



Australian
National
University

ANU Environmental Sustainability Report 2023





ACKNOWLEDGEMENT OF COUNTRY

ANU acknowledges and celebrates Australian Aboriginal and Torres Strait Islander peoples as the First Australians and pays respect to Elders past and present. The University has campuses and partnerships across Australia, and we recognise their continued connection to these lands, waters and communities.

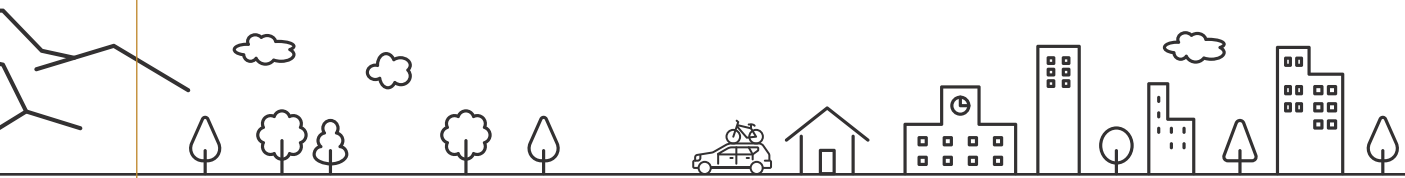
The main ANU campus sits on the land of the Ngunnawal and Ngambri people, who have been its custodians for millennia, and acknowledge that this land from which we benefit has an ancient history that is both rich and sacred. We are grateful for the support and space to work, teach and learn for our current and future generations of staff and students.

The ANU community is committed to ensuring that the voices of First Australians are listened to and heard so that we may move towards a future marked by reconciliation and mutual respect.

Photo: Australian National University

Contents

Acknowledgement of Country	2
Message from the Vice-Chancellor	4
Our 2023 sustainability journey	5
2023 highlights	6
ANU Green - Environmental sustainability at ANU.....	8
ANU and the Sustainable Development Goals	10
Walking the talk.....	12
<i>Wirgany</i> Greenhouse gas management.....	13
<i>Bagurany</i> Energy management.....	17
<i>Galing</i> Water management	19
<i>Nanhaybungarra</i> Circular economy.....	20
<i>Ngurambang</i> Biodiversity and conservation	22
Living lab	24
Community engagement and partnerships.....	26



Message from the Vice-Chancellor

During my time serving as the 12th Vice-Chancellor and President, I took great pride in guiding the Australian National University's efforts to address significant national and global challenges. With a strong focus on innovation and research around climate change and environmental sustainability, we are in a unique position to assume a leading national role in this critical domain.

Founded in 1946, as an optimistic response to the global crisis of WWII, ANU was designed to be a resource for the nation and a leader in our region. The establishment of a national university helped Australia realise its global and regional potential. More than 75 years on, ANU remains an intellectual powerhouse focused on research, teaching and innovation to serve the nation and lead by example.

Today we find ourselves in another global crisis and one that will spare no country nor person. Climate change is the defining challenge of our time, and the sustainable action needed to address it requires both bravery and innovation.

Finding solutions for the future requires acknowledging our past. To truly do this, we need to understand and embrace historical sustainability efforts of First Australians and the deep resonance and bonds they have with Country. We are committed to listening to and learning from Indigenous Australians. Their traditional land and water management practices are built on knowledge passed down through millennia which offers invaluable insights into living sustainably in the long-term on this unique continent.

I am confident that my successor, Distinguished Professor Genevieve Bell will skilfully continue to lead the ANU on its journey towards a future that is both inclusive and sustainable. Professor Bell's expertise and visionary leadership are vital in steering ANU toward further advancements in addressing the pressing issues of our time and ensuring that the University not only maintains but enhances its commitment to creating a positive impact on society and the environment.

Professor Brian P. Schmidt
AC FAA FRS Vice-Chancellor and President



Our 2023 sustainability journey

2023 was an exciting year on the University's sustainability journey. Creating the new Sustainability Division increased our capacity to coordinate and guide sustainability efforts across ANU. We also reestablished our commitment to our environmental goals by launching *Dhaagun*¹, the latest Environmental Management Plan (2022–2025).

Driven by our University mission to serve society through transformational research and education, the ANU Strategic Plan 2021-2025 commits us to contributing to global environmental sustainability through our research, teaching and operations.

With our climate action program, ANU Below Zero (launched in 2021) and *Dhaagun*, addressing broader environmental sustainability goals, we have mapped a set of targets and actions that put us on the road towards a more sustainable future.

In 2023, we prioritised the cohesion of environmental sustainability programs at ANU. After COVID-19 impacts disrupted our ability to plan and implement our sustainability goals, we needed to rethink and restructure our programs while focusing on our original objectives. In 2023, we worked on aligning our programs, developing realistic pathways for delivering emission reductions and other sustainability outcomes and building the teams and resources needed to realise our goals.

Our journey is ongoing, and we are committed to an iterative, adaptable and solutions-focused approach that prioritises innovation by engaging with ANU research and teaching, partnerships, sharing knowledge with our national and international stakeholders and co-designing novel solutions to challenges as they arise.

We hope you enjoy this report on our 2023 environmental sustainability activities. This is the first iteration of this report, and it will be reviewed and adapted to meet the needs of the ANU community and our external stakeholders. In the spirit of continuous improvement, we welcome any feedback on this report and our environmental sustainability work.



Dominique Haywood, Director,
Sustainability Division



Jeremy Matthew, Director,
Facilities and Services Division

¹ Derived from the local Walgalu (Ngambri) and Wiradjuri languages, *Dhaagun* encapsulates the essence of the Earth while emphasising the precious and finite nature of our resources

2023 highlights



ANU ranked
**30th in the world and
5th in Australia,**
QS University
Sustainability rankings



ANU ranked
**19th in the world and
7th in Australia**
Sustainable Development Goal
13 (Climate Action), Times Higher
Education (THE) Impact Rankings



**ANU
Sustainability
Division**
launched



**ANU
Environmental
Management Plan**
2022-2025 launched

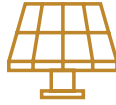




WALKING THE TALK



Four buildings converted from
gas to heat pumps
saving around 253tCO₂e
annually



Additional
395kW PV solar
installed



**Travel Emissions
Tracker**
developed



Collaborated with traditional
custodians to conduct a
**cultural
cool burn**



Pilot food waste project
**diverted 32 tonnes of
food waste**
from landfill



**Recycling
Vending Machine**
on campus diverted 11,000
single-use containers from
landfill



LIVING LAB



Established the
ANU Travel Lab,
an interdisciplinary group of
ANU researchers supporting
action to reduce travel
emissions



Collaboration with
**ANU Battery Storage
and Grid Integration**
program on the design and
implementation of emissions
reduction strategies



Hosted **4 internships**
and featured as a case study
in **8 courses across
4 Colleges** and the
Vice Chancellor's course,
Leadership & Influence



COMMUNITY ENGAGEMENT AND PARTNERSHIPS



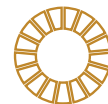
Winner 2023
**Australasian
Green Gown
Awards**,
Student Engagement
category for ANU
Kitchen Garden



Launched the ANU
**Environmental
Sustainability
website**



Launched
**ANU Green
Network**
online resource
for ANU staff and
students



Launched the ANU
**Sustainable
Development
Goals**
Community of
Practice

ANU Green - Environmental sustainability at ANU



ANU is committed to being a leader in sustainability within the higher education sector. The **ANU Sustainability Division** aims to implement a comprehensive sustainability approach based on Environmental, Social and Governance (ESG) principles. Environmental aspects of sustainability operate as part of the **ANU Green program**.

ANU Green puts sustainability into action through two overarching mechanisms:

The **Dhaagun Environmental Management Plan 2022-2025 (EMP)** seeks to improve environmental sustainability across six pillars. Our Facilities & Services Division leads this plan.

The **Below Zero Program (BZ)** collaborates across ANU to reduce greenhouse gas (GHG) emissions to net and then below zero for direct on-campus activities, energy, University travel, and waste. The focus is on practical emissions reduction, only using carbon removal for hard-to-abate emissions. BZ leads the GHG pillar in the EMP and collaborates with several others.

Our approach is organised in this report across three themes: Walk the talk, Living lab and Community engagement and partnerships.

The broader reporting context

ANU submits energy and sustainability-related information in several mandatory and voluntary reporting schemes. For the first time, we published our greenhouse gas emissions (GHG) in the ANU Annual Report (2023) as part of the new Commonwealth APS Net Zero reporting framework.

We also report our emissions under the National Greenhouse and Energy Reporting Scheme (NGERS) - Australia's national legislative framework for reporting and publishing organisational information about GHG emissions, energy production and energy consumption. We voluntarily report environmental data to the Tertiary Education Facilities Management Association (TEFMA) which provides a benchmark with other universities in Australia.

There are significant developments in sustainability reporting occurring in Australia, with new climate change disclosure requirements due to be released in mid-2024 by the Commonwealth government. We expect to report under this scheme from 2025 onwards.



LIVING LAB

Integrating research, teaching and learning

We aim to align and integrate operational environmental sustainability programs with research and teaching by establishing new or collaborating with existing research groups, labs and working groups, supporting internships, courses and student projects and engaging with the University's new teaching and learning strategy.



COMMUNITY ENGAGEMENT AND PARTNERSHIPS

Collaborating and building capacity for climate action and sustainability

We aim to empower the ANU community to incorporate positive environmental actions into their work and daily lives by developing resources and support packages such as induction materials for new staff, training modules on sustainability practice, fun and engaging programs that build community, hosting events and sharing stories. As Australia's national university, we also aim to share what we have learned with other organisations in Australia and around the world.



WALKING THE TALK

Embedding sustainability in University operations

We aim to embed sustainability into the fabric of ANU, ensuring our operational efforts contribute to a more sustainable future. The latest version of the [EMP](#) addresses six key pillars in environmental sustainability:



Wirgany Greenhouse gas management

Goal: Take urgent action to reduce greenhouse gas emissions across operations and our supply chain

Targets	Key Initiatives
- Net zero by 2025 and below zero by 2030 for direct operational emissions, energy, travel and waste² - Reduce travel emissions by 50% by 2025 100% renewable electricity on all ANU campuses by 2025	- Electrification of University sites - Travel Emissions Reduction Program - Embed decarbonisation into student learning via transdisciplinary learning opportunities - Build partnerships and share learnings with external stakeholders - Embed sustainability into ANU policies and practices



Bagurany Energy management

Goal: Optimise the energy efficiency of our built environment, controls and processes

Targets	Key Initiatives
- Reduce energy consumption by 10% by 2025 compared to 2019 - Install 1MW renewable energy by 2025	- Energy optimisation program - Renewable energy generation - Energy conservation reward scheme



Galing Water management

Goal: Conserve water by reducing consumption, responsible management and reuse

Targets	Key Initiatives
- Reduce per capita potable water use - Increase non-potable water consumption for irrigation to 11%	- Develop water consumption targets - Technical studies on rainwater harvesting - Water meter maintenance program - Introduce ANU Water prize in residential colleges



Ganya Built environment³

Goal: Enhance built environment sustainability through space optimisation

Targets	Key Initiatives
Assess the energy efficiency of 90% of major buildings by 2025	- Classification scheme for office/admin space - Building performance assessments - Provide technical support for space optimisation and high energy-consuming building/space custodians. - Embed sustainability into the University's Building Requirements Manual



Nanhaybungarra Circular economy

Goal: Responsible management of waste, reduce consumption and increase reuse

Targets	Key Initiatives
- Reduce waste to landfill to 30kg/person - Increase waste diversion rate to 65%	- Develop and implement the Circular Economy Strategy - Implement organic food waste project



Ngurambang Biodiversity and conservation

Goal: Develop and implement a Landscape and Conservation Strategy

Targets	Key Initiatives
- Increase tree numbers to 10,500 by 2032 - Increase proportion of drought-tolerant plants to 90%	- Expand Sullivans Creek biodiversity corridor - Refining of in-house compost use to improve soil health - Increase engagement and knowledge sharing with First Australians - Conduct a chemical use assessment and develop a reduction plan - Create student biodiversity monitoring programs

2 These targets will be reviewed in 2024 in line with emerging policy and guidance

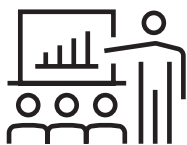
3 We are not reporting on this pillar in the 2023 report as there has not been specific progress on targets. We will report on the Built environment pillar in detail in our 2024 report.

ANU and the Sustainable Development Goals

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all developed and developing countries in a global partnership. Universities are key players in meeting the goals as the primary institutions for disseminating knowledge.

In 2023, we formed an ANU Community of Practice for the Sustainable Development Goals. It currently has over 100 members of research and professional staff and aims to create a space to make connections, share stories and ideas and find inspiration.

For this report, the ANU Green programs were mapped against the SDG goals and indicators to find where they can contribute towards achieving these goals.



LIVING LAB



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development



COMMUNITY ENGAGEMENT AND PARTNERSHIPS



Revitalise the global partnership for sustainable development

17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships





WALKING THE TALK



Ensure access to water and sanitation for all

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity



Ensure access to affordable, reliable, sustainable and modern energy

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

7.3 By 2030, double the global rate of improvement in energy efficiency



Take urgent action to combat climate change and its impacts

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning



Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements



Make cities inclusive, safe, resilient and sustainable

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities



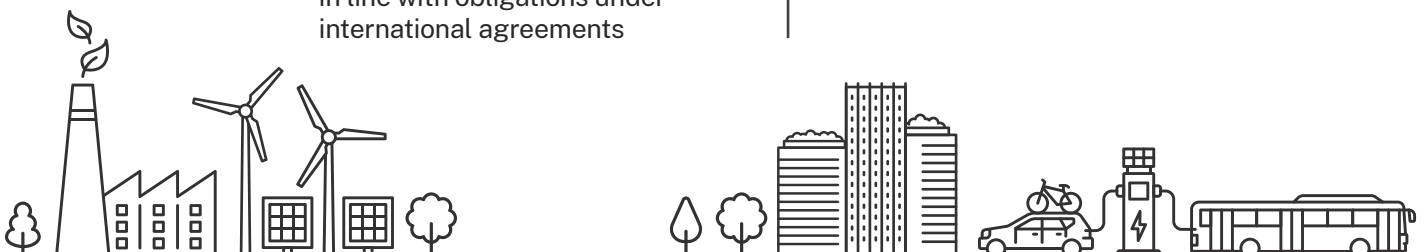
Ensure responsible consumption and production patterns

12.2 By 2030, achieve the sustainable management and efficient use of natural resources

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse





WALKING THE TALK

Embedding sustainability in ANU operations



The *Dhaagun Environmental Management Plan 2022-2025* maps targets and actions that help embed environmental sustainability through our operations across ANU campuses



Wirgany Greenhouse gas management



Bagurany Energy management



Galing Water management



Ganya Built environment⁴

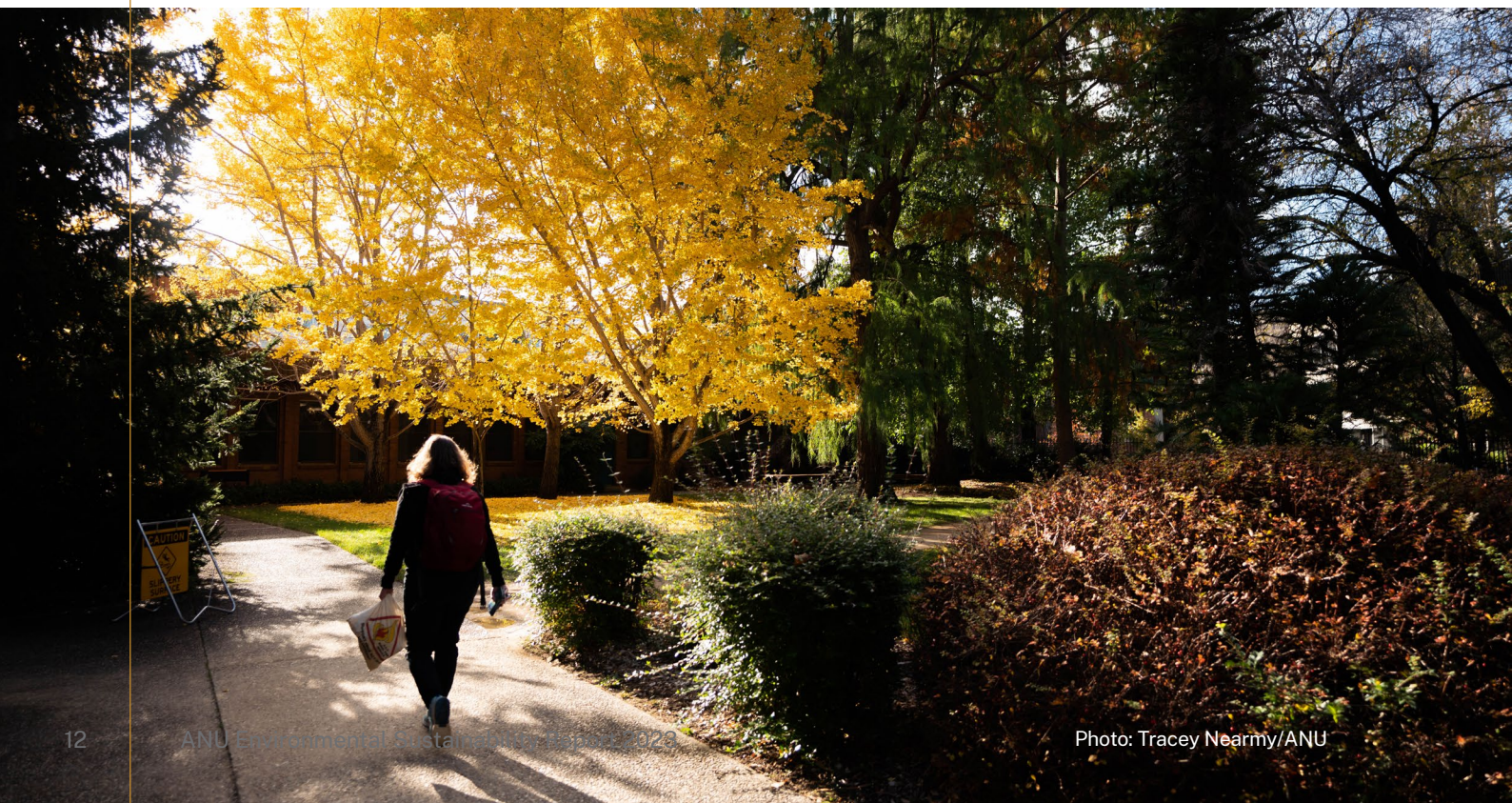


Nanhaybungarra Circular economy



Ngurambang Biodiversity and conservation

⁴ We are not reporting on this pillar in the 2023 report as there has not been specific progress on targets. We will report on the Built environment pillar in detail in our 2024 report.



Wirgany Greenhouse gas management



In 2021, ANU announced our new climate goals, which aim to transition ANU from being part of the problem to becoming part of the solution. The objective is for ANU to achieve below zero emissions, with the Below Zero Program created to reach this goal. In 2023, we focused on reducing direct on-campus and energy related emissions and indirect emissions from University travel.

Goal

Take urgent action to reduce greenhouse gas emissions across operations and our supply chain.

Major initiatives

- Emissions inventory mapping of full supply chain
- Electrification of University sites, including implementing the Acton Campus Decarbonisation Masterplan (CDMP)
- Power Purchase Agreement (PPA) (renewable electricity) for non-ACT sites
- ANU travel emissions reduction program
- Fleet electrification program



Targets

		Trend	Status
50% reduction of University travel emissions by 2025		↓	✓
KPI	Emissions from university travel (tCO ₂ e)		
2019 (base year)	27,200		
2023	18,200		
Comments	33% reduction achieved, but on a growth trajectory since travel resumed from COVID.		

		Trend	Status
100% renewable energy for all non-ACT sites by 2025		▬	✓
KPI	% renewable energy for non-ACT sites		
2019 (base year)	-		
2023	-		
Comments	PPA procurement for non-ACT sites in progress		

		Trend	Status
Reduction of 35% in natural gas use by 2025		↓	✗
KPI	Gas consumption (GJ)		
2019 (base year)	261,819		
2023	227,157		
Comments	Reducing but not steeply enough to meet target		

		Trend	Status
Vehicle fleet 100% electrified (zero emissions) by 2030		▬	✓
KPI	% EV fleet		
2019 (base year)	0		
2023	0		
Comments	Fleet electrification strategy being developed		

Trend



decreasing



static



increasing

Status



on track



not on track

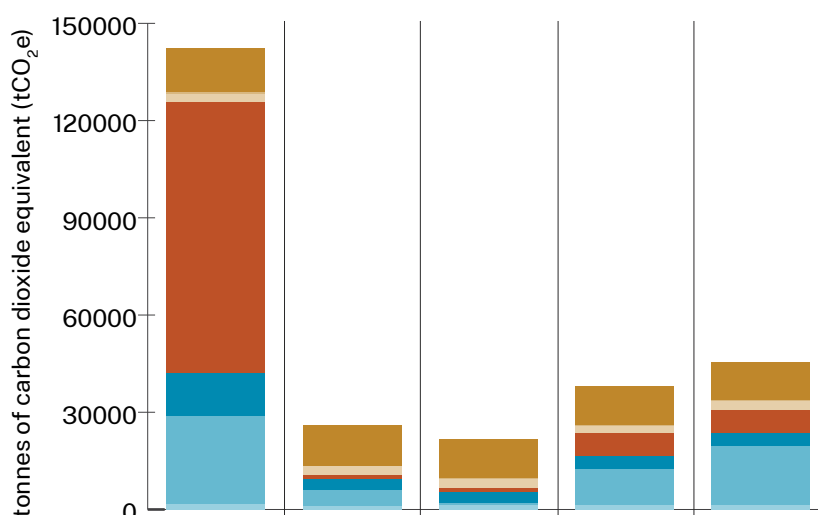
Emissions inventory

In 2023 we reviewed and refined our greenhouse gas inventory. This is a critical part of tracking our progress in reducing emissions. The base year for our emissions inventory is 2019 and currently includes emissions from ANU operations (known as Scope 1 & 2 emissions) as well as waste and University travel (indirect or Scope 3 emissions).

The University's emissions have dropped significantly since 2019 due to the ACT government's policy of purchasing 100%

renewable energy for the ACT, as well as a significant reduction in University travel emissions because of the COVID pandemic. Since 2021 emissions have started to rise again, primarily due to University travel emissions.

We will continue to improve the quality and rigour of our emissions inventory and in 2024 are mapping our full supply chain (Scope 3) emissions. These include purchased goods and services, accommodation, commuting and other sources.



Emissions Scope	2019	2020	2021	2022	2023
Scope 1: Direct emissions	16,414	15,258	15,097	14,364	14,724
Natural gas	13,492	12,469	11,971	11,899	11,705
Other fuel	62	46	57	43	41
Fleet	397	258	279	325	335
Refrigerants	2,463	2,484	2,790	2,097	2,643
Scope 2: Indirect (electricity) emissions	83,879	1,184	1,398	7,128	7,229
Electricity - market-based method	83,879	1,184	1,398	7,128	7,229
Scope 3: Supply chain emissions	41,978	9,457	5,198	16,445	25,770
Category 3: Upstream fuel & energy related activities	13,140	3,379	3,285	4,038	3,966
Category 6: University travel	27,200	4,900	620	11,300	18,200
Category 5: Waste	1,638	1,179	1,293	1,307	1,304
Total emissions	142,270	25,899	21,693	37,937	45,423

Electrification program

In 2023, we finalised the development of the Acton Campus Decarbonisation Masterplan (CDMP), which outlines a path of electrification for the ANU Acton campus.

The plan includes changing natural gas-powered boilers to electric heat pumps and building central thermal hubs to support the energy needs of building precincts.

ANU kicks off the transition away from gas heating

In 2023, ANU transitioned four buildings to electric heating, replacing gas boilers with heat pumps, saving around 253tCO₂e annually. Heat pumps run at 250-300% of the energy efficiency of gas boilers, reducing running costs and the energy needed to maintain thermal comfort for building users.

Installation of these heat pumps is the first stage of a long-term strategy to decarbonise the campus by establishing large-scale central electric hubs that redistribute thermal load across connected buildings. Central hubs have been found to be the most efficient and cost-effective decarbonisation pathway for the Acton campus. Linking buildings to a central plant powered by renewable electricity means energy can be transferred between buildings or stored to be used at different times of day.

Four more buildings will be transitioned away from gas by winter 2024, with a further four coming online in winter 2025.

[Read more](#)



Travel emissions reduction program

In August 2023, ANU set a target to reduce emissions from University travel by 50% from 2019 levels by 2025. Our approach aims to build an enabling environment that supports career, research and business goals whilst reducing travel emissions.

The fundamental question guiding the travel emissions reduction program is how can we enable staff success with a lower carbon footprint?

A highlight of 2023 was the development of the Travel Emissions Tracker. This tool allows ANU staff to see travel emission profiles at ANU. It supports individual agency and community-level strategies for reducing their carbon footprint.

With data presented at the whole-of-ANU, College and School level, the Tracker was a highly collaborative project between the ANU Software Innovation Institute, ANU Insight team, ANU Travel Lab and Working Group and the ANU Below Zero Program.

The Tracker will be launched to the ANU community after user testing.



Bagurany Energy management



ANU is one of the largest energy users in the ACT. Significant growth in campus population and building space provides challenges in reducing total campus energy use. ANU manages over two hundred buildings on the Acton campus with a diverse and complex building stock that includes many energy-intensive research facilities, including the National Computational Infrastructure building, which consumes approximately 12 per cent of total electrical energy at the Acton campus. Optimising the functionality of the built environment is a significant factor in reducing environmental impacts.

Goal

Optimise the energy efficiency of our built environment, controls, and processes

Major initiatives

- Complete energy assessments and energy efficiency works
- Partnering with building management custodians of high energy-consuming buildings
- Implement an energy conservation reward scheme

Progress

In 2023, we installed 395kW of rooftop solar panels, lifting the total installed capacity from 474kW to 869kW. Much of our installed solar capacity remains non-functional after severe damage from the Canberra hailstorm in January 2020. The restored systems, along with new installations, will be operational in 2024.

Energy efficiency upgrades continued across many aspects of building management, including adjustments to boilers, chillers and air-con operating hours, and LED lighting installations with motion sensors.

Targets

		Trend	Status
Reduce energy consumption by 10% by 2025 Gross Floor Area		↓	✓
KPI	GJ/m ²		
2019 (base year)	0.97		
2023	0.79		

		Trend	Status
1MW (1000kW) onsite renewable energy generation by 2025		↑	✓
KPI	Total kW installed		
2019 (base year)	-		
2023	869kW		
Comments	395kW installed in 2023		

Trend
 decreasing
  static
  increasing

Status
 on track
  not on track



Galing Water management



ANU is one of the largest water users in the ACT. Managing water consumption is imperative to ensuring the University can continue maintaining the landscape and providing world-class facilities. The University has implemented programs to reduce water use per person. The current focus is to minimise potable water use for landscape irrigation.

Major initiatives

- Technical studies on rainwater harvesting and surface water intake
- Introduce ANU Water prize in residential colleges
- Water meter maintenance program

Goal

Conserve water by reducing consumption, responsible management and reuse

Progress

In 2023, we started analysing potable water use across our external areas, including playing fields and landscaping activities. We also extended the non-potable water supply to the area surrounding the physics precinct.

Water management will have an increased focus in 2024, with a study on surface water intake and reviews of rainwater tanks and metering across campus already underway. These studies will help us to improve how we measure and manage our water resources.



Targets

	Trend	Status
Reduce per capita potable water consumption⁵		

KPI	kL/person
2019 (base year)	28
2023	28

	Trend	Status
Reduce potable water use as a percentage of total water use		

KPI	% potable water used
2019 (base year)	94.9%
2023	95.4%

	Trend	Status
Increase use of non-potable water to 11% for landscape irrigation⁶		

KPI	% non-potable water use for irrigation (kL)
2019 (base year)	36,000kL
2023	29,547kL

Trend

decreasing static increasing

Status

on track not on track

⁵ 'per capita' includes all non-casual full time equivalent (FTE) staff and students (equivalent full time student load (EFTSL))

⁶ This year's report presents the absolute volume (kL) of metered non-potable water use only (does not include % used for irrigation). ANU has approximately 1.2ML of rainwater capture and storage, partially used for irrigation purposes, but this is currently unmetered, so the % used for irrigation cannot be measured. In 2024, we are reviewing rainwater tanks and metering to improve data quality.



Nanhaybungarra

Circular economy

12

RESPONSIBLE CONSUMPTION AND PRODUCTION



Goal

Responsible management of waste, reduce consumption and increase reuse

The first sustainability initiative at ANU was a waste reduction and recycling program, which started in 1999. Since then, the waste program has expanded to include office paper, cardboard, commingled waste, construction waste, garden waste, e-waste, and, in 2023, a food waste trial.

Major initiatives

- Pilot an organic food waste program
- Develop and implement a Circular Economy Strategy

Progress

In 2023, we sent around 42kg of waste per person to landfill –down from 2019 but still over 930 tonnes. An audit in July 2023 found 67% of waste in general waste/red bins can be diverted –45% being food waste and a further 22% being recyclables.

A new campus recycling vending machine helped divert 11,327 containers from landfill. We are developing the ANU Circular Economy Strategy to guide our program over the next five years.

Targets

		Trend	Status			Trend	Status
Reduce waste to landfill to 30kg/person by 2025 ⁷		↓	✓	Increase waste diversion rate to 65% by 2025 ⁸		▬	✗
KPI	kg landfill/ person			KPI	Waste diversion rate %		
2019 (base year)	49			2019 (base year)	28%		
2023	42			2023	28%		
				Comments	Waste diversion rates dropped after 2019 but have started to improve again in 2023		

Trend

 decreasing
  static
  increasing

Status

 on track
  not on track

7 'Person' includes all non-casual full time equivalent (FTE) staff and students (equivalent fulltime student load (EFTSL)
 8 This excludes garden waste, which is composted on site, and construction waste

From food waste to food

In 2023, ANU trialled a food waste recycling program with our waste contractor and GoTerra. At two locations on our Acton campus, we recycled almost 32,000kg of food waste. Food waste, when sent to landfill, generates large amounts of methane, a highly potent greenhouse gas. By recycling this food waste, we have saved about 67 tonnes of greenhouse gases being emitted from landfill.

GoTerra's modular, waste management system (goterra.au) uses black soldier fly larvae to convert food and organic waste into a high-value, low-impact protein and fertiliser in just 12 days. These products are sold as a low-carbon, sustainable food source for animals and humans or as fertiliser for plants, recycling nutrients back into the food chain. This is a great example of the circular economy in action.

An audit on the Acton campus in July 2023 showed that 45% of the red bin content across campus is food waste, which can be easily recycled and hence diverted from landfill. We plan to work with our waste contractor and GoTerra to expand the food waste program across the whole Acton campus from 2024 onwards.



Photo: Australian National University





Ngurumbang Biodiversity and conservation



The Acton Campus is well known for its beautiful landscapes, with many remnant and planted trees and a commitment to maintaining open space and biodiversity. The University maintains almost 10,000 trees on the Acton campus, including over 500 considered to be of exceptional significance because of their age, history, and species. Over 300 of these remnant trees predate European occupation of the area.

Landscape management at the Acton campus has focused on the critically endangered Old Canberra House Grassy Woodlands and the riparian zone along Sullivans Creek that flows through the heart of the campus.

Targets

Increase and maintain tree numbers at Acton campus to 10,500 by 2032

Major initiatives

- Increase engagement and knowledge sharing with First Australians to explore opportunities for the implementation of traditional land management practices
- Expand Sullivans Creek biodiversity corridor by 2025
- Increase soil health through the refining of in-house compost by 2024
- Conduct a chemical use assessment in landscaping activities and reestablish a reduction plan
- Identify partnerships with ANU research groups to support landscape and conservation strategy and create student biodiversity monitoring programs

Goal

Develop and implement a Landscape and Conservation Strategy

Progress

In 2023, the Acton campus had 9,817 trees, up from 9,786 in 2019. We planted 150 trees and removed 80, with a net gain of 70.

A plan is being prepared to expand the Sullivans Creek Biodiversity Corridor, focusing on biodiversity enhancement through habitat restoration and water quality improvements. Opportunities for improved pedestrian access and interpretation are also being explored as part of this project.

The Landscape and Conservation team produced around 550m³ of compost and 550m³ of forest litter mulch for reuse across the campus, helping improve soil health and water retention. In 2024, we will purchase a custom-made compost spreader to enable wider application across gardens on campus.

We continued the electrification program of our tools, changing power tools, brush cutters and other small tools from petrol to electric where possible. In 2024, we plan to purchase an electric street sweeper to replace our petrol leaf blowers, reducing emissions and noise and saving significant time and money.





LIVING LAB

Integrating research, teaching and learning



ANU undertakes a vast amount of research and teaching on environmental sustainability-related themes. ANU research programs include energy transition, resource and environmental management, biodiversity, climate and energy economics, climate change and earth and environmental sciences, with experts across various disciplines, including the sciences, engineering, law, public policy, health and medicine, business and economics, social science and Indigenous studies. The University's seven Colleges host these research and teaching programs, with more than 60 undergraduate and 80 postgraduate courses on multiple dimensions of climate change, energy transition and disaster risk sciences.

In support of these research and teaching programs, the ANU Institute for Climate, Energy & Disaster Solutions (ICEDS) brings together more than 600 researchers across the ANU to focus on advancing innovative solutions to climate change, energy and disaster risk reduction. They aim to facilitate integrated approaches to research and teaching across disciplines and increase engagement opportunities for our researchers with policy, industry and community stakeholders.

ANU Green programs regularly engage with ANU researchers and, when necessary, establish topic-focused and research-led groups to advise on major initiatives to ensure our world-leading research is integrated into our operations. Examples of these collaborative groups include:

- Electrification, fleet transition, energy storage and grid integration with the ANU Battery Storage and Grid Integration Program (BSGIP)
- ANU Travel Lab – an interdisciplinary group of researchers supporting action to reduce University travel emissions

Enabling students to participate in environmental sustainability projects

ANU Below Zero hosts student internships every year. In 2023, we hosted three students from the ANU College of Business and Economics and one from the Australian National Internship Program. Below Zero content was included in eight courses, with students developing ongoing projects for future work. The EMP was used as a case study for two further courses.

In 2023, Below Zero worked with the Academic Portfolio on the new ANU teaching and learning strategy to increase access and inclusion of environmental sustainability content in the ANU curriculum.



ANU student cuts her teeth in corporate governance with ANU Below Zero

“Ask as many questions as possible” is the advice that Nikki Wade would give to anyone doing an internship.

The undergraduate student is in her fourth year of a double degree in law and economics and in 2023 finished an internship with the ANU Below Zero Program.

Nikki had already done some volunteer work analysing modern slavery statements with the organisation Walk Free. This was her stepping stone to her project at Below Zero, investigating the viability of carbon credits as part of the University’s organisational climate action program.

This was not without challenges-diving deep into the obscure world of procurement policies and processes, while contending with the volatility of the carbon market.

“I think the carbon credit market in general is quite uncertain and the effectiveness of carbon credits is subject to scrutiny. This added to the challenge of understanding how carbon credits could be involved in the University’s procurement plans in the future” she says.

The support and one-on-one time with her supervisor made a big difference and helped her build transferrable skills.

“I feel like with this experience, my ability to collaborate and write has even impacted in a positive way my work in government.”

Nikki is working for the Treasury while she finishes her studies and thinks about next steps.

Excerpt from the ICEDS Highlights 2023 report





COMMUNITY ENGAGEMENT AND PARTNERSHIPS

Collaborating and building capacity for climate action
and sustainability



Major initiatives

- Engaging with students and staff on climate action and sustainability across campus
- Leading and growing communities of practice, building partnerships and sharing learnings
- Collaborating to embed sustainability in ANU practices and processes

Student and staff engagement

ANU launched several programs to engage and empower staff and students in environmental sustainability. Some of the highlights include:

- July 2023 – launched our new environmental sustainability website
- April 2023 – launched ANU Green Network, an online resource for sharing and growing sustainability activities on and off campus. We are building a network of sustainability ambassadors, with over 160 members joining in 2023.
- March 2023 – hosted a second season of Green Impact, an international program that supports environmentally and socially sustainable practices. In 2023, the ANU toolkit expanded to include actions for students. In total, 41 people participated between 5 teams, four of which were staff teams (27 people) and one student team (11 people).
- March 2023 – launched the ANU Community of Practice on the SDGs (see section above on ANU and the SDGs) and facilitated several events, including a Circular Economy Roundtable.

In 2024, we will expand our engagement with the rollout of waste and water activities, energy conservation rewards scheme and a Travel Emissions Tracker as part of the travel emissions reduction program.

Collaborating to embed sustainability in practices and processes

A major aim of our work is to help drive organisational change across the many divisions of ANU to embed sustainability into our policies and processes.

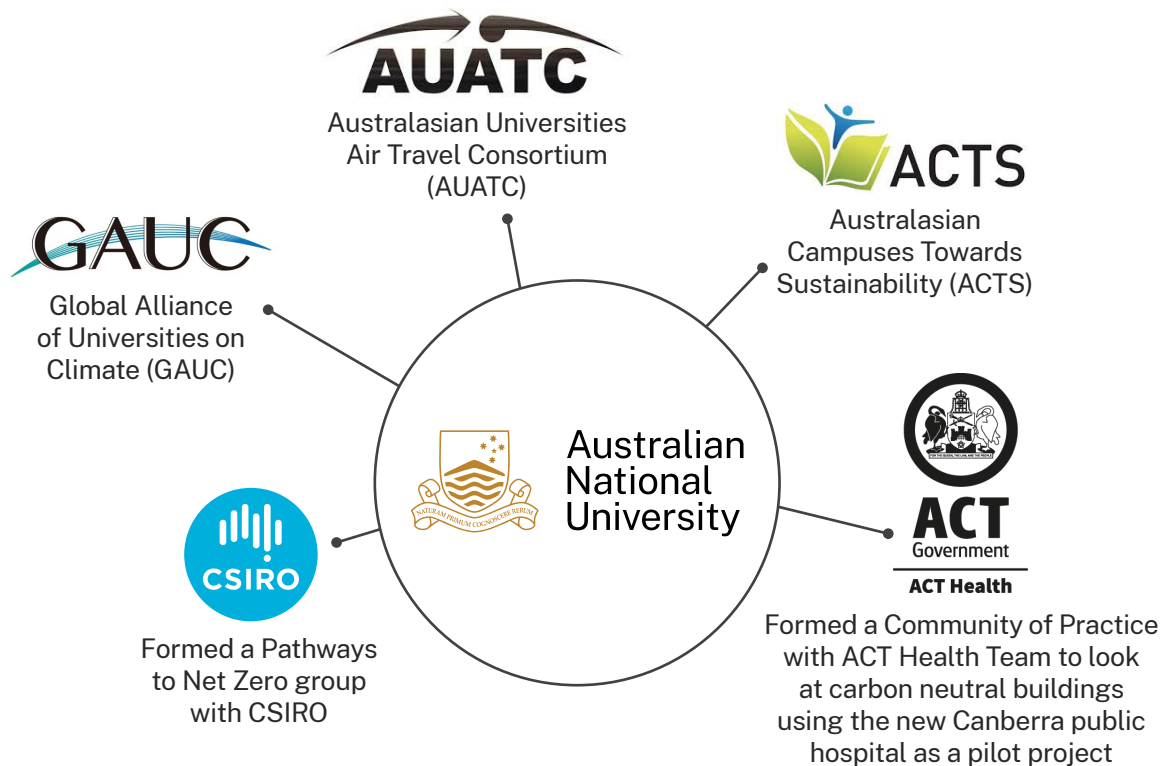
In 2023, we worked closely with the People & Culture team, incorporating sustainability content into induction presentations and mandatory training modules. New opportunities were mapped for creating in-depth sustainability and climate training for development in 2024.

As part of the travel emissions reduction program, we updated the ANU Travel Policy to include environmental sustainability clauses. The messaging reinforces our commitment and goals and includes guides for emissions reduction and low carbon travel alternatives.



External engagement and partnerships

The ANU Green teams were involved in a range of external groups, sharing knowledge and expertise with our domestic and international partners, including:



We also shared our knowledge, experience and learnings at a range of conferences and events, including:



Further information

We invite feedback on this report and our environmental sustainability projects.
Please email us at ANUgreen@anu.edu.au

More information about sustainability at ANU can be found at
sustainability.anu.edu.au

The ANU Facilities & Services and Below Zero teams thank everyone who
contributed to this report.



[twitter.com/
anumedia](https://twitter.com/anumedia)



[facebook.com/
TheAustralianNational
University](https://facebook.com/TheAustralianNationalUniversity)



[youtube.com/
user/ANUchannel](https://youtube.com/user/ANUchannel)

Published by
The Australian National University
May 2024
TEQSA Provider ID: PRV12002 (Australian University)
CRICOS Provider: 00120C