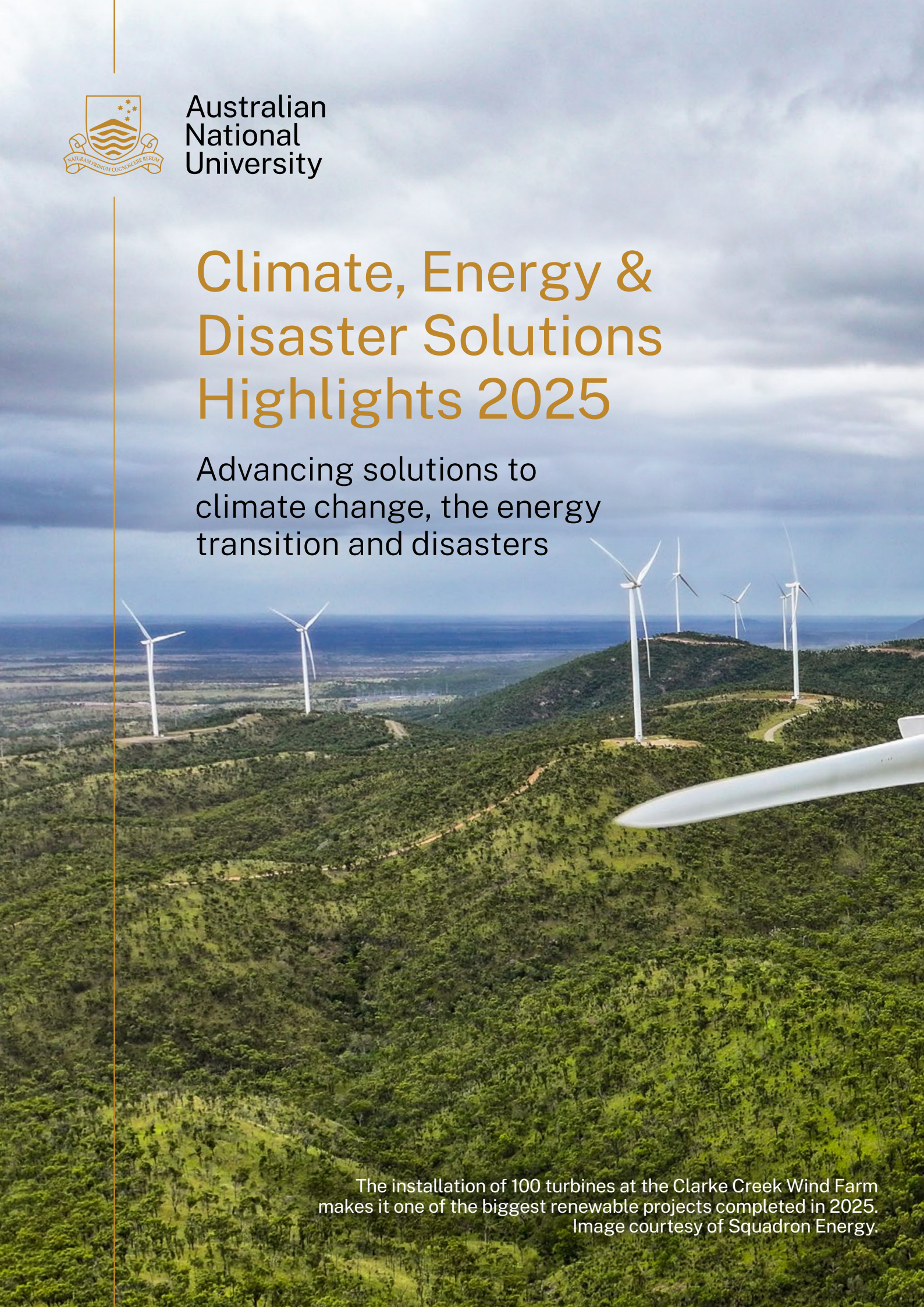
Australian National University

# Climate, Energy & Disaster Solutions Highlights 2025

## Advancing solutions to climate change, the energy transition and disasters



The installation of 100 turbines at the Clarke Creek Wind Farm makes it one of the biggest renewable projects completed in 2025. Image courtesy of Squadron Energy.

In 2024, the average global temperature exceeded 1.5 degrees above the pre-industrial level for the first time in recorded human history. While breaching this mark for a single year does not mean humanity has failed in its effort to "limit the temperature increase to 1.5 degrees Celsius above pre-industrial levels", as committed to by signatories to the UNFCCC Paris Agreement, the direction of travel is clear.

Emissions of carbon dioxide from fossil fuels are projected to have increased 1.1 per cent in 2025 year-on-year, reaching 38.1 billion tonnes. Signs of climate breakdown include coral bleaching affecting 84.4 per cent of coral reefs globally. As I write this, Victoria is suffering through another fire event following the tragic bushfires of 2019-2020.

In Australia, 2025 saw a number of initiatives designed to bend the emissions curve, and to enhance climate resilience. The government announced a new emissions reduction target of 62 to 70 per cent by 2035, relative to 2005. Treasury modelling confirms this requires us to make real inroads into reducing emissions across sectors. The government also released the first ever National Climate Risk Assessment and National Adaptation Plan; a crucial agenda to move forward with in 2026 and beyond. Internationally, while COP31 will be held in Türkiye, Australia will be President of Negotiations and a special Pre-COP will take place in the Pacific, supported by Australia.

At ICEDS, we continued advancing innovative solutions to climate change, the energy transition and disaster risk reduction. Our transdisciplinary approach brings together experts across The Australian National University (ANU) to deliver research, teaching, outreach and engagement. Landmark research from a team including ICEDS members **Professor Nerilie Abram**, **Dr Nicola Maher**, **Professor Sarah Perkins-Kirkpatrick** and **Dr Georgina Falster** quantified climate harms from the Scarborough gas project, finding its emissions would increase heating and deaths globally. Important work continues in the area of industrial decarbonisation, led by the work of **Professor Mark Knackstedt**, **Dr Victor Pantano** and others at OreAI, **Professor Frank Jotzo** and **Dr Jorrit Gosens** at the ANU Centre for Climate and Energy Policy, and **Associate Professor John Pye** and **Dr Alireza Rahbari** in the School of Engineering. **Associate Professor Emma Aisbett** continued her work on embedded emissions accounting in partnership with **Dr Hina Aslam**. We also published national guidelines on the use of Nature-based Solutions to mitigate flood risk. Led by **Associate Professor Roslyn Prinsley**, supported by the Australian Government and implemented with communities in News South Wales and Queensland, this work is the culmination of several years of research and collaboration. The 7th Assessment Round of the Intergovernmental Panel on Climate Change kicked off with a joint meeting between the three working groups in Paris, and ANU is well represented in this important work that will continue through the coming years.

In his last address as ICEDS Director, **Emeritus Professor Mark Howden AC FTSE FAA** emphasised that real action is needed in addition to target setting. At the ANU Energy Update we led the conversation on the new 2035 emissions reduction target and what is required to get there. In her keynote, Deputy CEO of the Climate Change Authority (CCA) **Eliza Murray** outlined the process for developing the Authority's independent advice to government, and panel discussions drew out the importance of trust in enabling a rapid transition to a low carbon economy.

We are proud of our executive education program, which reached hundreds of participants in 2025 both from Australia and from more than 20 countries through Indian Ocean Rim Association (IORA) program funded by the Department of Foreign Affairs and Trade. Among other activities, we partnered with UNICEF Australia, UNICEF Pacific, and Western Sydney University in welcoming 50 young adult delegates from Pacific Island nations, Australia, and New Zealand to build climate leadership skills. We also facilitated submissions from our members on a range of issues critical to national policy, including the Climate Risk Assessment and the Select Committee on Information Integrity on Climate Change and Energy.

This report offers a glimpse of our work at ICEDS and at ANU over 2025. We remain committed to driving transdisciplinary and multidisciplinary solutions to climate change, and I am delighted to be able to continue as ICEDS Director supporting this work. On behalf of ICEDS I thank you for your continued support.

Professor Llewelyn Hughes,
Director

ANU Institute for Climate, Energy and Disaster Solutions (ICEDS)

# ICEDS community

Strengthening capacity and capability in climate, energy and disaster research, teaching, outreach and engagement

## Member activities

We were thrilled to welcome 40 new members into our thriving community in 2025. Through our monthly Members' Bulletin and Teams channel, we shared dozens of member publications and more than 120 events and activities with our members including opportunities to participate in invitation-only government roundtables, giving ANU researchers a seat at decision-making tables. We administered the ANU co-investment scheme to the ACT Government's Energy Innovation Fund, a members-only opportunity for co-funding to develop clean energy innovation.

In March we hosted a members' farewell for **Emeritus Professor Mark Howden** and a Lunch and Learn media training session to prepare academics to engage with the media before the Australian election.

One of our major projects in 2025 was to engage with members to seek input on how we can better facilitate collaboration and networking across ANU. In shaping a new model for thematic Communities of Practice, a priority has been to better recognise and value the contributions of leaders in the ICEDS community. We look forward to launching our new model in 2026.

## Member Profile

Switching off coal will need more than wind turbines and transmission lines. The scale of this challenge was one of the things that attracted **Associate Professor Marnie Shaw** to the field after working in medical imaging, another area that is data-heavy. She is now applying these same data analysis and machine learning techniques in her work at the ANU Centre for Energy Systems.

Marnie is interested in the development of smart grids – electricity networks that use digital technology and real-time data to improve efficiency, reliability, and security of power delivery.

"We have a couple of choices, and one is that we just build a whole lot of energy generation and energy transmission and don't think about coordinating it. That is not going to be a low-cost solution," Marnie explained.

Moving to smart grids means that we can use data to manage our grids. This requires some upgrades to our infrastructure like installing smart meters and control systems.

"It means it's lower cost for all of us because we're pushing a whole lot more electricity through the same 'pipes' that we have already."

Read more


Associate Professor Marnie Shaw
Image: Alex Gotts/ANU

# Research highlights

## ANU scientists crack code on using nature to stop floods

With floods becoming more frequent, severe, and unpredictable due to climate change, new nature-based approaches to flood management are gaining attention. To help communities better understand how these approaches can help mitigate floods, experts at ANU have developed a new toolkit.

**Associate Professor Roslyn Prinsley** said flood mitigation has long relied on traditional engineering infrastructure such as dams and levees.

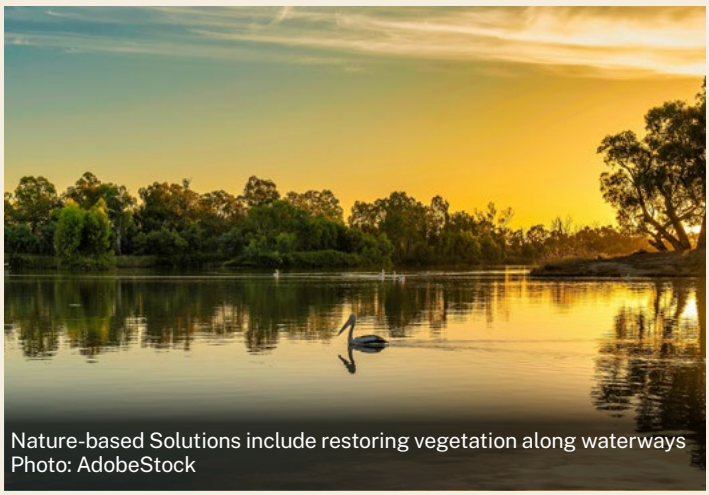
But that is changing, with a new focus on using natural systems such as tree planting and creating wetlands.

"Nature-based Solutions reduce the impact of floods by detaining floodwater, reducing the energy and extent of floodwater, or diverting floodwater away from vulnerable areas," Roslyn said.

"They also provide significant co-benefits, particularly to the environment."

"These solutions aim to make the landscapes themselves more sustainable and resilient through, for example, biodiversity conservation and water quality improvement. Imagine what a difference Nature-based Solutions would make if they could both reduce flood risk and provide a host of other benefits all over Australia, helping our communities adapt to climate risk."

Read more



Nature-based Solutions include restoring vegetation along waterways
Photo: AdobeStock

Taking taro measurements at Vaini Experimental Farm
Photo: Harry Myrans/ANU

## The ANU team drought-proofing staple crops to improve Pacific food security

Agriculture in the Pacific relies almost entirely on rainwater and for centuries this rain has fallen seasonally. But these cycles are no longer so predictable. While this decade began with a rare three-year La Niña, it is only a matter of time before the next El Niño event spells dry weather.

"Climate change is causing longer dry seasons, with even less rainfall in Tonga and the Pacific in general. Which means that crops will either die or they'll need to be irrigated more," says Dr Harry Myrans, researcher with ICEDS.

On Tonga's main island of Tongatapu, a team of scientists has established a site filled with rows of growing yam and taro. It's here that ANU researchers – in collaboration with the Tongan Ministry of Agriculture, Food and Forests, and with funding from the Australian Department of Foreign Affairs and Trade – are investigating whether crops can be irrigated with partially desalinated water during acute droughts.

Read more

## Australia's iron ore exports face major shifts as China moves toward green steel

Iron ore is Australia's single largest export, worth around $385 billion in the 2024–25 financial year. China is by far the world's largest steel producer and is the destination for more than 80 per cent of Australian iron ore exports.

As China decarbonises and its demand for iron ore falls, Australia faces a major challenge to its iron ore exports. However, this also creates an opportunity to move up the value chain by developing a domestic green iron industry.

ANU researchers **Dr Jorrit Gosens**, **Associate Professor Alireza Rahbari**, **Associate Professor John Pye**, **Professor Frank Jotzo**, and **Associate Professor Fiona Beck**, together with colleagues at Curtin University, have examined these challenges and opportunities.

Australia exports mostly lower grade Pilbara hematite ores meaning Australia will face competition from exporters of higher-grade ores such as Brazil. However, if Australia can produce hydrogen cheaply enough, ores could be refined domestically before export. Additionally, the emerging technology Electric Smelter Furnace can refine these lower grade ores, creating demand for Australian ores regardless of whether the processing occurs in Australia or China.

Read more

An old electric arc furnace.
Photo: MJ Richardson/Wikimedia Commons

Gulf natural gas rig
Photo: Gloriaurban/Pixabay

## New WA fossil fuel site will have major impact on people and the planet

The Scarborough gas project, approved for development off Western Australia's coast, is estimated to contribute 876 million tonnes of carbon dioxide emissions over the course of its lifetime, according to new research led by ANU in collaboration with the ARC Centre of Excellence for the Weather of the 21st Century.

These emissions will cause, on average, 0.00039 degrees Celsius of additional global warming.

The findings reinforce how each new investment in coal and gas extraction causes long-term environmental and social harm. The research provides a framework for scientists to quantify the consequences of additional greenhouse gas emissions from each new individual fossil fuel project.

"The majority of Australia's new fossil fuel projects describe their anticipated greenhouse gas outputs as 'negligible' in the context of global emissions and claim they're unable to measure contributions to global warming, while also ignoring expected impacts," study co-author **Professor Sarah Perkins-Kirkpatrick** said.

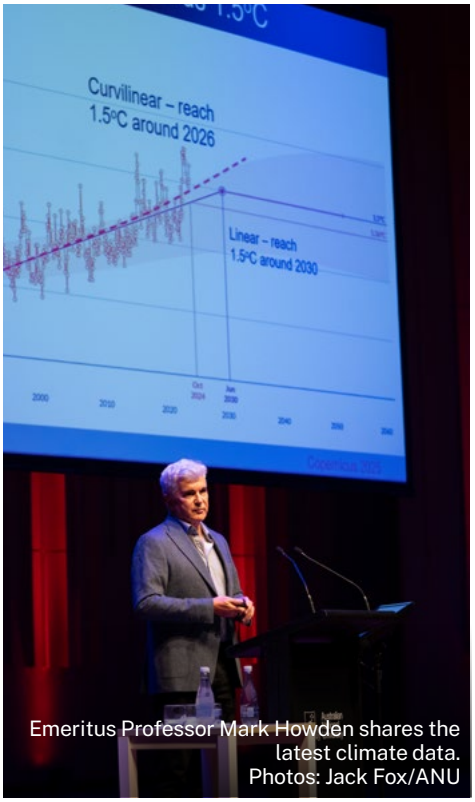
"But our research shows emissions output from this new project is far from negligible."

Read more

# Events

Attendees at the ANU Climate Update 2025
Photo: Jack Fox/ANU

ICEDS hosted and supported fourteen online, hybrid, and in-person events, reaching more than 2000 participants in Canberra, Australia and around the world in 2025.




Emeritus Professor Mark Howden shares the latest climate data.
Photos: Jack Fox/ANU

## If not now, when?

**Emeritus Professor Mark Howden delivered his final Climate Update as Director of ICEDS to an audience of nearly 600 attendees in-person and online, raising the question "If not now, when?" He noted that, despite the Paris Agreement and nominal targets, carbon emissions are increasing and the world is on track to surpass 1.5 degrees Celsius of warming this decade. Despite this, Mark ended with an encouraging message:**

"Don't delay, lead the way; don't agonise, organise; don't give up, speak up, step up."

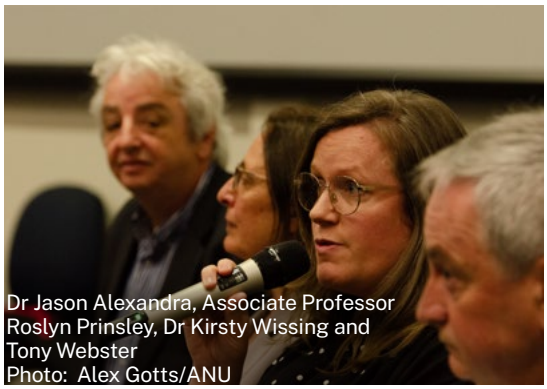
Watch the event recording

Associate Professor Bec Colvin, David Shankey, Jo Evans, Dr Amanda Cahill and Professor Frank Jotzo.
Photo: Alex Gotts/ANU

## *Regional energy transitions: from impossible to possible* book launch

**Professor Frank Jotzo** hosted a discussion with **David Shankey**, **Dr Amanda Cahill**, **Associate Professor Bec Colvin** and **Jo Evans** as part of the launch of *Regional Energy Transitions: from impossible to possible*. Co-editor and author Amanda explained that the energy transition has looked very different over time and in different locations, with some hyper-local challenges and leadership shifting from unions and community groups to government and industry. Amanda was clear that much work remains, with an ongoing need for investment, research, infrastructure, benefit sharing, and leadership to continue progressing.

Watch the event recording



Dr Jason Alexandra, Associate Professor Roslyn Prinsley, Dr Kirsty Wissing and Tony Webster
Photo: Alex Gotts/ANU

## Of droughts and flooding rains: Policy for prevention

The ANU Disaster Solutions Update 2025 explored how Australia can respond to a future of uncertain rain fall. In a year when we simultaneously experienced flooding in northern regions and drought in southern regions, this timely conversation explored how we can break out of the cycle of responding to crises and start preventing them.

As climate change increases the risk of extreme events, policy can mitigate or exacerbate the risks. The first panel explored nature-based solutions for mitigating flood risk, and the second panel examined drought resilience – how it can be defined, measured, and implemented.

Watch the event recording

Eliza Murray speaking at the ANU Energy Update 2025
Photo: Alex Gotts/ANU

## Getting to net zero: Unlocking domestic and international opportunities

Shortly after the Climate Change Authority (CCA) advised the federal government ahead of the 2035 emission reduction targets, CCA Deputy Chief Executive Officer **Eliza Murray** gave the keynote presentation at the ANU Energy Update 2025. Headline targets operate at a high level of aggregation, but what followed was a remarkably human-focused discussion led by **Alison Reeve** on how to support achieving the target through building community trust in the transition. The second session showcased innovative work at the ANU enabling decarbonisation of the iron and steel value chain and more.

Watch the event recording

# Professional Short Courses

**14**
professional short courses delivered in 2025

**430**
total participants

**4.5**
average rating out of 5 by participants

In 2025 ICEDS delivered 14 short courses to 430 participants with an average overall satisfaction rating of 4.5/5 stars. Our courses provided professionals with an overview of the latest developments from both scientific and policy response perspectives. ICEDS strengthened its reputation as a leading provider of professional education in climate, energy and disaster solutions through the successful delivery of flagship international programs, the consolidation of long-term government partnerships, and collaboration within ANU.

"Really well put together topics, with understandable content giving great concise, fundamental knowledge of each. I learned so much, and many of the gaps or grey areas in my knowledge were filled."

-Climate Essentials participant, March 2025

ICEDS maintained its relationship with the Australian Renewable Energy Agency (ARENA), delivering a bespoke Energy Change Essentials program for ARENA staff and shifting from one-off engagements to ongoing, tailored professional development with the agency. Sustained collaborations with organisations allow ICEDS to amplify the value of our professional short courses by building connection and layered dialogue between ANU experts and domestic energy change leaders.

"It was magnificent. The best training I have done in ARENA, and one of the best I have done in my career."

-Errol Hunt, Digital Publishing Officer, ARENA

ICEDS expanded internal ANU transdisciplinary collaboration through cooperation with the Crawford School of Public Policy by co-developing and delivering the Climate Policy Development Series for the CCA.

These course deliveries demonstrate our development of strategic partnerships in 2025 through high-impact international programs, enduring government partnerships, and making the most of the University's world-renowned interdisciplinary strengths to deliver applied, policy-relevant professional education.

ICEDS member Dr AnYao Liu presenting during an Energy Essentials course
Photo: Jannice Banks/ANU

Professor Sara Bice presenting "The Social Transition" during an Energy Essentials course
Photo: Jannice Banks/ANU

## Indian Ocean Rim Association (IORA) program completion

Between July 2023 and October 2025, ICEDS delivered a comprehensive program of six DFAT-funded professional short courses focused on climate change adaptation and mitigation and the renewable energy transition across the Indian Ocean region. The scholarship program reached 235 participants from 22 out of 23 IORA member countries, demonstrating strong regional demand within the IORA network. Courses were delivered in four-to six-week formats and combined live online topic sessions, discussions, and workshops with applied learning via optional individual assignments that supported participants to translate course content into contextually-relevant action plans.

"The renewable energy transition course was incredibly insightful! It deepened my understanding of sustainable energy solutions and highlighted the urgency of global action. The blend of technical, economic, and policy perspectives was invaluable. I feel empowered to contribute meaningfully to a greener future. Highly recommend it to anyone passionate about sustainability!"

-IORA Renewable Energy Transition participant, 2025

Overall, the IORA courses were rated 4.6 stars out of 5 by participants across the six cohorts. Participant profiles reflected the program's strong relevance to policy and governance, with 67 per cent of participants employed by local and national government agencies and additional representation from the private sector, education institutions, NGOs, and regional bodies.

"This course has been eye-opening for me. It helped me connect global perspectives on climate adaptation with the work I'm doing in Bangladesh through the Adaptation Clinic.

I especially enjoyed learning about practical frameworks like the Hope–Agency model and system innovation, which I could directly relate to my projects.

More than anything, the discussions with people from different countries made me see adaptation as a shared journey, one that's local, but deeply interconnected."

-IORA Climate Adaptation and Mitigation participant, 2025

# Public policy engagement and outreach

## Australia Pacific Youth Climate Dialogue

In October 2025, UNICEF Australia and UNICEF Pacific, The Australian National University's Department of Pacific Affairs and ICEDS, together with Western Sydney University's Young and Resilient Research Centre hosted the Australia Pacific Youth Climate Dialogue.

Young people (under 25) make up one-third of Australia's population and half of Pacific's (under 35). Children and young people are disproportionately affected by climate change and have proven to be catalysts for climate solutions. Yet young people's voices and perspectives remain largely invisible in climate policymaking at the national and multilateral levels. The Dialogue sought to address this challenge.

The Dialogue was a flagship 3-day gathering in Canberra that brought together youth climate leaders from Australia, New Zealand, and the Pacific to strengthen relationships, discuss a common agenda, engage with decision-makers, and share knowledge/skills ahead of COP30 in Brazil and before the final COP31 host decision.

Participants, facilitators and staff on the final day of the Dialogue
Photo: Andrea Andres/UNICEF Australia

In advance of participants arriving in Canberra at the end of October, ICEDS enrolled them in a tailored online version of the Climate Essentials professional short course. The six sessions, held across four weeks in late September and October, connected delegates to world-leading ANU experts such as **Emeritus Professor Mark Howden**, **Salā Dr George Carter**, and **Associate Professor Bec Colvin**, as well as the ANU student community represented by PhD candidate **Brianna Gordon**.

Delegates built capacity and understanding in the key drivers and underlying processes involved in climate change, the interface between climate security and Traditional Knowledge, strategies to navigate mis/disinformation, and discussed renewable energy and food security issues shared across Australia and the Pacific.

Fifty delegates representing 15 countries and all Australian states and territories had the opportunity to learn about each other's contexts, cultures, and priorities, to deepen peer relationships, and had substantive conversations with key stakeholders including Members of Australian Parliament, High Commissioners and Ambassadors.

ICEDS and the Core Partners envisage that the Dialogue will lay the foundation for an agenda and roadmap of cross-national youth-led climate action into 2026 and beyond.


From left to right: Professor Llewelyn Hughes, Emeritus Professor Mark Howden, the Honourable Feleti Teo, former Vice-Chancellor Distinguished Professor Genevieve Bell, and Salā Dr George Carter
Photo: Jamie Kidston/ANU

## Visit by the Honourable Feleti Teo OBE, Prime Minister of Tuvalu

The **Honourable Feleti Teo** spoke at the University in July in conversation with **Salā Dr George Carter**. He also met members of the ANU community including the former **Vice-Chancellor Distinguished Professor Genevieve Bell** and current and former ICEDS Directors, **Professor Llewelyn Hughes** and **Emeritus Professor Mark Howden**.

"The phenomenon of climate change has been overwhelmingly recognised and declared by the leaders of the Pacific Island Forum as the greatest existential threat to the lives and future prosperity of the people of the Pacific region. The grave injustice or irony of the threat of climate change is that climate change is not of our making, but it will certainly remake us," said Prime Minister Teo in his address.

Watch the event recording

## ANU contributions to national policy debate

In 2025, ICEDS facilitated four submissions from members:

| |
|---|
| The role of Western Australia in the decarbonisation of its major trading partners |
| Net zero interim report to the productivity commission |
| Select committee on information integrity on climate change and energy |
| Senate inquiry into the Climate Risk Assessment |

The submission to the Select Committee on Information Integrity on Climate Change and Energy examined climate and energy misinformation in Australia, including conspiracies around the causes of natural disasters and false information about climate change and the transition to renewable energy. It detailed the role of digital platforms amplifying false content and deliberate disinformation. Its recommendations included requiring greater transparency from digital platforms, funding media literacy, and research into psychological "inoculation" campaigns.

The submission to the Net Zero Interim Report to the Productivity Commission recommended the government revise its position on technology neutrality and provide support for emerging technologies where market failures are evident. It recommended introducing economy-wide carbon pricing, reducing budgetary pressures, and allowing compensation to households for power prices. It also recommended capping the use of off sets to ensure genuine abatement, scrapping fossil fuel subsidies, and rebalancing vehicle incentives.

ANU students and staff at a blessing ceremony with Ngunawal Elder, Uncle Wally Bell
Photo: David Fanner/ANU

## ANU engagement at COP30

**Associate Professor Siobhan McDonnell**, **Salā Dr George Carter**, and **Dr Virginia Marshall** mentored students **Nancy Diamana**, **Benjamin Mitchell**, **Laurie Singh** and **Vanessa Talei Rodie** at COP30 in Brazil. This ANU Pacific Institute program supports hands-on experience of critical climate negotiations for First Nations and Pacific Islander students. This year Ngunawal Traditional Custodian **Uncle Wally Bell** renamed the program *Dhumimanyin Gawar*, meaning "talking from the heart". In Brazil, **Siobhan** and her team conducted an ethnography of climate governance and negotiation processes titled *Not drowning, fighting?: UN climate governance and Pacific Island countries*.

Following the conference, ICEDS and partners from the COP Universities Alliance held a webinar titled *Belém and beyond: Reflections on COP30* and what it means for COP31, with contributions from **Professor John Thwaites AM**, **Dr Virginia Marshall**, **Professor Jacqueline Peel** and more.

Watch the event recording

Read Laurie's story here

## Adaptation Symposium

Following the release of the first National Climate Risk Assessment and the National Adaptation Plan, ICEDS and the University of Canberra's Centre for Environmental Governance co-hosted an Adaptation Symposium. The two-day event brought together researchers and decision-makers to critically examine and advance adaptation governance for risk assessment and adaptation implementation pathways. Sixty people attended, representing First Nations expertise, all levels of government, academics from around Australia, and industry, investor and professional organisations. The implementation of adaptation futures will be a major focus for ICEDS in 2026.

The second day of the symposium. Photo: Supplied

## IPCC authors

ANU continues to have strong levels of engagement in IPCC activities for Assessment Report 7.

**Professor Sarah Perkins-Kirkpatrick** was named a Coordinating Lead Author with Working Group I (WGI), Chapter 3: Changes in regional climate and extremes, and their causes. **Dr Nicola Maher** was named Lead Author for WGI, Chapter 6: Global projections of Earth system responses across time scales. **Professor Llewelyn Hughes** was named Lead Author for Chapter 1 of Working Group III (WGIII), Introduction and Framing.

This incredible cohort join the ANU AR7 efforts of Coordinating Lead Author for the *Special report on climate change and cities* **Distinguished Professor Xuemei Bai** and Working Group II **Vice-Chair Emeritus Professor Mark Howden**.

Read more

# ANU Environmental Sustainability

## Advancing Climate Action through Campus Leadership

In 2025, there was significant progress on campus climate action at ANU, strengthening the University's role as a leader in environmental sustainability. This work aligns closely with ICEDS' mission, with many ICEDS members contributing directly to these outcomes.

A major achievement was ANU leadership in climate risk mapping, disclosure and management. ANU co-chaired a cross-sector Australian Campuses Towards Sustainability working group of 12 universities to develop narrative climate scenarios, culminating in the report Navigating Climate Change – Scenarios for Australia's Tertiary Education Sector. The report highlights that climate change will affect all aspects of university operations, research and teaching, while also underscoring the sector's critical role in building national capability to respond to climate risks. Internally, ANU established a Climate Risk Working Group and completed its first comprehensive climate risk mapping, informing the University's inaugural Commonwealth Climate Disclosure in the 2025 Annual Report. ICEDS staff and members played a key role in both the scenario development and working group.

ANU also achieved 100% renewable electricity across all campuses in 2025, securing renewable energy contracts for non-ACT campuses and progressing planning for new on-site solar PV generation from 2026.

Carbon accounting capability was strengthened through the University's first comprehensive mapping of Scope 3 emissions for the 2024 calendar year, enabling more targeted mitigation across procurement, travel and waste, supported by the publication of a detailed and transparent carbon accounting methodology.

Campus electrification continued, including the installation of an electric glass furnace at the School of Art and Design, electrification works at Mount Stromlo Observatory, and support for University House's transition to an all-electric facility ahead of its 2026 reopening.

In December 2025, ANU announced strengthened 2030 emissions reduction targets under the Environmental Sustainability Plan 2026–2030, reinforcing its pathway to below-zero emissions by 2040.

The University's achievements were recognised globally, with ANU ranked 16th worldwide in the QS Sustainability Rankings and second in Australia for operational environmental sustainability, reflecting the University's growing impact at the intersection of climate leadership, research and action.

Read more


Isobel Waters opening 'Roxanne' the gas furnace for the last time in the glass workshop, ANU School of Art and Design
Photo: Jamie Kidston/ANU

## McMichael Award

This year's winner is **Dr Milad Mohsenzadeh** whose research tackles the issue of water insecurity, particularly in vulnerable regions and in the wake of climate-driven disasters.

"Existing desalination technologies are energy intensive, expensive and not deployable after a disaster like a flood," he explained.

He is developing floating, modular, solar desalination units that could be deployed on a lake, waterhole or flooded water reservoir in the event of an emergency to supply essential drinking water needs for locals. The technology uses solar energy to evaporate water, which is then cooled naturally by the surrounding water so that it can be harvested.


From left to right: Associate Professor Aparna Lal, Associate Professor Judith Healy, Dr Yen Le, Associate Professer Amy Dawel, Dr Milad Mohsenzadeh and Dr Annabel Dulhunty
Photo: Calo Huang/ANU

"We need a low-cost, off-grid and rapidly deployable water solution."

This project builds on Milad's earlier PhD research. He was also awarded ICEDS Seed Funding in 2023 for his work in solar thermal desalination in remote areas.

"This seed funding helped progress the project from early proof-of-concept to a prototype suitable and reliable for field trials."

The McMichael Award is named after the late **Emeritus Professor Tony McMichael** and administered by the National Centre for Epidemiology and Population Health. Former awardees are **Dr Zoe Leviston**, **Associate Professor Amy Dawel**, **Dr Annabel Dulhunty** and **Dr Yen Le**.

## Thank you to our outgoing academic executives

The whole ICEDS community would like to extend our sincere gratitude to the outgoing academic executives, **Emeritus Professor Mark Howden**, **Professor Frank Jotzo**, **Associate Professor Roslyn Prinsley** and **Dr Steven Crimp**. They established the Institute from a consolidation of the Climate Change Institute, Energy Change Institute, and Disaster Risk Science Institute in 2021. Since then, ICEDS has grown to be a leading voice in in climate change adaptation and mitigation spaces.

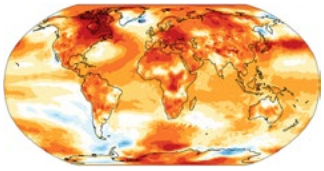
Mark continues his work as a Vice Chair in the Intergovernmental Panel on Climate Change, progressing the Special Report on Cities, the main IPCC assessments as well as expert meetings on both climate adaptation and agriculture. Mark continues to have a high profile in the media nationally and internationally, contributes to several major advisory committees (including as Chair of the Expert Advisory Committee of Australia's first National Climate Risk Assessment) and teaches into a wide range of courses at ANU and elsewhere. Last year Mark was elected as a Fellow of the Australian Academy of Science and was appointed a Companion of the Order of Australia (AC).

Frank has returned full-time to his role as Director of the Centre for Climate and Energy Policy at the Crawford School of Public Policy and continues in advisory roles with Australia's Carbon Leakage Review, Queensland's Clean Economy Expert Panel and the NSW Net Zero Commission.

Building on her Nature-based Solutions guidelines, Roslyn leads research National Hazards Research Australia-funded transdisciplinary research transforming Australia's flood management; and co-leads work into community flood intelligence networks funded by NSW Disaster Ready Fund. This aims to enhance the safety and resilience of vulnerable communities, using citizen science approaches. Her research features widely in media including *7:30 Report*, the *Australian Financial Review* and the *Sydney Morning Herald*.

Steven has joined the Australian Centre for International Agricultural Research as Research Director where he leads a portfolio of research for Africa, the Pacific and South Asia that includes climate change, soils and land management, forestry, livestock and capacity development research domains.

# In the media



Australia just had its second-hottest year on record – and temperatures will rise again
2 January, *The Age*

Featuring Emeritus Professor Mark Howden

Image: Copernicus Climate Change Service

It's science, not fiction: high-tech drones may soon be fighting bushfires in Australia
22 January, *The Conversation*

By Professor Marta Yebra, Dr Iain Guilliard, Dr Nicholas Wilson & Professor Robert Mahoney

Image: Nic Vevers/ANU

What's the difference between climate and weather models? It all comes down to chaos
6 February, *The Conversation*

By Professor Andy Hogg et al

Image: Jamie Kidston/ANU

Can you weaken a cyclone?
11 March 2025, *7.30 Report*

Featuring Associate Professor Roslyn Prinsley

Image: NASA

China's new climate target is both historic and inadequate
26 September 2025, *ABC News*

Featuring Dr Jorrit Gosens

Image: Chris Lim/Wikimedia Commons

The secret to making Australia a green fuel export superpower
14 October 2025, *The Canberra Times*

By Dr Bin Lu and Kate Lawrence

Image: Marcus Wong/Wikimedia Commons

White elephant? Hardly. Snowy 2.0 will last 150 years and work with batteries to push out gas
22 October 2025, *The Conversation*

By Professor Andrew Blakers

Image: Snowy Hydro

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