



Australian Academy of Science



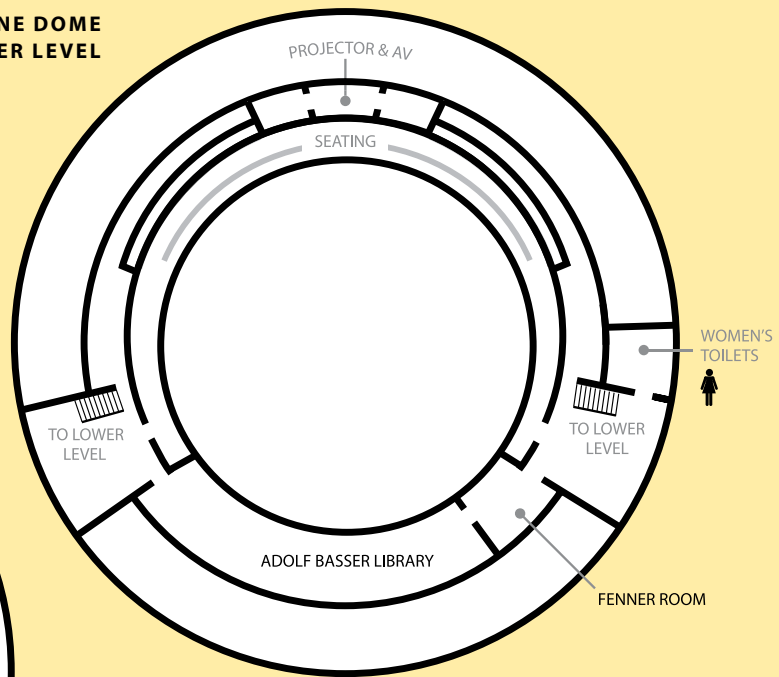
# **FUTURE EARTH AUSTRALIA WORKSHOP**

## **DELEGATE HANDBOOK**

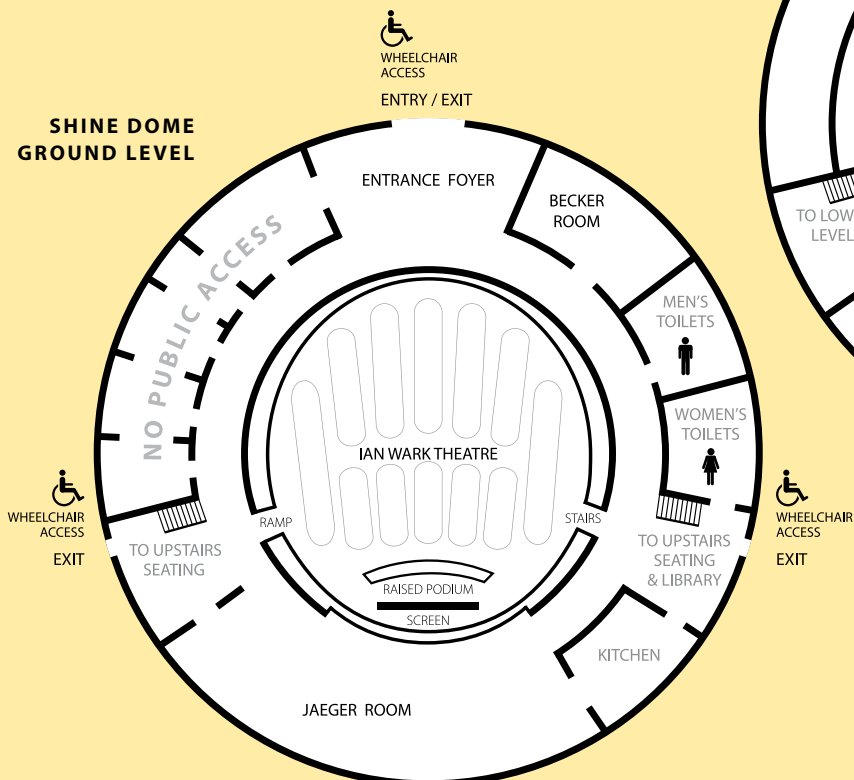
Shine Dome, Canberra  
28–29 April 2016



**SHINE DOME UPPER LEVEL**



**SHINE DOME GROUND LEVEL**



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## WORKSHOP OVERVIEW

This workshop is an integral part of the planning process for the evolving Future Earth Australia initiative. Participants in this event will include sustainability experts, practitioners and enthusiasts from diverse disciplines and representatives from the policy, business, science diplomacy, arts and NGO communities who want to work together to enable a sustainable future for Australia and the region.

The workshop will be structured around three broad themes: economy, environment and people in a sustainable society, and a fourth which considers the links and feedbacks between them. A detailed prospectus can be found at the Academy web-site.<sup>1</sup>

Within each of the themes, existing initiatives will be showcased that bring together all types of relevant knowledge to address the challenges and capitalise opportunities waiting in Australia's future. The focus will be on stimulating dialogue and action, with minimal formal presentations. Time will be allocated for working groups to convene to discuss potential projects of central importance to Australia's sustainability and which require the fusion of this wide span of expertise and knowledge.

We intend this workshop to be a beginning and not an end, but a very substantial beginning that sets in place processes and teams that can develop well considered proposals that will have major benefits for Australia and its future.

### Convened by the Future Earth Australia expert working group

Dr John Finnigan FAA (Chair)—CSIRO Oceans and Atmosphere, Canberra

Professor Michael Manton FTSE (Co-Chair)—School of Earth Atmosphere and Environment, Monash University

Professor Stephen Dovers FASSA—Fenner School of Environment and Society, Australian National University

Professor Dave Griggs—Monash Sustainability Institute, Monash University

Professor Lesley Hughes—Department of Biological Sciences, Macquarie University

Professor Karen Hussey—Global Change Institute, University of Queensland

Professor Iain McCalman AO FAHA FASSA FRHist—University of Sydney Research Fellow in History and Sydney Environmental Institute

Dr Ross Smith—Hydrobiology Pty Ltd

Dr Mark Stafford Smith—CSIRO Land and Water Flagship; Chair, Global Future Earth, Science Committee.

Dr Tas van Ommen—Australian Antarctic Division; Chair, Australian Academy of Science's National Committee for Earth System Science

Ms Angharad Wynne-Jones—Tipping point Australia

Dr Steve Cork—Adjunct Professor, Crawford School of Public Policy, Australian National University

### Academy Secretariat

Dr Poulomi Agrawal, Project Coordinator, Australian Academy of Science

<sup>1</sup> <https://www.science.org.au/news-and-events/future-earth-australia-workshop>

## FOREWORD

Two hundred and fifty years of rapid population growth and economic development since the start of the Industrial Revolution have profoundly changed our planet. We have seen enormous improvements in personal wealth and quality of life especially in the developed nations but increasingly in the rest of the world too. The world economy is now fully globalised. For the first time in history, governments are coming together to address physical and social problems on a global scale, recognising that the planet has entered the Anthropocene epoch. Human actions now constitute a force sufficiently potent to affect the natural workings on the planet. Under the banner of UN initiatives like the Millennium Development Goals and the Sustainable Development Goals, problems of poverty alleviation, disease reduction, food security and premature mortality are being tackled on a global scale and with sustainable long term solutions as the target.

Just as we have now recognised the need to address these problems at a global scale because of the fundamental interconnectedness of today's world, we have also recognised that long-term solutions require us to fuse the best of our skills in the natural and human sciences, the arts and in civil society. Five years ago, the International Council of Science (ICSU) acknowledged this by initiating the Future Earth program, a global initiative that builds on existing programs in biophysical and human sciences. It includes many of the world's best researchers and thinkers and is targeted at achieving long-term solutions to global challenges. Already Future Earth has mobilised more than \$10 billion in research funding internationally.

Although the challenges are global, their solutions will be a combination of local and regional actions—and these will be different according to specific countries' geography, demography and state of development. The sustainability challenge for Australia is for its citizens to continue to thrive and flourish as we maintain the distinctive social and biophysical attributes of our country in a world that is changing rapidly around us.

The Australian Council of Learned Academies (ACOLA) has recognised the importance of the international Future Earth initiative and has provided support to develop a plan for Future Earth Australia.

Future Earth Australia aims to support and facilitate activities already going on in Australia to underpin our national sustainability. It will also define and address questions that are unique to Australia and its region that are as yet unexplored. As an integral part of the international Future Earth movement, Future Earth Australia will position us to lever the enormous capability of that global effort to address Australia's special problems and to mobilise our unique opportunities.

**Dr John Finnigan and Professor Michael Manton  
Chairs, Future Earth Australia expert working group**

## PROGRAM

### DAY ONE: THURSDAY 28 APRIL

1000–1025	<b>Registration, tea and coffee</b>
1025–1030	Welcome to Country
1030–1035	Opening
	<b>Professor Andrew Holmes AM PresAA FTSE FRS</b>
1035–1055	Introduction Professor Xuemei Bai, Australian National University and member of global Future Earth Science Committee Dr John Finnigan, CSIRO and Chair, Future Earth Australia expert working group
1055–1100	Aims and outcomes for the two day workshop
1100–1230	<b>Theme 1: People in a sustainable society</b> <b>Panel presentations (5 minute presentations that would stimulate subsequent audience discussions)</b> <b>Panellists</b> Professor Freya Matthews, Philosophy and Politics, La Trobe University Professor Iain McCalman AO FAHA FASSA FRHist, University of Sydney Research Fellow in History and Co-Director, Sydney Environmental Institute Mr Andrew Petersen, CEO, Sustainable Business Australia Associate Professor Linda Williams, RMIT University Ms Angharad Wynne-Jones, Director, Tipping Point Australia
	Questions from the audience Brief statements (1 minute) from individual audience members about additional topics that they are prepared to take responsibility for. All topics emerging from the above will be captured on a bulletin board with the name of a topic-champion attached. Group dialogue session in which participants contribute to developing and refining the topics to be considered on Day 2. Note: This is the first of four dialogue sessions. It is inevitable that topics emerging in this session will overlap with topics considered under other themes and that similar topics will emerge several times during the day. Participants will be encouraged to consider how topics might be aggregated or disaggregated as the day proceeds, so that at the end of Day 1 we can identify a manageable set of topics that will be the focus for Day 2.
1230–1310	LUNCH
1310–1430	<b>Theme 2: The economy and a sustainable society</b> <b>Panel presentations (5 minute presentations that would stimulate subsequent audience discussions)</b> <b>Panellists</b> Dr Imran Habib Ahmad, Honorary Associate Professor Australian National University Dr Stephen Bygrave, CEO, Beyond Zero Emissions Professor Bob Costanza, Vice Chancellor's Chair in Public Policy, Crawford School of Public Policy, Australian National University Dr Sasha Courville, Head of Corporate Responsibility Strategy, National Australia Bank (Video presentation) Ms Zoe Piper, Managing Director, Allaran and Co-founder/Director, Ecolour

	<p>Questions from the audience</p> <p>Brief statements (1 minute) from individual audience members about additional topics that they are prepared to take responsibility for.</p> <p>All topics emerging from the above will be captured on a bulletin board with the name of a topic-champion attached.</p> <p>Group dialogue session in which participants contribute to developing and refining the topics to be considered on Day 2.</p>
1430–1500	AFTERNOON TEA
1500–1530	<p><b>Theme 3: The environment and a sustainable society</b></p> <p><b>Panel presentations (5 minute presentations that would stimulate subsequent audience discussions)</b></p> <p><b>Panellists</b></p> <p>Professor Stuart Bunn, Director, Australian Rivers Institute, Griffith University</p> <p>Dr Pep Canadell, CSIRO Senior Principal Research Scientist and Executive Director of the Global Carbon Project of global Future Earth.</p> <p>Professor Karen Hussey, Deputy Director, Global Change Institute, University of Queensland</p> <p>Dr Ross Smith, Director, Hydrobiology Pty Ltd</p> <p>Dr Bob Webb, Visiting Fellow, Fenner School of Environment and Society, Australian National University</p>
1530–1620	<p>Questions from the audience</p> <p>Brief statements (1 minute) from individual audience members about additional topics that they are prepared to take responsibility for.</p> <p>All topics emerging from the above will be captured on a bulletin board with the name of a topic-champion attached.</p> <p>Group dialogue session in which participants contribute to developing and refining the topics to be considered on Day 2.</p>
1620–1700	<p><b>Theme 4: Links and feedbacks between people, the economy and the environment</b></p> <p><b>Panel presentations (5 minute presentations that would stimulate subsequent audience discussions)</b></p> <p><b>Panellists</b></p> <p>Dr Jenny Gordon, Principal Advisor Research, Productivity Commission</p> <p>Professor David Griggs, Professor of sustainable development, Monash Sustainability Institute, Monash University</p> <p>Ms Kate Harris, CEO, Good Environmental Choice Australia</p> <p>Dr David Newth, Group Leader of Earth Assessment, and Team Leader of Integrated Assessment, CSIRO</p>
1700–1730	Feedback from participants about the set of topics that have emerged and preliminary indication of which topics will be of interest for Day 2.
1730–1900	<p><b>Special events: Visceral Communications</b></p> <p>Artists and actors perform pieces to stimulate our thinking about a sustainable Future Earth</p> <p><i>Location: NewActon precinct</i></p>
1730–1735	Framing of the arts event—Mr Dave Caffery and Ms Angharad Wynne-Jones
1745–1755	Latai Taumoepeau, Ocean Island ... Mine! at Kendall Lane
1800–1820	Alison Plevy and collaborators, Sprout at Phillip Law Street
1825–1845	Finnigan and Brother at Nishi Grand Stair
1900–2130	DINNER at QT Hotel

## PROGRAM

### DAY TWO: FRIDAY 29 APRIL

0830–0900	<b>Registration, tea and coffee</b>
0900–0930	Recap of Day 1 and self-allocation to topics.
0930–1025	<b>Working Group session</b> Working Groups explore key challenges and opportunities that Future Earth Australia can help Australia address.  The aim is to produce a mix of concrete outlines for major projects and emerging ideas to be developed in the short, medium and longer term.
1030–1100	MORNING TEA
1100–1230	<b>Working Group session (continued)</b> Working Groups continue to work on topics.
1230–1330	LUNCH
1330–1530	<b>Reports from Working Groups</b> Panel discussion: Invited speakers will reflect on what the groups have come up with and what is still needed to develop the ideas.
1500–1530	AFTERNOON TEA (WHILE WORKING)
1530–1620	Facilitated plenary session on the agreed major challenges and the projects that should be initiated to address them.
1620–1630	<b>Wrap up</b> Workshop wrap up, summary of what has been achieved and next steps Thanks to speakers, audience and staff.
1630	WORKSHOP ENDS



## SPEAKERS

### OPENING SPEAKER



Andrew Holmes

#### **Professor Andrew Holmes AM PresAA FTSE FRS, Australian Academy of Science**

University of Melbourne School of Chemistry, Bio21 Institute (Laureate Professor Emeritus); Imperial College Department of Chemistry (Emeritus Professor and Distinguished Research Fellow).

Andrew Holmes was Professor of Organic and Polymer Chemistry and Director of the Melville Laboratory for Polymer Synthesis at the University of Cambridge. In 2004 he was awarded an ARC Federation Fellowship and inaugural veski innovation fellowship at the Bio21 Institute in the University of Melbourne. He was a CSIRO fellow, a University of Melbourne laureate professor at the University of Melbourne, distinguished research Fellow at Imperial College and was the Newton Abraham Visiting Professor, University of Oxford in 2011–12. His research interests involve applications of synthesis to materials science and biology. He has made extensive contributions in the area of light emitting and photovoltaic devices. He was elected a fellow of the Royal Society in 2000, and a fellow of the Australian Academy of Science and of the Australian Academy of Technology and Engineering in 2006. He is President of the Australian Academy of Science. From 2000–03 he was chairman of the editorial board of Chemical Communications and he has been an associate editor of Organic Letters since 2006.

### Introduction



Xuemei Bai

#### **Professor Xuemei Bai, Australian National University and member of global Future Earth Science Committee**

Xuemei is Professor of Urban Environment and Human Ecology at the Fenner school of Environment and Society at the Australian National University. She is an Adjunct Professor at the Beijing Normal University. She has authored and co-authored over 100 publications, and served as a Lead Author for Millennium Ecosystem Assessment and a Lead Author for Global Energy Assessment. She is an appointed member of the Science Committee of Future Earth, a new 10-year international research program on global environmental change, a Council member of International Society of Industrial Ecology. In the past she served as the Vice Chair of the Scientific Committee of the International Human Dimensional Program for Global Environmental Change (IHDP), and Science Steering Committee of Industrial Transformation Core project under IHDP. She served on grant review committees for European Research Council, National Science Foundation in the US, among others. She is on the editorial board of international journals such as Current Opinion in Environmental Sustainability; Sustainability Science; Environment: Science and Policy for Sustainability; Computer, Environment and Urban Systems; Ecosystem Health and Sustainability, International Journal of Sustainable Cities and Society.

## THEME 1: PEOPLE IN A SUSTAINABLE SOCIETY



John Finnigan

### **Dr John Finnigan FAA, CSIRO and Chair, Future Earth Australia expert working group**

John received his BSc from the University of Manchester in 1968 and his PhD from the Australian National University in 1978. He joined the CSIRO Division of Environmental Mechanics in 1972 and from 1989 to 1995 he was Head of that Division. In 2001 he founded the CSIRO Centre for Complex Systems Science, which he led until 2013. He is currently a CSIRO Fellow at CSIRO Oceans and Atmosphere.

He is a Fellow of the Australian Academy of Science, a Fellow of the American Geophysical Union, a Visiting Professor at the School of Geophysical Sciences, University of Edinburgh, Scotland, and an Affiliate Scientist at the National Center for Atmospheric Research, Boulder Colorado.

His research activities have spanned atmospheric science, from the dynamics of turbulence to the role of biosphere-atmosphere exchange in climate dynamics and now include complex systems science. Most recently he led the team that built the capability for Integrated Global Modelling in CSIRO. Currently he is engaged in research on the ways that human decision making and societal dynamics can be captured quantitatively in models of the human–earth system.

He has published almost 200 refereed scientific articles, books and technical papers.



Freya Matthews

### **Professor Freya Matthews FAHA, Philosophy and Politics, La Trobe University**

Freya is Adjunct Professor of Environmental Philosophy at La Trobe University and a fellow of the Australian Academy of the Humanities. She is the author of 5 books and over 70 articles on ecological philosophy. Her current interests are in ecological civilisation, indigenous (Australian and Chinese) perspectives on sustainability, panpsychism and critique of the metaphysics of modernity, ecology and religion and wildlife ethics. She also manages a private biodiversity reserve.



Iain McCalman

### **Professor Iain McCalman AO FAHA FASSA FRHist, University of Sydney Research Fellow in History and Co-Director, Sydney Environmental Institute.**

Iain was born in Nyasaland (Malawi), schooled in Zimbabwe, and did his higher education in Australia. A Fellow of three Learned Academies and former President of the Australian Academy of the Humanities, he is Co-Director of the cross-disciplinary Sydney Environment Institute. His 2009 book, *Darwin's Armada*, was the basis for a prize-winning international TV docudrama, *Darwin's Brave New World*. His current prizewinning book, *The Reef—A Passionate History*, was published in Australia, the USA and UK in 2014. He is an Officer of the Order of Australia for services to history and the humanities.



Andrew Petersen

**Mr Andrew Petersen, CEO, Sustainable Business Australia (SBA)**

Andrew is the CEO of Sustainable Business Australia. Prior to assuming the post of CEO in 2011, Andrew was the Partner in Charge of Legal and Sydney Advisory in the Sustainability and Climate Change Practice of PricewaterhouseCoopers Australia. As a partner, he led the Environment and Development practice of PricewaterhouseCoopers Legal between 1999 and 2007.

Andrew has worked closely with the SBA member companies across numerous industry sectors, providing counsel on the full spectrum of corporate social responsibility (CSR) and broader sustainability issues including AGL, the Council of the City of Sydney, David Jones Limited, the Insurance Australia Group, Kimberly-Clark, National Australia Bank, the National Roads and Motorists Association, Tarkett and Unilever. He has also provided support and counsel to many of the leading CSR initiatives in recent years, including the United Nations Framework Convention on Climate Change (UNFCCC) process, the Rio+20 outcomes, and the Australian business response to the UN Sustainable Development Goals.

Andrew has had over 25 years of legal practice, serving in private legal practice in PricewaterhouseCoopers Legal, Dunhill Madden Butler, Gadens Lawyers and Marsdens as well as period of secondment to the Council of the City of Sydney in 1995. He obtained his arts and law degrees at the University of Sydney.

He was born in Wagga Wagga, New South Wales.

Andrew is a Non-Executive Director on the Board of the Banksia Foundation, and sits on the Board of Advice of the University of Sydney Business School.



Linda Williams

**Associate Professor Linda Williams, RMIT University**

Linda is Associate Professor of art, environment and cultural studies at RMIT. Along with curating several major exhibitions, her publications focus on the question of how the arts and environmental humanities have responded to histories of the *longue durée* and more recent issues of climate change and mass species extinction.

Drawing on social theory, cultural history and European philosophy she works on questions such as how the nonhuman world is represented in cultural history, the ontological status of human and animal relationships, and the connections between cultural history and science. She also has a particular interest in 17th century studies.



Angharad Wynne-Jones

**Ms Angharad Wynne-Jones, Director, Tipping Point Australia**

Angharad received a First Class honours degree in theatre from Dartington College of Arts in the UK. In 1994 she became Director of the Performance Space in Sydney and initiated Pacific Wave, the first Pacific arts festival in Australia, antistatic—a dance festival and cLUB bENT. In 1998 she (as Executive Producer) and Gideon Obarzanek won the tender to establish a state dance company and moved with Chunky Move to Melbourne. Angharad joined Peter Sellars as Associate Director in the 2002 Adelaide Festival. She was appointed Director and CEO of LIFT (London International Festival of Theatre) 2005–08.

Angharad curated and directed the first Australian Theatre Forum in 2009 and in 2011 was appointed Artistic Director at Arts House, City of Melbourne the contemporary arts centre, where she developed Australia's dance festival Dance Massive and initiated Australia's first international biennial Festival of Live Art, and Green Room award winning Going Nowhere, an environmentally sustainable international arts event. She is Founder Director of TippingPoint Australia developing international and local projects with artists, scientists and communities energising the cultural response to climate change.

She studied Cultural Leadership (Grad Dip) at the City University, London and has been on numerous Boards and Panels: Australia Council Hybrid, New Media and Dance Boards, Lucy Guerin Inc, Real Time, Snuff Puppets and Total Theatre (UK). Currently she is Chair of Mobile States (the national touring consortia), on the Australian Performing Arts Market curatorial committee, member of the Australia Council of Learned Academies' working group of Future Earth Australia, a casual lecturer at Melbourne University and is currently co-designing and delivering the National Institute of Dramatic Art's Cultural Leadership course.

## THEME 2: THE ECONOMY AND A SUSTAINABLE SOCIETY



Imran Habib Ahmad

### **Dr Imran Habib Ahmad, Honorary Associate Professor, Fenner School of Environment and Society at the Australian National University**

Imran is a senior executive in climate change, energy, environment, green growth and sustainable development. He has been involved in leading climate change, green growth, clean energy, environment and sustainable development programs, policies and projects for over 20 years. He has a demonstrated track record of achievements in international organisations, United Nations and government. He was recently the Director of East-Asia and Pacific at the Global Green Growth Institute (GGGI) in Seoul. He is currently an honorary Associate Professor at the Fenner School of Environment and Society at the Australian National University.



Stephen Bygrave

### **Dr Stephen Bygrave, CEO, Beyond Zero Emissions**

Stephen is the CEO of climate change think tank Beyond Zero Emissions. He has worked on renewable energy, energy efficiency, sustainable transport, emissions trading and climate change for more than two decades. His experience covers village-scale renewable energy projects in Fiji, Solomon Islands and Kiribati, domestic climate policy as a senior executive in the Australian Government, and international climate policy with the Organisation for Economic Co-operation and Development (OECD) in Paris, France. Stephen worked on the design of Australia's mandatory renewable energy target in the late 1990s, and the design of Australia's carbon pricing mechanism between 2007 and 2012. Stephen is Adjunct Professor at the Faculty of Science at University of New South Wales, Visiting Fellow at the Fenner School of Environment and Society at the Australian National University, Associate at Melbourne Sustainable Society Institute and Co-Founder of the Energy Freedom Alliance.

Beyond Zero Emissions has published research on an Australia powered by 100 per cent renewable energy, with zero emissions buildings, high speed rail, zero emissions agriculture and Australia as a renewable energy superpower. Beyond Zero Emissions is partnering with Byron Shire Council in the transition to Australia's first zero emissions community over a 10-year period.



Bob Costanza

**Professor Bob Costanza, Crawford School of Public Policy, Australian National University**

Bob is a Vice Chancellor’s Chair in Public Policy at Crawford School of Public Policy at the Australian National University. He is also a Senior Fellow at the National Council on Science and the Environment in the US, a Senior Fellow at the Stockholm Resilience Center, an Affiliate Fellow at the Gund Institute for Ecological Economics, and a deTao Master of Ecological Economics at the deTao Masters Academy, China.

Bob’s transdisciplinary research integrates the study of humans and the rest of nature to address research, policy and management issues at multiple time and space scales, from small watersheds to the global system. He is co-founder and past-president of the International Society for Ecological Economics, and was founding editor of the society’s journal, Ecological Economics. He currently serves on the editorial board of 10 other international academic journals. He is also founding editor in chief of Solutions, a unique hybrid academic/popular journal.

He is the author or co-author of over 500 scientific papers and 27 books. His work has been cited in more than 20,000 scientific articles and he has been named as one of ISI’s Highly Cited Researchers since 2004. More than 300 interviews and reports on his work have appeared in various popular media.



Sasha Courville

**Dr Sasha Courville, Head of Corporate Responsibility Strategy, National Australia Bank**

Sasha joined NAB in 2012 and is responsible for Corporate Responsibility (CR) Strategy at National Australia Bank. This includes strategy development and coordination of Shared

Value and CR initiatives, stakeholder engagement on environmental, social and governance issues, best practice non-financial performance and reporting and coordination of NAB’s response on key societal issues across the enterprise.

Prior to joining NAB, she was the Executive Director of the London-based ISEAL Alliance, the global association for sustainability standards and assurance systems, systems that have played key roles in defining productivity in value chains. She has also worked as an international consultant on social justice and environmental sustainability issues in soft commodity sectors, and as an academic, based at the Regulatory Institutions Network at the Australian National University. Sasha was responsible for setting up the Fairtrade labelling system in Australia and New Zealand.

Sasha has a PhD on coffee from the ANU, an MSc from the London School of Economics and a Bachelor of Environmental Studies from York University in Canada.



Zoe Piper

**Ms Zoe Piper, Managing Director, Allaran & Co-founder/Director, Ecolour**

Zoe has more than 17 years experience across management consulting, technology, manufacturing and investment. Operating at the intersection of policy, practice and research, Zoe is actively engaged in a range of roles and appointments. She currently manages the Australian Chamber of Commerce and Industry Productivity Unit, designing and delivering initiatives to boost firm level productivity.

An active investor, in 2009 she co-founded Ecolour, an Australian-based manufacturer of premium quality, non-toxic paint that is now distributed across the country. She has studied in the USA, Europe and China and is currently undertaking a PhD (Public Policy) at the Australian National University.

## THEME 3: THE ENVIRONMENT AND A SUSTAINABLE SOCIETY



Stuart Bunn

### **Professor Stuart Bunn, Director, Australian Rivers Institute, Griffith University**

Stuart is the Director of the Australian Rivers Institute at Griffith University in Brisbane. His major research interests are in the ecology of freshwater systems with a particular focus on the science underpinning river management. Stuart has extensive experience working with international and Australian government agencies on water resource management issues, including an appointment as a National Water Commissioner from 2008 to 2012. He is currently the chair of the science advisory committees for the Murray-Darling Basin Authority and Healthy Waterways Limited, and is a member of the International Planning Committee for the Sustainable Water Future Programme.



Pep Canadell

### **Dr Pep Canadell, CSIRO Senior Principal Research Scientist and Executive Director of the Global Carbon Project (Future Earth)**

Pep focuses on collaborative and integrative research to study the global and regional budgets of carbon, methane and nitrous oxide, as the three most important long-lived gases

leading to human-induced climate change. Additional focus is on assessing the size and vulnerability of the Earth's carbon pools, permissible carbon budgets to climate stabilisation, particularly to low warming targets, with emphasis on negative emissions technologies and impacts. He has contributed to the last two Assessment Reports of the Intergovernmental Panel on Climate Change and has extensively published in the field of global ecology and earth system sciences.



Karen Hussey

### **Professor Karen Hussey, Deputy Director, Global Change Institute, University of Queensland**

Karen is a political scientist with interests in the design of fair, efficient and effective public policy for sustainable development. She has particular expertise in public policy relating to water, energy, climate adaptation, natural hazards, and the challenges of managing environmental objectives in the context of international trade.



Ross Smith

### **Dr Ross Smith, Director, Hydrobiology Pty Ltd**

Ross is a Director of Hydrobiology, an environmental consultancy he co-founded in 2001 that provides services to clients globally in the tropics, working with communities, all levels of government, NGOs and industry to manage the environmental impacts of development. Ross is also the immediate past president of Science and Technology Australia, a peak advocacy body for scientists and

technologists in Australia, and is the current president of the Society of Environmental Toxicology and Chemistry Asia Pacific. Ross has worked with indigenous communities in all tropical continents and throughout the Indo-Malay and Melanesian regions as well as northern Australia.



Bob Webb

**Dr Bob Webb, Visiting Fellow, Fenner School of Environment and Society, Australian National University**

Bob did his PhD and initial research in astrophysics, but his career was essentially in the private sector (large company general manager roles) and public sector (Commonwealth Government Deputy Secretary and Deputy Commissioner roles). These have involved development and delivery of strategies across multiple goals, sectors and disciplines. He joined the Australian National University as a Visiting Fellow and Senior Research Fellow in 2010 and has led research in climate adaptation and sustainability, across and within government, private and community sectors. Transformational change to global and local issues has been a long term interest and persistent theme in his various roles.

**THEME 4: LINKS AND FEEDBACKS BETWEEN PEOPLE, THE ECONOMY AND THE ENVIRONMENT**



Jenny Gordon

**Dr Jenny Gordon, Principal Advisor Research, Productivity Commission**

Jenny is the Principal Advisor Research at the Productivity Commission, where she oversees the Commission's research program and provides advice and quality assurance for research and inquiry work across both the Melbourne and Canberra Offices. She joined the Commission in March 2008, after 14 years at the Centre for International Economics, six as a Director and partner in the firm. Jenny completed a PhD in economics from Harvard University in 1993, and taught macroeconomics and econometrics at Wellesley College before returning to Australia in 1995. Prior to undertaking her PhD, Jenny taught at Macquarie University, and was previously at the Reserve Bank of Australia.

Jenny has extensive experience working in Asia on issues of economic governance financial development, and trade policy. Her areas of work experience include the development and evaluation of government policies in the areas of research and development, infrastructure, human services, agriculture and the environment. At the Commission, Jenny has been extensively involved in social policy areas, including the reform of the aged care and the childcare systems, as well as in productivity research. She retains a strong interest in measuring and understanding non-market outcomes, the trade-offs with market outcomes, and how a wider cost-benefit analysis can be better used to inform policy decisions.



David Griggs

### **Professor David Griggs FTSE, Monash Sustainability Institute, Monash University**

David is Professor of Sustainable Development at Monash University and Warwick University. Until 2015 he was Director of the Monash Sustainability Institute which aims to deliver solutions to key sustainability challenges and CEO of ClimateWorks Australia, an independent, research-based non-profit organisation committed to catalysing greenhouse gas emissions reductions. Previous positions he has held include UK Met Office Deputy Chief Scientist, Director of the Hadley Centre for Climate Change, and Head of the Intergovernmental Panel on Climate Change scientific assessment unit. Dave is a past vice-chair of the World Climate Research Programme. He is a Fellow of the Australian Academy of Technology and Engineering.



Kate Harris

### **Ms Kate Harris, CEO, Good Environmental Choice Australia**

Kate is the CEO of Good Environmental Choice Australia (GECA). She brings to GECA an extensive background in leadership, capacity building and education aimed at finding sustainable solutions for the future. Kate previously spent six years with the Centre for Sustainability Leadership, including two years as CEO, and now as a non-executive director. She is also the founder of consulting firm Future Ready and a graduate of the Asialink Leaders Program. Kate believes passionately in human potential and draws on her diverse experience in the performing arts, executive coaching, cultural change and organisational

development, helping individuals, organisations and communities to create a better future. She has held a variety of management, organisational and coaching roles, and has been an ambassador for 1 Million Women and on the Advisory Board for Pollinate Energy. Kate has a Masters of Social Ecology and Diploma of Applied Science.

Good Environmental Choice Australia (GECA) runs Australia's only independent, not-for-profit, multi-sector ecolabelling program and is the only Australian member of the Global Ecolabelling Network (GEN). GECA's transparent certification program develops standards against which products and services can be independently audited according to criteria for environmental, health and social impacts.



David Newth

### **Dr David Newth, Leader of Earth Assessment Group, CSIRO Oceans and Atmosphere**

David is the Group Leader of Earth Assessment at CSIRO based in Canberra. His research focuses on exploring pathways to manage global environmental change problems from the transition to a low carbon economy and to food and nutritional security. David's team focuses on the development of integrated assessment models to study the complex interactions between drivers of global environmental, economic and social change. He has worked with various Australian, New Zealand and US government departments, national laboratories, the World Bank and OECD.



## SPECIAL ARTS EVENT: 'VISCERAL COMMUNICATIONS'



Dave Caffery

### Dave Caffery, Director Dionysus

Dave develops cultural events, advice and research for high-impact organisations. He practices cultural theory with festivals, exhibitions, concerts, media strategies and integrated ideas. Deep philosophy is made accessible through cultural practices that celebrate the interconnected, dionysian world that moves us all. David works with cultural organisations and developers to build more sustainable communities and a connection to place.

### Latai Taumoepeau, Ocean Island ... Mine!

Latai Taumoepeau is a Punake, body-centered performance artist; her story is of her homelands, the Island Kingdom of Tonga and her birthplace; the Eora Nation—Sydney, and everything far and in-between. She mimicked, trained and unlearned dance in multiple institutions of knowledge, starting with her village, a suburban church hall, nightclubs and a university.

Latai activates Indigenous philosophies and methodologies; cross-pollinating ancient practices of ceremony with her contemporary processes and performance work to reinterpret, regenerate and extend her movement practice and its function in and from Oceania. She engages in the socio-political landscape of Australia with sensibilities in race, class and the female body politic; committed to bringing the voice of marginalised communities to the frangipani-less foreground.

### About the Performance

What remains in the aftershocks of empire? [...] Such effects reside in the corroded hollows of landscapes [...]. The question is pointed: How do imperial formations persist in their material debris, in ruined landscapes and through the social ruination of people's lives?—Ann Stoler cited in Katerina Teaiwa, 2015

A woman, a 500-kilogram block of ice, a shovel, and the steady walk from point A to point B. Back and forth, she works the open-cut mines of the past into the future of climate change; excavating the solid white rock into invisibility.

This work belongs to a genealogy of durational performance reflections from Taumoepeau's *Stitching (up) the Sea* suite.



Latai Taumoepeau



Alison Plevey and collaborators

### **Alison Plevey SPROUT!**

Alison is a dance/theatre artist, choreographer and interdisciplinary performance maker. Her work embodies cross-artform collaboration, site specificity and human story. In 2012 she established *Lingua Franca* dance and physical theatre, in Bathurst NSW with co-director Adam Deusien. The company's latest work *Unsustainable Behaviour* premiered in November 2015. In 2014 Alison received a Canberra Critic's Circle Award for her 'tour de force' solo performance in *Johnny Castellano is Mine*.

Alison is co-producer of Canberra choreographic lab *strange attractor* and Live Art party *Sound and Fury*. She recently created and performed *Autumn Lantern* at the Enlighten festival, collaborated with award winning poet, Melinda Smith and performed *Dancing with Drones* at Liveworks, Carriageworks, in Sydney in 2015, a collaboration with media artists Starrs and Cmielewski. Alison is currently starting a politically-minded dance company in Canberra.

#### *About the performance*

Site-specific dancers expose the patterns of how we create and control the natural world within concrete jungles. Are we realising the delicate, symbiotic relationship of people and nature? *Sprout* is about designing organic activity in synthetic environments.

### **Finnigan and Brother**

Chris and David Finnigan create music and spoken word pieces that looks at complex systems, climate and global change.

#### *About the performance*

For the Future Earth Australia Workshop, Finnigan and Brother will sketch out a series of future scenarios for Australia through sound and storytelling.



Chris Finnigan and David Finnigan

# EXECUTIVE SUMMARY OF THE DRAFT STRATEGIC PLAN FOR FUTURE EARTH AUSTRALIA

## Background of this document

Consultation over the past two years with stakeholders around Australia has overwhelmingly supported the need to enhance integration across relevant knowledge to help Australia, our region, and the world address the major, pressing and complex challenges of long-term sustainability.

This document summarises that dialogue, explains how the proposal to establish Future Earth Australia (FEA) came about, its objectives and modes of operation, and how it might be resourced and governed. It is intended that this document will be the basis for a much shorter, sharper strategic plan developed after input from participants at this workshop. The full version can be found at the Academy web-site.<sup>1</sup>

It is envisaged that this workshop will strengthen the demand for the FEA initiative, clarify its focus, and set out a plan to achieve the overriding objective of helping humanity achieve environmentally and socially sustainable futures. In the process of designing these activities, the workshop participants will provide feedback on the types of partnerships and partners required to make FEA successful. A steering group will finalise a strategic plan after the workshop.

## Key messages

Future Earth Australia is a node of the international Future Earth Program. It is focused on the long-term sustainability of a thriving and prosperous Australia within the Asia–Pacific region. The key messages of this document are:

- The challenges of global sustainability have now been internationally recognised. Many nations have joined the pursuit of targets such as the UN's millennium and sustainability goals, seeking to generate the necessary underpinning knowledge through Future Earth. Australia has an opportunity to benefit from, and contribute to, this global movement by focusing the nation's and the region's considerable and diverse knowledge and experience.
- Future Earth is a rapidly evolving global initiative that involves most of the major funders, scientific organisations and other providers of knowledge around the world in identifying and addressing the biggest challenges and opportunities presented by the transition to a sustainable future for humanity.

- Future Earth Australia will contribute to, and draw upon, the enormous resources gathered in the global Future Earth Program to benefit Australia and its neighbours. It will develop increasingly formal links with Future Earth through involvement in international programs, contributions to Knowledge Action Networks, and engagement with the Future Earth in Asia regional centre.
- Recognising that the problems of long-term environmental and social sustainability that underpin prosperity for Australia, our region and the world, are fundamentally cross-sectoral, cross disciplinary and cross-generational, Future Earth Australia will provide a platform to enable, support and integrate existing and future projects that bring together diverse forms of knowledge and experience.
- The issues that Future Earth Australia will focus on, and the activities required to address them, will be identified, designed and implemented by a range of partners from all sectors of society: government, business, science, the arts and humanities, and civil society.
- Engagement in Future Earth Australia will provide government, businesses and non-government organisations with new opportunities for prosperity in a changing world.
- This document sets out the rationale for establishing Future Earth Australia and proposes an operating and governance structure to support it.

## A window of opportunity

Future Earth is a global initiative established in 2012 that involves most of the world's major funders of scientific research and philanthropy, together with over 60,000 scientists and with increasing involvement from other fields of knowledge, especially the humanities, arts and traditional knowledge. A key aim of Future Earth is to achieve greater integration of these diverse forms of knowledge to address the most challenging problems facing humanity—securing a decent quality of life for all inhabitants of planet Earth while maintaining the natural systems of the planet in good order for future generations.

<sup>1</sup> <https://www.science.org.au/news-and-events/future-earth-australia-workshop>

The Secretariat of Future Earth comprises five global hubs which function as a single entity, located in Canada (Montreal), France (Paris), Japan (Tokyo), Sweden (Stockholm) and the United States (Colorado). These offices are complemented by a set of regional hubs which today cover the Middle East and North Africa, Latin America, Europe and Asia. These regional structures are being developed to ensure broader geographical representation and global diversity in the operation of Future Earth. Australia is represented on the advisory committee of the Asian hub and has been encouraged to establish a national/ regional node to coordinate contributions from this continent and to facilitate interactions with our regional neighbours. This initiative will be of unprecedented value to Australia in terms of research opportunities and linkages with international partners.

As Future Earth develops, Australia has the chance to play a key role in our region and globally, and to contribute to and benefit from the more than \$10 billion of investment in the interdisciplinary and transdisciplinary research that Future Earth commands. Prompt action is required to secure this opportunity at a time when global networks of research and action to tackle humanity's greatest challenges are growing in capacity.

## Benefits to all Australians

The opportunities associated with establishing Future Earth Australia are not limited to Australia's international role. Just as Future Earth seeks to catalyse true integration of all types of knowledge to address unprecedented challenges, so Future Earth Australia offers the opportunity to bring together many efforts currently developing in relative isolation in Australia.

As a step towards developing a strategic plan for Future Earth Australia, the Australian Council of Learned Academies (ACOLA) supported a series of workshops around Australia to gather information about existing initiatives and opportunities for new interdisciplinary and transdisciplinary activities that will enable researchers and knowledge-integrators from across society to address sustainability objectives that have not been achievable to date.

From these workshops, the opportunities that Future Earth Australia could bring to each broad sector were identified as follows:

- **Governments:** Non-partisan engagement with all sectors of society to define and understand the challenges to long-term sustainability of the Australian economy, society and environment, and to develop appropriate and effective policy around major issues such as triple bottom line sustainability, Australia's security in the face of population change, climate change, migration, and food, water and energy security.

- **Business:** Ability to engage with multiple holders of knowledge in transdisciplinary forums to consider vital issues for business, such as envisaging plausible futures for different industries in tomorrow's Australian economy, and finding ways in which major industries and financial resources can be transitioned and redeployed, with benefits to society, the economy and the environment, while creating new products, markets or business ventures. This would be facilitated by considering the interplay of social, economic, political and environmental factors likely to shape alternative futures, and by exploring practical and politically supported pathways to support small to medium enterprises as well as major industries in transition.
- **Civil society (the public):** The ability to have informed involvement in identifying issues of sustainability from various perspectives and to be involved in appropriate ways in the co-design, co-development and co-implementation of socially significant projects (e.g., through social media-based platforms, and meetings, conferences and events in both capital cities and regional areas).
- **Non-government organisations:** The ability to become involved in partnerships with government and business that go beyond what is currently feasible.
- **Knowledge-generators** (including researchers and practitioners across the sciences, humanities and arts, as well as those in business, government, NGOs and the public who are involved in acquiring, interpreting and applying knowledge): Future Earth Australia will provide a hub for networking, coordinating, enabling and promoting sustainability research beyond what has been possible to date. Coordination and facilitation of dialogue with all parts of society will help to identify key issues, ensure the continuous synthesis of knowledge, and deliver appropriate outcomes.

## Vision and strategic objectives

The vision of Future Earth Australia is: for Australia and its people to thrive in, and contribute to, a sustainable and equitable world.

Future Earth Australia will achieve this by coordinating, enabling, performing and promoting research and practice that spans social and biophysical sciences, the humanities and the arts, to address the sustainability challenges facing Australia, our regional neighbours and the rest of the world, in close collaboration with government, business and civil society groups.

Future Earth Australia's strategic objectives closely resemble those of the international Future Earth program, as these are consistent with the views of stakeholders consulted around Australia so far:

- Inspire and enable ground-breaking interdisciplinary projects relevant to the 8 eight focal challenges<sup>2</sup> identified by Future Earth globally and other key sustainability challenges identified for Australia.
- Enable and mobilise the capabilities for stakeholders to work together seamlessly to generate and/or synthesise knowledge across cultures, and geographical areas, and across all sectors of society (including across generations).
- Pioneer approaches to the co-design, co-production and co-application of solutions-oriented knowledge and innovation for sustainable development in Australia, its region and globally.
- Enable and support the delivery of products and services that our stakeholders across society need to meet these challenges.

### Initial activities

A core guiding principle of Future Earth and Future Earth Australia is the co-design and co-implementation of the initiative itself and its activities. Ultimately this will mean that Future Earth Australia is guided by inputs from all sectors of Australian society, especially those with the ability and motivation to make a positive contribution to a better future for all Australians. The initial consultations around Australia have identified a range of potential projects and activities, which are detailed in the body of this report and its appendices. To facilitate the next steps, an Expert Working Group has identified the following broad topics that will form a focus for dialogue among all interested parties in this workshop.

This workshop will bring together those interested in taking the next big steps. It is envisaged that a series of projects will be designed to demonstrate how Australia can better harness its intellectual and other resources to contribute more meaningfully to regional and global challenges.

### Governance and business model

Two crucial requirements for the success of Future Earth Australia are appropriate governance arrangements and a viable business model.

It is proposed that Future Earth Australia will be governed by a national steering committee, whose membership will represent key stakeholder communities related to the economic, societal and environmental sustainability of Australia. The steering committee will be supported by a secretariat.

Future Earth Australia will seek formal connections with Future Earth in Asia and solicit representation from Future Earth in Asia on Future Earth Australia's steering committee.

To date, financial and in-kind support for development of Future Earth Australia has come from ACOLA, Monash, ANU and CSIRO. These organisations have indicated that they will continue to support FEA, but they cannot, and should not, be the sole, or even main, supporters of an initiative that should involve and reward the whole of society, including the business community. Therefore, our business model aims to secure monetary and in-kind investment from government, business, the non-government sector and the public. The key to achieving this investment is identification of clear value propositions for each of these sectors (summarised above). Commencing in April 2016, the expert working group of Future Earth Australia intends to engage with a wide range of stakeholders to enlist partners who will become members of its advisory and governance structure and provide monetary support through subscriptions to establish an ongoing secretariat. Subscribing partners are expected to include universities, research agencies, industry and government. The basis for subscriptions will be the value that Future Earth Australia offers partners, which we will refine in dialogue with potential partners.

<sup>2</sup> <http://www.futureearth.org/news/future-earth-2025-vision-sets-framework-programmes-contribution-global-sustainable-development>



# HOUSEKEEPING

## Registration desk

A registration desk is located in the main foyer and will be occupied from 9am to 10am on the first day of the event. You can contact our Project Coordinator at any time during the workshop should you have any questions.

## Luggage

A large luggage cabinet is located in the main foyer of the Shine Dome. Please drop your luggage off at the registration desk and wait until you have received a claim number.

## Twitter



Follow us on twitter

@Science\_Academy #FutureEarthOz

## Wi-Fi

Wireless internet is available throughout the Shine Dome. Password is not required.

## Taxi

Canberra Elite **13 22 27**

The Shine Dome (Cab Spot 59)  
15 Gordon Street  
Canberra ACT 2601

Please use the phone located in the foyer.  
Please dial 0 before the number.

## Bus routes

The following bus routes drop off within walking distance of the Shine Dome—3,4,5 and 7  
[www.action.act.gov.au/timetables\\_and\\_maps](http://www.action.act.gov.au/timetables_and_maps)

## Parking

The forecourt area of the Shine Dome is set down and pick up only. All day pay parking areas are marked on the Academy area map on the inside front cover of this program.

## Disabled access

Two disabled parking spaces are available within the Academy car park. Contact our Project Coordinator prior to arrival to arrange access. The Shine Dome is also equipped with wheelchair access and disabled facilities.



## Hearing loop

The Ian Wark Theatre is equipped with a hearing loop should you require it during your time at the Shine Dome. Please look for seats in the lower area of the theatre with a gold plaque indicating a hearing loop is available.

## Contacts

### General enquiries

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Arts program has been sponsored by New Acton

left of centre, right by the lake

**NEVACTON**



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