



Climatefutures

pathways for society

Forum at Te Papa, 31 March - 1 April 2011
Wellington • New Zealand

F O R U M

HANDBOOK

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Supported by

We are grateful for the extremely generous support of Dr Lee Seng Tee, Singapore.
Also supported by Wellington City Council.



Welcome

The issues that future climate change raises for society go far beyond climate science itself and lead to basic questions about how society should respond to likely climate change futures. Dealing with the effects of changes in our climate, and with ways of limiting those changes, will require increasing collaboration between different sectors of society, both locally and globally. It also raises the need for new ways of addressing the likely consequences in the next decade, as well as those for future generations. Our response to climate change now requires a clearer social perspective to encourage effective contributions from both scientists and policymakers, as well as a commitment from wider society. Only then will there be the basis for changes broadly acknowledged and accepted by our society through generally agreed pathways.

On behalf of the NZ Climate Change Research Institute we invite you to a Forum to discuss these pathways for addressing the climate change challenge and by so doing initiate this conversation. The Forum will be policy relevant and interdisciplinary and designed to bring wider groups in society into an ongoing dialogue.

The two day Forum will cover four half day themes

- Climate Change and society's challenge
- Communication between the science community and society
- Human behaviour and the capacity to change
- Towards durable decision-making

The first three sessions will start with overviews from three speakers and then be followed by three dialogue discussions between participants and the speakers. Each session will have a recorder to capture the main strand of the discussion for a final summary session on day two. The final session on durable decision-making

will have two speakers and two dialogue groups and followed by a short summing up.

We look forward to your contribution.



Professor Martin Manning
Founding Director
NZ Climate Change Research Institute
Victoria University of Wellington
New Zealand



Dr Morgan Williams
Chair Organising Committee

The New Zealand Climate Change Research Institute (CCRI)

The New Zealand Climate Change Research Institute (CCRI) was established by Victoria University of Wellington in 2008 to develop interdisciplinary research into all aspects of climate change. In particular we wanted to integrate better social and natural sciences, and provide independent analyses of response options as non-prescriptive inputs to New Zealand policy.

We were delighted to be able to appoint Founding Director Professor Martin Manning to lead its initial 3-year development phase. Martin brought to the position years of experience as a climate scientist with NIWA followed by a term as Manager for the Technical Support Unit for the IPCC's Working Group I for the 4th Assessment Report. During this period Prof Manning initiated and led a major FRST project on Adaptation to Climate Change, in collaboration with Auckland and Otago Universities and NIWA.

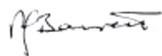
We are also very pleased with the appointment of Martin's successor, Dr David Frame, a graduate of Canterbury University and currently Deputy Director of the Smith School of Enterprise and the Environment at Oxford University.

You will have the chance to meet David at this Forum and debate his view of a durable solution to the climate challenge in the last session of the conference. David's appointment as CCRI Director begins in October 2011. In the interim I have become Acting Director, CCRI, to help with the transition.

This Climate Futures Forum is a significant commitment to our wider mission, building links with other NZ universities and research agencies as well as engaging with the wider public. Through research initiatives, our monthly seminar series and What's Hot newsletter (www.vuw.ac.nz/climate-change) CCRI aims to promote collaboration among researchers interested in climate change and related issues.

The Institute is a founding member of the NZ Climate Change Centre. We are working together with the Crown Research Institutes and other research organizations to enhance the capacity of New Zealand, both domestically and in partnership with other countries, to anticipate, mitigate, and adapt to climate change.

I hope you enjoy both the Forum and waterfront Wellington in the next couple of days. I personally hope we can all make a stronger commitment to reducing our carbon footprint at home and at work as a consequence of the understanding we'll gain. This is not a problem we should be leaving to our children.



Professor Peter Barrett

Acting Director

New Zealand Climate Change Research Institute

Forum Scope

The NZ Climate Change Research Institute Organising Committee has selected speakers to provide an overview of each theme. Across the four themes a wide range of issues will be presented and discussed at the Dialogue sessions - the challenges that the science gives society, how these challenges are communicated or could be, what drives human behaviour and the capacity for change and how decision making can be approached for a durable future. The dialogue session will enable all participants to have a dialogue with the speakers and other participants over the two days. An evening Cafe session and Business Breakfast will also be held in conjunction with the Forum with panels and discussion.

Chairs & speakers

Peter Barrett

Peter Barrett is Professor of Geology and now Acting Director of the New Zealand Climate Change Research Institute at Victoria University of Wellington. After graduating from Ohio State University's Institute of Polar Studies in the 1960's he returned to New Zealand to establish the University's Antarctic Research Centre, serving as its Director until 2007. Over three decades Peter led a series of international drilling projects to core the Antarctic margin for understanding the history of the ice sheet since its inception around 34 million years ago. As a consequence his work has provided a long term perspective on the future behaviour of ice sheets in the face of projected future global warming. He has also represented NZ on the international Antarctic Committee on Environmental Protection (1998-2003), and in 2006 he was awarded the President's Medal for Outstanding Scientific Achievement in Antarctic Science by the Scientific Committee on Antarctic Research. His current research is directed to providing a soundly based geological perspective on future climate change.



Support Unit that produced the Fourth Assessment Report on climate change for governments. He has produced over 50 papers in peer reviewed science literature and been an author and review editor for several of the major IPCC reports. Martin has worked in several countries but spent most of his life in New Zealand where he led research on greenhouse gases, atmospheric chemistry and other aspects of climate change science over the last thirty years. In 2008, Martin became an Officer of the New Zealand Order of Merit for his services to climate change science.

David Karoly

Professor David Karoly is an ARC Federation Fellow in the School of Earth Sciences, University of Melbourne and Leader of the Climate Change theme in the Melbourne Sustainable Society Institute. He is an internationally recognised expert in climate change and climate variability, including greenhouse climate change, stratospheric ozone depletion and interannual climate variations due to El Niño-Southern Oscillation. He was heavily involved in preparation of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), released in 2007, in several different roles. Professor Karoly was Chair of the Premier of Victoria's Climate Change Reference Group during 2008-09. He is a member of the Wentworth Group of Concerned Scientists and of the Australian government's High Level Coordination Group on Climate Change Science. Professor Karoly joined the School of Earth Sciences in May 2007 as a Federation Fellow funded by the Australian government. From 2003, he held the Williams Chair in the School of Meteorology at the University of Oklahoma. During 2001-2002, he was Professor of Meteorology and Head of the School of Mathematical



Martin Manning

Professor Martin Manning was the initial Director of the New Zealand Climate Change Research Institute at Victoria University of Wellington, established to build better interactions between science, policy and society on climate change issues. From 2002 to 2007, Martin was Director of the Intergovernmental Panel on Climate Change (IPCC) Working Group I Technical



Chairs & speakers

Sciences at Monash University. From August 1995, he was Director of the Cooperative Research Centre for Southern Hemisphere Meteorology at Monash University until it closed in June 2000

Sir Paul Reeves

I have been the chancellor of the Auckland University of Technology for the past five years helping to steer the course of a university that is just ten years old. The affairs of my tribe, Te Atiawa, take up a lot of my time and I am the deputy chair of a post-settlement entity, the Port Nicholson Block Settlement Trust. I am a priest and a bishop, and have concerned myself with issues of injustice and inequity both in this country and elsewhere. I have an abiding interest in why people say they are going to do certain things and why, so often, they don't do them.



Nancy Bertler

Joint Antarctic Research Institute, Victoria University of Wellington and GNS Science.

Nancy is the leader of the New Zealand Ice Core Research Programme and manages the National Ice Core Research Facility. Her scientific interests lie in understanding current and future climate change from high resolution paleoclimate reconstructions from Antarctic ice cores and their application to future climate scenarios. Nancy has led over 11 field operations in Antarctica and worked also in Greenland and Iceland. Since 2009, Nancy has led the 7-Nation "Roosevelt Island Climate Evolution" (RICE) Programme, which studies the stability of West Antarctica in a warming world. She also serves as steering committee member on



three active and stimulating programmes on Antarctic Climate.

Erik Conway

Erik Conway is a historian of science and technology residing in Pasadena, CA. He is currently employed by the California Institute of Technology. He studies and documents the history of space exploration, and examines the intersections of space science, Earth science, and technological change. He most recently received the 2009 NASA History award for "pathbreaking contributions to space history ranging from aeronautics to Earth and space sciences," and the 2009 AIAA History Manuscript Award for his fourth book, "Atmospheric Science at NASA: A History."



Conway has been, at various junctures in his life, a nuclear field electronics technician in the U.S. Navy, a student of geomechanics, and a naval officer. He served as damage control assistant, and briefly acting chief engineer, of a tank landing ship and as an operations planner for a Pacific Fleet amphibious squadron. He had small roles in planning the US withdrawal from Somalia in 1994 as well as the noncombatant evacuation operation from Rwanda. He's a devout fan of Stephen J. Gould's writing on natural history and considers it Gould's fault that he's now a historian of science and technology.

Conway began studying the history of climate science in 2002, after receiving a NASA history contract to write "Atmospheric Science at NASA: A History." Two years later, at an International Commission for the History of Meteorology meeting in Polling, Germany, he met Oreskes and began a long conversation about the denial machine. This book is one product of that dialog. He is currently completing a history of robotic Mars exploration.

Chairs & speakers

Fred Pearce

Fred Pearce is a freelance author and journalist based in London, England. He has reported on environment, science and development issues from 65 countries over the past 20 years. Trained as a geographer, he has been environment consultant of New Scientist magazine since 1992. He writes regularly for the Guardian newspaper, and recently published a 12-part investigation of the “climategate” emails affair at the University of East Anglia. He is a frequent lecturer, having spoken on all six continents in the past four years, and is a regular contributor to US newspapers and magazines. Fred’s books have been translated into at least 16 languages. When the Rivers Run Dry was listed among the all-time Top 50 Sustainability Books by the University of Cambridge’s Programme for Sustainable Leadership. Other books include Confessions of an Eco Sinner; Earth: Then and Now; With Speed and Violence (on climate change); Deep Jungle and Peoplequake.



Brian Fallow

Brian Fallow has been a journalist for 30 years and The New Zealand Herald’s economics editor since 2000. In that capacity he writes about climate change - what is to be done about it rather than the thing itself.



John McClure

Dr John McClure is Professor in Psychology at Victoria University of Wellington. He completed his PhD at The University of Oxford, and his book on Explanations Accounts and Illusions was published by Cambridge University Press. He has published over 50 peer reviewed research papers, many of which focus on psychological factors that affect preparation for hazards, especially earthquakes, but also climate change. He has led two EQC-funded projects on factors affecting different types of preparedness in businesses and households, and is researching judgments about low frequency hazards with a FRST contract with GNS Science.



Robert Gifford

Robert Gifford is an environmental and social psychologist who is Professor of Psychology and Environmental Studies at the University of Victoria. He is a Fellow of the American Psychological Association, the Canadian Psychological Association, and the Association for Psychological Science, and was given a Career Award from the Environmental Design Research Association. Dr. Gifford is the author of about 100 refereed publications and book chapters, and four editions of the textbook Environmental Psychology: Principles and Practice. He is the editor of the Journal of Environmental Psychology, has served as coordinator of CPA’s environmental section, president of APA’s Population and Environment Division, and is the immediate past President of the Environmental Psychology division of the International Association of Applied Psychology. He was a co-author of the American Psychological Association’s task force report on climate change, and the article “Psychology’s essential role in climate change.”



Chairs & speakers

Bronwyn Hayward

Dr Bronwyn Hayward is a senior lecturer in political science at the University of Canterbury specializing in children's issues, democracy and citizenship in environmental change. She is also a Researcher with the Sustainable Lifestyles Research Group, a UK research consortium funded by the UK Government (ESRC), Scottish Government and UK Department of Food and Environment. Between 2008 and February 2011 Bronwyn was a Visiting Fellow with RESOLVE: centre for Research on values, lifestyles and environmental change, University of Surrey, UK and the Tyndall Centre for Climate Research (University of East Anglia). Bronwyn is an advisor to the Children and Climate Change project (University of Oslo) and lead author for two country reports for the United Nations Environment Programme's Global Survey of Youth Attitudes to Sustainability (2011). Outside academia Bronwyn works in television and radio production for children and has been a NZ Broadcasting Standards Commissioner. Her forthcoming book with Earthscan publishers (2012) examines children's experiences of democracy and citizenship in a changing environment.



John Thwaites

John Thwaites is a Professorial Fellow, Monash University, and Chair of ClimateWorks Australia and the Monash Sustainability Institute where he is involved in the Institute's Behaviour Change Initiative and the Centre for Water Sensitive Cities. He is a consultant at Maddocks Solicitors providing advice to the firm and its clients on climate change, water, and sustainability. He



also chairs the Climate Group Ltd in Australia, the Peter Cullen Water and Environment Trust, and the Australian Centre for the Moving Image. He is also a director of the Australian Green Building Council.

John chairs a project with the Brotherhood of St Laurence to develop policies to assist low-income Australians cope with the impact of climate change. He is on the Australian Government's NGO Roundtable on climate change. In 2008 -2009, John was a special adviser to the Timor-Leste Minister for Infrastructure and helped develop an Infrastructure plan for Timor-Leste.

John Thwaites was Deputy Premier of Victoria from 1999 until his retirement in 2007. During this period he was Minister for Health, Minister for Planning, Minister for Environment, Minister for Water, Minister for Victorian Communities and Victoria's first Minister for Climate Change. In these portfolios he was responsible for major reforms in social policy, health, environment and water.

John Thwaites was a Member of the Victorian Parliament from 1992 to 2007, and was a barrister prior to entering Parliament. He was a Councillor City of South Melbourne (1985-1993) and Mayor in 1991-1992. He has degrees in Law (Honours) and Science from Monash University.

Chairs & speakers

Judy Lawrence

Senior Research Associate NZ Climate Change Research Institute, Victoria University. Current research interests include decision-making under uncertainty, dynamic change and long timeframes associated with climate change induced sea level rise and increased flood frequency. Director of PS Consulting a strategy and policy consultancy in science, climate change, energy and sustainable development. Former Chief Executive, Ministry of Women's Affairs; Director NZ Climate Change Office, Ministry for the Environment; OECD consultant.



David Frame

David Frame is an interdisciplinary scientist with a background in physics, philosophy, economics, and policy. He has substantial research experience in climate modelling and has published in the world's leading scientific journals as well as the specialist climate literature. Dave also has real world policy experience in a core government policy agency, having worked in the New Zealand Treasury's Policy Coordination and Development group prior to moving to Britain. He holds a visiting lectureship in the Department of Physics at Oxford and is College Lecturer in Geography at Jesus College. Dave looks at new ways in which advances in climate change research can improve the physical science inputs into climate change policy. His current research has two main strands: Bridging the divide between climate science and policy; and Methodological and philosophical issues in environmental modelling. Dave holds a PhD in Physics and a Bachelor's degree in Philosophy and Physics from the University of



Canterbury, in New Zealand. Prior to joining the Smith School, Dave was James Martin Fellow in the Environmental Change Institute, having previously worked in the Climate Dynamics Group in the Department of Physics as coordinator of the highly successful climateprediction.net project.

Sacha McMeeking

Sacha McMeeking is the General Manager of Strategy and Influence, at Te Runanga o Ngai Tahu. She holds key responsibilities for external relations, brand and reputation management, and engagement with central government. Recently, she has contributed to iwi capability development in infrastructure investment, inter-iwi collaboration in commercial and broader respects, iwi engagement with the ETS and a range tribally focused projects. Prior to this role, Sacha focused on academic pursuits. She graduated from the University of Canterbury with a Master of Laws (First Class Honours) and then went on to lecture in the faculty in various fields (constitutional law, Maori legal issues, comparative indigenous rights and international law). During this period, she co-ordinated Iwi advocacy with the United Nations concerning the Foreshore and Seabed Act 2004. Recently, Sacha was the recipient of the Fullbright-Harkness New Zealand Fellowship, which saw her travel to the United States to research corporate social responsibility, with a particular focus on articulating an Indigenous paradigm for traditional values based commercial decision making and exploring the evolving relationship between business, society and state. Additionally, Sacha has held numerous external board positions and has assisted government as a technical expert on topic specific advisory groups.



Chairs & speakers

Jonathan Boston

Jonathan Boston is Professor of Public Policy in the School of Government at Victoria University of Wellington. He served as Director of the Institute of Policy Studies during 2008-11. During the course of his academic career he has undertaken research on a wide range of policy issues, including incomes policy, public management, tertiary education, social policy and climate change. He is the author or editor of 26 books, and more than 200 articles and book chapters.



Jinty MacTavish

Jinty is a 25 year old, newly elected Dunedin City councillor. She is a founding member of Sustainable Dunedin City, an organisation that works to facilitate a positive, secure future for Dunedin City in the face of the challenges posed by climate change and peak oil. She coordinated the first Dunedin Secondary Students' Climate Forum, a youth event that culminated in a vision for the city's future, signed by 3500 students, being presented to elected members. Her recently completed Masters in Science Communication from the University of Otago focused on climate change education in our secondary schools. Lessons from a Melting Icecap, a film she made to help young people engage with the issue, is being used in over 500 schools nationwide. She played a key role in taking the 350.org movement national in 2009, coordinating the 350 Schools campaign. Having experienced one COP, her hopes for humanity now lie with local government!



Simon Tegg

Simon is a researcher at the New Zealand Climate Change Research Institute. A pending Masters of Environmental Studies graduate, he is currently engaged in research on the assessment and communication of flood risk under climate change uncertainty. Originally trained in linguistics, he finds himself drawn to multidisciplinary societal problems. These have included the science/policy interface, decision-making under complexity, and energy-economic feedback loops. Outside the office, Simon cooks a mean steak.



Café & Breakfast sessions chairs and panelists

Ian Wedde

Ian Wedde is a writer and curator with a commitment to ecological issues and their intersections with culture, for example through tourism, and the ways the natural environment is represented in art, literature, and public media.

His novel *The Viewing Platform* (Penguin, 2006) was a satire of the official culture of tourism in New Zealand; in 2008 he curated *He Korowai o te Wai/ The Mantle of Water*, the Rotorua Museum's centennial exhibition. From 1994 to 2004 he was head of art and humanities at Te Papa; he is currently an Adjunct Senior Lecturer in the departments of art history and English at Auckland University. He was made an Officer of the New Zealand Order of Merit in 2010 for services to art and literature. A new novel, *The Catastrophe*, will be published by Victoria University Press in 2011.



Gareth Renowden

Gareth Renowden runs the influential *Hot Topic* blog (<http://hot-topic.co.nz/>), covering climate change science, policy and politics from a New Zealand perspective. He's a writer, photographer and truffle grower based in the Waipara Valley. During a 30 year career in journalism and magazine publishing in the UK and NZ he has worked as a journalist, editor, photographer, publisher and consultant, and written for or worked on magazines and newspapers in Britain, Ireland, the USA and NZ. His most recent book, *Hot Topic - Global Warming & The Future of New Zealand*, was published by AUT Media in 2007, and was short listed for the Royal Society of NZ's first science book prize. He needs to knuckle down and finish his next book - a satire set in a world where the climate has changed.



Robert Gifford See Chairs & Speakers section

Sir Lloyd Geering

Lloyd Geering was born in 1918, educated chiefly in Otago, and holds Honours degrees in Mathematics and Old Testament Studies. Ordained as a Presbyterian minister, he served in Kurow, Dunedin and Wellington. He held Chairs of Old Testament Studies at theological colleges in Brisbane and Dunedin before being appointed as the foundation Professor of Religious Studies at Victoria University of Wellington. He was married to Nancy McKenzie (deceased 1949), to Elaine Parker (deceased 2001), and to Shirley White, and has three children, nine grandchildren (one deceased) and six great-grandchildren. Since his retirement in 1984 he has continued to lecture widely throughout New Zealand and overseas. He was a regular columnist on religious topics: *Auckland Star* (16 years), *New Zealand Listener* (4 years). He was awarded an Honorary DD by the University of Otago in 1976, a CBE in the New Year Honours in 1988, and made PCNZM in 2001 (changed to GNZM in 2009). His chief publications have been *God in the New World*, *Resurrection: A Symbol of Hope*, *Faith's New Age*, *Tomorrow's God*, *The World to Come*, *Christianity Without God*, *Wrestling with God - The Story of my Life*, *Coming back to Earth - From gods to God to Gaia*, *Such is Life! - A Close Encounter with Ecclesiastes*. He was admitted to the Order of New Zealand in the 2006 New Year Honours List.



Bronwyn Hayward See Chairs & Speakers section

Café & Breakfast sessions chairs and panelists

Chris Laidlaw

Chris Laidlaw divides his time between hosting National Radio's high rating Sunday Morning programme, serving as a Wellington Regional Councillor, and writing columns and books. Dunedin-born, he is a graduate of Otago (MA Hons.) and Oxford (M.Litt.) Universities, and the University of Lyon in France. He joined the Ministry of Foreign Affairs in 1972, serving in Suva and Paris before joining the International Energy Agency at the OECD in 1977. He became Commonwealth Secretary-General Shridath Ramphal's special assistant in London before returning to NZ to work as a Foreign Policy Advisor to PM David Lange. He became NZ's first Ambassador on the African continent in 1986, and returned in 1989 to become Race Relations Conciliator. After a year as MP for Wellington Central he became CEO of WWF-NZ. He was elected to the Wellington Regional Council in 1998 and his radio career began in 2001. He has no retirement plans.



Fred Pearce See Chairs & Speakers section

Colin James

Colin James is a political journalist of more than 35 years experience who writes weekly columns in the Dominion Post, Press and Otago Daily Times and a monthly column in Management magazine. He is managing director of the Hugo Group (www.TheHugoGroup.com), which has more than 100 medium and large corporate members at CEO level. He makes presentations on the strategic environment to companies, industry associations, government departments and other groups.



He is a senior associate of the Institute of Policy Studies, Victoria University of Wellington, where he runs roundtables, most recently over the past four years on climate change. He is a fellow of the Institute of Public Administration. He has given many papers at conferences, seminars and symposiums in New Zealand and internationally. He has an honorary doctorate from Victoria University of Wellington. He has held several university fellowships. He chairs the board of Motu Economic and Public Policy Research (www.Motu.org.nz). He has written six books. Most of his recent writing and speeches can be found on www.ColinJames.co.nz.

David Karoly See Chairs & Speakers section

Martin Kreft

Following graduation from Auckland University, School of Engineering, Martin Kreft worked in the design and construction industries for 10 years in NZ and Canada. In 1987 he joined Munich Reinsurance as Engineering Underwriter and progressed through to Property Manager and ultimately Regional Manager for New Zealand in 2003. Martin is a member of the Institution of Professional Engineering New Zealand, the Australian and New Zealand Institute of Insurance and Finance and a Board Member of the Insurance Council of New Zealand.



Facilitators & rapporteurs

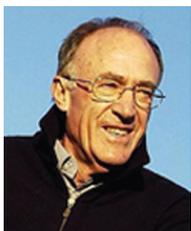
Morgan Williams

Dr Williams completed 10 years as NZ's Parliamentary Commissioner for the Environment (PCE) in March 2007 leading a talented team of 19 staff.

He is currently an Adjunct Professor at the Universities of Canterbury and Queensland, positions he has held for eight years. In April 2004, Lincoln University awarded Morgan an honorary doctorate in Natural Resources.

Morgan is a trustee of Leadership NZ, WWF NZ, the National Energy Research Institute and chair of a new wind-power company aimed at community based wind farm development.

Recent work has included: chairing a review of eight long-term research portfolios for NZ's Foundation for Research Science and Technology, writing a 'think piece' on the future evolution of the Waitakere Ranges and associated city and urban farming landscapes in Auckland, chairing a national biosecurity committee and contributing to a global 'Frontiers of Sustainable Development' think tank in Europe in September 2009 and a 'Food Futures Forum' in Iceland in Sept 2010 – plus numerous speaking engagements.



Bob Frame

Bob helps people imagine what kinds of futures might lie ahead and then to find ways to translate this foresight into good decision-making processes. He has worked closely with government agencies.

After training in Scotland as an engineer & research physicist, he had diplomatic postings in China and India and was then Director (Asia and Americas) for DATS, British Council in the UK, and now, once again, does research, which he calls transdisciplinary. Bob is Principal Scientist (Sustainability and Society) at Manaaki Whenua Landcare Research, based in Lincoln.



Facilitators & rapporteurs

Karen Cronin

Dr Karen Cronin has a background in social research, environmental management, and communication. Over the last twenty years she has held management positions in local and central government, and an international NGO. Karen has worked as a consultant in the New Zealand science sector and has lectured on 'science, technology and society' (STS) and environmental management for several years. Her research interests include: risk management, science policy and governance, deliberative dialogue, sustainability science and trans-disciplinary research. Karen leads the STS programme at the government research institute ESR and is currently managing a FRST project using upstream engagement methods around future food technologies; and an ESR project on innovative models for risk decision-making. She was the co founder and inaugural convenor of the Asia Pacific STS Network in 2008-09. She co organised a NZ conference on "Sustainability Science and Climate Change" in March 2010; and the "Degrees of Possibility" workshop in December 2010, on establishing a NZ social science research agenda for climate change.



Ralph Chapman

Ralph directs the Graduate Programme in Environmental Studies at Victoria University. An environmental economist, he's worked on energy, transport, urban design and climate change. He's also worked with the New Zealand Ministry for the Environment, the NZ Treasury; the British Treasury in Whitehall; the OECD, in the Beehive, and as a negotiator for New Zealand of the Kyoto Protocol. Ralph has a first in engineering, a Masters in public policy, and a PhD in economics.

Environmental Strategy Manager, Dairy Research Institute.



Judy Lawrence See Chairs & Speakers section

Amanda Wolf

Dr. Amanda Wolf is Director, Graduate Research Programmes in the School of Government, Victoria University of Wellington. She holds degrees in philosophy and policy (global environmental negotiations). She currently researches on experimentation and learning from practice in complex policy contexts, subjectivity and 'common sense' in research and policy analysis, and persuasion in policy. Amanda's longstanding interest in the interfaces between public perceptions, attitudes, values and experiences on the one hand and policy and regulation on the other has stoked her fascination with innovative uses of social science-process and product-with applications to environmental, social and food policy topics.



Additional Events

Café Session

6.30 to 8.00 pm, Thursday, 31st March
Icon Room - Entry free but ticket required

Theme: Expanding our thinking on climate change; what can I do, what do we need to do?

There will be a twin focus on what we can do to address the climate change problem - individually (in terms of changing our thinking and taking actions), and collectively through our society's governance, economic and business processes.

Facilitation: Ian Wedde, noted NZ poet, novelist and critic, will be chair and lead facilitator with assistance from others at each of the café tables. The seating will be at tables with 6-8 per table. Finger food will be provided at tables and drinks will be available for purchase

Panellists and format:

- Gareth Renowden, author and journalist, Canterbury
- Prof Bob Gifford, social and environmental psychology, Victoria University, BC
- Sir Lloyd Geering, theologian, Wellington
- Dr Bronwyn Hayward, social and political scientist, University of Canterbury

The Café will open with 8 minute presentations (oral only) by each panellist followed by an hour of dialogue. Participants change tables after all have spent 10 minutes on a dialogue question. The Café is then wrapped up by the facilitator inviting one person from each table to provide a sum up or 'take home' point that they personally have gained from the café.

Supported by the Wellington City Council.

Breakfast Session

7.00 for 7.30 to 8.30 am Friday, April 1st
Icon Room - Entry free but ticket required

Theme: Responding to big risks, building resilience into our 'capitals': natural, built, social, economic and political.

The session will focus on long-term risk management and how we can build resilience in a world increasingly destabilised by human activities. It will question the suitability of our current systems (social, economic, legal, political) for achieving our societal goals.

Facilitation: Chris Laidlaw, Radio NZ, will facilitate a discussion with panellists and participants following a welcome and introductory comment by Professor Martin Manning, CCRI.

Speakers and format:

- Fred Pearce, UK author and environmental journalist
- Prof David Karoly, Australian IPCC member, climate scientist, communication
- Martin Kreft, Munich Re, Auckland
- Colin James, Political Journalist, Wellington

The session opens with a buffet breakfast and a seated table format for participants.

Proceedings will be recorded by Radio NZ and used in future nationally broadcast programmes at their discretion. Sponsored by the British High Commission and supported by the Wellington City Council.

An Evening with Three Authors

6.30 to 8.00 pm Friday, April 1st
Soundings Theatre - Entry free

Fred Pearce (UK) and Erik Conway (US) and Gareth Renowden (NZ) have each published significant books on Climate Change debate and will discuss the issues from their different perspectives.

Sponsored by the British High Commission and the United States Embassy.

Programme

Wednesday March 30 2011

18.00 - Registration / Ice-breaker

19.30 Mac's Brewery Bar, 4 Taranaki Street
Tel 381 2282

Thursday March 31 2011

8.00 Registration

8.20 Conference Opening

Mihi

Mayor Celia Wade-Brown

Welcome to participants

Minister for Climate Change Hon Nick Smith

Conference opening

Professor Peter Barrett

Acting Director, CCRI, VUW

Conference introduction

Jinty McTavish and Simon Tegg

Youth perspectives

9.00 SESSION 1

Climate Change and Society's Challenge

Chair: Peter Barrett

Professor Martin Manning

CCRI, Victoria University of Wellington

"Risks and consequences, timescales and uncertainties"

Professor David Karoly

University of Melbourne and IPCC

"Climate futures and choices for society"

Sir Paul Reeves

Chancellor AUT, former NZ

Governor General, Auckland

"Crafting the long view"

10.30 BREAK - Morning tea

11.00 DIALOGUE

Forum splits into three groups to engage with each speaker in turn

12.30 Plenary

Key reflections from each group by rapporteurs

12.50 BREAK - Lunch

14.00 SESSION 2

Communication between the science community and society

Chair: Nancy Bertler

Dr Erik Conway, NASA, USA

"Communicating the science of climate change: lessons from history"

Fred Pearce, author and environmental journalist, UK

"Explaining complexity: challenges for the Fourth Estate"

Brian Fallow, Economics Editor NZ Herald

"Managing messages in the media"

15.30 BREAK - Afternoon tea

16.00 DIALOGUE

Forum splits into three groups to engage with each speaker in turn

17.30 Plenary

Key reflections from each group by rapporteurs

17.50 Conclude

18.30 - Café Session

20.00 Chair: Ian Wedde

Gareth Renowden

Author, Canterbury

Professor Robert Gifford

University of Victoria, BC, Canada

Sir Lloyd Geering

Theologian, Wellington

Dr Bronwyn Hayward

University of Canterbury

Programme

Friday April 1 2011

7.00 - Breakfast Session

8.30 Host: Chris Laidlaw, Radio NZ National
Fred Pearce
Author and environmental journalist, UK
Professor David Karoly
University of Melbourne and IPCC
Martin Kreft
Regional Manager, Munich Re
Colin James
Political Journalist, Wellington

9.00 SESSION 3

Human behaviour and the capacity for change
Chair: John McClure
Professor Robert Gifford
University of Victoria, BC, Canada
“Dragons, mules, and honeybees: The barriers, heavy lifters, and selfish agents of climate action”
Dr Bronwyn Hayward
University of Canterbury
“Growing up in a dynamic climate: Why citizenship will matter more than behaviour change”
Professor John Thwaites
Monash University
“How democratic processes can deal with complex long term issues”

10.30 BREAK - Morning tea

11.00 DIALOGUE

Forum splits into three groups to engage with each speaker in turn

12.30 Plenary

Key reflections from each group by rapporteurs

13.00 BREAK - Lunch

14.00 SESSION 4

Towards durable decision-making
Chair: Judy Lawrence

Dr David Frame
University of Oxford
“Two possible climate futures: The Mexican standoff and the low-carbon race”
Sacha McMeeking, Ngai Tahu
“The role of future generations in durable decision making”

15.00 BREAK - Afternoon tea

15.30 DIALOGUE

Forum splits into two groups to engage with each speaker in turn

16.30 Plenary

Key reflections from each group by rapporteurs

17.00 Synthesis

Prof Jonathan Boston
Professor of Public Policy, VUW
“A Forum synthesis”

17.30 Conclusion

- 18.00 Jinty McTavish and Simon Tegg
Youth perspectives

Dr David Frame
Director-designate, CCRI

Poroporoaki

General Information

The following information is offered to make your attendance at the conference as pleasant and as trouble-free as possible. If you require help, please call at the Registration Desk and we will do everything we can to assist you.

Accommodation

For those registrants who have reserved accommodation through Conference & Events, please ensure accounts are settled in full on departure, including all meals, telephone calls and mini bar charges. No accounts can be charged to the Climate Futures Forum.

Registration Information Desk

The registration information desk will be located in Oceania on level 3 of Te Papa. When you arrive at the registration desk you will be given your name badge and Forum handbook.

The opening times are as follows:

Wednesday 30th March	
Mac's Bar	18.00 – 19.30
Thursday 31st March	
Oceania, level 3, Te Papa	08.00 – 18.00
Café session	18.30 – 20.00
Friday 1st April	
Business Breakfast	07.00 – 08.30
Oceania, level 3, Te Papa	09.00 – 18.00

You can contact the Conference Secretariat onsite by calling 021 800 201.

Teas and Lunch

Teas and lunches will be served in Oceania on level 3 of Te Papa. If you specified a dietary requirement when completing the online registration, this will have been passed on to the venue and will be available for you, please make yourself known to catering staff.

Messages

The message board will be located by the registration desk in Oceania on level 3 of Te Papa.

Mobile Phones and Pagers

Mobile phones and pagers must be turned off (or set to vibrate) while sessions are in progress.

Name Badges

As a security requirement, we request that participants wear their conference name badges to all sessions and refreshment breaks. Please return these to the registration desk at the conclusion of the conference.

Smoking

Te Papa is a smoke free venue (including outdoor areas). Smokers are requested to smoke outside the premises of Te Papa.

Storage of Luggage

Storage of luggage on departure date can be arranged through the hotel concierge for those staying at the conference hotels. For all other delegates, luggage can be stored with the Conference Secretariat staff at the Registration Desk.

Public Transport

The Airport Flyer is an express bus service that runs into central Wellington every 20 minutes during the day and every 30 minutes in the evenings. It costs \$8.50 each way.

The Airport Flyer departs from the southern end of the airport terminal, level 0 (exit from baggage claim doors on level 0 and turn right) past the Airport Flyer waiting area.

The timetable for the Airport Flyer is available at www.metlink.org.nz (select the timetable for Route91 – Airport Flyer).

Shuttles

Shuttles can be arranged to and from the Airport at a cost of approx \$14-16.

General Information

Taxis

A taxi from Te Papa to the airport is approximately \$35. Taxis can be ordered at reception or by calling direct: Green Cabs: 0508 447 336, Combined Taxis: 04 384 4444.

Parking

Te Papa's car park is open 24 hours 7 days a week. All day costs \$10. Car parking charges breakdown (between 8am - 5pm):

0-15 min	no charge
0-1 hr	\$3.50
1-2 hrs	\$7.00
2-3 hrs	\$10.00
3-3.5 hrs	\$12.00
3.5-4 hrs	\$15.00
4-4.5 hrs	\$18.00
4.5+ hrs until 5pm	\$20.00

Toilets

Are located on each level of Te Papa and are clearly marked. For directions, please ask the staff on the Registration desk.

Health and Safety

Te Papa Evacuation Procedures

In the event of a fire evacuation: You will hear an alarm then a voice saying, "This is a full evacuation of Te Papa please leave now". At this point, everyone must vacate the building immediately

The Te Papa Host will ensure everyone leaves the building safely. They will do a full search of the rooms to make sure everyone is out. The hosts are spotted easily by their uniform (thumb print shirt for the daytime or teal shirt at nights).

Oceania

Within Oceania the second fire exit is near the ellipse window and is down the main stairwell and out the main doors. There are two assembly points; one outside the main doors of Te Papa and the other is Waitangi Park.

Doctors and Pharmacies

There is an Accident and Urgent Medical Centre at 17 Adelaide Rd Newtown (near the Basin Reserve) with a pharmacy attached.

Disclaimer of Liability

The New Zealand Climate Change Centre and Conferences and Events Ltd will not accept any liability for damages of any nature sustained by participants, or their accompanying persons, or damage to their personal property as a result of the Climate Futures Forum 2011 or related events.

Presenter, panel member and chairs information

Session speakers

Please report to the registration desk and hand in your presentation on CD or flash pen a minimum of two hours before your session start time. The audio visual technician will upload your presentation onto the presentation laptop in the plenary room. Each session speaker will have a total of 25 minutes to present material with no question time. After your session someone will be assigned to each speaker to shepherd you between Dialogue sessions over the next 90 minutes.

Panel chair and panel members

Chairs, speakers and panel members should be aware of their session start time. Sessions Chairs should make contact with their speakers before the session start time. The cafe and breakfast sessions will be conducted over 90 minutes. You will each be provided with a lapel microphone. We encourage panel members to meet with one another prior to the informal reception on Wednesday 30 March to become acquainted and to discuss with the panel chair how the panel discussion will operate.

Facilitators, rapporteurs and shepherds

Facilitators, rapporteurs and shepherds for the Dialogue sessions will meet on Wednesday 30th March at 5pm at Macs Brewery prior to the reception to discuss logistics and meet with the speakers.

Speaker Abstracts

Martin Manning

Risks and consequences, timescales and uncertainties

Much of our social development has been closely linked to managing the risks that we have to deal with. This involves a balance between individual and government responsibility as well as major roles being played by the private sector through long term investment companies and global coordination of the insurance industry. But many of these risks are related to our climate – and that is now changing.

Scientists have taken a careful approach to considering the processes that control our climate and how these may change in the future. Our understanding has evolved considerably in the last forty years, and it has become clear that major changes are inevitable, so that we are now facing larger risks than at any time in the history of human civilisation.

Much of the impending change in our climate can be clearly explained in terms of scientific analyses. However, we have already encountered surprises where the changes were larger or more rapid than expected. So our future development has become dependent on moving into a new approach that can manage the risk of continuing changes in our environment and also become more resilient to further surprises. Climate change is now a test of the adaptive capacity of the human race, versus our tendency towards inertia.

David Karoly

Climate futures and choices for society

We live in the Anthropocene, the first period in geological history in which humankind is having a profound influence on global climate. The choices that we make determine the future climate, not only for

ourselves but also for everyone with whom we share the planet and for future generations.

All countries have signed the UN Framework Convention on Climate Change, agreeing to stabilise greenhouse gases in the atmosphere at a level that would prevent dangerous human interference with the climate system. In Copenhagen in 2009, countries agreed to limit greenhouse gas emissions so that global temperatures would be unlikely to increase more than 2°C above historical levels.

I will contrast two different paths; business-as-usual and emissions that limit global warming to 2°C. On one path, with business-as-usual emissions, global temperatures increase by up to 6°C by 2100, with many impacts on ecosystems, agriculture, water resources, health, coasts and society. On this path, global sea level will rise by at least 7 metres over the next few hundred years, displacing at least a billion people.

The alternative path involves a rapid transition to a low carbon economy, with significant but much reduced impacts from climate change. There are many opportunities from this transition, but there are also many difficulties. The technologies needed to power a low carbon economy already exist, but at present, it appears that the political will does not.

Paul Reeves

Crafting the long view

The debate about the implementation of the Emissions Trading Scheme and the adoption of an agreed emissions reduction target will be protracted possibly confused. Our South Pacific neighbours, mostly small island states, will suffer first from the effects of climate change, notably coastal land loss, reduction of coastal fishing and the spread of disease. Consequently climate change could significantly

Speaker Abstracts

accelerate the movement of people from the Pacific to New Zealand. Like their predecessors they will have to battle to maintain their cultural identity. Maori are also a vulnerable group whose economic and social status will be affected by these changes.

Immigration raises questions about the plural nature of New Zealand society. We don't speak with a single voice but we need to be connected. We pride ourselves on being adaptable and practical people. An example is the Futuna Chapel in Karori built by six men without qualifications equipped with one power tool, a concrete mixer and two wheelbarrows. The builders did not see it as an expression of a Kiwi do-it-yourself attitude but a sign of their faith in God. That seems strange in our society where religion and science are seen as competitors and alternative attitudes belonging to separate tribes.

But James Lovelock's Gaia theory has both a scientific and religious aspect. Physical matter is an organised whole of which we are a part. It is not inert stuff, foreign to life. Our thinking about climate change needs to be wide and expansive.

Erik Conway

Communicating the science of climate change: lessons from history

For the last quarter century, there has been an active disinformation campaign against climate science in the United States. It started among a small group of physicists in the 1980s and became entrenched in a network of right-wing political "think tanks." It has succeeded in turning one of the United States' two political parties into an active and aggressive source of attacks on climate science, climate scientists, and on all forms of science-based regulation.

This happened because these physicists believed regulation threatened their core beliefs in personal and

business freedom and even in capitalism itself. Rather than accept the massive body of scientific evidence, they chose to deny it instead. And they were enabled by a generation of journalists who are no longer able to distinguish fact from fiction.

As climate communicators, it's essential for us to understand that the debate about climate is not, and has never been, about science. It's really about other things: the best way to organize our economies, the relative roles of business and government, and about different interpretations of what constitutes freedom.

Scientists, policymakers, and other concerned communicators need to understand that more and more scientific papers, bigger and better datasets, and yet another IPCC report in a few years, won't overcome their communication problem. They need to begin explicitly addressing these other issues.

Fred Pearce

Explaining complexity: challenges for the fourth estate

The media likes its stories simple. Good guys and bad guys. X marks the spot where the disaster happened. Sex and violence. The attention span of the average reader or viewer – and the average news editor – is very short. Conveying complexity or nuance is extremely difficult, even in the most general terms. Conveying ideas like uncertainty and error bars, or the different perspectives offered by looking at things on different timescales, is even harder. This is compounded by society's view of scientists, one with which scientists often collude, in which they are the founts of wisdom and knowledge and are expected to trade in certainties and "facts".

I will explore how this plays out in climate science, where some things are fairly well known – greenhouse gases trap heat; there is a great deal of natural variability in climate – but much of which, especially

Speaker Abstracts

about likely local impacts in future years, is not. How scientists have to some extent been seduced by the apparent need for the public and policymakers to have simple answers, into ignoring or underplaying uncertainty and complexity.

And I will explore how many of these issues came home to roost in the “climategate” affair of the hacked (or possibly simply leaked) emails from the University of East Anglia.

Brian Fallow

Managing messages in the media

The first thing to remember if you are a scientist trying to communicate with the public via the mass news media is that while you are doing that what you are doing is not science. It is something else. Something valuable, but something else. And what counts as intellectual honesty in that context is different.

Secondly if communicating via the media it is useful to be aware of the limitations journalists labour under, which are increasing, and to adjust for them if you can. You are competing for scarce resources, journalists’ time in the first instance, and the public’s attention. This puts a premium on clarity, brevity, remaining “on message” and minimising the opportunity cost involved in responding to sceptics’ arguments.

From the standpoint of a consumer of news about climate science there are elements of the story

which do not seem to be getting through. Most of us do not think in numbers. We need scientists to paint a picture and calibrate the scale of what 2 or 4 degrees of warming would mean, or better still has meant in the past. And to emphasise the time lags and inertia involved in the relevant physical systems, as that is key to any appraisal of relative risks.

Robert Gifford

Dragons, mules, and honeybees: The barriers, heavy lifters, and selfish agents of climate action

Most people think climate change is an important problem, yet too few high-emitting global citizens are sufficiently engaged to stem the increasing flow of greenhouse gases. Why is that? Structural barriers such as a climate-averse infrastructure and poverty are part of the answer, but psychological barriers also impede behavioural choices that would facilitate climate change mitigation. Some individuals (heavy-lifting “mules”) are engaged in ameliorative action, and others are helping without intending to (selfish “honeybees”), but of the rest of us could do more than we are, but are hindered by seven psychological barriers, or the “dragons of inaction:” limited cognition, ideological worldviews, comparisons with other people, sunk costs, behavioural momentum, discredence toward experts, perceived risks, and positive but inadequate action. Structural barriers must be removed wherever possible, but this is unlikely to be sufficient. Social scientists, technical experts, and policy-makers must work together to help citizens overcome these psychological barriers. Five ways to slay these dragons of inaction are presented.

Bronwyn Hayward

Growing up in a dynamic climate: Why citizenship will matter more than behaviour change.

Around the world we are witnessing revolutionary movements led by young people. The complex roots of these movements lie in demographic, economic, educational, religious and environmental challenges that currently confront young adults worldwide.

This generation faces a tougher, bleaker, and more limited future than their parents or grandparents. For the first time in modern history education may no longer provide a route out of poverty. Young

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adults everywhere face the prospects of less security than their parents. Children growing up today will experience less pension support, worsening health outcomes, growing social inequality, greater job insecurity and less opportunity for autonomy in employment. To add insult to injury we have burdened our youngest citizens with growing risks of dangerous environmental change. Against this background the prevailing shift towards 'behaviour change' policy becomes part of the problem not the solution, particularly when expressed as liberal paternalism, 'nudge' or social marketing.

But the future for children need not be bleak. There have been some tremendous policy advances and globally, young citizens are expressing a strong sense of agency, or a desire to make a difference. Reflecting on research findings as lead author for two chapters and country surveys of the United Nations Environment Programme 2011 report: Visions for Change: recommendations for effective policies for sustainable lifestyles, Bronwyn Hayward highlights key ways to support children's capacity to flourish as citizens in a changing world.

John Thwaites

How democratic processes can deal with complex long term issues

Climate Change is a complex long term issue and a market and political failure. In this session, Professor Thwaites, a former politician and Minister for Climate Change in Victoria Australia, will present a personal perspective on the nature of modern politics and why the political process has such difficulty dealing with climate change. He will seek to draw some lessons from other major political reforms that have been successfully introduced in Australia. He will discuss the importance of engaging communities and changing behaviours if attitudes are to change and lasting reform

is to be successfully implemented. Such engagement and behaviour change strategies need to be informed by an understanding of psychology and behaviour change theory and linked to a political strategy.

David Frame

Two possible climate futures: the Mexican standoff and the low-carbon race

Robust, durable decision making requires several aspects of "sustainability" beyond those customarily summarised by the term. Chief among them are political and strategic sustainability. In this talk the subtleties of these are illustrated. The most frequent strategic simplification in climate change policy is the two-agent model, in which a distinction is drawn between rich and poor. This classification has its uses. But it fails to capture one of the most striking patterns of economic development over the last twenty years: the emergence of a group of rapidly growing, rapidly industrialising markets. In this talk a pair of three-agent models are considered, comprising the North, the G20 emerging markets (the GEMs), and the rest of the world (ROW), looking at the three groups' expected shares of emissions and capacity to affect temperature increases to 2100. The climate impacts on "the poor" are also considered, distinguishing between poor people in the industrialised world, the aspirational/urbanising poor in the developing world, and the traditional and rural poor of the developing world. The analysis shows robust lines of tension between different groups, though these lines are obscured in the traditional two-agent model. In the light of these three-agent formulations the scope for both a "Mexican standoff" and a "low-carbon race" are considered.

