



Australian
National
University

ANU Institute for Climate, Energy & Disaster Solutions

2025 Strategic Plan

October 2021

EXECUTIVE SUMMARY

Climate, energy and disasters are crucial, growing and interconnected issues for Australia, and neighbouring regions. ANU ICEDS is working to advance solutions to maintain and improve the livelihoods, health, environment and prosperity of Australians, addressing three of Australia's major challenges. This encompasses:

1. Systemically addressing sustainability issues and solving challenging societal problems
2. Building and growing Australian industries that are job-creating and globally competitive and
3. Building the capacity to design and implement transformational changes equitably and efficiently.

The Institute also seeks to share these solutions with our neighbours and beyond in order to foster positive societal change. The broad transdisciplinary scope of the Institute provides opportunities to look at these societal challenges systemically and holistically.

ANU ICEDS was created in January 2021, consolidating the former Climate Change Institute, Energy Change Institute and the Disaster Risk Science Institute. At the time of writing, we are in the process of recruiting key staff to support and develop our vision and programs.

Over the life of the strategy, we will build the capacity of the Institute to catalyse and advance climate, energy and disaster solutions by:

- Facilitating, developing, supporting and catalysing integrated, innovative, transdisciplinary approaches to climate, energy and disaster solutions research
- Developing a program of world-leading executive education and supporting ANU Schools to provide undergraduate and postgraduate education across these three themes
- Providing high level policy engagement and advice, media engagement, events and digital communications, positioning the Institute as a leading honest broker of knowledge around climate, energy and disaster solutions
- Supporting capacity building across ANU via development of networks, training, leadership opportunities and career development for ANU climate, energy and disaster risk researchers
- Leading research, teaching and community engagement around ANU Below Zero



Pillar 1: Strengthening our national mission and meeting our unique responsibilities

ANU ICEDS was created to address the three interlinked challenges of climate change, the energy transition and disasters. Advancing solutions to these challenges is critical if we are to meet our unique responsibilities. ICEDS will achieve this both via the facilitation of innovative research programs and by connecting ANU research and researchers with research users. Policy engagement, a comprehensive events program, media engagement and other forms of outreach are connecting ANU researchers with policymakers, industry and communities, increasing research impact.

Sub-pillar initiative(s)	Our Contribution to ANU 2025	Expected outcomes by 2022	Expected outcomes by 2025
<p>1.1 Develop and disseminate new ideas to increase innovation, understanding, democratic participation and prosperity</p> <p>And</p> <p>1.5 Contribute to global environmental sustainability</p>	<p>ICEDS’ goal is to advance innovative solutions to climate change, disasters and energy system transitions by initiating, developing and supporting integrated cross-disciplinary approaches to research, policy challenges, research uptake and education. We’re focussed on progressing transformative ideas via a range of collaborative cross-ANU strategies and engagement with external stakeholders.</p>	<p>Advancement of transformative solutions to climate, energy and disasters will be achieved via various projects including the following:</p> <ul style="list-style-type: none"> • Grand Challenge – Zero Carbon Energy for Asia and the Pacific (ZCEAP) • Intergovernmental Panel on Climate Change (IPCC) Outreach in Pacific (funded by DFAT) • IPCC Regional Vice-Chair for the SW Pacific • The Resilience Initiative for Food and Agriculture (RIFA) 	<p>Development / advancement of transformative solutions to the interlinked challenges of climate change, energy transition and disasters including new policies, strategies, technologies in partnership with engaged stakeholders.</p> <p>Strengthened ANU institutional capacity and capability in climate, energy and disaster solutions.</p>

Sub-pillar initiative(s)	Our Contribution to ANU 2025	Expected outcomes by 2022	Expected outcomes by 2025
	<p>ANU ICEDS is making significant contributions to the successful delivery of the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report via research and engagement contributions.</p>	<ul style="list-style-type: none"> • Australian Science and Technology Climate Partnership (funded by DFAT) • Climate adaptation and energy professional short-courses delivered around the world • Integration of research and teaching with ANU Below Zero • Development of ICEDS Social Entrepreneurship Hubs for Disaster Solutions • Program of professional education across climate, energy and disaster solutions • A partnership to develop a consensus seasonal forecasting approach for Australia. <p>Resulting in strengthened ANU institutional capacity and capability in climate, energy and disaster solutions.</p> <p>ANU ICEDS is becoming the go-to place for policy makers, industry, government agencies, NGOs and communities seeking solutions. ANU and ANU researchers are recognised and trusted knowledge sources.</p> <p>ANU and ANU researchers have stronger relationships with policymakers, industry and communities.</p> <p>Increased external funding for ANU projects that will provide transformational solutions to</p>	<p>ANU ICEDS will be established as the go-to place for policy makers, government agencies, industry, NGOs and communities seeking solutions. ANU and ANU researchers are well-known and trusted knowledge sources.</p> <p>ANU and ANU researchers have stronger relationships with policymakers, industry and communities.</p> <p>Communities and / or individuals in Australia have increased awareness, understanding and changed behaviour in the context of climate change, the energy transition and disasters.</p> <p>Increased external funding for ANU projects that will provide transformational solutions.</p>

Sub-pillar initiative(s)	Our Contribution to ANU 2025	Expected outcomes by 2022	Expected outcomes by 2025
		<p>the interlinked challenges of climate change, energy and disasters.</p> <p>Translation of novel ANU science to address societal challenges both domestically and internationally</p> <p>In 2022, as well as significant contributions to AR6 reports, this includes outreach and engagement with policymakers and communities across Australia and the Pacific. Australian and Pacific decision-makers and communities are well informed about the UN's latest assessment of climate change.</p>	<p>Better informed policymakers around climate change and energy transformation in Australia, Asia and the Pacific</p> <p>Evidence that policies proposed by ANU ICEDS researchers are implemented and technologies are commercialised.</p>
<p>1.2 Meet our responsibilities to the Asia Pacific region with work informed by specialist knowledge and networks</p>	<p>ANU ICEDS is leading, facilitating and / or co-ordinating a number of projects and initiatives across Asia and the Pacific.</p>	<ul style="list-style-type: none"> • ANU ICEDS is playing a lead role in ensuring that ANU research is informing and contributing to effective responses to climate change, energy and disasters across Asia and the Pacific via projects / initiatives including: • Grand Challenge: Zero Carbon Energy for Asia and the Pacific • Intergovernmental Panel on Climate Change (IPCC) Outreach in Pacific (funded by DFAT) • IPCC Regional Vice-Chair for the SW Pacific • The Resilience Initiative for Food and Agriculture (RIFA) 	<p>ANU research is informing and contributing to effective responses to climate change, energy and disasters across Asia and the Pacific, including on food and agriculture, energy and access to water.</p> <p>Strengthened Australian and Pacific regional experience and expertise that will better inform climate change adaptation and mitigation.</p> <p>Strengthened scientific evidence base for Australia's development co-operation</p>

- Development of a new cross ANU research cluster: *Adaptation, Livelihoods & Development in Asia and the Pacific* across the Indo-Pacific region to better support climate-smart outcomes.
- Australian Science and Technology Climate Partnership (funded by DFAT) Enhanced links and collaboration between ANU researchers and governments, businesses and communities in the region.
- Climate adaptation and energy professional short-courses delivered into the Asia-Pacific. ANU research will support the Australian Government's broader commitment to establish a high integrity carbon offset scheme for the Indo-Pacific region.
- Exploring the feasibility of a high integrity carbon offset scheme for Pacific agriculture
- Supporting the management of climate risk in PNG agriculture through the development and delivery of a seasonal farm advisory

1.4 Chart a better future for health and wellbeing in Australia and beyond

ANU ICEDS is establishing a new cross-ANU research cluster focussed on interactions between *Health, climate, energy and disaster solutions*. The focus is on building integrated approaches and developing new research opportunities, ANU leadership, capacity building, outreach and engagement.

A more integrated approach to health, climate, energy and disaster solutions at ANU.

New interdisciplinary connections within and outside ANU including supporting a national hybrid conference on climate change and health.

A more integrated approach to health, climate, energy and disaster solutions.

New interdisciplinary connections within and outside ANU.

Development of new integrated research initiatives to understand the impacts of climate change and disasters on health; and to prepare communities in Australia and our region to develop solutions to address these.

1.6 Engage with First Nations Peoples through academic work, convening key conversations, and the study of First Nations traditional knowledge

ANU ICEDS is establishing a new research cluster focused on *Indigenous Peoples, Culture and Knowledge*, bringing together people across ANU to develop research and teaching in relation to interactions between Indigenous communities and knowledge and climate, energy and disaster solutions. Working with Indigenous communities via the Below Zero Initiative, particularly around carbon removal.

Embedding of Indigenous knowledge and values into climate, energy and disaster solutions.

Initiation of new emission removal partnerships providing benefits for Indigenous communities, our environment and climate.

Indigenous knowledge and values will be embedded into climate, energy and disaster solutions.

New emission removal partnerships will have been developed, providing benefits for Indigenous communities, our environment and climate, as well as emission offsets for ANU as part of Below Zero.

Pillar 2: Conducting research that transforms society and creates national capability

Research that transforms society and creates national capability is at the heart of what ICEDS does. The goal of the Institute is to advance solutions to climate change, disasters and energy system transitions via:

- Interdisciplinary, cross-college collaboration and projects, to develop nationally and internationally significant research agendas relating to climate, energy and disaster solutions and their interaction.
- Solution-oriented, interdisciplinary research capacity in relevant ANU Schools, and within the institute, supported by external projects.
- Leadership and co-ordination of the research component of the ANU Below Zero Initiative.
- Research leadership, business development, relationship and knowledge brokering that supports the above and enhances research adoption and societal impact.

Sub-pillar initiative(s)	Our Contribution to 2025	Expected outcomes by 2022	Expected outcomes by 2025
2.1 Focus on collaboration to create and inform beneficial solutions for society	<p>ICEDS is initiating and supporting the development of interdisciplinary research teams across ANU with the aim of securing long-term, large-scale research funding and ensuring broad societal impact. ICEDS is building partnerships between ANU and other institutions across Australia and the world.</p> <p>ICEDS is establishing new research working groups as part of ANU Below Zero, such as Land Management for Carbon Sequestration</p>	<p>New research on climate adaptation, energy and disaster solutions is being conducted via a range of projects and initiatives including:</p> <ul style="list-style-type: none"> • Australian Science and Technology Climate Partnership (funded by DFAT) • Resilience Initiative for Food and Agriculture (RIFA) • The development and support of 24 interdisciplinary research clusters 	<p>Interdisciplinary teams are generating research outputs on climate, energy and disaster solutions across a range of fields including carbon removal, decarbonisation, agriculture and food security, water security, renewable energy exports, natural disasters (including floods and bushfires) social cohesion, resilient cities and health.</p>

Sub-pillar initiative(s)	Our Contribution to 2025	Expected outcomes by 2022	Expected outcomes by 2025
	ANU ICEDS is convening ANU community engagement and external communications around ANU Below Zero Initiative.	<ul style="list-style-type: none"> New research working groups established as part of ANU Below Zero, such as Land Management for Carbon Sequestration 	
2.3 Translate and communicate our research and shape national and global debates	<p>ANU ICEDS is leading and facilitating national discussions around how we can respond to climate change, prevent and recover from disasters and transform energy systems in the media, via high level advisory roles, briefings, policy submissions and engagement with policymakers.</p> <p>ANU ICEDS researchers / members are also contributing to globally significant climate, energy, and disaster solutions research and policy dialogues, including the IPCC and UNFCCC.</p>	<p>ANU ICEDS is ensuring a strong ANU voice in national and international debates on climate, energy and disaster solutions. Stronger relationships with external stakeholders including policymakers and funding bodies.</p> <p>ANU representation on significant boards / advisory committees at state / territory, national and international level that influence strategic decisions around climate / energy / disaster risk.</p>	<p>A strong ANU voice in national and international debates on climate, energy and disaster solutions.</p> <p>Stronger relationships with external stakeholders including policymakers, businesses and funding bodies.</p> <p>ANU representation on significant boards / advisory committees at state / territory, national and international level that influence strategic decisions around climate / energy / disaster risk.</p> <p>ANU ICEDS has increased awareness and understanding of climate, energy and disaster solutions among policymakers, industry leaders and the Australian community. Our activities have sparked</p>

Sub-pillar initiative(s)	Our Contribution to 2025	Expected outcomes by 2022	Expected outcomes by 2025
2.4 Create at least one major societal transformation from work originating at ANU	<p>ANU ICEDS' goal is to develop and advance work that contributes towards positive societal transformation. As an interdisciplinary institute covering three major themes, we're developing multiple approaches concurrently to catalyse new areas of interdisciplinary research that will have high and significant societal impact.</p> <p>This includes work on:</p> <ul style="list-style-type: none"> • Carbon removal at landscape scale and / or via carbon capture and usage (CCU) • Rapidly stopping bushfires • Decarbonisation trajectories including industrial decarbonisation • Renewable energy-based exports • Green hydrogen and the Hydrogen Economy • Transformative climate adaptation 	<p>Development of multiple new cross-disciplinary research projects, for example:</p> <ul style="list-style-type: none"> • Establishing an operational seasonal forecasting system in PNG that supports agricultural decision making • ANU research to support the Australian Government's broader commitment to establish a high integrity carbon offset scheme for the Indo-Pacific region. 	<p>conversations and facilitated behaviour change. They have contributed to building trust in ANU as a credible knowledge source. They have increased ANU research impact by building the public profile of researchers, and have contributed to a more engaged and empowered community.</p> <p>New cross-disciplinary research projects with potential to contribute to transforming societal responses to climate, energy and / or disaster solutions. This may be in the area of water security, access to energy, carbon removal, decarbonisation, agriculture and food security, renewable energy exports and / or novel solutions to preventing disasters.</p>

Sub-pillar initiative(s)	Our Contribution to 2025	Expected outcomes by 2022	Expected outcomes by 2025
2.5 Collaborate with Asia-Pacific neighbours to address regional issues	<ul style="list-style-type: none"> • Agricultural, food and nutritional security • Global water security • Climate and energy economics and policy • Extreme events and future scenarios • Preventing/diverting floods from populated areas • Interactions between health, climate, energy and disasters <p>ANU ICEDS is leading, facilitating and / or co-ordinating a number of collaborative projects and initiatives across Asia and the Pacific, informed by specialist knowledge and networks.</p>	<p>ANU ICEDS is facilitating and developing research in response to climate change, energy and disasters across Asia and the Pacific including via the following projects and initiatives:</p> <ul style="list-style-type: none"> • Grand Challenge: Zero Carbon Energy for Asia and the Pacific • Intergovernmental Panel on Climate Change (IPCC) Outreach in Pacific (funded by DFAT) • IPCC Regional Vice-Chair for the SW Pacific • The Resilience Initiative for Food and Agriculture (RIFA) • Development of a new cross ANU research cluster: Adaptation, 	<p>ANU research is informing and contributing to effective responses to climate change, energy and disasters across Asia and the Pacific.</p>

Sub-pillar initiative(s)	Our Contribution to 2025	Expected outcomes by 2022	Expected outcomes by 2025
2.6 Provide distinctively outstanding support and opportunities to our early and mid-career academics	ANU ICEDS is initiating and supporting capacity-building, training and leadership opportunities for 500 + ICEDS members, particularly ECRs, MCRs and HDR students. This includes linking with Australian and international businesses and facilitating engagement of ECRs, MCR and HDR in externally funded multidisciplinary projects.	ECRs and MCRs are supported in their career development to collaborate in interdisciplinary research programs which will have global impact on the most pressing challenges of our time – climate change, energy and disasters.	ECRs and MCRs are supported in their career development to collaborate in interdisciplinary research programs which will have global impact on the most pressing challenges of our time – climate change, energy and disasters.

Sub-pillar initiative(s)	Our Contribution to 2025	Expected outcomes by 2022	Expected outcomes by 2025
2.7 Support and incentivise all ANU staff to work innovatively and collaboratively in support of research excellence	<p>ANU ICEDS is developing interdisciplinary research clusters, many of which are focussed on cross-cutting research themes across our four pillars of climate change, energy, disaster solutions and Below Zero.</p> <p>ANU ICEDS is leading and facilitating new interdisciplinary research projects across ANU, bringing in new funding.</p>	New collaborations and communities of practice across Colleges are being initiated and developed.	Strong interdisciplinary networks and communities of practice have been established across ANU bringing together researchers from every College. Researchers are actively collaborating in communities of practice to develop interdisciplinary research.

Pillar 3: Delivering a student experience equal to the world’s best

ANU ICEDS is focussed on supporting teaching that is informed by a more integrated view of climate, energy and disaster risk. Each of these three themes is a growth area in its own right given their increasing dominance in the national discourse and in government, business and community planning and action. One of our goals is also to increase the integration of these themes across ANU programs and courses as well as integrating ANU Below Zero into student experiences.

Sub-pillar initiative(s)	Our Contribution to 2025	Expected outcomes by 2022	Expected outcomes by 2025
3.3 Overcome barriers to admission created by disadvantage and be accessible to all students with talent and potential to succeed	ANU ICEDS is developing and supporting a number of scholarships in the area of climate, energy and disaster solutions providing support for students from disadvantaged backgrounds eg Game Change and Prosser Scholarships.	Increasing representation of indigenous, rural, remote and regional Australia, Pacific and /or financially disadvantaged students.	A more diverse student cohort including greater representation of indigenous, rural, remote and regional Australia, Pacific and financially disadvantaged students.
3.4 Deliver academically rigorous, high quality, inspiring programs of study	ANU ICEDS is engaging researchers and students with the ANU Below Zero Initiative including via the development of research projects, guest lectures and internships. ANU ICEDS is integrating Below Zero research projects into programs and courses throughout ANU (in every college) using ANU as a living lab.	ANU is starting to develop a reputation as a leader in climate action. ANU Below Zero is providing research, internship, career development and leadership opportunities for students and staff.	ANU Below Zero will position ANU as a leader in climate action, providing research, internship, career development and leadership opportunities for students and staff and delivering significant reputational benefits.

Sub-pillar initiative(s)	Our Contribution to 2025	Expected outcomes by 2022	Expected outcomes by 2025
	ANU ICEDS is working with Schools to initiate and develop new interdisciplinary courses and providing support on integrating climate, energy and disaster themes within existing courses.	Enhancement of ANU climate, energy and disaster programs and courses, including Master of Energy Change and Master of Climate Change programmes. For example Climate Fundamentals, a foundational climate change course for first year undergraduate students.	A more integrated and holistic approach to climate, energy and disaster solutions within ANU teaching, meeting the increasing need for education on these critical themes from our student cohort. Building and supporting ANU reputation of leadership in education on climate, energy and disaster solutions.
3.5 Create a physical and digital campus, which is inclusive, supportive and nurturing	ANU ICEDS is engaging students with practical emissions reductions in their daily lives via ANU Below Zero, using engagement program such as Green Impact across Residences and Schools.	Students have had the opportunity to develop improved practices and leadership skills around emissions reductions.	Students have the opportunity to develop improved practices and leadership skills around emissions reductions.
3.6 Build distinctive non-degree offerings that engage creativity and talent	ANU ICEDS is developing and promoting a full program of executive education / professional short courses, including new courses that integrate climate, energy and disaster risk solutions and courses on carbon removal opportunities.	World-leading executive education programs on climate, energy and disaster solutions.	ANU ICEDS has become the “go-to” institution for anyone seeking a well-rounded off the shelf or tailored executive education program on climate, energy and disaster solutions. A growing cohort / network of professional alumni of ANU executive education programs who are applying ANU research to their work.

**Sub-pillar
initiative(s)**

Our Contribution to 2025

Expected outcomes by 2022

Expected outcomes by 2025

Stronger networks with and across
government departments.

Pillar 4: Being a standard-bearer for equity and inclusion

ANU ICEDS plays a central role as a connector across disciplines and issues, bridging divides, breaking down silos, building networks and synergies both within ANU and with external stakeholders. With over 500 members across 24 out of 27 ANU Schools, this ability to bring people together is a key strength. The Institute provides opportunities for early and mid-career researchers to build their skills, provide leadership opportunities and develop their careers and aims to support an increasingly diverse cohort of researchers. We also support a number of scholarship aimed at targeting students from indigenous, Pacific, financially disadvantaged and regional / rural backgrounds.

Sub-pillar initiative(s)	Our Contribution to 2025 <i>(describe initiative in 250 words or less)</i>	Expected outcomes by 2022	Expected outcomes by 2025
4.2 Be a demonstrated champion of our institutional values	ANU is not only a world leader in research and teaching on climate and energy, but are is also demonstrating our values in practice via ANU Below Zero	ANU is demonstrating that it is both reducing GHG emissions and working on approaches to emissions removal.	ANU has reduced and removed GHG emissions reaching net zero by 2025. ANU Below Zero has contributed to reputational benefits for ANU.
Provide a distinctively inclusive, supportive and collegial environment for all and 4.4 Enhance the social cohesion, wellbeing and collaborative culture of our community	ANU ICEDS supports a cohesive, interdisciplinary community of climate, energy and disaster risk researchers, teachers and professional staff across ANU, helping build networks and providing leadership opportunities particularly for ECRs and MCRs. ANU ICEDS is supporting gender equity and diverse representation across our events, leadership and other opportunities and via scholarships for students from disadvantaged backgrounds.	Cross-university membership and engagement with ANU ICEDS, Below Zero, and climate, energy and disaster themes has increased even further. Development of research clusters that bring together researchers to actively collaborate on interdisciplinary research and create new communities of practice.	Cross-university membership and engagement with ICEDS, Below Zero and climate, energy and disaster themes has increased even further. ANU ICEDS membership has become increasingly diverse.

Sub-pillar initiative(s)	Our Contribution to 2025 <i>(describe initiative in 250 words or less)</i>	Expected outcomes by 2022	Expected outcomes by 2025
4.5 Lead in the recruitment of students from Indigenous, rural and low-SES backgrounds	ANU ICEDS is developing and supporting postgraduate scholarships in the area of climate, energy and disaster solutions providing support for students from disadvantaged backgrounds.	Increasing representation of indigenous, rural, remote and regional Australia, Pacific and /or financially disadvantaged students.	A more diverse postgraduate student cohort including greater representation of indigenous, rural, remote and regional Australia, Pacific and financially disadvantaged students.
4.7 Enrich data capability so decisions lead to greater equity and diversity	ANU ICEDS is contributing to the Intergovernmental Panel on Climate Change (IPCC) Task Group on Data Support.	More robust IPCC data, facilitating better decision-making around climate change.	Policymakers are increasingly confident in the data and well-informed about climate change.



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