

CLIMATE ESSENTIALS PROFESSIONAL SHORT COURSE

Online

Monday 19 – Wednesday 21
September 2022



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Australian
National
University

Institute for
Climate, Energy &
Disaster Solutions



Course background

Climate change is already affecting communities throughout Australia, with 2016 and 2020 tied as the hottest years on record at 1.2°C above pre-industrial times.

As a result, Australia has also experienced changes in extreme weather, with more frequent and intense heatwaves, storms, flooding and bushfires.

All government departments, agencies and institutes are required to plan, develop and implement strategies to address current and projected changes to our climate.

The Climate Essentials short course has been designed for professionals who want to gain an overview of the latest developments around climate change. It will cover both the science of climate change and policy responses across a range of sectors.



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The course is run by the **ANU Institute of Climate, Energy & Disaster Solutions**, bringing together leading climate researchers from across the University.



Course information

Scope and content

The overall aim of Climate Essentials is to provide decision-makers in government, industry, non-government and community sectors with access to the latest ANU research and expertise on climate change impacts and adaptation. This course provides a summary of the latest climate science, followed by an overview of climate change adaptation, communicating climate change, climate change impacts on human health, and climate and energy economics. The final session focusses on opportunities and challenges associated with enabling effective climate policy. The course is most relevant to policymakers and practitioners in Australia and across the Asia-Pacific region.

Course details

This session of Climate Essentials will be delivered online in-real-time via Zoom meetings. The course covers six broad topics over three consecutive mornings, with two lectures per morning plus group discussions, Q&A sessions and breaks. Course timings are 9.30am to 12.45pm each day, from Monday 19 to Wednesday 21 September 2022.

Who should attend?

This course is most relevant to policymakers and practitioners who wish to gain an overview of the latest research on climate change impacts, solutions, and policy responses in Australia and its region. Participants come from a range of different workplaces and bring diverse perspectives into the classroom, which results in vibrant discussions on the climate impacts being felt across most sectors of our economy and society.

Important information

- To register, [click here](#) and follow the registration details as described on the page.
- Registrations close Thursday 15 September 2022.
- Early bird registrations are available (\$1350 per person) until Friday 9 September 2022.
- Group discounts are available for bulk registrations of three or more participants from the same organisation until Thursday 15 September 2022.
- The course will take place subject to demand. Registrants will receive a full refund in the unlikely event that the course is cancelled.
- Contact the ICEDS Executive Education Coordinator, Rachel England at Rachel.England@anu.edu.au to find out more.

Full cost - \$1495 per person (including GST)

About the ANU Institute for Climate, Energy & Disaster Solutions (ICEDS)

ICEDS connects people with climate, energy and disaster risk research from the Australian National University. Our goal is to advance innovative solutions to address climate change, energy system transitions and disasters. We facilitate integrated and interdisciplinary approaches to research, teaching, policy, industry and community engagement. We also lead the ANU Below Zero Initiative, which is working to reduce the University's greenhouse gas emissions to below zero.



Program

Day 1

9.30am – Welcome and introduction

Professor Mark Howden and Rachel England, Institute for Climate, Energy & Disaster Solutions

A session welcoming participants to the course and identifying burning questions.

9.50-11.05am – Understanding climate change and extremes

Professor Mark Howden, Institute for Climate, Energy & Disaster Solutions

The climate is changing. Human-caused emissions of greenhouse gases have very likely caused global warming, which affects the climate on which our critical life-supporting systems depend. Temperature increases due to warming are coupled with changed rainfall patterns, melting of ice sheets and glaciers, sea level rise, and an increase in extreme weather events amongst other things. Meanwhile, increasing atmospheric carbon dioxide concentrations affects a range of biological processes and is reducing the pH of our oceans. In this presentation, we will look at the past to learn about how the climate has changed, and then to the future for how we can expect climate changes to manifest in the future. In particular, we will consider future extremes in terms of likelihood and impacts, and will discuss the implications of these extremes for Government agencies.

At the completion of this lecture you will understand the key drivers and underlying processes that are involved in climate change, the evidence for climate and related

changes that particularly impact on systems in which Australia has specific interests, and projections for future changes and how these may differ under varying degrees of emission-reduction.

11.05am – Break (10 mins)

11.15am – 12.30pm Communicating climate change to psychologically complex creatures

Dr Bec Colvin, Crawford School of Public Policy

While many solutions to the challenge of climate change are known, their implementation is often constrained not due to technical limitations, but instead due to the complexity of the social dimension. Human beings – who we are, our values, attitudes and beliefs, the norms we follow – are one of the most confounding aspects of climate change. In this lecture, we explore key threads in the research on the social dimension of climate change, in particular the psychological basis of attitudes toward climate change and the emergence of climate change as a social-political object in Australia. Based on this, we then explore how understanding this human dimension can inform climate change policy and practice, including strategies for effective communication and engagement.

At the completion of this lecture you will understand the links between values, beliefs, ideology and attitudes to climate change, and strategies and factors to consider when communicating about climate change.

END DAY 1



Program

Day 2

9.30-10.45am Health and climate change

Professor Kristie Ebi, Centre for Health and the Global Environment, University of Washington

Climate change is causing injuries, illnesses, and deaths worldwide. Increases in global temperature are projected to further increase morbidity and mortality from most climate-sensitive health outcomes if actions are not taken to rapidly increase adaptation and reduce greenhouse gas emissions. The magnitude and pattern of future risks will depend not just on climate change but also on development choices. Adaptation can reduce the current and projected burdens of climate-sensitive health outcomes over the short term in many countries, but the extent to which it can do so past mid-century will depend on emission and development pathways. Under high emission scenarios, climate change will be rapid and extensive, leading to fundamental shifts in the burden of climate-sensitive health outcomes that will be challenging for many countries to manage. Unmanaged disease burdens could erode gains made in public health, economic development, and living standards worldwide. Sustainable development pathways could delay but not eliminate associated health burdens.

At the completion of this lecture, you will understand the basic associations between climate change and human health, the range of responses required to adapt to the health impacts of climate change, the health benefits of mitigation policies and technologies, and multidisciplinary and multisectoral approaches to action in the health sector.

10.45am – Break (15 mins)

11.00am-12.15pm Climate policy and economics

Dr Tom Longden, ANU Zero-Carbon Energy for the Asia-Pacific Grand Challenge

Greenhouse gas emissions have increased with economic growth, and this relationship needs to be reset in order to limit climate change. Carbon dioxide from fossil fuel combustion is the largest source of greenhouse gas emissions, but some other sources matter as well. Significant reductions in emissions could be achieved at moderate cost if cost effective policies were implemented, but the politics of implementation and adjustment remain difficult. Nevertheless, the lower cost of clean technologies bodes well for future climate change mitigation policy success.

At the completion of this lecture you will understand trends and drivers in global and national emissions, building blocks of decarbonisation of the economy, economic costs and opportunities of reducing emissions, and policy approaches and experiences with the implementation of climate policies in Australia and other countries.

12.15-12.30pm Facilitated group discussion

Rachel England, Institute for Climate, Energy & Disaster Solutions

END DAY 2



Program

Day 3

9.30-10.45am Enabling climate policy solutions

Honorary Professor Howard Bamsey, ANU School of Regulation and Global Governance

As a former senior policy maker with the Australian government and Australia's Special Envoy on climate change, Honorary Professor Howard Bamsey draws on his extensive experience developing and implementing climate policy for this lecture on enabling climate policy solutions.

At the completion of this lecture you will have discussed Australia's role in international climate change policy and the linkages with domestic policy; and opportunities for developing effective climate policy in Australia in 2022 and beyond.

10.45am – Break (15 mins)

11.00-11.15am Group discussion

Rachel England, Institute for Climate, Energy & Disaster Solutions

A facilitated group discussion on the participants' learnings and ongoing questions.

11.15am-12.30pm Adaptation to climate change

Emeritus Professor Ian Noble, ANU College of Science

The climate change adaptation lecture will outline the present understanding of options, and practical implications of adapting, or not adapting, to a changing climate. It will critically discuss frameworks for understanding climate change adaptation, and step through examples of adaptation in Australia and internationally. It will discuss the roles of governments, national to local, and communities in achieving and maintaining better livelihoods that are also resilient to a changing climate.

At the completion of this lecture you will understand key concepts pertaining to, and frameworks for, climate change adaptation; the mainstreaming or integration of adaptation across policy sectors; the consequences of climate change adaptation, and of failure to adapt; and institutional and governance implications of climate change adaptation.

END DAY 3

** Program timings and lecture titles/abstracts are subject to change without notice, where necessary to deliver the course.*

