embodying various science, technology, engineering and maths roles, and conducting a choose-your-own-adventure chemistry lab. A follow-up release is currently underway to include a NZ Sign Language glossary to supplement this and future modules.



Left to right: Dr Matthew Cowan, Shallu Verma (PhD Student), Siale Faitotonu (Technical Officer), Garrick Thorn (Operations Engineer), Ashalya Noa (Pacific Academic Lead), and Christina Howat (PhD Student)

Ultra-clean water device to help grow food for the future



A new device that purifies water cheaply and efficiently could revolutionise hydroponic growing and make farming more sustainable in a changing world. The photoelectrochemical water treatment device is being developed by a UC team led by Professor Alex Yip from the Faculty of Engineering. Professor Yip says the goal of the project is to enable a climate change resilient food supply. The device the team is working on is unique and low-cost because it uses solar energy, reducing reliance on electricity. "During the day, the smart device basically utilises solar light and converts it into chemical energy to remove pollutants from water, and during night-time or under weather conditions where we don't have so much sunlight, it will automatically switch to an electrical system which powers the chemical reaction, so this dual power source makes it more robust and adaptable to use," Professor Yip says. He hopes when the product is realised it can be marketed internationally, particularly to countries where clean water is not guaranteed.



227 publications based on Elsevier mapping
50% of publications have international collaboration
Based on publications from 2020 to 2024

New solar installations spark learning opportunities



Solar Sunflower sculpture



Two solar-energy systems will provide UC with clean energy and serve as teaching and research tools for staff and students in our Faculty of Engineering. One of the installations, the Solar Sunflower, is the first of its kind in New Zealand and stands about 5 metres tall when fully unfurled. The sculpture features photovoltaic modules on its 'petals' which track the sun's movement to maximise electricity generation. The second system involves the installation of semi-translucent solar glass panels at the awning of the Engineering and Physical Sciences Library. These panels replace traditional roofing and shading materials while generating electricity.

Medallist advancing drone technology for clean energy



UC Research Medal winner, Professor Dan Zhao



Professor Dan Zhao is advancing clean energy and drone technology with his innovative research in aerodynamics and carbon-free solutions. Professor Zhao's contributions earned him UC's 2024 Research Medal, recognising his pioneering research in carbon-free combustion and drone aerodynamics. Professor Zhao focusses on optimising wind turbines for clean energy, addressing the challenge of designing onshore and offshore wind turbines that can operate efficiently at lower wind speeds, and aiming to increase energy output and reduce reliance on fossil fuels. Professor Zhao leads one of the largest aerospace research programmes in the Southern Hemisphere, guiding students in projects that push the frontiers of aerodynamics and clean energy.



370 publications based on Elsevier mapping
73% of publications have international collaboration
Based on publications from 2020 to 2024

Adopting Māori values could go further



Many organisations are adopting Māori values, but UC research suggests Aotearoa New Zealand could go further in exploring the benefits of an Indigenous economies approach. Dr Matthew Scobie from UC Business School outlines possibilities for a more socially and environmentally just economy in a book co-authored with UC alumni Dr Anna Sturman, entitled *The Economic Possibilities of Decolonisation*. Drs Scobie and Sturman demonstrate the possibilities of integrating Māori values into contemporary economic practices to address pressing issues such as climate change, resource depletion, and inequality. The book delves into how Māori organised their economies, where some things were broadly like today, but many aspects were very different. The exploration includes features such as rights and resource use, obligations, exchange, labour and distribution.

New tech courses



UC has partnered with the Institute of Data to offer three new part-time courses focused on bridging the technology skills gap in New Zealand. The courses in Data Science and AI, Cyber Security, and Software Engineering are designed to equip mid-career professionals with industry-relevant skills and provide

ongoing career support for job placement. The partnership aims to support both IT and non-IT professionals looking to transition into technology careers.



260 publications based on Elsevier mapping
70% of publications have international collaboration
Based on publications from 2020 to 2024

UC hosts 40th Tertiary ICT Conference



UC proudly hosted the Tertiary Information Computer Technology (ICT) Conference in 2024. The event empowers industry attendees to explore digital innovation within New Zealand's tertiary ICT sector. UC Deputy Vice-Chancellor Academic, Professor Catherine Moran shared her insights on how we harness data at UC questioning whether the things we're doing are making a difference and how we use what's happening today to impact tomorrow. Implementing café days for teachers to better connect with students who were disengaged from a specific course is just one example Professor Moran shared of how UC utilises data to make impactful change. Professor Moran was among the many exceptional tertiary leaders speaking at the conference.



40th Tertiary ICT Conference

Cattle disease detection takes students to France



A team of students took their concept for a new device to detect a common infection in cattle to the world's biggest synthetic biology competition. Eight UC third-year Biochemistry students travelled to Paris to present their innovative work at the iGEM synthetic biology grand jamboree. Their concept is for a new rapid detection device for Johne's disease – a potentially deadly infection that currently costs New Zealand's dairy industry up to \$88M a year in lost production. Research suggests more than half of all dairy herds in New Zealand have had cases of Johne's disease, which is chronic and contagious.



UC team of Biochemistry students who competed in Paris

9 SUSTAINABILITY, INNOVATION AND INFRASTRUCTURE

273 publications based on Elsevier mapping

63% of publications have international collaboration

Based on publications from 2020 to 2024

Competition turns to cooperation

10 SUSTAINABILITY, INNOVATION AND INFRASTRUCTURE

UC students participated in an immersive campus activity to explore the SDGs and their interconnectedness. Many were international students, reflecting some of the 193 United Nations member countries which signed up to the SDGs to create a more peaceful and sustainable world. The first half saw students focusing on their own goals, so global environmental and social indicators took a dive. Faced with this reality, the second half saw students collaborating to help others' succeed. This change in approach highlighted the importance of collective effort in solving sustainability challenges. The event concluded with a debrief, prompting rich reflections from participants about their personal experiences during the game and how this could be translated to the sustainability challenges facing the world today. Informal discussions continued afterwards, creating connections between participants.



Advocating for Museum accessibility

10 SUSTAINABILITY, INNOVATION AND INFRASTRUCTURE

UC graduate and former Teece Museum gallery host, Amy Boswell-Hore, was engaged to investigate ways to make the UC museum more accessible to the disabled community, and to provide recommendations that could be used in other heritage buildings. "Accessibility isn't just about putting a ramp in. It's also how you interact with disabled people, and the accommodations you make to your practice and environment, so that the person visiting the museum has as good an experience as a non-disabled person," Boswell-Hore says. Drawing from her family's experiences with disability and her own travels to museums, galleries, and cultural sites worldwide, Boswell-Hore offers best practice recommendations based on these insights through her business which advocates for disabled people.



UC graduate, business owner and disability advocate Amy Boswell-Hore.

10 SUSTAINABILITY, INNOVATION AND INFRASTRUCTURE

152 publications based on Elsevier mapping

50% of publications have international collaboration

Based on publications from 2020 to 2024

Rethinking roads as public spaces

11 SUSTAINABLE CITIES AND COMMUNITIES

Aotearoa New Zealand is highly car-centric, with bigger cities dedicating significant amounts of land to roads and parking. While roads and car parks are not often thought about as public spaces, New Zealanders pay to use them. UC's Professor Simon Kingham, who was also chief scientist at the New Zealand Ministry of Transport, believes the "superblocks" model can offer an alternative, where traffic is limited and space is repurposed for public use, leading to benefits such as reduced pollution and increased economic activity. Key recommendations from the superblocks model include rethinking large infrastructure projects, optimising bus networks, better managing on-street parking, redirecting traffic to prioritise people, investing in public spaces and encouraging urban density. By implementing these changes, Aotearoa New Zealand's urban landscapes could be totally transformed.

Leading engineer looks back on career of fighting fires

11 SUSTAINABLE CITIES AND COMMUNITIES

Emeritus Professor Charley Fleischmann has retired from UC after leading the fire engineering programme in the Department of Civil and Natural Resources Engineering for 30 years, developing it into an internationally well-known and respected degree. He was given the title of Emeritus Professor earlier this year in recognition of his contributions to teaching and research at UC and he says out of everything he has achieved in his career this work has been a personal highlight. "I'm really proud that I've helped build a well-established and robust programme in fire engineering that's respected here and internationally. And I'm proud of the graduates that we've produced, because they're the people who will carry on improving building fire safety in New Zealand and internationally," Emeritus Professor Fleischmann says. Although officially retired, Emeritus Professor Fleischmann continues to work at UC part-time, supervising PhD students and mentoring other staff, while also working for the Washington-based UL Fire Safety Research Institute as a principal research engineer.

11 SUSTAINABLE CITIES AND COMMUNITIES

528 publications based on Elsevier mapping

59% of publications have international collaboration

Based on publications from 2020 to 2024

Award winning oat milk

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

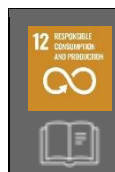
Award winning powdered-oat milk brand Teiny is launching in supermarkets in 2025. UC Master's student Emma Arvidson

received the Kiwinet Momentum Student Entrepreneur Award for her Teiny product. Emma switched to drinking oat milk for sustainability. Her powdered-oat milk idea led to her receiving a UC scholarship from the Entrepreneur Summer Startup programme. Emma and co-founder Renee Tauwhare could now see how Teiny might become a possibility. Renee and Emma's values are the driving force of the business, "Sustainability is incredibly important to us but looking at this holistically and where can have the most impact but still turn a profit. The product has to taste good and be as or more nutritious than dairy." Emma says her and co-founder Renee fill gaps in their own weaknesses, making them a formidable team.

Attitudes towards freebies changing



Research conducted in 2024 showed people reject freebies and cheap deals for fear of hidden costs globally. Ten experiments, involving 4,205 international participants, tested how phantom costs influenced people's choices to accept or reject overly generous economic offers. Dr Andrew Vonasch from UC's School of Psychology, Speech and Hearing, was involved in the experiments, and says the experiments were repeated with different jobs, different normal wages, and in different countries. In both the US and Iran, despite very different types of economy, people showed the same pattern of suspicion and rejected very high wages. The only difference was that in Iran the expected wages were lower, so the wages didn't have to be high by US standards to become suspicious. Dr Vonasch says from a purely economic perspective, the findings reflect irrational decision making, as people aren't purely economic but social animals with a tendency to look for hidden reasons behind other people's behaviours.



302 publications based on Elsevier mapping
74% of publications have international collaboration
Based on publications from 2020 to 2024

UC research into curbing carbon



Innovative UC research aiming to remove megatonnes of carbon from the atmosphere each year has received a five-year, multi-million dollar grant from the New Zealand Government. The research project, led by Associate Professor David Dempsey from the Department of Civil & Natural Resources Engineering, is on de-risking carbon dioxide removal at megatonne scale in NZ. The research team will investigate different engineered carbon-removal processes, identify the best regions for durable carbon storage, and develop robust environmental monitoring and carbon-accounting frameworks to help New Zealand meet its climate targets. "We're aiming to provide a solution for New Zealand that could rapidly cut its emissions, offset resources that require carbon in their creation process

such as steel, and begin reversing carbon dioxide levels," said Associate Professor Dempsey.

Strong business case for NZ's energy transition



The former New Zealand Climate Change Commission Chair and former UC Vice-Chancellor, Dr Rod Carr spoke at the UC Business School in 2024, highlighting the alarming impact of fossil fuel combustion on our planet's climate. "At the rate we are currently putting greenhouse gases into the open air we will cause a change in climate that will be irreversible this century," said Dr Carr. Transition is achievable, he said. For example, another 15 billion tonnes of carbon dioxide was added to the atmosphere from burning coal last year, 80% of which was used to make electricity, despite the technology being available to prevent this. "We don't need to invent a single new thing to stop burning coal to make electricity. This is a failure of funding and distribution, not a failure of technology," said Dr Carr.



362 publications based on Elsevier mapping
64% of publications have international collaboration
Based on publications from 2020 to 2024

Unlocking Antarctic secrets



Dr Mia Wege from the Faculty of Science is applying her expertise on Weddell Sea seals to support crucial oceanographic research. By tagging Weddell seals with specialised satellite devices, Dr Wege and her international collaborators are gathering invaluable data on ocean temperatures, salinity, and ecosystem health in the Weddell Sea. "We use seals because they are naturally adapted to swim where ocean robots and oceanographic floats struggle to go – the ice-covered polar seas!", says Dr Wege. The seals become roaming data collectors, diving into areas of the Southern Ocean that are otherwise difficult for other collection methods to reach. The data collected is invaluable for our understanding of these ocean environments and the changes they are going through. Dr Wege has extensive experience in both sub-Antarctic and Antarctic regions, and she has worked closely with seals in some of the world's most remote environments. Through her lecturing work at UC, Dr Wege is able to share this unique knowledge with young scientists.



Dr Mia Wege

New research of the Ross Sea region



School of Earth and Environment PhD candidate Eva Nielsen created a new dataset of Antarctica's temperature over the past 20 years analysing its trends and temperature extremes as part of her research. Nielsen says Antarctica will experience significant changes due to global warming. Nielsen is currently analysing Antarctica's largest heatwave which occurred in March 2022, focusing on the McMurdo Dry Valley Area. It's significant for New Zealand due to its proximity to Scott Base and research conducted there. Nielsen says these events are crucial for understanding how extreme temperatures affect the environment.



PhD candidate Eva Nielsen



198 publications based on Elsevier mapping
60% of publications have international collaboration
Based on publications from 2020 to 2024

Well-meaning tourists pose a threat to kea



New research has found tourists' irresponsible behaviour around kea, such as feeding the birds, poses a potential threat to the species' survival. Dr Richard Aquino and Professor Girish Prayag from UC Business School have discovered that tourists are often unable to resist the temptation to feed kea despite awareness that they shouldn't. With tourist locations located in proximity to kea populations, there's more likelihood of kea being exposed to human food through stealing, soliciting and scavenging food. This puts kea at an increased risk of involuntary poisoning from toxins meant for their predators. These findings will help inform social marketing campaigns to encourage responsible visitor behaviour and support the protection of New Zealand native birds.



UC research finds tourists feeding kea poses a potential threat to the species' survival

Antarctic decision-making concerns researchers



School of Earth and Environment PhD candidate Natasha Gardiner is lead author of a paper that identifies a growing mismatch between the urgent environmental issues facing Antarctica and the nature of decision-making under the Antarctic Treaty. Key concerns are a shift away from the legally binding agreements that characterised earlier decades of Antarctic decision-making. Instead, the paper highlights a recent preference for soft laws – voluntary agreements that can reduce accountability and undermine the capacity for agreements to be monitored and enforced. Under such conditions, the potential for diplomatic stalemates to arise has increased. In the paper, there is also cautious cause for optimism. Treaty Parties have agreed that a growing tourism industry, which saw visitors to the ice top 100,000 for the first time in 2023, will require legally binding regulations to limit further stress on Antarctic ecosystems and prevent irreversible damage.



PhD candidate Natasha Gardiner



381 publications based on Elsevier mapping
60% of publications have international collaboration
Based on publications from 2020 to 2024

UC academic appointed King's Counsel



Professor Philip Joseph from UC's Faculty of Law was appointed as a King's Counsel in recognition of his outstanding service and dedication to the field of law. The title of King's Counsel is a prestigious distinction given to senior barristers who have shown exceptional skill and expertise in the law.

Medal for leading voice on international relations



Faculty of Arts Professor Natalia Chaban won the Royal Society Mason Durie Medal for her research on perceptions in international relations and public diplomacy. Professor Chaban was presented the Medal for her innovative research, most recently about the war against Ukraine.



202 publications based on Elsevier mapping
53% of publications have international collaboration
Based on publications from 2020 to 2024

Reducing carbon emissions



Establish an initiative to ensure that UC will significantly reduce its carbon emissions over the next several years.

Carbon Reduction Projects

Our major carbon reduction initiatives proposed years ago were mostly completed during 2024. These have represented \$24m of investment (including \$8.4m from the State Sector Decarbonisation Fund). This is in addition to the 36% reduction in greenhouse gas emissions already achieved since 2010.

Coal Boiler Conversion

Physical works on the coal boiler conversion project were completed in 2024 and commissioning was undertaken. This work allows our Ilam Campus to be heated using biomass rather than coal, and substantially reduces our annual carbon emissions.

Ground Source Heat Pumps

The Group 4 Building Ground Source Heat Pump project (for which the tender was released in 2022) was almost completed, allowing for heating and cooling to be provided currently to four buildings on our central campus with virtually no emissions, including the Ernest Rutherford building, Rehua, Beatrice Tinsley and the Central Lecture Theatres.

Energy Use

Metric / Indicator	2022	2023	2024
Total electricity consumed (GJ)	94,400	96,125	98,362 (2.3% ↑)
Low-carbon electricity consumed (GJ)	94,400	96,125	98,362 (2.3% ↑)
Low-carbon electricity (%)	100%	100%	100% (→)
Total heating fuel consumed (GJ)	112,613	97,720	123,963 (26.9% ↑)
Coal	112,613	97,720	61,878 (36.7% ↓)
Biomass	n/a	n/a	62,085 (↑)
Low-carbon heating fuel (%)	0%	0%	50.1% (↑)
Total energy used (GJ)	207,013	193,845	222,325 (14.7% ↑)
Total energy used from low-carbon sources	94,400	96,125	160,447 (66.9% ↑)
Low-carbon energy use (%)	45.6%	49.6%	72.2% (22.6 ↑)

Total electricity use rose slightly by 2.3%; however our student EFTS rose 6.6% and the Jack Mann Auditorium was added to the electrical account in 2024 (352 GJ). All of the UC electricity usage is renewable and zero carbon, with Renewable Energy Certificates (RECs) issued by our electricity provider, Meridian. Total heating fuel consumed rose by 26.9% as the converted boilers are less efficient on biomass than on coal, and due to fuel use during boiler commissioning. Coal consumption dropped by 36.7%, replaced by biomass, making half (50.1%) of heating fuel consumed in 2024 low-carbon. Overall, energy consumption rose by 14.7%, largely to the increase in heating fuel consumption for the reasons explained earlier. However, the switch from coal to low-carbon biomass underwrote a large percentage increase in low-carbon energy use (from 49.6% to 72.2%).

Ensure Climate Resilience

During 2024, UC participated in the Tertiary Education Sector Climate Futures Group to develop sector level climate change scenarios. Sector level scenarios are recommended by the External Reporting Board (XRB) as an initial step in developing entity-specific climate change scenarios. These scenarios are a requirement under the strategy component of the standards. In doing this work, all New Zealand universities, polytechnics (under Te Pūkenga) and wānanga collaborated with the XRB. The sector-level climate change scenarios can be found [here](#). This project resulted in an Australasian award (see page 22).

Improving Environmental Sustainability



Measurably and substantially improve the environmental sustainability of UC.

Transport Planning

Travel Survey

The University's four-yearly Travel Survey (commenced in 2000 in its current form but conducted in other formats since the 1960s) was undertaken in 2024. This survey provides us with an insight into the travel behaviours of students and staff, and is an important tool for helping us understand the success of our various programmes and for devising new ones.

Our [2024 Travel Survey Report](#) shows very positive changes, including a continued decline in car driving amongst staff and especially amongst students, and a corresponding increase in bus use (up 7% since 2020). Cycling (21%), using the bus (15%) and using electric vehicles (8%) have all exceeded targets established in the Sustainability Plan. An article published by UC in *The Conversation* describes how the holistic approach applied to sustainable transport by local councils and the University has led to this result: 'cohesive policies and planning – informed by research, appropriate to their context, and developed collaboratively – can encourage people out of their cars.'²

Transport Planning and Engagement

The results of our 2024 Travel Survey informed a draft Sustainable Transport Plan for the University, which largely focuses on engagement and behaviour change initiatives such as Cycle Skills workshops, cycling community targeted events (e.g. Dr Bike, Aotearoa Bike Challenge, Bike Breakfasts and supporting RAD Bikes) and ongoing championing of improvements to the public transport network.

Dr Bike, our free bike repair service, has fixed over 300 bikes, and over 400 people have attended bike-related events. Oversight of this programme is managed by the Sustainable Transport Working Group, chaired by Professor Simon Kingham. This group reports directly to Sustainability Programme Board (SPB), with the SPB chaired by the Pro-Vice-Chancellor Sustainability.

Biodiversity and Waterways

Biodiversity Plan update

Plantings on our campus continue to increase. 255 trees were planted, including 209 indigenous plants that align with local ecosystem plant guides.

Last year, we agreed on a target to increase our canopy cover of the campus by 30%. A Data Science student completed a summer project to validate the previous

Blooming Wild in Study Week



The campus biodiversity meadow is blooming



Just in time for study break, our biodiversity meadow bloomed back, building on the success of last year's pilot project and boosting spirits on campus. Converted from lawn in 2023, the meadow was sown with wildflower seeds to promote biodiversity on campus and to reduce carbon emissions. The meadow is mown just once, in autumn, compared to other lawns that are mowed regularly throughout the year. Additionally, the meadow requires less watering, particularly after the germination period. A bonus effect of the meadow, which was anticipated, has been the wellbeing benefit for the UC community. Some have asked whether more wildflower meadows can be created on campus.

² Simon Kingham and Matt Morris, 'Getting People Out of their cars is possible with the right plans and policies – case study', *The Conversation* (December 2024), <https://theconversation.com/getting-people-out-of-their-cars-is-possible-with-the-right-plans-and-policies-case-study-246023>

assessments using the historical data. From this, the student compared the canopy cover reduction over time, but the latest data showed an upward trend of increased canopy cover. This increase infers we have already reached the current target and may require setting a more ambitious target. An Environmental Science/Geography student assessed and mapped out the campus's plantable area, and this is now being digitised to assist with our planning and management.

Monitoring our campus biodiversity continues, and our monitoring now has a focus on the use of the iNaturalist platform, allowing users from all backgrounds to be involved through this citizen science initiative. During 2024, we recorded a sizeable increase in observations, from 1,876 (2023 total) to 2,769 (2024 total). There was also an increase of 25% in observers participating in 2024. This may be attributed to several bio blitzes, including a night bio blitz that was held on campus, with the intent to highlight the importance of biodiversity and bring attention to the smaller, obscure animals in our environment. To date, over 6,500 observations have been made, and over 1,000 species have been identified on our campus.

Our Sustainability Office supported several biodiversity-related research projects during 2024. These were an invertebrate survey by Clara McCombs, vertebrate monitoring by Sho Mathieson, canopy cover by Fan Yu, plantable area by Xavier Youngman, and predator interactions with traps by Emily Reed. All of these projects provided valuable data for implementing the [University's Biodiversity Plan](#).

Predator control and Birdlife

Predator control remains ongoing, and a total of 173 introduced pests were removed from the campus. The impact of trapping has become apparent in increasing avian nest success. Prior to predator control, nest success of native birds ranged from 6% to 22%. During the nesting season of 2024, nest success was 69%.

Bird counts were again undertaken, to provide an indication of how our overall biodiversity programme is progressing. There appears to be a strong trend towards an increase in birdlife on campus overall, even while feral pigeons (Rock Doves) have declined significantly (attributed to the pest control programme). Native birds on campus appear to have more than doubled in numbers since 2020, and by over 800% since we conducted the first survey in 1990!

Waterways Monitoring

Water quality monitoring continued throughout 2024, utilising our Waterways Monitoring Framework. This also included increased samples from stormwater events using autosamplers, and installation of real-time water level monitoring as part of a project to digitise some aspects of our monitoring programme. As the water level data captures the frequency and size of storm flows through the catchment, it is useful in assessing climate change impacts, as well as signalling to our Building Management System if any threats are present.

The Storminators (stormwater treatment systems developed by our Department of Civil and Natural Resources Engineering team), installed during 2024 on downpipes feeding into the Waiutuutu Okeover Stream, have contributed to a significant reduction in heavy metal contamination of the stream. Performance monitoring of several Storminators across campus shows an average of 88% copper and 95% zinc reduction in roof runoff before it is released into the stream. In 2023, zinc (highly ecotoxic) exceeded the guideline value (for 90% species protection) by 16x. In 2024 it

Protecting native birds on campus



EnviroSoc students, Tilly King and Emma Godfrey



Committed student volunteers are making the campus safer for native birds by trapping pest predators.

About 50 students from the student club EnviroSoc work in rostered teams to regularly control the population of predators, such as rats, mice and possums, which threaten native birds, insects and trees. Biodiversity Projects Coordinator, Seamus Moran, oversees the initiative, and says the number of students involved has grown rapidly over the past year, from just a handful to about 50. He says their work is helping to achieve the University's [Biodiversity Plan](#), which has a target of improving bird populations through predator control and increasing bird-friendly planting, among other actions. Moran adds there are strict health and safety guidelines in place, and traps have been approved as humane by the National Animal Welfare Advisory Committee.

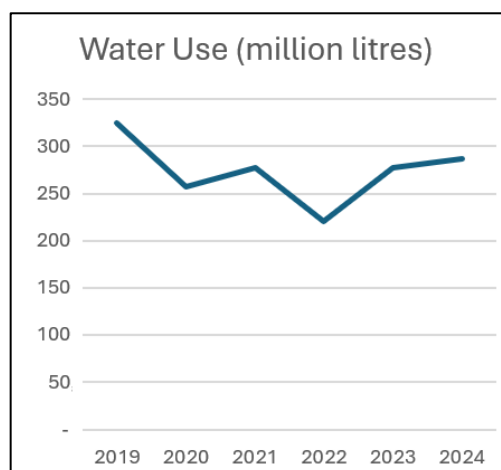
was within this threshold, with a value of 5.1 $\mu\text{g/l}$ compared to the guideline value of 15 $\mu\text{g/l}$. Copper was also within the threshold. In addition (and probably as a result of the cleaner water), we have seen an improvement in the numbers of creatures living in the stream, with 2024 numbers being the highest in over forty years. The Macroinvertebrate Community Index score for the Waiutuutu Okeover Stream was 92, which puts the stream within the 'moderate pollution' band, and our aim is to improve this to 'mild pollution' in the medium term (which would mean a score of more than 110).

Waterways Engagement

The University's Sustainability Office, EnviroSoc (the student environment club), UC Wellbeing and EnviroHub (a network of Ōtautahi Christchurch's environmental organisations) joined forces in 2024 to co-host a public screening of the film *Our Blue World*. This film celebrates the many ways people around the world are working to restore waterways. The event was attended by 280 people, of whom 80 signed up to participate in a new Catchment Care Group focused on the three streams running through the UC campus. The event was followed immediately by short talks at the edge of the Haere Roa stream, and featured a student research project into in-stream invertebrate refuges, including the work the University has been doing to actively improve water quality. The Stormwater Superhero Trailer, provided by EnviroHub, was on site for the event, helping people make the connection between stormwater quality and environmental health.

Water Use

Domestic cold-water use has climbed again (to 287,341,100 litres), but is lower than the pre-COVID-19 2019 year, which could be regarded as a normal year.

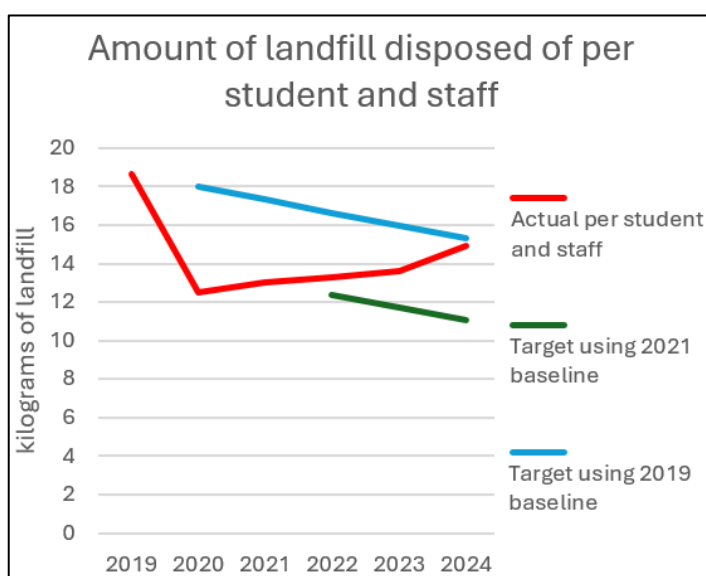


Waste Management

Waste Plan Update

The [UC Waste Plan 2022-2030](#) was adopted in 2022 and includes five target areas. In order to achieve these, UC collaborated with the University of Canterbury Students' Association (UCSA) and UniLodge to review our collective waste contracts and consider options for a more streamlined approach. This led initially to consistent signage being developed, which was rolled out across UC and UCSA sites early in 2024. Secondly, the parties agreed to act as a buying group and go out to market for a waste services provider, with the assumption that economies of scale would prevail, meaning cheaper services with better outcomes. Responses were received, but have not yet been fully reviewed at the time of writing. In addition, new digital screen messaging was developed to emphasise particular issues.

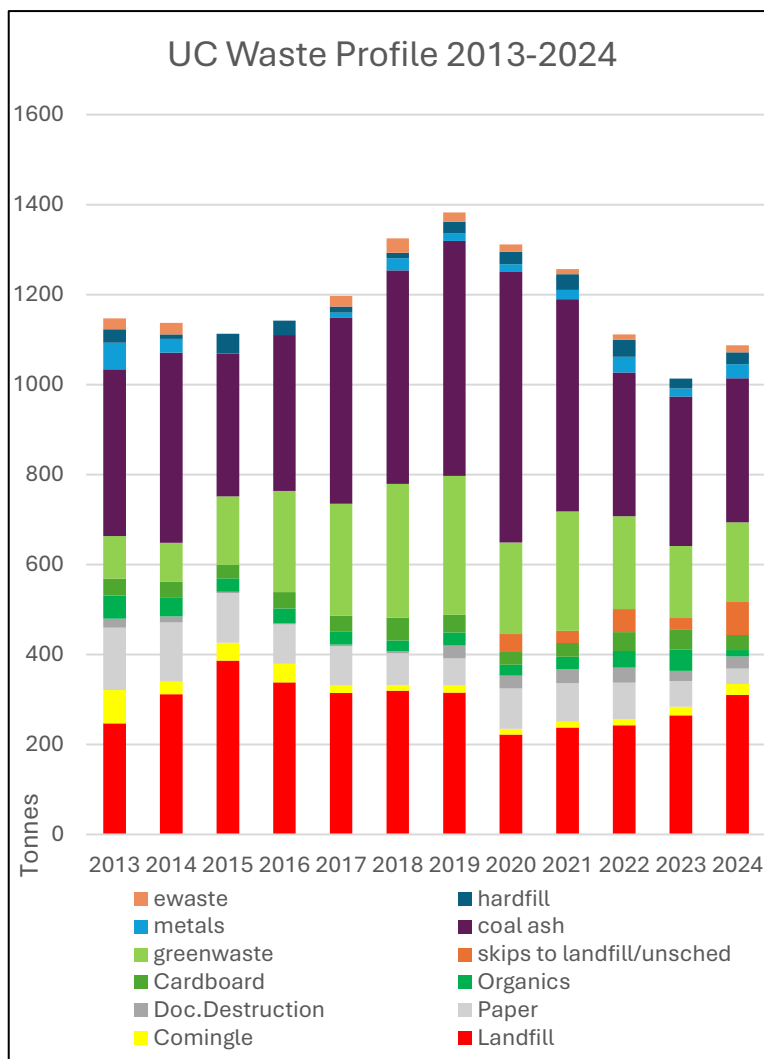
An important area of the Waste Plan is to see a 25% reduction in landfill per student and staff by 2026. The Plan does not clarify the baseline year for this,



however previously this had been assumed to be 2021. Because 2021 was an unusual year due to COVID-19, we have reverted to a 2019 baseline, which does show that while landfill per capita has been increasing, it is still (just) within the target range.

Work is continuing on achieving other areas of our Waste Plan, as follows:

- Landfill waste stream to be composed of no more than 25% 'divertible' materials by 2024. *This was not achieved.*
- Contamination of comingled recycling to be no more than 25% by 2024. *This was achieved.*
- Retain or improve on 94% clean organics stream by 2024. *This was not achieved (see 5.3.3. below).*
- Single use plastic bottle disposal drops by 20% by 2025 and 50% by 2030. *This has already been exceeded, with a 63% decrease achieved since 2022 (from 8% of recycling and landfill to 3%).*



Waste Profile

The University's Waste Profile saw some significant changes during 2024 as compared to 2023. Landfill increased by 17% (or 45.5 tonnes), while organic (food) waste diversion decreased by 69.5% (or 32.5 tonnes). We also saw a significant uptick in unscheduled waste collections (up 186%), from 25.5 tonnes to 73 tonnes. This waste was generated primarily from building refurbishment projects. As a result, the proportion of waste diverted from landfill in 2024 fell ten points to 64%.

Waste measure (metric ton)	2018	2019	2020	2021	2022	2023	2024
Waste generated	1325	1384	1313	1260	1113	1017	1073
Waste recycled	1006	1069	1091	1022	870	752	690
Waste sent to landfill	319	315	222	238	243	265	383
Proportion of waste recycled	76%	77%	83%	81%	78%	74%	64%

Waste Audit

A [Waste Audit](#) was conducted in August 2024 by the external provider *Sustainably* (a waste minimisation consultancy provider), as in previous years. This audit showed us that organics contamination of landfill had increased from 21% to 26% since 2023. This increase appeared to come mostly from on-campus Food Service Outlets and not post-consumer waste. Comingled recycling contamination of landfill on the other hand had decreased from 20% to 17%. Compostable packaging found in landfill bins had increased from 6% to 9%; however, it must be noted that these are not considered a divertible material under New Zealand's [new Waste Regulations](#).

Overall, the amount of divertible materials found in landfill bins has changed very little: 43% in 2024, up from 41% in 2023. Therefore, we conclude that the increase in landfill tonnages during 2024 were primarily due to more landfillable items being disposed of by the campus community – a likely consequence of higher student numbers and more students actually being on campus (as opposed to studying remotely).

Comingled recycling (glass, plastic, cans and some fibre products) remained 80% clean. This is within UC's target of contamination of this waste stream being no greater than 25%. Organics revealed significant contamination (21%), far above our target of less than 6%. However, the sample size for organics was extremely small (a function of the low level of organic waste being disposed of during 2024) and skewed by one highly contaminated bag from a tenant.

International Compost Awareness Week and Plastic Free July

In response to waste audit findings from the previous year, we celebrated *International Compost Awareness Week* and *Plastic Free July* to highlight key waste-related messages to the UC community, namely separating out organics waste from landfill and comingle streams and reducing reliance on single use plastics. Compost Awareness Week was run in collaboration with the student Compost Club, and focused on promoting University worm farms, while Plastic Free July's beeswax wrap workshops and Repair Café engaged 240 staff and students.

2024 saw a sudden increase in paper purchasing (8,355,950 sheets), which is out of step with the reduction in paper sent for recycling. For over a decade the University has seen a 53% reduction in paper consumption (2014 compared to 2024). However, 2024 saw a significant 313% increase in paper consumption compared to 2023.

Paper Purchasing

2024 saw a sudden increase in paper purchasing (8,355,950 sheets), which is out of step with the reduction in paper sent for recycling. For over a decade the University has seen a 53% reduction in paper consumption (2014 compared to 2024). However, 2024 saw a significant 313% increase in paper consumption compared to 2023.

Sustainable Food and Drink

Sustainable Food and Drink Plan Update

The Sustainable Food and Drink Committee met throughout 2024, and made good progress against its Plan. This included working with the Ngāi Tahu Research Centre to identify mahinga kai offerings on campus, including reviving the edible garden at Te Akatoki with students there, and planting two longed-for Moorpark apricot trees on campus. In addition to this, the Edible Garden, located outside Café 1894, was upgraded with apples, pears and persimmons, while eleven Stella cherry trees were planted in Okeover Lawn.

Food scrap composting in Te Ngaki o Waiutuutu (Waiutuutu Community Garden) was given a boost with several new worm farms and a new worm farm education space. A trial was also successfully established with Kirkwood Halls to save food scraps for the worms.



A Food Futures campaign, run by the UC Communications team, highlighted much of the research being done at UC into sustainable food systems.

Finally, a Memorandum of Understanding was signed by UC and the Food Resilience Network (see further below). This built on the previous year's signing of the Edible Canterbury Charter by UC, and sets out ways in which the University can meaningfully contribute to the food resilience movement in our region and further afield.

UC Community Gardens

UC has two community gardens. One of these, at the Dovedale Campus, is used for allotments only, and so is not usually publicised. The other, Te Ngaki o Waiutuutu (Waiutuutu Community Garden), has been in existence for 22 years.

In 2024, the Waiutuutu Community Garden received an unexpected grant of NZ\$30,000 from a private individual via the UC Foundation. These funds were partially expended on three significant improvements to the physical infrastructure of the garden, namely a renewed orchard pergola, a new pergola under which a worm farm education space was established, and the erection of a 15m² glasshouse. Irrigation was also improved dramatically. Use of the Waiutuutu Community Garden increased by around 5% over 2024, to almost 1,200 people. Many of these were University classes using the garden as a teaching space, but many student clubs and external organisations (such as local businesses and kindergartens) also used the space for volunteer days and teaching. 194kg of food was harvested from the garden, with quince, apples and potatoes providing the largest components.

Community Gardens Research Symposium

Following the successful Community Gardens Research Symposium held at UC (co-hosted by Lincoln University) in 2023, in 2024 UC co-hosted a follow-up event held at Lincoln. This symposium highlighted PhD research being undertaken by UC candidates and contributed valuable information and ideas to the wider research and practitioner community around community gardening. This work is also contributing into a large-scale European Union Horizons research project in which Ōtautahi Christchurch is providing a case study.

Growing Sustainability Networks



Engage with local, national and global networks.

UC Community Engagement

An annual calendar of events was again run for the UC community in 2024. As previously noted, use of the Waiutuutu Community Garden increased slightly, partly due to its use as a teaching resource by various faculties. Waste related events were the main focus for 2024, with over 780 students and staff attending related events. In all, 3,445 people attended events in 2024, down from over 3,700 the previous year, with the drop mostly accounted for by the lack of a Bike Breakfast event which typically attracts around 200 students and staff.

Food Resilience Network

In furtherance of our commitment to contributing to improving food resilience in our wider community (signalled last year by signing up to the Food Resilience Network's Edible Canterbury Charter), in 2024 UC and the Food Resilience Network (FRN) jointly signed a Memorandum of Understanding (MoU) setting out how UC's contribution could best be made. Importantly, this MoU gives UC a more direct role in the FRN, while also ensuring a suitable channel for food resilience research projects to be undertaken that meet the needs of the community.

SDGs Summit Series

UC continued to participate in the national Aotearoa SDGs Summit Series, which in 2024-2025 is hosted by Massey University. UC's Sustainability Manager is co-chair of the National Summit Series stakeholder group, which selected Massey University as the current host. In addition, our Sustainability Manager is now the Tangata Tiriti Co-Chair of the Aotearoa SDGs Alliance, a key outcome of the 2020-2021 series (co-hosted by UC). These groups are providing guidance in the national discussion about the place of, and progress towards achieving, the SDGs in Aotearoa.

STENZ and UNZ

The Sustainable Tertiary Education in New Zealand group (STENZ) is an open network of sustainability professionals working in Higher Education. It meets monthly online with chairing rotating between organisations, and topics being crowd sourced. UC has been part of this network for over fifteen years. In 2024 STENZ launched a simple [website](#).

UC has also participated in the Universities New Zealand Expert Panel on the SDGs, which in 2024 was reconfigured as a community of practice. As such it now meets less frequently and on an as-needs basis.

Climate scenario analysis sustainability award winner



A tertiary sector climate adaptation analysis submission, modelling future scenarios at different levels of global warming, is a sustainability award winner. The submission was in the Powerful Partnerships category of the Green Gown Awards, run by Australasian Campuses Towards Sustainability, and was based on sector-wide climate scenario work, which explored risks and opportunities of global warming for timeframes up to 2090. Staff and students at all NZ universities, as well as members of the not-for-profit sector and local government, were involved. UC hosted regional workshops and contributed to the work. The analysis concluded that NZ's "tertiary education sector must continue to champion climate mitigation and a fair and just transition for our communities. The sector must also plan for how it can adapt to the impacts of climate change". The NZ tertiary sector is not currently required by government to report on climate adaptation; however, the sector decided to be proactive and begin this work collaboratively. Individual tertiary organisations will now use the report as a basis for their own climate adaptation planning.

ACTS

Membership

[Australasian Campuses Towards Sustainability](#) (ACTS) is a member-based organisation and connects UC to universities, polytechnics, TAFEs and wānanga throughout Australasia. Membership brings UC access to the Green Gown Awards, Green Impact, the ACTS conference and an increasing number of subject-specific working groups. These last are particularly important as sustainability matures in the higher education sector and reporting requirements become more complex.

Green Gown Awards

In 2024, UC was a finalist in two categories of the [Australasian Green Gown Awards](#). These were the new Nature Positive category, for UC's biodiversity programme, and the Powerful Partnerships category for the Sector Climate Scenarios project (mentioned earlier). For this initiative, UC, along with all other New Zealand universities, wānanga and Te Pūkenga, won the category.

Green Impact

In 2024, our first full year for the Green Impact initiative, six active staff teams with a total of 25 members engaged with 350 colleagues in completing 136 sustainability-related actions across campus and the wider community. Feedback from participants indicated the programme improved sustainability and sustainability awareness and encouraged collaboration, both within the teams and outside them.

ACTS Conference

The ACTS Conference is an annual event held online and in person in alternating years. In 2024 it was held in person for the first time since 2019. New Zealand universities decided not to fly to Tasmania in the interests of saving carbon emissions, and so gathered in Wellington for three days, hosted by both Massey

and Victoria Universities. UC convened a session on current thinking on behaviour change for sustainability, including Green Impact.

Growing Networks Case Studies

Notable 2024 case studies include:

Boosting collaboration and research with a new Pacific Regional Security Hub



We are now home to a new hub, the Pacific Regional Security Hub aimed at increasing cooperation and security in the Pacific region. The hub is led by Associate Professor of Practice Jose Sousa-Santos, a Timorese transnational crime expert. Associate Professor Sousa-Santos says the hub's first step will be to build a network of Pacific security thinkers and scholars who lead critical conversations across the region and internationally. "It's a great opportunity to link together scholars, policymakers, leaders, and local communities in the region to engage in research and strategic thinking that addresses ongoing political, social, cultural, environmental, and economic security issues," said Associate Professor Sousa-Santos.

UC celebrates Pacific milestones

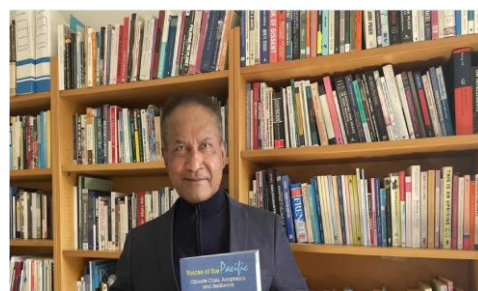


Following the release of our 3rd Pacific Strategy, UC is celebrating stronger ties with our Pacific neighbours. A UC delegation, led by Vice-Chancellor Professor Cheryl de la Rey, visited Samoa. Professor De la Rey, in her first visit to the country, was delighted with the opportunity to sign a memorandum of understanding with the National University of Samoa (NUS). "Our recent partnership with the NUS highlights our dedication to the region while also affirming our belief in the transformative power of education. Together, we can enhance the impact of our work and celebrate the unique cultural contributions of the Pacific," said Professor De la Rey. Distinguished Professor Steven Ratuva, Director of UC's Macmillan Brown Centre for Pacific Studies and UC's first Pro-Vice-Chancellor Pacific said, "It is a privilege to visit Samoa and embrace the opportunity to strengthen valuable ties in the country. I look forward to the opportunity to further developing our partnerships here."

Pacific climate-adaptation study launched at COP29



UC Distinguished Professor Steven Ratuva presented findings from the largest study of climate adaptation in the Pacific region at the 29th Conference of Parties (COP29), which is an international forum for world leaders to assess countries' efforts to limit global warming to 1.5°C, in line with the 2016 Paris agreement. Led by UC and the University of the South Pacific, the three-year study involved over 100 scholars and community experts working across 16 Pacific Island Countries and Territories. UC is one of the very few universities in the world to be accredited to the United Nations climate conferences process. Professor Ratuva's team negotiated for UC to attend COP and other United Nations meetings, as well as organising a special side event for the report launch.



Distinguished Professor Steven Ratuva

Volunteering Expo comes to campus



Our 2024 Volunteering Expo featured twenty-six not-for-profit organisations offering a range of volunteering opportunities to staff and students. Organisations from Christchurch and Canterbury gathered on campus, engaging with members of the UC community interested in learning more about how they can contribute to the community through volunteer work.

About this document

This is our fifth document covering our commitment and engagement in support of the UN SDGs. Our approach is to identify and summarise our activities and outcomes that most closely align with the SDGs, through our core functions of research, education, engagement, and operational activities, across the campus, and principally covers the 2024 calendar year. The material is substantiated with metrics (quantitative) and case studies (qualitative). For quantitative data, searches related to the SDGs were conducted on the Scopus database to collate our research, using the keyword search terms created by the Elsevier methodology. Courses aligned with particular SDGs were identified by consulting with Course Coordinators across campus about the type and quantity of SDG-related content in their courses and auditing the results with reference to course learning outcomes and course assessments. For qualitative data, case studies that most closely aligned with producing outputs for the SDGs were selected by a variety of ways, including through a consultation process, conducting a review of our website, consulting with operational directors and managers, and gathering input and feedback from a range of UC staff and students with particular expertise.