

ANNUAL REPORT 2011



THE UNIVERSITY OF
MELBOURNE

MELBOURNE SUSTAINABLE
SOCIETY INSTITUTE



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See also our Climate Change research website:
www.climatechange.unimelb.edu.au



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Background

The Melbourne Sustainability Society Institute (MSSI) is an inter-disciplinary research institute at the University of Melbourne. We aim to progress sustainability as a societal goal, in Australia and the Asia-Pacific region.

Our mission is to progress sustainability by being an information portal to sustainability-related research at the University, and a platform upon which researchers and communities can work together to make a difference (see diagram).

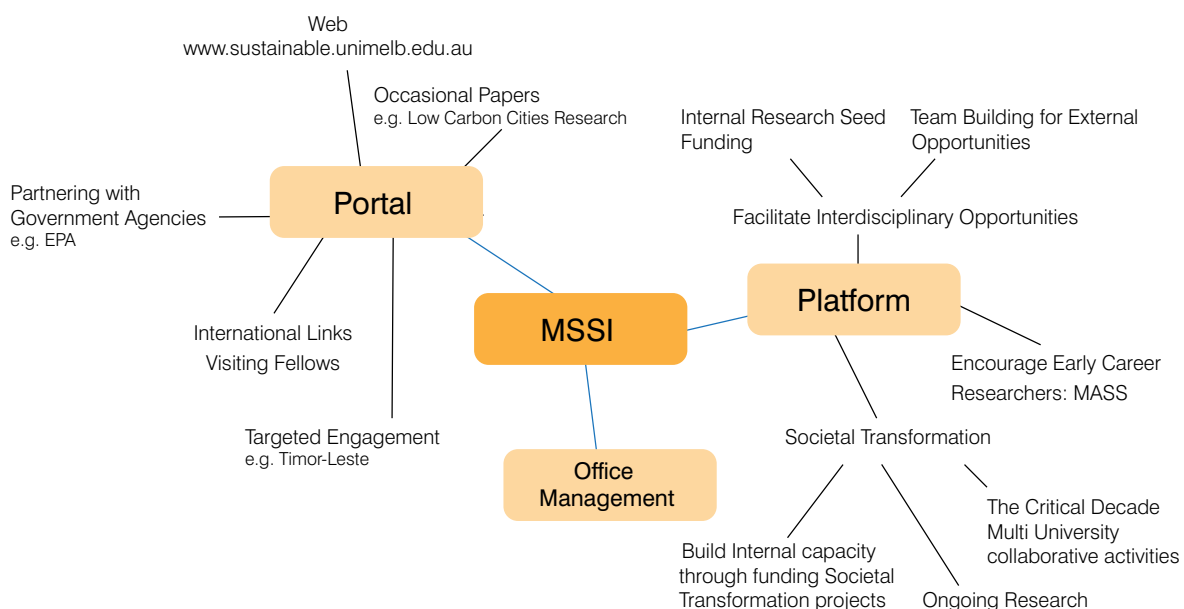
To achieve this, we gather information on sustainability research under six different themes.

MSSI is led by a small staff and advised by an Executive, which brings together 13 researchers from across the University's 11 faculties. Additionally MSSI has a small group of Associates, leaders from within and outside the University, and a group of PhD students who are selected competitively each year to share ideas and research.

Our values include:

- Facilitating; bringing people together for research to progress sustainability as a societal goal.
- Transforming; proactively developing our vision and proposals and responding to opportunities to create a sustainable society.
- Transcending; working across traditional intellectual and organisational boundaries, working strategically with other research providers, companies, NGOs and government.
- Value-adding; working with other institutions, within and outside the University, to ensure we add value.

The institute's approach to facilitating sustainable solutions is distinctive in four respects: we believe people and values are central to creating integrated sustainable solutions; we encourage engagement with community, industry, policy makers and research providers to generate best-possible outcomes; we emphasise a solutions-focus when contributing to transformation; and we are regionally committed to Victoria, Australia and the Asia-Pacific region.





MSSI Staff: Phoebe Bond, Craig Pearson, Emma Joughin, Carolyn Ingvarson and Craig Prebble

Message from the Director

We are facing great global challenges: to create a sustainable society that is equitable and healthy, neither pollutes nor excessively uses non-renewable resources, and mitigates and adapts to climate change. We are in a 'critical decade' during which we need to change our attitudes and behaviours to transform to sustainability.

MSSI is a virtual research institute. We operate across the University of Melbourne; our custodial faculty is the Melbourne School of Land and Environment. Our staff are real: myself, three part-time administrative staff, and academics who spend 10 percent of their time leading our research themes. Our priority is to help others inside and outside the University.

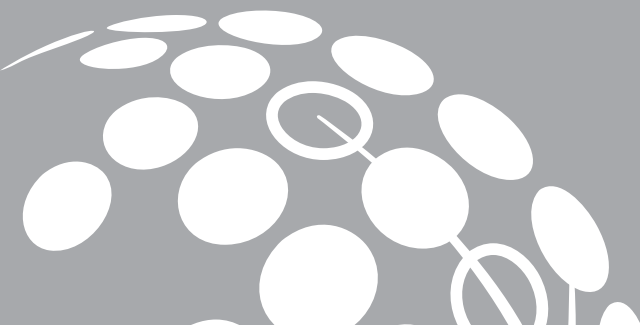
Highlights from 2011 include:

- Three highly successful international conferences: 'Sustainable Urbanisation: a resilient future' in February, 'Four Degrees or More? Australia in a Hot World', in July, and 'Creating Sustainable Healthy Societies' in October.
- Helping University of Melbourne researchers win \$8M of competitive research grants and access to invaluable data to inform their research.
- A research project to develop a zero carbon Land Use Plan for Zero Carbon Australia, in collaboration with the Melbourne Energy Institute.

- A contractual partnership with the Environmental Protection Authority, to build a strategic research portfolio.
- Helping establish an Australian Cooperative Research Centre in Low Carbon Living.
- Working with Farm Services Victoria, Department of Primary Industries, to foster collaborative projects.
- Collaboration with Wyndham Council and the Western (Municipal) Alliance for Greenhouse Action to develop a scorecard for sustainable urbanisation and research in urban expansion.
- We directly engaged more than 2,000 people through 37 public lectures and workshops.
- The launch of a research program into societal transformation, with the goal of developing the University's international reputation in this emerging field.

Further details are within the report. Our team invites you to read our first Annual Report, and we would like to thank all the people who worked with us to make it possible.

Craig Pearson



Peter Doherty

MSSI Associate, Nobel Laureate in Physiology or Medicine. Peter spoke at the MSSSI Sustainable Urbanisation Conference and wrote a chapter for the MSSSI book, '20/20'.

MSSI Executive

Professor Craig Pearson **Director MSSSI**

Research management; city sustainability; food and urban greenbelts and agricultural policy.

Professor Jon Barnet **Geography (to June 2011)**

Environmental change on social systems; focus on climate change, security, water and food.

Associate Professor Grant Blashki **Nossal Institute for Global Health**

Climate change and health; mental health; primary health care.

Associate Professor Colin Duffield **Infrastructure Engineering**

Policies and processes for infrastructure investment and procurement.

Professor Robyn Eckersley **Social and Political Sciences (from June 2011)**

Environmental political theory and politics; international climate change negotiations.

Associate Professor Rebecca Ford **Agriculture and Food Systems (to June 2011)**

Plant molecular genetics and genomics for disease resistance and abiotic stress tolerance.

Associate Professor Ray Green **Landscape Architecture and Environmental Planning**

Climate change in coastal settlements; community participation in environmental design.

Professor David Karoly **Earth Sciences**

Climate variability and change, global warming, ozone depletion, climate dynamics.

Professor Yoshihisa Kashima **Psychology**

Social psychology of cultural dynamics; social cognition and motivation for transformation.

Dr Michael Kearney **Zoology (from June 2011)**

Climate impacts on the distribution and abundance of animals; ecophysiology and behaviour.

Professor Rodney Keenan **Director VCCCAR (to June 2011)**

Climate change adaption; forest assessment and monitoring; sustainable forest management.

Professor Hector Malano **Infrastructure Engineering**

Water resources management; water system modeling; sustainable allocation of water resources.

Dr Alan March **Urban Planning**

Planning theory, professionalism, planning law and urban design; planning as democracy; risk.

Associate Professor Angela Paladino **Marketing**

Environmental consumer marketing, innovation and performance outcomes, resource strategies.

Craig Prebble **Executive Officer MSSSI**

Dr Audrey Yue **Cultural Studies (from June 2011)**

Multiculturalism, cultural policy, Asian diaspora media, queer theory, spatial aesthetics.

**Our Executive met ten times and MSSSI
theme leaders met 20 times during 2011.**



Chris Ives

Chris leads the 'Sustainability of City Spread' research. Chris was selected to participate in the Theo Murphy High Flyers Think Tank: Stressed ecosystems: better decisions for Australia's future, in September.

MSSI Themes

People and Values

Theme leader: Yoshihisa Kashima

People and Values is one of MSSI's most important themes, as people and their values make a huge difference to sustainable living. Research done within this theme is divided into four topics; Changing Population; Attitudes and Communication; Law, Justice and Ethics; and Resilience and Transformation.

The focus this year has been on sustainable lifestyles in the face of climate change challenges. We facilitated the organisation of a roundtable and public forum: 'Climate Change: Knowledge Values Action' in August, and contributed to the successful bid for the Cooperative Research Centre on Low Carbon Living. The focus in 2012 will be on public engagement in societal transformation.

Climate Change

Theme leader: David Karoly

Research under this umbrella is divided into three topics; Climate Science and Impacts; Vulnerability and Adaptation to Climate Change; and Mitigation of Climate Change. The quality of our research is demonstrated by our presence in the Intergovernmental Panel on Climate Change (IPCC) and the Earth Systems Science Partnership; by our success in obtaining competitive research grants; and through peer-reviewed publications in leading journals.

Key achievements this year include building connections between 15 of our University research groups and organising the 'Four Degrees or More?' conference. Our focus moving forward is to strengthen links between research on social and natural systems and to seize opportunities arising from the Clean Energy Futures legislation.

Health Equity

Theme leader: Grant Blashki

The Health Equity theme promotes a healthy, fair, sustainable society and fosters research on important public health issues. Its goal is to integrate the health sector with the University community to tackle complex, interconnected problems. This theme is comprised of three topics; Health Promotion; Disease Prevention; and Health Services.

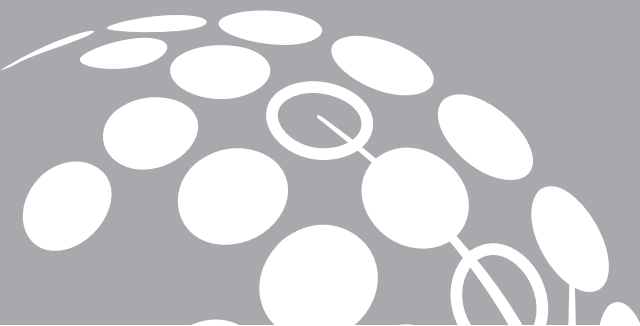
Key achievements this year include the 'Creating Healthy Sustainable Societies' conference, and contributing to a report for UNICEF in conjunction with the Nossal Institute. Our focus is to continue to develop links between health promotion and sustainability, and to build the capacity of new researchers across the University.

Water, Food and Energy

Theme leader: Rebecca Ford/
Craig Pearson

This theme takes up the implications of sustainability in supplying water, food and energy. It is split into four topics to represent and facilitate relevant research: Rural and Urban Water Cycle; Water Policy, Law, Governance and Culture; Food Policy, Safety, Trade and Culture; and Food Production, Quality and Environmental Impacts.

This year the theme has facilitated seed funding applications, provided research and pro bono advice to food rescue charity Second Bite, and arranged a series of forums on strategic issues relating to water.



Liza Maimone

MSSI Associate and Partner, Sustainability Leader PwC Australia. Liza leads Rio Tinto's annual global sustainability audit, provided a chapter for '20/20' and supported MASS in 2011.

Cities and Towns

Theme leader: Colin Duffield

Cities and Towns focuses on the physical and social functioning of population centres, in particular the connections between physical outcomes and socio-economic practices. Research under the Cities and Towns umbrella is divided into three topics; Liveable and Affordable; Built Structures; and Transport and Infrastructure.

Activities this year included the 'Sustainable Urbanisation' conference with Swinburne University and continued mentoring of MUtopia, a research project involving city precincts that started with a MSSI-linked seed fund grant in 2010, and which provided a key element for the bid for the CRC for Low Carbon Living.

Risk, Resilience and Transformation

Theme leader: Alan March

This theme aims to find better ways to understand risks and to take appropriate action, so that negative effects of disasters can be reduced or avoided. Research is divided into two topics; Resilient Processes and Institutions; and Disaster Sources and Impacts.

Activities this year include two successful research applications to the Natural Disaster Resilience Grants Scheme 2011-12 and a workshop to assist the development of a Natural Disaster Management Research Initiative.

Theme Changes

In December 2011 MSSI themes were adjusted in preparation for 2012. We formalised a new theme, Biodiversity and Conservation, with assistance from Michael Kearney.

In 2012 the Risk, Resilience and Transformation theme will be discontinued and topics will be incorporated within remaining themes, particularly within 'People and Values' as we strengthen research into the crucial role that people and behaviour play in the transformation to sustainability.

Biodiversity and Conservation

Theme leader: Ary Hoffmann

This theme provides expertise on both positive and negative impacts of biodiversity on society. It encompasses three topics; Ecosystem Processes and Services; Pests and Invasive Species; and Threatened Species and Habitats. It integrates world-leading expertise across the University to provide an understanding of how environmental change is likely to affect our biodiversity assets, and how best to manage these impacts.

Research will aim to foster interdisciplinary synergies across the physical sciences including climate science, and engaging people and governance. In 2011 participants developed an environmental data resource for Australia that will provide unique capacity for analysing, forecasting and managing the effects of environmental change on plants and animals.



Talita Trindade

Talita is a MASS member. She is researching transnational social movements and sustainable palm oil certification.

MSSI Associates

MSSI benefits from the interest and involvement of leading academics, bureaucrats, and business people. We formally recognise a small number of these people striving for a more sustainable society.

Kate Auty, Commissioner for Environmental Sustainability, Victoria
Jon Barnett, Resource Management and Geography, University of Melbourne
John Brumby, Vice Chancellor's Professorial Fellow
Annie Bolitho, Consultant Facilitator, Annie Bolitho & Associates
Peter Christoff, Environmental Studies, Geography, University of Melbourne
Monique Conheady, Chair at Moreland Energy Foundation Limited
Peter Doherty, Laureate Professor, Microbiology and Immunology, University of Melbourne
Colin Ferguson, Accounting, University of Melbourne
Ruth Fincher, Geography, University of Melbourne
Rebecca Ford, Agriculture and Food Systems, University of Melbourne
Ross Garnaut, Vice-Chancellor's Fellow, University of Melbourne; Professorial Fellow, Economics
Lee Godden, Law, University of Melbourne
Rodney Keenan, Victorian Centre for Climate Change Adaptation Research
Rebecca Kippen, Melbourne School of Population Health, University of Melbourne
Tom Kvan, Dean, Architecture, Building and Planning; University of Melbourne
Liza Maimone, Partner, Sustainability & Climate Change Leader, PwC Australia
Mark McDonnell, Australian Research Centre for Urban Ecology; Botany, University of Melbourne
Chris Ryan, Victorian Eco-Innovation Lab, University of Melbourne
Pru Sanderson, Global Business Leader – City Development, GHD
Helen Sykes, Founder, Future Leaders
Tim van Gelder, Principal, Austhink Consulting
John Wiseman, Melbourne Sustainable Society Institute, University of Melbourne

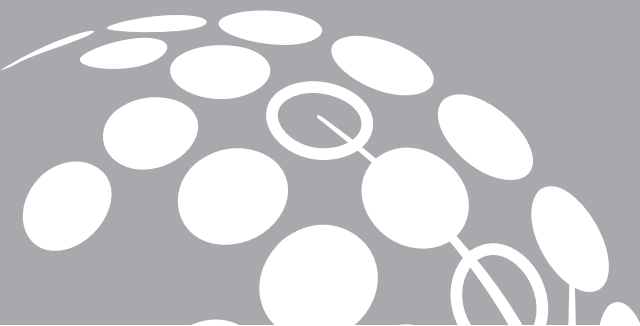
The Melbourne Academy for Sustainability and Society (MASS)

MSSI fosters interdisciplinary collaboration and team-building among a selected group of graduate students from different departments within the University of Melbourne who meet regularly to share ideas and develop strategies for better sustainability research and creating a more sustainable society.

The 2010 cohort of MASS worked on a research project, 'Understanding sustainability in Victorian enterprises', which explored the following research questions:

- What does sustainability mean to enterprises operating in Victoria and how do they act on this?
- Do structures of ownership affect the behaviour of the enterprise?
- Where does the enterprise see its responsibility ending?

By considering government, public and private enterprises, MASS aims to present a current snapshot of how Victorian businesses make sense of sustainability, and how they implement this understanding within their businesses.



Ross Garnaut

MSSI Associate, Ross authored the update report on Climate Change for the Australian government. It was launched in Victoria at an MSSSI-Monash Sustainability Institute event.

Research Platform: Societal Transformation

The Critical Decade

This project emerged from the 'Four Degrees or More?' conference in July and is run by a steering group chaired by Peter Christoff, and including Craig Pearson, John Wiseman (MSSI), Mike Sandiford (MEI), David Griggs (Monash) and Will Steffen (ANU). The project examines opportunities for and obstacles to fostering a post-carbon economy and society in Australia over the next decade. The first step, sponsored by MSSI, was a roundtable discussion in November 2011. This helped refine the key questions that will be examined in greater depth through academic research and public workshops next year. As it develops, the project is intended to engage other universities and a wide range of leaders in government, business and civil society.



John Wiseman, Professorial Fellow MSSSI

Climate Transformations

This initiative by John Wiseman, Taegen Edwards, Lauren Rickards, and Che Biggs, aims to create and share knowledge about the transformations needed to imagine and build a just and sustainable safe climate future. Work undertaken in 2011 included: VCCCAR Scenarios for Climate Adaptation project (June 2010 – June 2011) and a Climate Change Knowledge, Values and Action Roundtable and Public Forum (Aug 2011). The latter was designed to strengthen understanding of the diverse factors affecting public attitudes to climate change, and to develop a more informed and constructive debate about the most effective actions for reducing the risks of runaway climate change.

Post Carbon Pathways

A number of research papers and activities are underway, led by John Wiseman, to explore promising international examples of large scale post carbon transition plans and strategies. The aim is to build and share knowledge about the actions needed to achieve rapid, system-wide implementation of these strategies. The research will be informed by the view that a successful shift from designing to implementing post carbon transition plans will depend as much on overcoming social, political and economic obstacles as it will on addressing scientific and technological challenges.



Arie Rahmadi

Arie is a MASS member. He is researching appropriateness of biofuels for Indonesia.

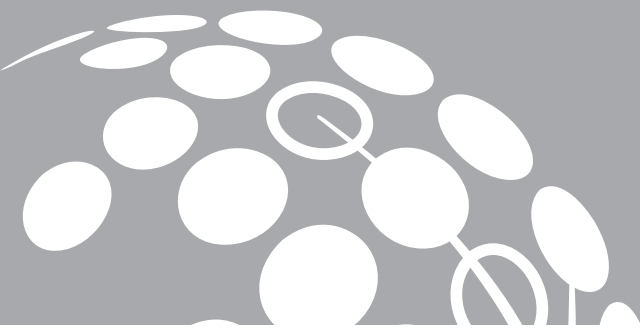
Land Use, Forestry & Agriculture Plan

The Land Use, Forestry & Agriculture Plan is managed by MSSI and Beyond Zero Emissions, with funds from the Graeme Wood Foundation via the MEI. The project is run by Chris Taylor - research director, and Adrian Whitehead - project director. Given the scale and complexity of the issue being tackled, the Land Use Plan is reliant on a team of volunteers to conduct much of the work and research. Volunteers join working groups to research specific topics or manage parts of the project, and are supported by the staff. The draft release of the plan is due in early 2012.

Sustainability of City Spread

Chris Ives, working with Wyndham Council on the expanding western edge of Melbourne, is carrying out: (1) a desk-study to create a score-card of attributes to measure positive and negative changes in sustainability related to urban expansion, and (2) a detailed case-study of the interactions between biodiversity and social valuing of agricultural landscapes on the urban fringe.





Leonie Pearson

Together with MSSSI, Leonie (Swinburne University) organised the 'Sustainable Urbanisation' conference and has edited a special journal and book arising from it.

Research Facilitation

MSSSI staff facilitate the following research projects:

Low Carbon Cities Research

The University of Melbourne is developing solutions to address the challenge of designing and managing sustainability in cities. This work brings together a range of expertise across a number of disciplines to address the impact that cities have on the environment and the way in which we live. The Low Carbon Cities Research (LCCR) Steering Committee draws together relevant research within the University of Melbourne.

A key element of LCCR is to draw attention to the breadth of this research and to opportunities where it might be used in shaping future cities. The focus is on exploring how cities are currently functioning, in terms of their carbon footprints, and how we might minimise energy consumption to reduce this footprint. The projects are accessible from www.lowcarboncities.com.au

MUtopia: A Design and Simulation Platform for Sustainable Cities

MUtopia is a multi-disciplinary design tool incorporating an integrated visualisation and a simulation platform. It displays in 3D the appearance of an urban development and quantifies the performance of key sustainability metrics at different scales. Designers use the platform to assess the viability of introducing best practices such as water efficiency, energy efficiency, dwelling and transportation design and waste management as well as livability and wider economic benefits. Modeling the development of the Maribyrnong defence site has been assisted by Places Victoria. This year, Hector Malano, a researcher on the MUtopia project, won a Biennial Medal from the Modelling and Simulation Society of Australia and New Zealand (MSSANZ).





Tamara Sysak

Tamara is a MASS member. She is carrying out social network analysis to learn how farmers in northern Victoria respond to drought.

Environmental Protection Authority Partnership

Through MSSl, the University of Melbourne has been selected for a Strategic Research and Development Partnership with the Environment Protection Authority (Victoria). Monash University, through the Monash Sustainability Institute, and RMIT University, through its Research Partnerships Office, have also been selected for similar agreements. This will lead to research projects conducted by, or in partnership with, the University of Melbourne on topics aligned with the EPA's research strategy.

The influence and impact of sustainability issues on capital investment decisions

In partnership with the International Federation of Accountants and CPA Australia, accounting researcher Gillian Vesty surveyed CFOs from Australian G100 companies. This study identified the importance given to sustainability in investment decisions. Forty percent of CFO respondents indicated that they would accept projects with negative returns particularly where sustainability benefits were identified. A follow up survey is being developed which will be sent out early in 2012 and extended internationally.

Department of Primary Industries Partnership

MSSl has assisted the Service Design Branch of DPI Farm Services Victoria, to identify relevant researchers within the University of Melbourne and create thematic research groups comprised of DPI and University researchers. These groups address: Farmer Behaviours and Action, Understanding Landscape Change, Organisational Behaviour and Action, and Policy Design. Members of these groups work to prioritise research needs and seek third-party funding.





Snowball network map



Patrick Gilmour

Patrick is a member of MASS and a leader of the collaborative MASS research into company sustainability reporting.

International Conferences

Sustainable Urbanisation: A Resilient Future Conference

Held in February, this conference was awarded the Australian Academy of Science's, Sir Mark Oliphant Foundation Grant for 2011. It brought together equal numbers of researchers and practitioners from government, industry and academia to advance the knowledge and implementation of resilient sustainable urban development. It provided the opportunity to engage with seven international speakers, facilitated workshops and city tours, staged a public forum at Federation Square and provided access to keynote speeches on TEDx.

Outcomes were workshop reflections on the four precincts that were visited, a paper on precinct sustainability titled City Transformation and Resilience: Priorities from Melbourne, given to a conference in Stockholm, acceptance of a number of articles for a special issue of the international journal *Ecological Economics*, and preparation of a book to be edited by Leonie Pearson (formerly Swinburne University, now an honorary at the University of Melbourne), Peter Roberts (Leeds University) and Peter Newton (Swinburne University).

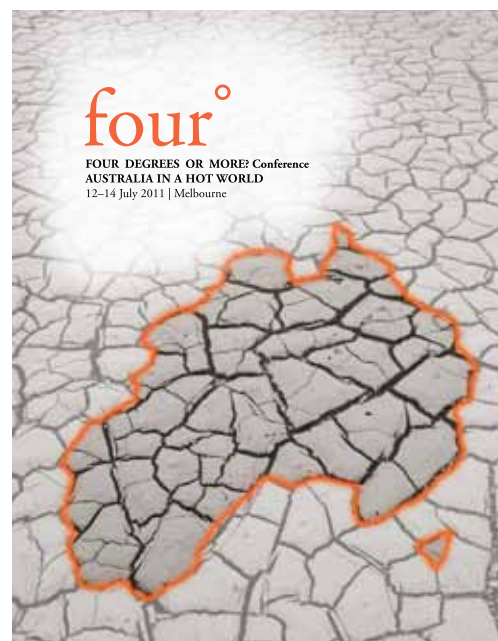


'Four Degrees or More? Australia in a Hot World' Conference

The 'Four Degrees or More?' conference brought internationally and nationally renowned scientists and academics together to reflect on the likely social, economic and ecological implications of rapid global warming. Held in July the event was sponsored and managed by MSSl, with sponsorship from the Melbourne Energy Institute, the Monash Sustainability Institute and the Purves Environmental Foundation. It attracted more than 400 people and national media coverage.

Given that climate scientists agree that the current emissions targets of developed and developing countries will likely lead to average global warming of four degrees Celsius by 2100, the conference examined the potential consequences of four degrees warming (or more) for Australia and its region.

Presentations are available at:
www.fourdegrees2011.com.au





John Brumby

Former Premier of Victoria, John is an MSSI Associate and contributed to the MSSI book '20/20'. As Premier he mandated a 20 per cent reduction of greenhouse gas emissions by 2020.

International Activities

Timor-Leste

The University is prioritising academic engagement with Timor-Leste, and has signed a MOU with the National University (UNTL) to strengthen linkages and build capacity for prosperity in Timor-Leste. At the invitation of the Rector of UNTL, Craig Pearson visited and held a workshop attended by more than 45 university, government and NGO stakeholders and 60 senior students. The outcome was a clearer understanding of ongoing research in food security and rural livelihoods, and from the workshop a set of broad priorities for further work emerged. Subsequent meetings have been held with academics at other Victorian universities with a view to situating food security and rural livelihoods as part of a proposal for our University's future engagement in Timor-Leste.

Bhutan

John Wiseman was invited to contribute to the international conference on 'Happiness and Economic Development' convened by the Prime Minister of Bhutan and the Earth Institute, Columbia University. Professor Wiseman has also been invited to contribute to the development and implementation of the curriculum, teaching program and research agenda of the proposed 'Gross National Happiness Centre' being established in Bhutan as a focal point for new learning about innovative and integrated models of ecologically sustainable development.

For more information on the conference:
www.earth.columbia.edu/bhutan-conference-2011





Michaela Spencer

Michaela is a MASS member. Her current research in Tasmania investigates the creation of a new Bay of Fires National Park and the presence of toxins in the local catchment area.

MSSI Visiting Fellows

MSSI promotes academic engagement with other universities and we are developing links with a small number of international institutions such as the University of British Columbia, Canada, and PIK, The Potsdam Institute for Climate Science in Germany.



Cathy Wilkinson
Stockholm
Resilience Centre
Sweden

Cathy was the Executive Director of Strategy Development for the Victorian Department of Sustainability

and Environment until 2005, where she led the development and implementation of Melbourne's most recent metropolitan plan, Melbourne 2030. She spoke at the Resilient Urbanisation Conference and gave a seminar entitled 'Resilience thinking and planning: an interdisciplinary exploration in theory and practice' in February.



Moura Quayle
Professor at the
University of British
Columbia
Canada

Moura, now in the UBC Sauder School of Business, was CEO of the Pacific Coast Collaborative

Commission, an initiative of five coastal states and one province, and served as Deputy Minister (CEO) of the Ministry of Advanced Education, Research and Innovation in British Columbia. At Melbourne she mentored MASS students and gave a public lecture at Federation Square and two seminars, including 'Leadership in Sustainability: From Gown to Town' in March.



Roy Neel
Adjunct Professor of
Political Science at
Vanderbilt University
USA

Roy Neel is Chief of Staff for former US Vice President Al Gore, overseeing his climate change

advocacy programs, national and international political relationships and liaison with his clean energy business interests. During November Roy gave many free public lectures including one titled 'Towards a just and sustainable post carbon economy' in which he drew on his experience of climate change and sustainability politics in the United States to reflect on the key road blocks in the way of effective action and on the importance of creative and courageous leadership in driving a rapid transition to a just and prosperous post carbon economy.



Seed Funding Projects

MSSI participates in the University's Interdisciplinary Seed Funding Scheme to encourage innovative interdisciplinary research. In 2010 six awards supported projects relevant to MSSI. In 2011 there were five and in November 2011 a further five were awarded for research to be carried out in 2012. While it is premature to enumerate outcomes from projects carried out this year, the 2010 awards contributed to creating a network of collaborators that led to the successful bid for the CRC for Low Carbon Living this year, and other outcomes:

- Subsequent grants from industry partners and government of \$210K
- Competitive grants from the Australian Research Council of \$1,303,000
- Six papers presented at conferences, including a commendation for best paper at the 45th conference for the Australian and New Zealand Architectural Science Association¹
- Three papers published or in-press in international academic journals
- Three papers in preparation
- A partnership agreement with Places Victoria to further develop one research project.

The projects that were carried out in 2011 were:

A social learning tool for educating stakeholders and assisting decisions on water allocation in the Murray Darling Basin

Investigators: John Langford, Graham Moore, Margaret Ayre, Gerry Learmonth, John Freebairn, Ruth Nettle, Andrew Western, Chris Arnott, Phil Wallis and Graham Steed.

Project Summary: Under the umbrella of Universitas 21 collaboration, the University of Virginia and the University of Melbourne, this project plans to adapt the innovative Chesapeake Bay simulation model for water allocation in key Australian water environments, e.g. The Murray-Darling Basin.

Climate Knowledge and Sustainable Lifestyle: A Preliminary Examination of Cultural Dynamics of Climate Change

Investigators: Yoshihisa Kashima, Ailie Gallant, David Karoly, Daniel Little, Angela Paladino, Peter Rayner, David K. Sewell, John Wiseman, Saffron O'Neill.

Project Summary: A series of experiments to examine people's mental models of how human economic activities interact with the climate system. It analyses data from a survey examining people's mental models of the climate system and their relations to their lifestyles and discursive practices.

¹ 'A triple bottom line review of the building and education revolution initiative', lead author Dominique Hes.



Institutional Resilience in Bushfire Prone Areas: Learning from Experience

Investigators: Alan March, Louise Harms, Danny Samson, Sophie Sturup.

Project Summary: The project aims to improve the development and application of new knowledge in communities after disasters. Using the case of the 2009 Victorian bushfires the study examines key factors affecting bushfire resilience and aims to develop knowledge to modify key risk factors, and to improve resilience over time.

Towards Achieving Environmentally Sustainable Supply Chain Management

Investigators: Sherah Kurnia, Mahbubur Rahim, Priyan Mendis, Prakash Singh, Damien Power, Danny Samson,

Project Summary: An in-depth investigation of sustainable supply chain management initiatives (SSCMI), this project explores the motivations of organisations in adopting SSCMI, enablers, barriers and actual impacts of the initiatives. The study will eventually be extended to involve developed and developing countries alike.

Urban Placemaking: social equity and cultural diversity

Investigators: Ruth Fincher, Maree Pardy, Kate Shaw.

Project Summary: The project is investigating placemaking by tracing the emergence of the term and its use in urban programs; undertaking a series of interviews with key placemaking advocates in Victoria; and evaluating a small number of successful and unsuccessful urban placemaking projects to illuminate their social equity dimensions.

MSSI-related Interdisciplinary Projects awarded Seed Funding in 2011:

- Conceptions of human-nature relationships and sustainable action: Development and preliminary testing of an interdisciplinary theoretical framework.
Co-ordinating Investigator: Kathryn Williams
- The oral and geological record of natural hazards of Timor-Leste and the development of a practical risk management strategy.
Co-ordinating Investigator: Steven Boger
- Understanding Uptake: How Trust, Cognition and Statistical Transparency Influence the Adoption of New Models in NRM Decision Making.
Co-ordinating Investigator: Yung En Chee
- Youth leadership and empowerment in rural East Timor: exploring a creative arts approach to sustainable community development.
Co-ordinating Investigator: Violeta Schubert
- Place, health and liveability.
Co-ordinating Investigator: Carolyn Whitzman



Professor Hans Joachim Schellnhuber from PIK, Germany, speaks at 'Four Degrees or More?'

2011 Events

MSSI, sometimes with partner host organisations, held 37 events in 2011. Highlights included:

- Three large conferences with international speakers, in the areas of city sustainability, climate adaptation, and sustainability and health.
- TEDx Talks relating to 'Sustainable Urbanisation: A Resilient Future'.
- A dinner for MSSI Associates.
- Two public events in Federation Square, Melbourne: Professor Garnaut's Victorian launch of his report on impacts of climate change, and Professor Quayle speaking on employment, mobility and living in a growing city.
- A series of four forums on water.
- Lectures, forums and workshops featuring, among others, Cathy Wilkinson (Sweden), Gil Peñalosa (Canada), Moura Quayle (Canada), John Gummer (UK), Peter Harper (Wales), Tony Arnel (Australia), Malte Meinshausen (Germany), and Roy Neel (USA).
- Book launch: *This Land Our Water* by Peter Cullen (with the Peter Cullen Trust)

MSSI Publications

MSSI badged publications in books and academic journals in 2011:

- Edwards, T. and Wiseman, J. (2011) Climate Change, Resilience and Transformation: Challenges and Opportunities for Local Communities in: Weissbecker, I. (ed) (2011) *Climate Change and Human Well-Being: Global Challenges and Opportunities*, Springer: New York, pgs 185-200.
- D.J. Hume, C.J. Pearson. (2011) Transforming Farming Systems in: *Rainfed Farming Systems*, P.G Tow, I.M. Cooper, I. Partridge, C.J. Birch (eds), Springer: Netherlands, pgs 791-805.
- C.J. Pearson. (2011) Farming Systems Design in: *Rainfed Farming Systems*, P.G Tow, I.M. Cooper, I. Partridge, C.J. Birch (eds), Springer: Netherlands, pgs 321-39.
- L.J.Pearson, Y. Kashima, C.J.Pearson (2012). Clarifying protected and utilitarian values of critical capital in: *Ecological Economics* 73, pgs 206-10.
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Sponsorship and Funding



MSSI contributes to this node of the NCCARF, network convened by Professor Jon Barnett. The network brings together researchers and stakeholders with an interest in cross cutting analysis of issues such as: methods for understanding whole of economy impacts of climate change, the effect of social and economic trends on vulnerability to climate change, understanding and developing adaptation strategies for vulnerable communities, particularly indigenous and remote communities, and institutional challenges in adapting to climate change.

In 2011 the SEI-network organised a annual workshop 'Climate Adaptation and Extreme Events - Law & Policy' in November at ANU, Canberra. An Adaptation College focused on the same topic as the workshop, with College Fellows attending a fieldtrip to consider the legal and institutional dimensions of Canberra's 2003 bushfires, led by Prof John Handmer (RMIT) and Prof Steve Dovers (ANU). The research plans for the Social, Economic and Institutional and the Indigenous Communities themes have been finalised, and Adaptation Research Grants have been allocated for both themes.

www.nccarf.edu.au

Membership of Infrastructure Partnerships Australia

Infrastructure Partnerships Australia is the nation's peak infrastructure body. It aims to ensure Australia is equipped with the facilities and services required to secure enduring and strong economic growth and high living standards.



Primary Industries Climate Challenges Centre

The Primary Industries Climate Challenges Centre (PICCC) is a collaborative research venture between the University of Melbourne and the Department of Primary Industries Victoria. PICCC combines the resources and activities of its partners in research, development, extension and education to help the primary industries respond to a changing climate. Integrating both mitigation and adaptation, PICCC facilitates production, environmental, social and policy research at both the enterprise and landscape level.

www.piccc.org.au

Malte Meinshausen and Robyn Schofield

MSSI, with the Melbourne Energy Institute and the Faculty of Science, has facilitated and co-funded the strategic appointments of Malte Meinshausen as Senior Honorary Visiting Researcher and Robyn Schofield as a research fellow in the School of Earth Sciences for a period of two years. Malte Meinshausen is a Senior Researcher at the Potsdam Institute for Climate Impact Research. He has a PhD in climate science from ETH Zurich, Switzerland, and is a member of the German delegation to the UNFCCC negotiations as scientific advisor since 2005. Robyn Schofield is an expert in atmospheric chemistry, stratospheric ozone depletion and atmospheric aerosols.



Financial Statement

Income

Funding From Deputy Vice-Chancellor (Research)	\$945,000
Oliphant Sustainable Urbanisation Conference	\$40,450
Graeme Wood Foundation – sponsorship of Land Use Plan	\$119,858
Carry Forward From 2010	\$231,302
Total Income	\$1,336,610

Expenditure

Core Staff Salaries	\$347,040
Casual and Project Staff Salaries	\$156,528
Theme Leader Salary Buy-Outs	\$94,920
Theme and Seed Grant Funding	\$93,187
Societal Transformation Seed Funding Scheme	\$325,400
Sponsorships	\$126,470
Service and Space Charges	\$86,453
Other Operating Expenses	\$51,227
Total Expenditure	\$1,281,225
Unallocated Balance to be Carried Forward	\$55,387

Benefits

1. PIK Germany collaborative agreement, scholars based at Melbourne, approximately \$800,000.
2. Zero Carbon Australia, MEI collaboration for a zero-carbon land use plan, \$125,000
3. Global Change Institute, University of Queensland, research fellow \$65,000
4. CRC for Low Carbon Living. With UNSW (lead), Swinburne, Curtin and U.S.A, \$6.7M
5. Natural Disaster Resilience Grants 2011-12, \$180,000
6. Two Conferences, generating a surplus of \$70,000.
7. Partnership with Places Victoria, about \$50,000 p.a. in-kind and access to valuable PV data.
8. Partnership with Wyndham Council, about \$50,000 p.a. in-kind.

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