

LEARNING TO ADAPT

CLIMATE CHANGE ADAPTATION TRAINING

A partnership between EIANZ NSW Division, the EIANZ Special Interest Section on Climate Change & the NSW Office of Environment and Heritage



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PARTICIPANT'S GUIDE

Welcome! Thank you for being part of Learning to Adapt Training. We think that innovative, structured professional development is an important response to the challenge that climate change represents for the delivery and management of Australia's Infrastructure.

Conservative estimates put the annual cost of unmitigated climate change on Australia's infrastructure at about \$9 billion in 2020 rising exponentially thereafter. According to a Climate Institute Report in 2012 market signals to encourage smarter management of climate-change related risks are weak or non-existent. Information is fragmented, dispersed and often not accessible. We hope that by participating in this training you can help to change this.

We have structured a course that will allow you and a select group of colleagues to research current best practice, engage with leading practitioners in the field of climate change adaptation for infrastructure and then apply your new found knowledge in the real world. The course is designed to suite different learning styles and to be flexible in the face of your other commitments.

We are sure that you and a network of colleagues will leave this course confident in applying skills that will help steer Australia's infrastructure into the future.

Above all we hope that this learning experience is fun!

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ABOUT OUR PARTNERS



Environment Institute of Australia and New Zealand (EIANZ)

The Environment Institute is a leading professional body in Australia and New Zealand for environmental practitioners, and promotes independent and interdisciplinary discourse on environmental issues. On all issues and all projects the Institute advocates best available environmental practices to be delivered by competent and ethical environmental practitioners.

The Institute was formed in 1987 to meet the needs of environmental practitioners. It is a non-profit, politically independent professional association. The Institute is multi-disciplinary in membership and provides scope and opportunity for professional and academic interchanges across all sectors of the diverse environmental industry.

In 2011 interest from members drove the formation of a Special Interest Section on Climate Change, which has developed an EIANZ Climate Change Action Plan addressing:

- Advocacy,
- Accreditation/Certification
- Capacity Building
- Communication, and
- Governance.

EIANZ NSW Division has been a national leader in providing high quality professional development events on climate change adaptation. Since 2010 the Division has orchestrated a series of Learning to Adapt conferences that have attracted strong interest from environmental professionals in Government, local government and the consulting industry.

Building on this expertise, the EIANZ NSW Division, with the Special Interest Section on Climate Change, has established a partnership with the NSW Government Office of Environment & Heritage to develop and pilot the delivery of climate change adaptation training.



NSW Government Office of Environment & Heritage (OEH)

The climate of New South Wales is changing. Average temperatures in New South Wales have been steadily rising since the 1960s. The period from 2000-2009 was the state's hottest decade on record. Climate change is not just about the environment. It is a cross-cutting issue which will increasingly affect all parts of the State. OEH is developing information and tools to assist government, businesses and communities build resilience to future extreme events and hazards by helping them understand and minimise the impacts of climate change. OEH is also promoting energy efficiency and renewable energy alternatives.

Despite the global effort to reduce greenhouse gas emissions, some level of climate change is now inevitable. NSW 2021 - A plan to make NSW number one includes a commitment from the Government to minimise the impacts of climate change on communities. Adaptation is a way of taking advantage of the benefits and minimising the costs of climate change. Adaptation complements emission reduction measures and is a necessary part of addressing the climate change challenge. OEH aims to build the resilience of the state's natural environment, economy and communities.



ABOUT OUR SUPPORTERS



Green Building Council of Australia

Launched in 2002, the GBCA is a national, not-for-profit organisation that is committed to developing a sustainable property industry for Australia by encouraging the adoption of green building practices. It is uniquely supported by both industry and governments across the country.

The Green Building Council's mission is to develop a sustainable property industry for Australia and drive the adoption of green building practices through market-based solutions. Its key objectives are to drive the transition of the Australian property industry towards sustainability by promoting green building programs, technologies, design practices and operations as well as the integration of green building initiatives into mainstream design, construction and operation of buildings.



Infrastructure Sustainability Council of Australia

The Infrastructure Sustainability Council of Australia (ISCA) is the peak industry body for advancing sustainability in Australia's infrastructure. ISCA is a member-based, not-for-profit industry (public and private) council.

The Infrastructure Sustainability Council's mission is enhancing the liveability and productivity of our major cities and our regional communities through advancing sustainability in infrastructure planning, procurement, delivery and operation. ISCA proposes to achieve its mission through:

- Continuing to improve and expand the IS rating scheme in line with industry needs and lessons learnt from current experiences
- Collaborating with government agencies regarding the "upstream" use of the IS rating scheme
- Promoting and facilitating national training, education and knowledge sharing relating to infrastructure sustainability along the entire supply chain
- Contributing, facilitating and promoting industry forums and research on key policy and advocacy issues relating to infrastructure sustainability challenges and opportunities



Institute of Environmental Studies, UNSW

The IES delivers innovative, interdisciplinary, flexible and practical programs that combine a solid foundation in environmental management with choice from a wide range of cross faculty electives. Their students develop comprehensive knowledge and skills designed to enhance their careers and enable them to play a meaningful role in a sustainable future. Postgraduate programs by coursework or research are available on campus and online.

Over the last 20 years the Institute of Environmental Studies (IES) has contributed to the global vision of sustainable development which they see as socio-economic development that protects and enhances the environment and social justice. Through world-class innovative research and interdisciplinary teaching in environmental studies and management they are responding to the challenges of the 21st century.



ABOUT OUR TRAINING FACILITATOR



Dr Fabian Sack – Director, Sustainably Pty Ltd

Fabian has been a thought leader in corporate responsibility, environmental governance and sustainability over 18 years. He now freelances, providing independent advice and training. He is an associate at the University of Sydney and holds postgraduate qualifications in environmental ethics and education for sustainability. Fabian led Sydney Water's sustainability change management program for a decade and has held senior private and public sector roles working on climate change and stakeholder engagement in the infrastructure and energy sectors. He has contributed to books and journals on ecological footprinting, green skills and social life cycle assessment. Fabian is an active member of the EIANZ and sits on the Total Environment Centre Management Committee.

Contact Fabian@sustainably.net.au

Tel 0408 600 015

ABOUT OUR GUEST SPEAKERS



Kate Harris - CEO, Centre for Sustainability Leadership

Kate is passionate about actualizing our human potential through developing ourselves, our organisations and our communities. Kate achieves this through creating cutting edge experiential processes in transformational leadership in order to create a positive future. Kate believes in building capability in tomorrow's leaders today through vision, innovation, collaboration and action. Kate is well renowned for creating systemic change through her role at the Centre for Sustainability Leadership, as a transformative facilitator, executive coach and a strategic advisor. Her professional background is in Social Ecology, Organisational Development, Adult Education and Executive Coaching, Creativity, Innovation and Leadership.



Chris Lee - Senior Team Leader Impacts and Adaptation, Regional Operations Group, Office of Environment and Heritage

Chris has Bachelor of Arts (Hons) from the University of NSW, specialising in development economics and a Masters in Environmental Management from Macquarie University. He has a broad background having worked at the Reserve Bank, universities in Australia and Singapore, and his own publishing company. Since 2005 he has worked for the NSW Office of Environment and Heritage in its many forms, firstly as an economist in Economic Services and more recently in climate change policy. Chris leads NSW policy and program development in Climate Change Adaptation. He has led the development of methodologies and implementation of Integrated Regional Vulnerability Assessments and the ongoing development of an Adaptation Strategy for metropolitan Sydney.



Hamish Clarke, Senior Climate & Atmospheric Scientist, Office of Environment & Heritage

Hamish studies the impact of climate change on bush fire risk using observational and modelling approaches to explore past and future changes in fire weather conditions and bush fire fuel load. He run and analyses output from Global Climate Models, Regional Climate Models and Land Surface Models. Beyond this Hamish is interested in climate change processes and impacts, and the link between science, policy and outcomes. He is committed to public interest science and collaborative, multidisciplinary approaches that engage end users from project conception to completion and beyond. He is doing a part-time PhD at the University of NSW.



Ryan Bennett - Senior Environmental Planner Sydney Ports

Ryan is a senior environmental and planning professional with international, national, state and local level experience across various industry sectors including environmental consulting, private industry and government. Ryan studied ecology and physical geography at an undergraduate level, followed by a Masters in Environmental Design, specialising in environmental science and environmental planning. Ryan currently manages planning, environment and sustainability for Sydney Ports Corporation, working with multiple teams across all divisions, as well as tenants and external stakeholders including government agencies and local councils. He is responsible for delivering the required statutory planning, sustainability, environment, stakeholder engagement, strategic planning, assessment, compliance and approval functions across the Sydney Ports estate and for all major and minor development projects involving Sydney Ports.



Stuart Hodgson, - Principal Manager Sustainability North West Rail Link Transport for NSW

Stuart is the Principal Manager for Sustainability on the North West Rail link project, an \$8.3 Bn state infrastructure project in Sydney's northwest. He started on the project over two years ago when it was re-announced, and is responsible for the development and implementation of the environmental and sustainability programs. These programs cross a number of business areas including planning, business case development, design, delivery and operations. Stuart has 20 years experience in major project delivery on a variety of projects. His project experience has taken him to Hong Kong, Spain, USA and Australia, including on high profile projects such as High Speed 1 in the UK. Over the last few years he has played a lead role in promoting the sustainable design and delivery of transport infrastructure in NSW both with Arup and now working for Transport for NSW.



Ken Lundy - Principal Consultant, Edge Environment

Ken is a Principal Consultant in At Edge Environment. He leads the environmental risk management discipline at Edge. His experience lies with multidisciplinary projects with skills in project management, integrated risk assessment, climate change strategy and adaptation planning, carbon management, water management, environmental reporting and sustainability. He has applied these skills across a variety of sectors including resources, property and transport projects. Recent projects include development of water supply/demand projections, climate change risk assessment, greenhouse gas and energy reporting and sustainability strategy. Ken sat as Vice President of the Environmental Institute of Australia and New Zealand (NSW Division) from 2008-2010 and is currently an active committee member. He is also a Green Star accredited professional and an Infrastructure Sustainability accredited professional.



Donna Lorenz - Associate Director – Sustainability & Climate Change AECOM

Donna is one of Australia's leading advisors in climate change and sustainability strategy. She advises government and business on climate change risk and adaptation, sustainable cities and infrastructure, liveability and disaster management. Highlights of Donna's career include assessing the impacts of climate change on Australian infrastructure for the Garnaut Climate Change Review, an integrated adaptation action plan and heatwave response plan for the City of Melbourne, the inaugural adaptation component of San Diego's Climate Mitigation and Adaptation Plan and unprecedented quantifications of climate change impacts on the electricity distribution businesses of South Australia and Victoria for their 2011-15 regulatory price reviews. Donna's Masters thesis, 'Prudence, Profit and the Perfect Storm', (published by Springer Publishers) explores climate change risk and company director responsibilities.



Rick Walters - Technical Director ISCA

Rick is an experienced sustainability professional with a diverse background with 20 years experience in Sustainability, Engineering and Management. His experience spans a wide and diverse range of businesses, infrastructure and industry through design, construction and operations phases. Rick is strongly outcomes focused with a track record of successful project delivery in engineering and sustainability. With a broad background in environmental management, for the last few years he has specialised in sustainability and carbon management, undertaking sustainability assessments and advising on GHG emissions reduction. He is an RABQSA accredited Principal Environmental Auditor, a Green Star Associate and a former Board Director of the Infrastructure Sustainability Council of Australia (formerly Australian Green Infrastructure Council).



Associate Professor Ron Cox - Associate Professor, Civil and Environmental Engineering, University of NSW, Convenor, Australian Climate Change Adaptation Research Network for Settlements and Infrastructure (ACCARNSI)

Ron Cox has been associated with UNSW and the Water Research Laboratory for 40 years. He has a long history of worldwide research in water, coastal and environmental engineering including the early development and subsequent revision of Australian Guidelines for Responding to the Effects of Climate Change in Coastal and Ocean Engineering. In 2008 Ron was awarded Engineers Australia's prestigious Sir John Holland Award for Civil Engineer of the Year, in recognition of his long standing and continuing contribution to the profession and community, particularly in the field of coastal engineering. In January 2009, Ron took up his present position as National Convenor for the Federal Government funded Australian Climate Change Adaptation Research Network for Settlements and Infrastructure (ACCARNSI), which focuses on climate change adaptation research in coastal settlements, built environment, infrastructure, urban planning and management. Ron has been a member of the team that has prepared and recently updated the National (Climate Change) Adaptation Research Plan for Settlements and Infrastructure released through NCCARF.



Jorge Chapa - Executive Director Green Star Technical Development and Operations

As the Executive Director for Green Star Development and Operations, Jorge is responsible for delivering the next generation of Green Star rating tools. Leading the GBCA's growing team of Technical Managers, Jorge directs the ongoing evolution of Green Star and ensures that the Green Star rating tools are technically robust and equipped to deliver more sustainable outcomes for Australia's buildings, fitouts and communities. Jorge has an architecture degree from the University of Monterrey in Mexico, and a Masters in Design Science from the University of Sydney. Jorge brings to his role a wealth of experience from his roles as an ESD consultant and Product Assessor with EcoSpecifier, and Architect with the Buchan Group.



Adam Lovell, Executive Director of Water Services Association of Australia

Prior to taking up his current position, Adam was the Manager, Science and Sustainability at the Water Services Association of Australia. In this role he led national water utility strategy and policy development in areas including climate change adaptation and mitigation, water efficiency, water quality and regulation, and sustainability planning, analysis and reporting. He was previously at Sydney Water for 11 years in the Science and Technology group. Adam has a BSc (Hons) in Chemistry and a Masters of Environmental Engineering Science from the University of Sydney. Adam is currently a Board member for the National Centre of Excellence for Desalination, and a member of the National Health and Medical Research Council Water Quality Advisory Committee, a committee responsible for the development of water quality guidelines in Australia.



John Conner, CEO The Climate Institute

John joined The Climate Institute in March 2007 after working as Campaigns Manager at World Vision where he was also a co-convenor of the Make Poverty History campaign. Prior to that he has been a leader in environment organisations like the Australian Conservation Foundation and the NSW Nature Conservation Council. John has worked on numerous government and business advisory panels currently including the NSW Government's Climate Council. He is a Board member of the Environment Defenders Office and the Asset Owners Disclosure Project and is a "Governator" with the Australian Youth Climate Coalition.



COURSE OUTLINE

The Learning to Adapt training has been developed in consideration of feedback received from an initial event held UNSW in August 2013. The event, attended by 130 participants from industry, federal, state & local government and the sciences, included presentations from high profile and influential leaders in business and industry. Feedback was gathered from the participants on the preferred content for future training.

Pre-requisites

This course has been designed for environmental practitioners with:

- Professional qualifications in environmental management, environmental science, or environmental engineering, or the equivalent professional experience and at least 5 years of experience in relevant business operations.
- The capacity to engage in self directed learning, to organise and critique complex ideas and information, to engage in complex and effective spoken communication, to generate complex written texts and to extract and evaluate embedded mathematical information and mathematical and problem solving strategies.

Purpose

To develop a very high level of competence to contribute to adaptation to climate change by facilitating the development of skills in relation to:

- Applying the science of climate change impacts
- Assessing and managing climate change risks
- Applying and communicating climate change adaptation policy and standards

Delivery

The course is delivered as three (3) stand-alone modules, allowing learners to choose to enrol in only one aspect of the course. These modules are also coordinated to offer an integrated course. Each module includes:

1. An on-line forum discussing a series of pre-readings to ensure that participants can make the best use of the guest speakers
2. A one-day intensive delivered at a city location, featuring expert guest speakers leading the group through worked case studies
3. Group tasks applying the skills in a workplace context.

1. Online forum

2 to 3 weeks before each one- day intensive, participant's are invited to join the online forum. A number of readings and links, suggested by the speakers, are posted and participants invited to start a conversation. The online forum also provides a platform for coordinating the work-based group work and for peer-to-peer support.

2. One-day intensive

The full day intensive component of each module is held at the UNSW CBD Campus and is fully catered. Registration is at 8.30am and the course will conclude around 5pm. Each intensive will feature an expert introduction on the module content followed by case studies delivered by very experienced practitioners. The sessions will be interactive, allowing for group discussion and working through examples.

3. Workplace group tasks

Following the one-day intensive participants are invited to work in small groups on workplace projects to embed the course learning outcomes and establish an ongoing peer reference group. To ensure sufficient time for these group tasks the modules are separated by 4 to 6 weeks. Organisations volunteering to host workplace projects (this could be participant's own workplace) benefit by having expert projects delivered without cost, aside from the time of any staff member engaged in the group project.

Learning Outcomes

At the end of Module 1 you will be able to:

- Understand the relevance of climate science to infrastructure decision making by analysing an organisation's interactions with the environment;
- Determine the significance of projected current climate impacts relevant to infrastructure and express this in a report; and
- Contribute to an appropriate response for each interaction by qualifying the accuracy of climate projections and expressing this in business documents.

At the end of Module 2 you will be able to:

- Assess risks resulting from climate change and develop a prioritised management response;
- Lead periodic review of climate change risks and management response and communicate as appropriate; and
- Facilitate implementation of prioritised management response to climate change risks.

At the end of Module 3 you will be able to:

- Develop strategy in response to emerging government climate change adaptation policy, industry standards and international best practice;
- Communicate climate change adaptation policy and industry compliance requirements to management; and
- Communicate possible organisational responses to climate change impacts to relevant staff and stakeholders.



ASSESSMENT

As the course is not accredited no formal assessment will be undertaken. However course design will deliver on a strategy of:

- Critical reflection by encouraged participants to use a learning journal;
- Peer review and supervisor feedback in relation to the workplace learning project; and
- Observation of group-work in class.

ACCREDITATION

This is a non-accredited course run through the Institute for Environmental Studies at UNSW resulting in a certificate of attendance from the IES.

The course content is aligned to the Units of Competence (UoCs) MSS017001A Analyse and determine organisational risk areas in sustainability and MSS017004A Lead sustainable strategy deployment, contextualised for climate change adaptation. The course content should attract recognition of prior learning for these UoCs through any suitably endorsed RTO.

Completion of the course will attract recognition:

- By 18 GBCA CPD points: 12 Sustainable Development points and 6 Communities Stream Relevant points (or for a one day module: 4 Sustainable Development points and 2 Communities Stream Relevant points)
- 150 CPD points under the Certified Environmental Practitioner Scheme (or 50 points per module); and
- As a Master Class in Climate Change Adaptation Infrastructure Sustainability Accredited Professional by ISCA

VENUE DETAILS

Location

Located in the heart of Sydney's financial district, in the landmark **1 O'Connell Street** building, the award-winning UNSW CBD Campus is designed designed to inspire you to learn and interact in a vibrant, modern and innovative environment. The campus is conveniently located in the heart of Sydney CBD's financial district at **1 O'Connell Street on Level 6**, close to Wynyard, Martin Place and Circular Quay train stations.

Parking

Discounted parking rates are available with Secure Park at Sofitel Wentworth. The hotel is located at **61-101 Phillip Street** with entry and exit to the parking station via Bligh Street. Validate the parking ticket at the CBD Campus reception to receive the discount. Daytime parking is a flat rate of \$43.

Environmental performance

UNSW Venues and Events follow a range of Water, Energy, Waste & Recycling initiatives and policy guidelines to create a better and more sustainable environment for future generations. In keeping with the University's support for renewable energy research projects, UNSW has partnered with Climate Friendly to voluntarily offset all meetings and events emissions in the CBD Campus, at no cost to clients. Venues and Events do this by purchasing carbon credits for the Tamil Nadu wind project in India and small and micro hydro stations in China's rural southwest.

Community Partners

UNSW Venues and Events and Gastronomy are proud to be a part of the OzHarvest food donation scheme! All leftover food from events at the UNSW CBD Campus is donated to OzHarvest to be distributed to the needy and at risk of Sydney.

