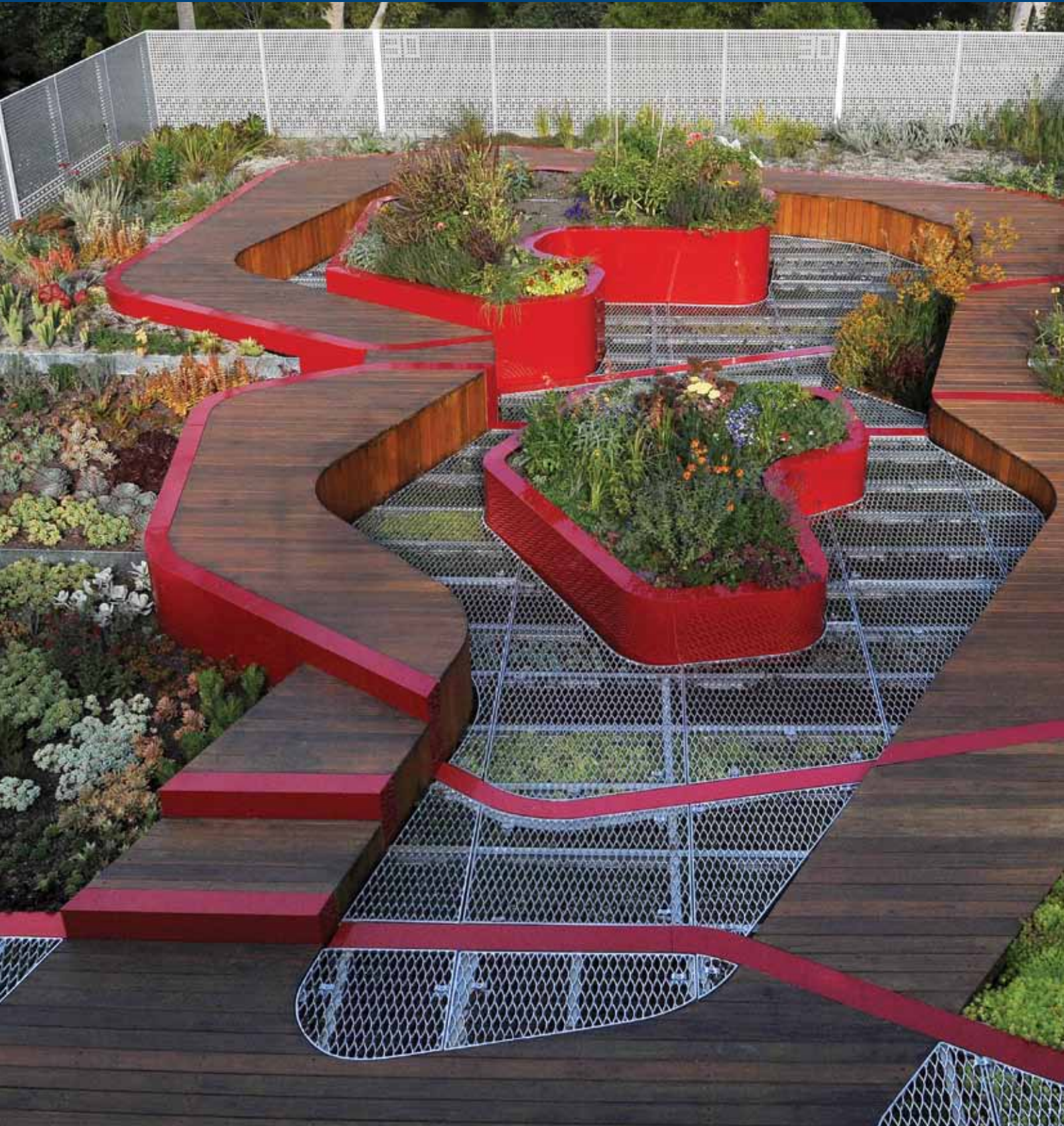




MELBOURNE SUSTAINABLE
SOCIETY INSTITUTE

2013 | ANNUAL
REPORT



Credits

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Background

The Melbourne Sustainable Society Institute (MSSI) is an interdisciplinary 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 themes:

- People and Values
- Climate Change
- Health Equity
- Water, Food & Energy
- Urban Futures
- Biodiversity and Conservation

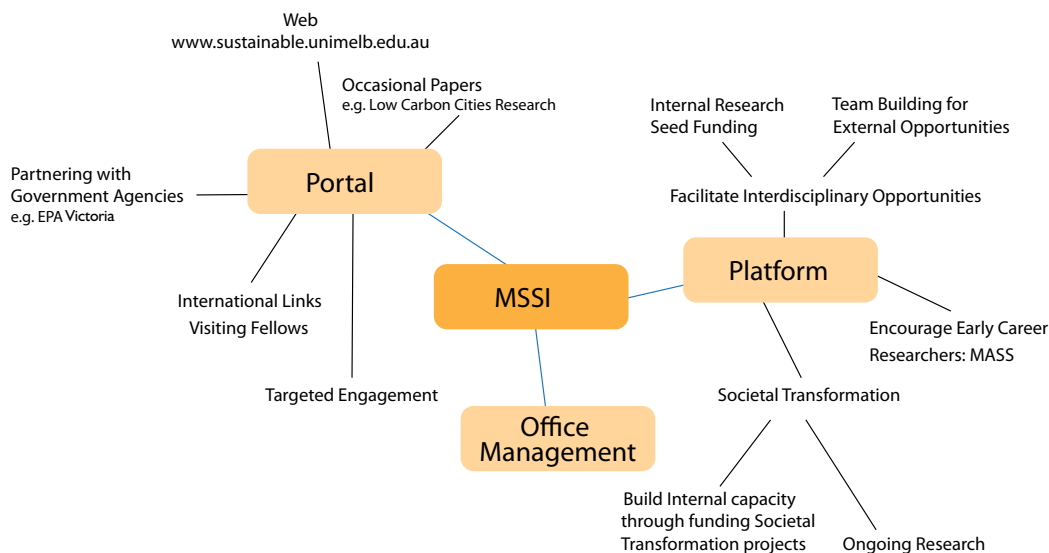
MSSI is led by a small staff and advised by an Executive, which brings together 12 researchers from 7 of the University's 11 faculties and schools. Additionally MSSI has a group of Associates, leaders from within and outside the University,

a group of Affiliates, and a group of PhD students who are selected competitively 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.





Claire Denby, Andrew Longmire, Craig Prebble, Lauren Rickards, Brendan Gleeson, Rebecca Johnson, Samuel Alexander, John Wiseman, Chris Taylor

Message from the Director

2013 has been a year of transition for MSSI following the departure of our previous Director, Professor Craig Pearson. Craig's years of leadership were particularly fruitful for the Institute, which saw it meeting its commitments to fostering interdisciplinary research on sustainability with singular success. His legacy is a considerable one, evidenced in a thriving culture of interdisciplinary collaboration grouped around MSSI's core research themes: Climate Change, People and Values, Water, Health Equity, Biodiversity and Conservation, Food and Urban Futures. Significantly, the Cities and Towns theme was rebadged in 2013 as Urban Futures to reflect and reinforce MSSI's lead contribution to the University's Carlton Connect agenda, which establishes research on urban sustainability as a cross-campus ambition.

In February, I was appointed Interim Director of MSSI to guide it through its period of leadership transition and to help strengthen its capacity to engage Urban Futures related research. As an urban scholar, and with cross-campus responsibility for leading the University's Carlton Connect Urban Futures agenda, I've seen opportunities for strengthening MSSI's contribution to collaborative research on cities and human settlements. It is an exciting time to do this, as humanity has entered its 'urban age', which sees the majority of our species living in the world's rapidly growing cities. Much of this urban expansion is occurring in the developing world. It is an amazing fact that one in ten humans now lives in a Chinese city. Clearly, urbanisation – especially beyond the traditionally defined western world – will be a key determinant of human well-being and global environmental conditions. It is a complex research challenge raising many of the 'wicked problems' that Carlton Connect is committed to exploring in new

collaborative partnerships with industry, government and the voluntary sector.

A further major step in MSSI's journey was outlined late in the year, with Deputy Vice-Chancellor Research Professor McCluskey announcing that from 2014 the Institute would move its host faculty base from Land and Environment to Architecture, Building and Planning. This is essentially an administrative shift and MSSI will retain and enhance the broad links it has enjoyed with Land and Environment, with an ever-expanding set of University faculties, centres and programs. It does, however, underline a new era and atmosphere of opportunity for research that tackles the challenge of the human urban future.

The year closes very well for MSSI. A regular series of successful research initiatives and outreach events confirmed the vibrancy and importance of its mission. The University has recently reaffirmed its commitment to the work of the Melbourne Research Institutes, indicating support funding for the next three years. In December 2013, I was fortunate to be appointed Director of MSSI for 2013–2017. MSSI is well placed to embark on a new era of opportunity and accomplishment in pursuit of its mission of enabling research that deepens understanding of that most compelling issue of the times: the sustainability of human society and the globe we inhabit.

Professor Brendan Gleeson



Photograph by IBES

MSSI Executive

The MSSI Executive provides advice to the Director and acts as a conduit for informal communication across the University. Our current Executive consists of 13 members drawn from academic staff across the University but without 'representation' from factional interests. Eight of the University's faculties are represented. Our Theme Leaders form a sub-set of the Executive. The Executive met 11 times in 2013.

Professor Brendan Gleeson – Interim Director MSSI and *Theme Leader for Urban Futures*
Urbanisation and sustainability, climate change and cities, urban governance and social policy.

Associate Professor Simon Batterbury –
Department of Resource Management & Geography; Melbourne School of Land and Environment.
Political ecology, human-environment relations, agrarian change, international development.

Dr Dianne Chambers – Melbourne Graduate School of Education
Processes to embed Education for Sustainability (EfS) in university curricula; EfS in teacher education; pedagogies to support EfS.

Associate Professor Richard Eckard – *Theme Leader for Climate Change*
Director, Primary Industries Climate Challenges Centre; Melbourne School of Land & Environment
Mitigation of greenhouse gas emissions from livestock production, whole farm systems analysis of climate change adaptation and mitigation.

Professor Robyn Eckersley – School of Social and Political Sciences; Faculty of Arts
Environmental political theory and politics; international climate change negotiations.

Associate Professor John Fitzgerald – *Theme Leader for Health Equity*
School of Social and Political Sciences; Faculty of Arts
Crime and public policy; healthy environments, alcohol and drug policy in sport.

Dr Michael Kearney – *Theme Leader for Biodiversity & Conservation*
Department of Zoology; Faculty of Science
Climate impacts on the distribution and abundance of animals; laboratory and field investigations of ecophysiology and behaviour.

Associate Professor Ruth Nettle –
Department of Agriculture and Food Systems; Melbourne School of Land and Environment
Rural workforce development; the role of extension in rural change; farming systems change; human and social capacity.

Associate Professor Angela Paladino –
Theme Leader for People & Values
Department of Management and Marketing; Faculty of Business and Economics
Environmental consumer marketing, innovation and performance outcomes, resource based/capabilities strategies and markets.

Craig Prebble – Executive Officer, MSSI

Professor Peter Scales – *Theme Leader for Water*
Department of Chemical & Biomolecular Engineering; Melbourne School of Engineering
Environmental engineering: water purification, waste water processing and recycling, sustainable technologies.

Professor John Wiseman – Deputy Director, MSSI
Climate change impacts and solutions; climate justice; post carbon economy transition strategies.

Associate Professor Audrey Yue – School of Culture and Communication; Faculty of Arts
Multiculturalism, cultural policy, Asian diaspora media, queer theory, spatial aesthetics and the transnational public sphere.



Kate Auty

Kate is an MSSI Associate and Victoria's Commissioner for Environmental Sustainability. She develops curriculum and reports across a range of sectors in regard to our rapidly changing climate.

MSSI Affiliates

Our Affiliates are a group of leading academics, senior bureaucrats, and innovative business people who have worked with or supported MSSI in the past.

Adam Bumpus, Resource Management and Geography, University of Melbourne. **Jon Barnett**, Resource Management and Geography, University of Melbourne. **Grant Blashki**, Nossal Institute for Global Health. **Peter Christoff**, Environmental Studies, Geography, University of Melbourne. **Peter Doherty**, Laureate Professor, Microbiology and Immunology, University of Melbourne. **Colin Duffield**, Infrastructure Engineering, University of Melbourne. **Jim Falk**, Honorary Professorial Fellow, 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, University of Melbourne. **Ary Hoffmann**, Zoology and Genetics, University of Melbourne; Bio21 Institute; CAPIM.

Ray Green, Landscape Architecture & Environmental Planning, Melbourne School of Design, University of Melbourne. **David Karoly**, School of Earth Sciences, University of Melbourne. **Yoshihisa Kashima**, Melbourne School of Psychological Sciences. **Rodney Keenan**, Victorian Centre for Climate Change Adaptation Research. **Rebecca Kippen**, Melbourne School of Population Health, University of Melbourne. **Hector Malano**, Infrastructure Engineering, University of Melbourne. **Alan March**, Urban Planning, Melbourne School of Design, University of Melbourne. **Malte Meinshausen**, Australian-German College for Climate & Energy Transitions. **Craig Pearson**, Former Foundation Director, MSSI. **Chris Ryan**, Victorian Eco-Innovation Lab. **Marcus Wigan**, Emer. Professor, Edinburgh Napier University; Principal, Oxford Systematics. **John Wiseman**, Deputy Director, MSSI. **Jens Zinn**, School of Social and Political Sciences.

MSSI Associates

MSSI formally recognises as our Associates a small number of leaders and professionals in the wider world who are striving for a more sustainable society.

Kate Auty, Commissioner for Environmental Sustainability, Victoria. **John Brumby**, Former Premier of Victoria (2007-2010). **Monique Conheady**, Chair at Moreland Energy Foundation; Business Partner Marketing, Hertz. **Mike Hill**, Co-Director, WestWyck. **Liza Maimone**, Partner, Consulting Markets Leader PwC Australia. **Carl Obst**, Editor, United Nations System of Environmental – Economic Accounting (SEEA).

Pru Sanderson, Global Business Leader – City Development, GHD. **Simran Sethi**, Sustainability journalist, strategist, educator. **Helen Sykes**, Founder, Future Leaders. **Patrick Troy**, Adjunct Professor, Urban Research Program, Griffith University. **Tim van Gelder**, Principal, Austhink Consulting; Principal Fellow, Historical and Philosophical Studies, University of Melbourne.



Samuel Alexander

MSSI research fellow and author of Entropia, Samuel's research interests include post-growth economics, sustainable consumption, and the lifestyle implications of decarbonisation.

Research Themes

People and Values

Theme Leader: Angela Paladino

Topics:

- Changing Population
- Attitudes, Communication and Transformation
- Law, Justice and Ethics

Climate Change

Theme Leader: Richard Eckard

Topics:

- Climate Science and Impacts
- Climate Change Adaptation
- Climate Change Mitigation

Health Equity

Theme Leader: John Fitzgerald

Topics:

- Health Promotion
- Disease Prevention
- Health Services

Water and Food

Theme Leader: Peter Scales

Topics:

- Water Cycle Management and Environmental Impacts
- Water Policy, Law, Governance and Culture
- Resilient Food Production and Environmental Impacts
- Food and Nutrition

Urban Futures

Theme Leader: Brendan Gleeson

Topics:

- Built Structures
- Liveable and Affordable
- Transport and Infrastructure

Biodiversity and Conservation

Theme Leader: Michael Kearney

Topics:

- Ecosystem Processes and Services
- Pests and Invasive Species
- Threatened Species and Habitats

Theme highlights include:

Health and wellbeing in broadband-enabled greenfield communities

This innovative project, coordinated by MSSI theme leader for Health Equity, John Fitzgerald, exemplifies the MSSI approach: a multidisciplinary team, casting light on complex, real-world sustainability problems. The project aims to improve health, resilience and sustainability in a growth corridor community by enabling people to connect to their local physical and social environment. To do this, an interactive platform for local environmental monitoring data and social connectivity tools is being developed. Partners include residential developers, water regulators, broadband technology providers, social scientists, water, air and environmental specialists, as well as IBM Brazil. The project is funded by a Carlton Connect Initiatives Fund Research Collaboration Grant.



Photograph by Adam Dimech

Urban Research

MSSI coordinates the Urban Futures Research Group, which intersects with the Carlton Connect Initiative. Led by Brendan Gleeson, the group engaged in a range of workshops and seminars, featuring guests including Head of the Major Cities Unit, Commonwealth Department of Infrastructure and Transport, Dorte Ekelund, and Adjunct Professor with the Urban Research Program, Griffith University and Emeritus Professor at the Fenner School of Environment & Society, ANU, Professor Patrick Troy AO. MSSI and the Faculty of Architecture, Building and Planning also received a delegation of Latin American researchers and provided an Urban Planning Curricular and an Applied Urban Research Roundtable. Urban themes also featured prominently in MSSI public events this year. In October, Susan Fainstein of Harvard University gave a lecture on *Creating a More Just City*, and in December, George Galster spoke on *Driving Detroit: The Quest for Respect in the Motor City*.

Climate Change Research Group

MSSI coordinates the University's Climate Change Research Group, which brings together leading researchers from physical and social sciences. This year, the group ran a series of seminars on how to develop and promote knowledge in climate change in complex and often resistant state, federal and international contexts. The series was capped with a seminar in honour of our guest, Sir Bob Watson, Chief Scientist and Senior Adviser for Sustainable Development, World Bank and former Chair of the Intergovernmental Panel on Climate Change (IPCC). Bob addressed the group on the policy challenges of global sustainable development in light of climate change impacts.

Symposium, Cross-Campus Climate Change Connections

Committed to cross-faculty interaction and early-career researcher development, MSSI worked with our partners in Botany and Zoology to stage seminars on climate change and its biodiversity and conservation implications. Thirty-eight participants offered a précis of their thesis or post-doctoral project in October. This included representatives from the Melbourne School of Land and Environment, Social and Political Sciences, Earth Sciences, Law, Population and Global Health, Engineering, Botany, Zoology, and inaugural members of the Australian-German College for Climate & Energy Transitions.

MSSI Art Competition and Exhibition: Liveable & Sustainable: Melbourne's Challenge

The challenges of sustainability call for a multidisciplinary approach. Art and culture can make a vivid contribution to imagining a more sustainable society. While Melbourne has been dubbed the World's Most Liveable City, it does not fare so well on the Most Sustainable City rankings. So MSSI called for entrants to submit paintings, drawings, printmaking works, photography, and mixed media works that reflect urban sustainability pressures and highlight solutions being tried on local scales to build a greener, more resilient city. A selection of the best entries was exhibited at Federation Square in July and August. The event was co-funded by a Cultural and Community Relations Advisory Group Grant and was supported by volunteers and the Faculty of Arts, Victorian College of the Arts, and the Faculty of Business and Economics.



Research Platform

As well as facilitating sustainability research around the University, MSSl also serves as a platform for research projects. Together, these further our sustainability themes and exhibit our key concern of how society can equitably and efficiently make the transition to a better, more sustainable future.

‘Post-Carbon Pathways’

Professor John Wiseman is the leader of the ‘Post-Carbon Pathways’ research program, which has been operating now for two years. His team this year included Taegen Edwards and Dr Samuel Alexander. The program aims to strengthen understanding of the actions needed to create rapid, large-scale transitions to a just and sustainable post-carbon future. Its MSSl hosting enables it to interweave funding and projects of various origins and to consolidate these more effectively.

A project from the CRC for Low Carbon Living, ‘Visions and Pathways 2040: Scenarios, visions and pathways for a low-carbon, resilient, built environment’, draws together MSSl and the work of the Victorian Eco-Innovation Lab (VEIL). The Festival of Ideas 2013 was an opportunity for Post-Carbon Pathways to develop a student competition and a set of events around the theme ‘Imagine Australia 2033: post carbon transition visions and scenarios’. John Wiseman also represented the University at a number of conferences in 2013, including the ‘Transformation in a Changing Climate’ held in Oslo, Norway, in June.

‘Transformational Adaptation’

Funded by CSIRO’s Ecosystem Sciences division, this project was led at MSSl by Dr Lauren Rickards. It explored emergent empirical and theoretical work into the drivers and enablers of, and barriers to, transformational change among agricultural producers and their communities in response to actual or anticipated climate change impacts.

‘Australian Stocks & Flows Framework’

Dr Graham Turner, formerly of CSIRO and Research Fellow at MSSl, is using this framework to simulate the physical reality of the economy, looking at many aspects of domestic food security, in order to create scenarios of whole-system sustainability. Current work includes a literature search and sensitivity testing. Once again, this is a collaboration with VEIL, where a research assistant, Dr Seona Candy, is located. A research seminar held in August helped to broadcast this innovative work to those from other research projects in which the framework may be applied.

‘Future Food Security in Australia under Projected Climate Change Scenarios’

MSSl co-funded a research fellow position with Global Change Institute, University of Queensland. Dr Chris Taylor worked on creating national maps of i) plant productivity and the current production of major foods; ii) food fluxes for domestically produced food; and iii) projections to 2050 of potential shifts in plant/food productivity, given climate change predictions.

‘Zero Carbon Australia Land Use Plan – Forestry & Agriculture’

Andrew Longmire headed the 2013 work on this longer project, which began in 2011. This work has identified which human land use practices might be net sinks and stores of atmospheric carbon while providing a comprehensive assessment of how Australia can manage its productive capacity, ecological heritage and ecosystems services for the future. The commissioning external partner is Beyond Zero Emissions.



Angela Paladino

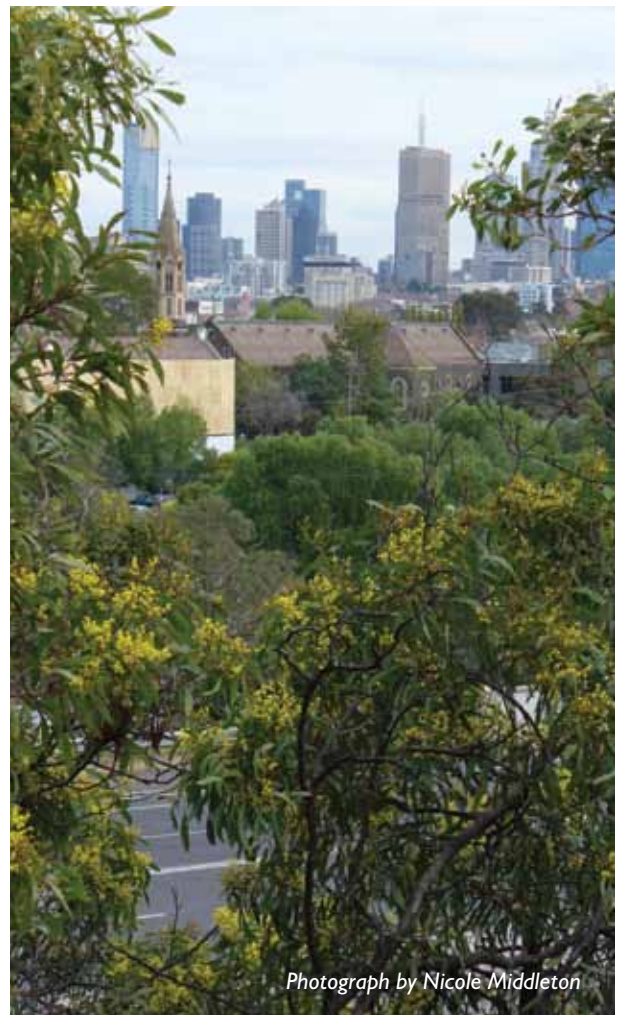
Angela is the leader of our People and Values Theme. Her key interests are environmental marketing and consumer behaviour, resource dependency and capabilities, and strategic marketing.

‘Environmental-Economic Accounting’

Carl Obst, Honorary Fellow at MSSSI, is the Editor of the United Nations System of Environmental – Economic Accounting (SEEA), United Nations Statistical Division. He was previously the Director of the Australian Bureau of Statistics (Victorian office). His project is to design environmental-economic accounting-based information systems and standards. These will integrate an understanding of accounting across a range of disciplines, and these systems can then be implemented. Again, MSSSI hosted a research seminar, in November, so that interested parties could learn about this work and its potential relevance to their own projects.

‘Desperate Remedies: Geoengineering’

The term ‘geoengineering’ encompasses a range of emergency interventions to correct anthropogenic disturbances of the Earth’s equilibrium. The field incorporates techniques for “carbon dioxide removal” and for so-called “solar radiation management” at a global scale. The increasing currency of these ideas can be viewed as the logical if desperate outcome of our failure to slow down the rate of greenhouse gas emissions. This book, *Desperate Remedies: Geoengineering Planet Earth – Could we, should we, will we?*, will explore and critique this supposed solution to climate change. It is being written by Professor Jim Falk with the research assistance of Amanda Townsend.



Photograph by Nicole Middleton



Amanda Townsend

Amanda is a researcher at MSSSI, examining the feasibility and risks of climate geoengineering proposals, which include approaches for solar radiation management and carbon dioxide removal.

Research Facilitation

MSSSI plays a key role in facilitating research in the sustainability space at the University. It does this by developing project teams, consolidating activities, providing direction and guidance, and assisting with applications for external funding.

Bids and grantwriting

The Director and staff at MSSSI have expertise in developing project teams, partnership brokering, and in devising project plans and budgeting. The Institute is, moreover, an agile and responsive free agent and roving ally for groups of sustainability researchers to enlist in their research development activities.

Delegations and contingents

The National Institute of Informatics, Japan, visited the University in February. Prof Katsumi Inoue and six of his colleagues ran workshops on resilience.

'Urban Planning Curricular & Applied Urban Research Roundtable', held on campus in March. This Latin American delegation was hosted by MSSSI and ABP.

APRU International Symposium on Coastal Cities, Marine Resources and Climate Change, held in Indonesia, in July. Funded by the DVC (Engagement), MSSSI facilitated this contingent.

The Research Institute for Humanity and Nature, Kyoto, Japan, visited MSSSI in September.

Carlton Connect

MSSSI plays a key coordinating role for the University's Carlton Connect Initiative. The MSSSI Theme Leaders who also have a Carlton Connect role – A/Prof Richard Eckard (Climate Change), Prof Brendan Gleeson (Urban Futures), and Prof Peter Scales (Water) – assess grant applications and survey the research landscape for opportunities. In order to better discern the full extent of the Urban Futures landscape, MSSSI is collaborating with the University's Victorian Eco-Innovation Lab to produce a detailed survey of this research.

Campus Sustainability

By directly using the campus site, buildings, and social spaces, the concept of 'Campus as Living Laboratory' is being actualised at the University of Melbourne. MSSSI now coordinates two umbrella agreements of relevance to campus sustainability: the EPA Victoria 'Strategic Research and Development Partnership' and the Parks Victoria 'Research Partners Program'. In addition, MSSSI is facilitating and co-funding research into recycling behaviour and the wider problem of how to close resource loops and prevent waste. The 'Rubbish to Resource' project produced a long report in 2013. The project leader, Judith Alcorn, presented her findings at the International Solid Waste Association (ISWA) 2013 World Congress in Vienna. This work is now being used as the launching pad for an ambitious 'Resource Recovery Research Centre' which would involve government and industry partners.



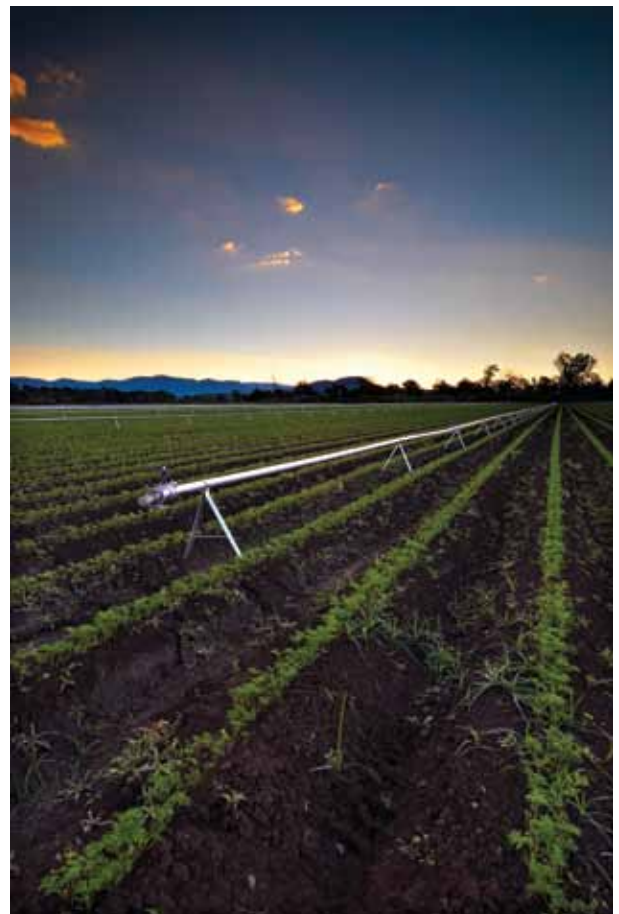
Andrew Longmire

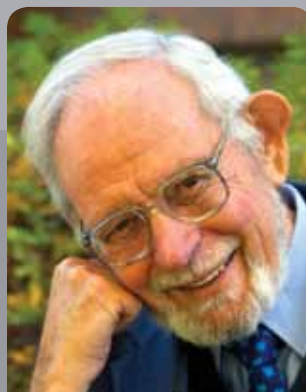
Andrew is a lead author on Beyond Zero Emission's Land Use Plan, hosted by MSSSI. The project seeks a feasible pathway to zero greenhouse emissions from Australian forestry and agriculture.

'Agriculture Industry Transformation – Gippsland'

For Gippsland's agricultural enterprises, viability in a changing climate hinges on their ability to adapt effectively. Dr Robert Faggian, Senior Research Fellow at MSLE, is working with engineers at Melbourne and a host of external partners to develop a methodological framework that enables researchers and rural enterprises to model and understand the dynamic biophysical environment. This includes modelling future climates to inform decision making as to enterprise choice. Models have been developed for 12 commodities, as well as flow-on impacts on livelihoods for dependent communities.

Researchers will expand the work further to include infrastructure modelling, with the focus on understanding how to make the best infrastructure investment decisions given likely climate futures, so that the region can minimise the risk of stranded assets.





Patrick Troy

Patrick is a semi-retired, sometime engineer, town and transport planner, and public servant. He wrote the first MSSI Issues Paper on sustainability in 2013. He is also an MSSI Associate.

Partnerships and Collaborations

Environment Protection Authority Victoria: Strategic Research and Development Partnership

This multi-institutional partnership with EPA is comprised of the University of Melbourne, RMIT University and Monash University. MSSI coordinates and administers this key research partnership on behalf of the University. Round 1 Partnership projects began in May:

- 1) 'Technologies for pollution detection and source tracking – surface water environments';
- 2) 'Environmental Equity – state of the environment and transforming disempowered communities'; and
- 3) 'An integrated assessment model for land application of waste'. In addition, the EPA held a Research and Development Open House Event on 27 November. This is an important example of the university sector supporting the applied work of a government agency which, though it has its own expertise, benefits from the complementary skills and experience of academic researchers.

Parks Victoria: Research Partners Program

In 2013, MSSI took on the responsibility for the administration of another multi-institutional partnership, the long-standing Parks Victoria's 'Research Partners Program'. A Collaboration Partners Project round was held in the latter part of the year. MSSI looks forward to monitoring the projects falling under this umbrella agreement and it hopes to identify synergies and opportunities for wider, larger interdisciplinary collaborations.

Beyond Zero Emissions (BZE)

BZE's *Zero Carbon Australia* program is being hosted by the University. In addition to heavy involvement by the Melbourne Energy Institute, MSSI is making its own significant commitment in the form of the 'Land Use Plan – Forestry & Agriculture' component. The research team is comprised of Andrew Longmire, Dr Chris Taylor, and Gerard Wedderburn-Bisshop, with the support of a number of volunteers. In September, MSSI welcomed BZE's new CEO, Dr Stephen Bygrave. Stephen's experience includes the Mandatory Renewable Energy Target in the late 1990s, and MSSI is pleased to be working with him on the provocative suite of ZCA projects. On 8 August, the *Zero Carbon Australia* Buildings Plan was launched at the University. The 'ZCA High Speed Rail Plan' will be launched next, followed by the MSSI-hosted 'ZCA Land Use Plan' in 2014.

Transitions Film Festival

Date: 15-23 February 2013

The Transitions Film Festival presented by Undergrowth Inc is a not-for-profit visionary program showcasing groundbreaking feature films, shorts and documentaries related to sustainability. The program emphasises positive, inspiring and solutions-focused films. Screenings feature special guest introductions, live artistic performances and post-film discussions with local and international thought leaders.



Visiting Fellows

MSSI attracts, selects, and resources visits from three academic leaders annually, and partially supports visits by others. Our visitors typically engage in roundtable discussions with graduate students, present seminars for University researchers, and deliver public lectures.

International Fellows

Charles Redman

*Founding Director, School of Sustainability,
Arizona State University, USA – February 2013*

While at MSSI Charles led a roundtable on *Urban ecology* and another on *Creating a school of sustainability*. He met with the MASS PhD students for a roundtable entitled *The difference between sustainability and resilience approaches*.

Roy Neel

*Adjunct Professor of Political Science,
Vanderbilt University, Nashville, USA – April 2013*

Chief of Staff for former US Vice-President Al Gore, Roy was an Honorary Visiting Professorial Fellow at the Melbourne School of Land & Environment. He was instrumental in the *Post Carbon Pathways* MSSI workshop, he visited the MASS 2 and 3 PhD groups, he gave a talk at the *Post Carbon Pathways II* launch on *Moral leadership for a post carbon future*, and he presented a public forum entitled *What US and China's action on climate change means for Australia*.

Patrick Troy AO

Emeritus Professor and Visiting Professor in the City Futures Research Centre at the University of New South Wales, and Visiting Professor at the Urban Research Program, Griffith University – April, June, September 2013

Pat gave a seminar on *The perils of urban consolidation (redux)*. He wrote an MSSI *Issues Paper* called *Melbourne Sustainability* and was on the Editorial Board for the book, *The Public City: Essays in Honour of Paul Mees*.

Kingsley Haynes

*Faculty Chair in Public Policy, School of Public Policy;
Eminent Scholar, University Professor, George Mason
University, USA – October – December 2013*

Kingsley was an Honorary Visiting Professorial Fellow at the Faculty of Architecture, Building & Planning. He facilitated various events and was hosted by MSSI and AURIN during his visit.

Susan Fainstein

*Senior Research Fellow, Graduate School of Design,
Harvard University, USA – October 2013*

During her stay Susan gave a public lecture on *Creating a more just city*. She also ran a PhD workshop. She was hosted by MSSI, in conjunction with the Faculty of Architecture, Building & Planning and the Melbourne Social Equity Institute.



Carl Obst

Carl is working on natural capital accounting particularly on establishing international statistical standards and guidelines for national governments. He is also an MSSSI Associate.

Seed Funding Projects

By means of our Seed Funding Scheme, Societal Transformation, MSSSI is building research capacity aimed at the transformation to an affordable economy that emits zero carbon, is less consumptive, more equitable, and which provides personal fulfilment, longevity and reasonable health. We believe that the main impediments to transformation in Australian society are social and economic rather than technological.

MSSSI funds the projects listed below. These projects research some of the transformations needed to drive a rapid transition to a sustainable society, and build a core research capability within MSSSI and across the University that will be relatively unique and recognised as world-class.

Resource Recovery Research Centre

Scoping, workshopping, planning and setting up a Resource Recovery Research Program at the University of Melbourne with Government and Industry Partners.

Coordinating Investigator: Judith Alcorn, Property & Campus Services

Multi-dimensional framework for urban growth

Constructing and testing a multi-dimensional framework to assess and plan urban growth.

Coordinating Investigator: Dr Meenakshi Arora, Department of Infrastructure Engineering, Melbourne School of Engineering

Mobile devices for climate effectiveness

Communicating Climate Effectiveness: improving local development and climate change project effectiveness using mobile phones in the Nadi Basin, Fiji.

Coordinating Investigator: Dr Adam Bumpus, Department of Resource Management & Geography, MSLE

Visualising an irresistible future

Imagining an irresistible and sustainable future using film and testing behavioural and attitudinal shifts in a school community.

Coordinating Investigator: Dr Dominique Hes, Faculty of Architecture, Building & Planning

Climate change deniers

Climate change deniers: A Pilot Q Study in Epistemological Falsifiability.

Coordinating Investigator: Dr Raymond Orr, School of Social & Political Sciences, Faculty of Arts

Modelling infrastructure resilience

A review and comparison of approaches to modelling and evaluating infrastructure resilience.

Coordinating Investigator: Prof Chris Ryan, Victorian Eco-Innovation Lab, Faculty of Architecture, Building & Planning



Lauren Rickards

Lauren is a Research Fellow at MSSl interested in critical cultural perspectives on climate change, including discourses of transformation, adaptation and the Anthropocene.

Research Higher Degree Student Initiatives

Australian-German College for Climate & Energy Transitions (TraCE)

The College is a joint project of MSSl, the Melbourne Energy Institute and the International Office, with support from many other parties at the University. But it is also a collaboration between the University and German partners the Potsdam Institute for Climate Impact Research (PIK), the University of Potsdam, Humboldt University of Berlin and the Technical University of Berlin.

During 2013, this innovative, cross-faculty initiative accepted more than 300 applications and by December it had accepted its first 10 PhD students. Collocating the physical and the social sciences in its hub at the Alice Hoy Building, the College focuses on the themes of energy systems, emission mitigation, climate systems and climatic impacts. Each student is funded to undertake a six-month exchange program at a partner institution overseas.

The College was launched 23 October by Prof Sue Elliott, Deputy Vice-Chancellor (Engagement), with video

greetings from Mr Peter Tesch, Ambassador to Germany, John Schellhuber, Director of PIK, and other collaborators from Potsdam.

Melbourne Academy for Sustainability & Society (MASS)

MSSl hosts a cohort of students from across the University whose thesis projects concern an aspect of sustainability. As well as providing some funding for conference opportunities and other research activities, MSSl helps the students to develop a group project. The MASS 3 group continuing from 2012 and mentored by Professor Marcus Wigan has been sharing knowledge and tools and is developing a group project. One component is a survey into human-nature relationships in Australia, in comparison to Europe, to inform national park management. The group is also planning a conference in 2014 on the theme *Revisiting the foundations of sustainability research*.



Students of the Australian-German College for Climate & Energy Transitions.



Key Events

MSSI devised, hosted or sponsored 43 events in 2013. They included:

- Seminars and public lectures by international visiting fellows and other visitors
- Workshops for staff, students and external stakeholders
- Strategic MSSI theme group meetings
- Meetings of chief investigators of seed funded projects
- Sustainable festivals and student competitions

Highlights included:

Festival of Ideas: Imagine 2033

As part of the Environments Day at the University's Festival of Ideas 2013, Environmental experts were asked to deliver their ideas for a post-carbon future. Each one was asked to answer the following question as a presentation to the audience on the day. 'Imagine it is October 2033. The transition to a healthy, just and sustainable post-carbon future is well underway in Australia/or the world. There is now a real hope that catastrophic climate change will be avoided. How did this happen? What were the key obstacles and how were they overcome?' Speakers included: Chair of CSIRO, Simon McKeown; Author, activist and environmentalist, Anna Rose; Executive Director of the Centre for Policy Development, Miriam Lyons; Director of the Victorian Eco-Innovation Lab, Professor Chris Ryan, Professor from the School of Earth Sciences, University of Melbourne, David Karoly, and others.

Festival of Ideas Student Competition: Imagine Australia 2033

Students from the University of Melbourne were asked to present their ideas on a post-carbon future, by imagining Australia in 2033. Entries were narrowed down to six finalists and four winners were awarded prizes for the most original, innovative and persuasive ideas. Congratulations to Friedrich von Oldershausen and Timothy Watson from MSLE (Masters of Environment) with Matthew Stewart and Nat Phillips from ABP (Urban Planning) on their winning entry titled *ECOllaboration – Fundamentals of the Modern Society*.

Public Forum: Liar! Cheat! Plonker! How to be heard above the shouting

Prof Julianne Schultz, founding editor of the Griffith Review, gave a public talk on the Griffith Review's tenth anniversary. It was an exploration of how ideas develop and circulate in a noisy world, and the enduring importance of quality writing to make sense of complex issues. Vice-Chancellor Glyn Davis joined Julianne on stage along with Mary Delahunty and Maria Tumarkin for a discussion on the importance of writing and reading for thought leadership. This forum also featured on the ABC's *Big Ideas* program.



Prof John Wiseman

John is a Professorial Fellow and Deputy Director at MSSJ. He researches social, economic and political transformations to a just and sustainable post carbon future.

Climate Change events

MSSJ was involved with four major climate change related events this year. They included: a community forum on *The Climate Commission's Extreme Weather Report*, a public forum entitled *What the US and China's action on climate change means for Australia*, the launch of *Post Carbon Pathways II – moral leadership for a Post Carbon Future* and a public event centred on the IPCC's Fifth Assessment Report.

Collaborative events

Prof Peter Newman gave a lecture on *Deliberative democracy and sustainable transport*, in collaboration with MSSJ, the Melbourne Social Equity Institute and the Faculty of Architecture Building and Planning. MSSJ collaborated with the Melbourne Energy Institute on the *Four Degrees of Global Warming* book launch; MSSJ also collaborated with other Melbourne Research Institutes on the Disability Research Forum.



Photograph by Daryl Snowden Photography



Judith Alcorn

As Waste and Recycling Coordinator at the University, Judith implements infrastructure and education to achieve best practice waste reduction and increased reuse and recycling rates across campuses.

Publication Highlights

In 2013 MSSI produced a range of publications, including academic papers, reports and a book. We also generated or contributed to more than 30 print and online media articles.

MSSI Research & Issues Papers Series

This new MSSI initiative comprises Research Papers, which are longer and offer a scholarly perspective on society's wicked problems, and Issues Papers, which are shorter and provide succinct discussion of sustainability issues.

- MSSI *Issues Paper*: Patrick Troy, Melbourne Sustainability (August 2013)
- MSSI *Research Paper*: Brendan Gleeson, Resilience and its Discontents (August 2013)
- MSSI *Research Paper*: Susan S. Fainstein, Resilience and Justice (October 2013)

www.sustainable.unimelb.edu.au/content/pages/publications

Build it and they will recycle: The critical importance of infrastructure in changing recycling behaviour

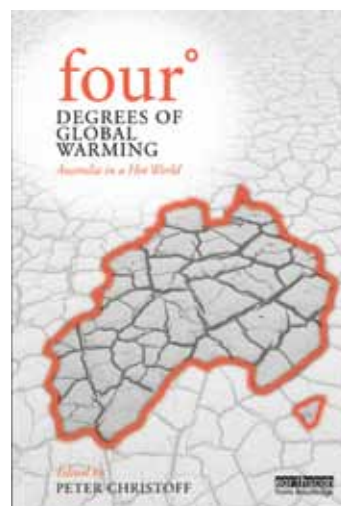
This report aims to implement effective strategies, infrastructure and systems to achieve best practice waste reduction, and to increase reuse and recycling rates at the University. It was a research collaboration between Property and Campus Services (Judith Alcorn & Patrick Gilmour) and Infrastructure Engineering (Dr Graham Moore).

www.sustainable.unimelb.edu.au/content/pages/report-build-it-and-they-will-recycle

Four Degrees of Global Warming: Australia in a Hot World

This book edited by Peter Christoff looks at the Four Degrees or More? conference of July 2011, and the ensuing strategic roundtable in November 2011. This book consolidates and presents research identifying the political, institutional and societal barriers to climate change action, as well as opportunities for progress.

www.routledge.com/books/details/9780415824583/





Photograph by Chris Taylor

Financial Statement

Income

Core funding from Deputy Vice-Chancellor (Research)	\$1,040,000
Space and Service Charge Supplement, DVC(R)	\$30,000
MSE funding for Design Innovation for Infrastructure project	\$5,000
Dreamlarge Student Engagement Grant	\$2,225
Other incidental income (e.g. book sales)	\$348
Carry forward from 2012	\$62,805
Total Income	\$1,140,378

Expenditure

Core Staff Salaries	\$396,665
Research Project Salaries	\$155,400
Theme Leader Salary Buy-Outs	\$53,221
Seed Funding Scheme	\$82,000
Key Projects Funded	
'Australian Stocks and Flows Framework'	\$78,834
'Australian-German College of Climate & Energy Transitions'	\$54,000
'Post Carbon Pathways'	\$40,000
'NCCARF – Social, Economic, Institutional Node'	\$38,150
'Future Food Security'	\$30,250
'Agriculture Industry Transformation – Gippsland'	\$25,000
Other Research Facilitation	\$97,000
Research Higher Degree Student initiatives (e.g. MASS)	\$45,725
Sponsorships	\$2,000
Faculty Charge	\$30,000
Other Operating Expenses	\$38,730
Total Expenditure	\$1,166,975
Unallocated balance (deficit) to be carried forward	(\$26,597)



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