



Australian
National
University



CLIMATE ESSENTIALS PROFESSIONAL SHORT COURSE

**Monday 23rd - Wednesday 25th November 2020,
9:00am - 12:30pm AEDT**

> Delivery: Online in real-time

Climate change is already affecting communities throughout Australia with average annual temperatures in 2019 of about 1.92°C above those in 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.

This 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.

The course is run by the ANU Climate Change Institute, bringing together leading climate researchers from across the university.

ANU Climate
Change Institute

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Scope and content

The course will provide a summary of the latest climate science, followed by an overview of climate policy and economics, climate adaptation, climate change communications and health & climate change. The final session will discuss the opportunities and challenges around developing effective climate policy. This will be tailored to provide direct contextual relevance to the decisions faced by Australian government departments, institutions and agencies.

Course details

- The structure of the course has been adapted from a full day face-to-face, to online delivery to meet current social distancing requirements. The staggered structure is designed to maximise engagement and is based on advice from ANU experts in online course design.
- The course covers six broad topics over three mornings; two sessions per day, each session punctuated by discussion of the key points.
- Participation will be via the Zoom video conferencing tool, allowing direct interaction and discussion with lecturers and other course participants.
- Course timings 9:00am – 12:30pm each day, Mon 23rd - Wed 25th Nov 2020

Who should attend?

This course has been designed for staff across government who are relatively new to working on climate change and want to gain an overview of the latest climate research, the impacts of climate change and policy responses in terms of both mitigation and adaptation. It is expected that participants will come from a range of different government departments as well as corporate and the NGO sectors, and that the diverse perspectives of participants will be useful for all attendees given that climate impacts are being felt across all sectors of our economy and society.

Important information

- To register, visit <https://climate.anu.edu.au/professional-short-course-climate-essentials-2> and follow the registration details as described on the page
- Registrations close on Thursday, 19 November 2020
- The course will take place subject to demand. Registrants will receive a full refund in the unlikely event that the course is cancelled.
- Group discounts are available for bulk registrations of three or more participants from the same organisation.
- Contact course convenor, Ruth O'Connor, via ruth.oconnor@anu.edu.au or 02 6125 4672 to find out more.
- Cost - \$1150 per person (including GST)

About the ANU Climate Change Institute

The Climate Change Institute connects climate change researchers and students from throughout the Australian National University. Our mission is to contribute to climate change solutions through innovative, interdisciplinary approaches to research and teaching, drawing on the wealth of expertise across the University's seven colleges. Our role is also to engage different audiences, including policy makers, media, other researchers, potential students, industry, NGOs and the wider community with ANU climate research.

Program - Day 1, Monday 23 November

9:00am – Welcome and introduction

Professor Mark Howden and Dr Ruth O'Connor, ANU Climate Change Institute

Welcome to the course from Professor Mark Howden, Director of the ANU Climate Change Institute and Vice Chair of the Intergovernmental Panel on Climate Change (IPCC) Working Group II on Impacts, Adaptation and Vulnerability. Dr Ruth O'Connor will lead the group through an ice-breaker session.

9:30-10:45am Understanding climate change and extremes

Professor Mark Howden, ANU Climate Change Institute

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.

10:45am – Break (20mins)

11:05-12:30pm Adaptation to climate change

Dr Steven Crimp, Research Fellow, ANU Climate Change Institute

The climate change adaption lecture will outline the present understanding of options, and practical implications, for 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. The implications for adapting to a change climate for Government will be presented, with particular focus on no-regrets or “win-win” options for climate adaptation that promise other benefits.

At the completion of this lecture and exercise 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 of Day 1

Program - Day 2, Tuesday 24 November

9:00am Welcome to Day 2

Dr Ruth O'Connor, Knowledge Exchange Specialist, ANU Climate Change Institute

Welcome to the second day of the short course.

9:05-10:35pm Climate policy and economics

Professor Frank Jotzo, ANU Crawford School of Public Policy

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 Australia's 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.
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10:35am - Break (20mins)

10:55-12:30pm Communicating climate change to psychologically complex creatures ("human beings")

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.
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End of Day 2

Program - Day 3, Wednesday 25 November

9:00am Welcome to Day 3

Dr Ruth O'Connor, Knowledge Exchange Specialist, ANU Climate Change Institute

Welcome to the third day of the short course.

9:05-10:35am Health and climate change

Professor Sharon Friel, ANU School of Regulation and Global Governance

This health lecture will outline the current human health risks and impacts arising from a changing climate. It will examine adaptation and mitigation actions for governments, industry and civil society, with a focus on the Asia-Pacific region. The importance of understanding the health impacts and risks from climate change as a multi-disciplinary challenge will be outlined. At the completion of this lecture you will understand:

- the basic links between climate change and human health,
 - a range of responses required to adapt and mitigate the health impacts of climate change and
 - multidisciplinary and multisectoral approaches to action in the health sector
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10:35am - Break (20mins)

10:55-11:40am 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, Hon Prof Bamsey will draw on his extensive experience developing and implementing climate policy. He will discuss Australia's role in international climate change policy and the linkages with domestic policy. He will also discuss opportunities for developing effective climate policy in Australia in 2020 and beyond.

End of Day 3

Biographies (in order of appearance)



Professor Mark Howden, ANU Climate Change Institute

Mark Howden is the Director of the Climate Change Institute at the Australian National University. Mark's work has focussed on how climate impacts on, and innovative adaptation options for, systems we value: agriculture and food security, the natural resource base, ecosystems and biodiversity, energy, water and urban systems. With over 30 years in the field and over 400 publications, Mark has been a major contributor to several of the Intergovernmental Panel on Climate Change (IPCC) Assessment Reports and is now a Vice Chair of IPCC Working Group 2.



Professor Frank Jotzo, ANU Crawford School of Public Policy

Frank Jotzo directs the Centre for Climate Economics and Policy in the Crawford School of Public Policy at the Australian National University. He is also the Crawford School's Research Director, and co-director of the Energy Transition Hub. As an environmental economist, his research focuses on policy relevant aspects of climate change, energy, and broader issues of environment, development and economic reform.



Dr Ruth O'Connor, ANU Climate Change Institute

Ruth O'Connor is the Knowledge Exchange Specialist with the Climate Change Institute (CCI) at the Australian National University. Ruth's role with the CCI is to facilitate the strengthening of links between climate change researchers and end users of the research. Ruth's interests include exploring mechanisms to bring together researcher and professional expertise to address complex societal issues and evaluation of those processes.



Dr Steven Crimp, ANU Climate Change Institute

Steven Crimp is a climate applications scientist with the Climate Change Institute (CCI) at the Australian National University. His role in CCI is to examine opportunities for improved climate risk management, within primary industries, both in Australia and internationally as well as seek opportunities to work more closely with multi-national and global food producers, telecommunications, and other industries in this area. Before joining ANU, Steve worked for the Agriculture and Food Business Unit of CSIRO, contributing to the Global Food Security in a Changing World research program.

Biographies (continued)



Dr Bec Colvin, ANU Crawford School of Public Policy

Bec Colvin is a social scientist and Lecturer with the Resources, Environment & Development Group at the ANU Crawford School of Public Policy. Bec's research interest include how groups of people interact with each other - especially in settings of social and political conflict - with regard to climate and environmental issues. Much of her work has a focus on the dynamics of formalised processes for including citizens and stakeholders in decision-making.



Professor Sharon Friel, ANU School of Regulation and Governance (RegNet)

Sharon Friel is Professor of Health Equity and Director of the Menzies Centre for Health Governance at RegNet. She is a Fellow of the Academy of Social Sciences Australia and co-Director of the NHMRC Centre for Research Excellence in the Social Determinants of Health Equity. Her interests are in the political economy of health; governance, policy and regulatory processes related to the social determinants of health inequities, including trade and investment, food systems, urbanisation, and climate change.



Professor Howard Bamsey, ANU School of Regulation and Governance (RegNet)

Howard Bamsey is Chair of the Global Water Partnership and Honorary Professor in RegNet at the Australian National University. He is member of the Board at the Climate Policy Initiative and Climate Works Australia. He was previously Executive Director at the Green Climate Fund and Director General of the Global Green Growth Institute. He has served as Senior Adviser on Sustainable Development to the Australian Department of Foreign Affairs and Trade and Special Adviser on Green Growth to AusAID. Earlier he was Australia's Special Envoy on Climate Change, a Deputy Secretary in the Australian Public Service and CEO of the Australian Greenhouse Office.

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