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From the Chair

When I was Victoria’s Minister for Environment and Water, I was often frustrated by how hard it was to access top quality research to help inform government decisions. Many of the sustainability issues governments (and businesses and communities) face are complex and I am sure that better decisions could be made if relevant research and knowledge were more accessible. Unfortunately, in Australia, the worlds of academia and government are too often too far apart.

One of the key roles of the Monash Sustainability Institute (MSI) is to form a bridge between good research and policy. We aim to bring together researchers from a range of disciplines to work on difficult sustainability challenges, and to provide research and knowledge that government and the wider community can use. In this way we hope that we can make a real contribution to achieving a more sustainable society.

I am very pleased that this year we can point to a number of practical initiatives where MSI is making a difference, bringing together researchers from Monash University with other research institutions, government and business.

As well as our research role, MSI seeks to promote sustainability education and action both at Monash University and in the wider community. In 2010 our Green Steps program, which provides practical environmental skills for students and for the workplace, won numerous awards including the Victorian Premier’s Sustainability Award. ClimateWorks Australia, a joint venture between MSI and The Myer Foundation, released its Low Carbon Growth Plan for Australia which demonstrated how Australia could reduce carbon emissions by 25 per cent by 2020 at an affordable cost. The Low Carbon Growth Plan is already being used in government and industry and received the Eureka Award for Innovative Solutions to Climate Change.

MSI’s core staff-members are very committed and hard working and I thank and congratulate them for such a successful year. But we also draw upon the much wider Monash community who are concerned about the need for us to create a more sustainable world and are prepared to invest their considerable intellectual skills in achieving it.

Professor John Thwaites

From the Director

Universities have a critical role in solving the pressing sustainability challenges that confront our global society, through research as well as education of current and future generations. But given the complexity and integrated nature of these real-world challenges, and to make a real difference, universities have to go beyond their traditional way of operating and foster cross-disciplinary approaches and close partnerships with policy makers, industry and the community.

MSI, which was established in 2006, is charged with realising and maximising Monash University’s contribution to this endeavour. At MSI we work to push the issue of sustainability up the research and education agendas, initiate and foster projects and collaborations across the University’s faculties and departments, and establish strong links with external stakeholders. It hasn’t always been easy. As university sustainability institutes around the world have found, working across departments and outside traditional academic structures means overcoming many barriers.

So I am particularly pleased to present MSI’s first Annual Activity Report, which shows just how much MSI has been able to achieve over the past year or so. It summarises the wide range of activities we carry out and the benefits that we bring to Monash and to the wider aspiration of achieving a sustainable future. This is in addition to the equally important work we do that is intangible or can’t be measured — the connections we make between people, the conversations we start, the people we inspire, and the companies we help transform.

The achievements we have had are a testament to MSI staff members, who have worked tirelessly to develop the organisation to where we are now; to the strong support we have received from all parts of the University; and to our partners, supporters and funders outside Monash. I would like to thank everyone who has been involved with MSI in some way over the last few years and look forward to continued and expanded collaborations in 2011.

Professor Dave Griggs
In 2010 the Monash Sustainability Institute (MSI) saw a dramatic growth in its activities, staff, funding and partnerships, and received national recognition for the quality of its innovative approaches. These were rewards for MSI’s sustained effort since its establishment in 2006 to develop high-quality collaborative research, education, and action initiatives that connect Monash with the wider community and deliver solutions to key climate change and sustainability challenges. Here are some highlights from MSI’s work in 2010.

Establishment of the Centre for Water Sensitive Cities

The Centre for Water Sensitive Cities, established under the auspices of MSI, consolidates and expands Monash’s significant expertise in research and development for advancing water sensitive cities. It brings together over 60 researchers and PhD students from the faculties of Arts, Engineering, Science and Business and Economics, as well as many partners from industry and government. The Centre, and its $20 million five-year flagship research program, Cities as Water Supply Catchments, were launched on 1 February 2010 by The Hon. Tim Holding, then Victorian Minister for Water. In December 2010 the Centre released “blueprint2011”, the first version of a living document on realisation of water sensitive cities through innovative management of urban stormwater.

Publication of the Low Carbon Growth Plan for Australia

ClimateWorks Australia, a non-profit collaboration between Monash and The Myer Foundation based at MSI, launched its Low Carbon Growth Plan for Australia in March 2010. The Plan sets out a cost curve and roadmap for how Australia can achieve a 25 per cent reduction in greenhouse gas emissions from 2000 levels using least-cost commercially available technologies. The Plan has been widely cited by business groups and government reports, including in the Prime Minister’s Energy Efficiency Task Group Report. The Plan won the highly regarded Eureka Prize for Innovative Solutions to Climate Change and the Ethical Investor Award for Sustainability Research.

Rewards and recognition for MSI programs and staff

In addition to ClimateWorks Australia and its Low Carbon Growth Plan several other MSI programs and staff received recognition in 2010:

- Having won the Banksia Environmental Award (Education Category) in 2009 the Green Steps sustainability education and internship program continued its prize-winning streak with three awards in 2010: the Victorian Premier’s Sustainability Award (Tertiary Category), the United Nations Association of Australia World Environment Day Award (Education Category), and the Australasian Campuses Towards Sustainability Green Gown Award (Student Campaigns and Initiatives).
- The Sustainable Campus Group received a ‘highly commended’ citation in the Australasian Campuses Towards Sustainability Green Gown Award (Student Campaigns and Initiatives).
- Professor Tony Wong, a Director of the Centre for Water Sensitive Cities, was named the Sir John Holland Civil Engineer of the Year.
Professor Rebekah Brown, a Director of the Centre for Water Sensitive Cities, was named in the prestigious WME Leaders List 2010 in the category of Urban and Industrial Water.

Anna Skarbek, Executive Director of ClimateWorks Australia, was awarded the 2010 Future Summit Leadership Award by the Australian Davos Connection (ADC).

Dr Philip Wallis, a research fellow with Unihwater, was awarded a Peter Cullen Water and Environment Trust Fellowship.

National and international multidisciplinary research events

MSI organised several high-profile events during 2010 that brought together researchers and other stakeholders to discuss solutions to sustainability-related issues:

- Symposium Advancing Bushfire Arson Prevention in Australia, Melbourne, 25–26 March 2010: This multidisciplinary symposium, held in partnership with the Australian Institute of Criminology, brought together over 110 participants from emergency services, criminal justice, mental health, community groups, the commercial sector, federal and state government, and academia to discuss solutions to bushfire arson. It was opened by The Hon. Robert McClelland, MP, Attorney-General for Australia.

- Australian Leadership Awards Fellowship (AusAID) Forum, Melbourne, 5–9 July 2010: This forum, held as part of an MSI-hosted six-week visit by 14 academics from India and Bangladesh, discussed the development of an integrated multidisciplinary approach to regional climate change adaptation and mitigation. The forum dinner was hosted by Monash Vice-Chancellor Professor Ed Byrne, with guest of honour the Consul-General of India, Anita Nayar.

- Water Governance Research Initiative National Workshop, Canberra, 15–16 November 2010: Held as part of the activities of the MSI co-hosted initiative for the National Climate Change Adaptation Research Facility (NCCARF), the workshop brought together over 50 researchers and policy practitioners to explore the needs and priorities of water governance research in Australia.

Funding success

- Dr Paul McShane secured an additional $800,000 of AusAID funding in 2010 to support Monash and MSI work on natural resource management in Asia in response to climate change.

- EPA Victoria, Sustainability Victoria and the Shannon Company have committed over $700,000 to MSI over the next three years to establish a Behaviour Change Initiative.

- The Centre for Water Sensitive Cities secured almost $20 million from 21 industry partners to support its flagship program, Cities as Water Supply Catchments, over five years.

- Professor Kerry Pratt, MSI’s Energy Theme Leader, coordinated a successful Monash/HRL application for a Brown Coal Innovation Australia (BCIA) Research Leader Professorial Fellowship, worth $1 million over five years and based in the Faculty of Engineering.
About Us
The Monash Sustainability Institute (MSI) is a cross-disciplinary institute within Monash University, set up to realise the University’s strategic aspiration to become a leader in the worldwide effort to create a thriving sustainable society through education, research, operations and action.

MSI harnesses and builds the extensive and varied expertise in sustainability across the University to address and influence responses to real-world sustainability challenges. It promotes and undertakes innovative, multidisciplinary and high-quality collaborative research, education and action on sustainability, and it links researchers, government, business and community organisations, both in Australia and internationally.

MSI began its life in 1999 as the Monash Environment Institute (MEI), which was based in the School of Geography and Environmental Science in the Faculty of Arts. Among its many accomplishments, MEI set up the Future Environmental Leaders program (now the independent Centre for Sustainability Leadership) and Green Steps (with the Monash Student Association).

In 2006 the University re-established MEI as the Monash Sustainability Institute and moved it outside the faculty structure into the Deputy Vice-Chancellor (Research) portfolio. This change improved MSI’s ability to work with and across Monash faculties and to develop stronger links outside the university.

MSI started as a handful of core staff working on a small number of projects. It now has about 30 ‘core’ staff members who collaborate with dozens of project partners from every faculty within the University as well as outside it. In addition to its own project activities it hosts three fully fledged multi-disciplinary organisations – ClimateWorks Australia, the Centre for Water Sensitive Cities and Uniwater – that focus on specific aspects of sustainability. And although the University provides MSI with a grant to support some core staff, most of MSI’s activities and staff are now supported through external project funding.

MSI’s inaugural Annual Activity Report explains MSI’s approach to delivering solutions to the challenges of sustainability, and documents the wide range of activities it has undertaken towards this goal in 2010.

Mission and Objectives

The Monash Sustainability Institute will deliver solutions to key climate change and sustainability challenges through collaborative research, education, and action.

MSI’s overarching strategic objective is to develop MSI and Monash as leaders in interdisciplinary sustainability research and education with a focus on the Australasian and Pacific regions. This includes:

Research: Build MSI and Monash capacities to undertake world-class interdisciplinary research in sustainability to find new solutions to today’s climate change and sustainability challenges.

Education: Build MSI and Monash capacities in sustainability education by providing or supporting education and training so that students, individuals and organisations are equipped to meet their sustainability challenges.

Action: Facilitate action by individuals and organisations to embed sustainability into their future goals and present activities.

MSI staff (from left to right): Liam Smith, Tony Wong, Stefan Zibell, Phillip Johnstone, John Thwaites, Philip Walls, Phil Blythe, Stephen Derrick, Emma Grace, Dave Griggs, Simon Rowntree, Paul McShane, Julie Arcilla, Ray Ison, John Langford, Stacey Sawchuk, Kerry Pratt, Kati Thompson, Janet Stanley, Erin Simpson, Tahl Kestin, Meg Argyriou, Anna Skarbek, Chrissie Murray, Paul Read, Naomi Rubenstein (photo: Alison Griffiths).
The challenges of sustainability

The most common way to define sustainability is as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainability can also be seen as a balance between the principles of environmental protection, social justice, economic well-being and diversity. Global and local natural and human-driven changes – such as population growth, urbanisation, natural resource depletion and climate change – are creating increasing conflicts between these principles. These conflicts will worsen unless we address the drivers of change and find better ways to respond to them. These are the challenges of sustainability.

Universities have an essential role in responding to these challenges. They have the capacity to undertake the research that would allow us to understand and predict the drivers of change and their interactions with natural and human systems; to develop technological, legal or economic alternatives; and to understand the role of human behaviour and institutional governance in implementing solutions. They are also perfectly placed to educate our future decision makers on sustainability.

Our Approach

MSI coordinates, guides and undertakes sustainability research, education and action across Monash and in the wider community. It acts as a gateway to the extensive and varied expertise in sustainability across Monash’s faculties and research institutes. And it connects Monash with the external environment around sustainability, namely with other researchers, government, business and community organisations, in Australia and internationally.

MSI takes on this variety of roles and functions in order to overcome the limitations of existing structures, capacity and funding sources within Monash and the academic world in general. The challenges of sustainability pay no heed to the boundaries between academic disciplines or between universities, government and the community. MSI works to promote creative interdisciplinary engagement and new forms of collaboration and inquiry that engage all relevant stakeholders. To do this, MSI emphasises:

Multi-stakeholder collaborations and partnerships

MSI works to develop systemic and holistic solutions to the complex problems associated with achieving sustainability by building collaborative partnerships within and outside the University:

- MSI links with academics across all faculties of the University to address the economic, social, environmental, and governance issues associated with sustainability, as well as any other expertise needed. This is facilitated by MSI’s position outside the University’s faculty structure.
- MSI works to establish links with key external stakeholders in Australia and internationally. Such links are necessary for ensuring the development and adoption of sustainability research. MSI already has strong links across the research community, government and policy development, business and the wider community.

- Finally, MSI works to develop strong links between research, education and action in order to improve the effectiveness of all three areas. It promotes the use of the latest research findings for the development of education and action activities, as well as the use of evaluation to assess their effectiveness. And it uses understanding from the field to identify knowledge gaps where research can contribute.

Responsiveness and flexibility

For each activity it undertakes, MSI takes on a role that suits the Monash and external contexts. This can include:

- Assembling, facilitating and coordinating multidisciplinary teams, both from across Monash and externally, in response to funding opportunities.
- Hosting the management of cross-faculty centres, initiatives, and projects.
- Undertaking research and educational activities within MSI.
- Advising faculties on development of sustainability-related projects and courses.
- Connecting people, both within Monash and between Monash and external stakeholders.
- Providing advice and assistance to faculties on recruitment of sustainability research practitioners.
- Obtaining funding for research staff to be housed within faculties.

Structure and Activities

For the purpose of organisational structure, MSI categorises its activities into research, education, action or engagement and outreach. In practice, most activities fall into more than one of these categories, and there is considerable collaboration and exchange across them. The figure opposite shows our major activity areas in 2010, which are elaborated on further in this report.
The Monash Sustainability Institute will deliver solutions to key climate change and sustainability challenges through collaborative research, education and action.

**Research**

Build MSI and Monash capacities to undertake world-class interdisciplinary research in sustainability to find new solutions to today’s climate change and sustainability challenges.

**CENTRE FOR WATER SENSITIVE CITIES**
Transforming cities and their communities in ways that will help them to live in harmony with natural water environments.

**UNIWATER**
An incubator and hub for research activities in water and adaptive water governance across the University of Melbourne and Monash University.

**Climate Change, Biodiversity and Health**
Exploring new and emerging research questions related to the health consequences of climate change and the decline in biodiversity.

**Behaviour Change Initiative**
Developing cutting-edge research on how to best influence sustainable behaviour and implement successful behaviour change programs.

**Natural Resource Management in Asia in Response to Climate Change**
Collaborative projects to develop policies and management frameworks in response to climate change and other issues in Asia.

**Other Activities**
- Soil Carbon Initiative
- Indigenous Natural Resource Management
- Geothermal Energy
- Energy Theme

**Education**

Build MSI and Monash capacities in sustainability education by providing or supporting education and training so that students, individuals and organisations are equipped to meet their sustainability challenges.

**Green Steps**
An education and internship program that empowers participants to drive environmentally sustainable practices within organisations and the community.

**MSI Postgraduate Unit**
Supporting multidisciplinary postgraduate research related to sustainability.

**Sustainability Training and Education Consultancies**
Customised cutting-edge training programs in environmental sustainability.

**Other Activities**
- Guest lectures
- Monash subject development

**Action**

Facilitate action by individuals and organisations to embed sustainability into their future goals and present activities.

**CLIMATEWORKS AUSTRALIA**
A non-profit collaboration that provides practical solutions dedicated to a sustainable and prosperous low carbon society.

**Sustainable Campus Group**
A group of universities, TAFE institutes and state government organisations working together to improve environmental performance in the tertiary education sector.

**Other Activities**
- ResourceSmart Tertiary Education
- Monash Annual Report

**Engagement and Outreach**

**External Engagement**
- Advice to government and industry and consultancies
- External stakeholder relationships
- Gateway to sustainability at Monash

**Monash Engagement**
- Advise Monash on sustainability policies
- Advice to faculties on sustainability-related recruitment
- Linking people across Monash and externally

**MSI Seminar Series**
Showcase to the general Monash community the latest work and thinking on sustainability.
Core Staff

In 2010 MSI had about 30 full or part-time staff members. Their involvement with MSI reflects the range of functions MSI undertakes. Some staff members were based only at MSI or one of its hosted organisations, whereas others had joint appointments with a Monash faculty or other organisations. Some were attached to specific programs or projects, whereas others worked on multiple projects or were involved in developing new MSI project opportunities. In addition to core staff, MSI works closely with many other people, both within Monash and externally.

Leadership

Professor Edwina Cornish, Senior Deputy Vice-Chancellor and Deputy Vice-Chancellor (Research)
Professor John Thwaites, Chairman
Professor David Griggs, Director
Julie Arcilla, PA to the Director

General research

Dr Janet Stanley, Chief Research Officer
Dr Paul McShane, Chief Research Officer
Dr Simon John Rowntree, Outreach Officer
Dr Tahl Kestin, Research Project Manager
Dr Marion Carey, VicHealth Senior Research Fellow
Dr Phil Blythe, Research Advisor, Energy Efficiency (from March 2010)
Professor Kerry Pratt, Energy Theme Leader (based in the Faculty of Engineering)
Dr Terry Chan, Research Fellow (based in the Water Studies Centre, Faculty of Science)
Dr Andrew Cock, Postdoctoral Fellow (based in the Monash Asia Institute)
Dr Stephen Livesley, Senior Research Fellow (based in the School of Geography and Environmental Science, Faculty of Arts)

Education

Mark Boulet, Manager
Anna Lohse, Green Steps Coordinator (on maternity leave from Nov 2010)
Kati Thompson, Green Steps Training Coordinator (from Nov 2010)
Emma Grace, Green Steps Project Officer, Admin
Erin Simpson, Green Steps Internship and Alumni Coordinator (from Aug 2010)

Sustainability reporting

Belinda Towns, Manager (on maternity leave from June 2010)
Dr Almut Beringer, Acting Manager, Sustainable Campus Group (from May 2010)
Cameron Cope, Research Assistant

Uniwater

Professor John Langford, Director (joint appointment with the University of Melbourne)
Professor Ray Ison, Professor, Systems for Sustainability, Monash, and Professor of Systems, Open University, UK (based in the School of Geography and Environmental Science, Faculty of Arts)
Dr Philip Wallis, Research Fellow
Naomi Rubenstein, Research Assistant (from Aug 2010)
Akaash Sachdeva, Research Assistant (April to Sept 2010)

ClimateWorks Australia

Professor John Thwaites, Chairman
Professor David Griggs, CEO
Anna Skarbek, Executive Director
Chrissie Murray, Administrative Assistant
Meg Argyriou, Project Manager
Dr Tahl Kestin, Climate Scientists Australia Secretariat

Centre for Water Sensitive Cities

Professor Tony Wong, Director and Chief Executive
Professor Ana Deletic, Director (Department of Civil Engineering, Faculty of Engineering)
Professor Rebekah Brown, Director (School of Geography and Environmental Science, Faculty of Arts)
Stacey Sawchuk, Business Manager
Katia Bratieres, Communications Officer (from May 2010)
Dr Philip Johnstone, DSE Science–Policy Partnership (on secondment from the Victorian Department of Sustainability and Environment from Dec 2010)

Doctoral students

Stephen Derrick (with the Faculty of Arts)
Victoria Johnson (with the Faculty of Engineering)
Paul Read (with the Faculty of Medicine, Nursing and Health Sciences)
Looking to 2011

MSI has several priorities for 2011:

Consolidating and expanding our initiatives

As this report shows, MSI significantly expanded the range and scale of its activities in 2010. This included the establishment of the Centre for Water Sensitive Cities; the initiation of a seminar series; the release of the Low Carbon Growth Plan; and the expansion of the Australian Bushfire Arson Initiative, the program for Natural Resource Management in Asia, the Systemic and Adaptive Governance Program, and the Postgraduate Unit. Ensuring the strong continuation of these and other initiatives will be a key priority for MSI in 2011.

In addition, MSI will work to realise several new initiatives and program areas that were developed in 2010. Of these, the Behaviour Change Initiative has secured funding and will start operations in early 2011. MSI will continue to develop and seek funding for the other areas, which include the Soil Carbon Initiative, sustainable cities, social sustainability, climate change and health, and water governance.

Formalising the University’s focus on sustainability

Monash University aspires to become a leader in the worldwide effort to create a thriving sustainable society through education, research, operations and action. Sustainability is one of the five grand challenges of the 21st Century that Monash aims to address in its strategic directions. In 2011 MSI will increase its role in assisting Monash to realise this goal by strengthening and formalising the focus on sustainability research and education throughout the University.

• The University’s leadership has charged MSI with leading the development of the research and education components of the University’s new sustainability policy, which will take place during 2011.

• MSI has been instrumental in creating and recruiting a position within MSI for a Professor and Convenor for Education for Sustainability, who will develop a strategy for incorporating sustainability into courses at Monash and throughout the higher education sector and assist the faculties to implement it. An appointment is expected in early 2011.

• MSI will increase its work on showcasing Monash’s sustainability work both within the University and to outside stakeholders through its website, seminars and other means.

• MSI will be working with the University to develop a business case for a new iconic building to house MSI and the Office of Environmental Sustainability that will embody the principles of environmental, social and financial sustainability it its design, construction and operation.

Developing a sustainable business model for MSI

MSI’s activities are currently funded through a University grant and limited-term project funding. To ensure that its core ongoing activities remain viable and can withstand changes in funding circumstances, MSI will pursue alternative funding models and strategies in 2011. These include:

• Developing a sustainable base income source for MSI, analogous to the income faculties receive from teaching fees.

• Creating a self-funding Green Steps program by increasing the income it receives from consultancies and traineeships.
Research
The new Centre for Water Sensitive Cities, which was launched on 1 February 2010, aims to play a pivotal role in transforming Australian cities and their communities in ways that will help them live in harmony with natural water environments and become resilient to current and future challenges.

The Centre consolidates and expands the significant expertise Monash already has in research and development for advancing water sensitive cities. It links together over 60 researchers and PhD students from the Facility for Advancing Water Biofiltration (Department of Civil Engineering, Faculty of Engineering), the National Urban Water Governance Program (School of Geography and Environmental Science, Faculty of Arts), and other departments in the faculties of Arts, Engineering, Science and Business and Economics. The research teams continue working from within their individual departments and faculties while contributing to Centre activities and programs. The Centre's management and integrative and outreach activities are based at MSI.

The Centre provides research and thought-leadership to address the many aspects of a water sensitive city through thematic, integrative and outreach programs (see diagram below). The thematic programs foster fundamental research around specific issues, such as stormwater management research and implementation, urban climatology, decentralised urban water services, urban design, economics of resilience, urban water governance and water quality health risk management. The integrative flagship programs aim to develop projects with interactions across disciplines and faculties. Industry outreach programs build partnerships with external organisations that will enable the transition to water sensitive cities.

The Centre’s focus in 2010 was on establishing itself as a new entity. This included integrating existing research programs into the Centre's structure and establishing new programs, projects, and partnerships for new areas; holding regular research workshops and seminars for staff and stakeholders; and developing a new comprehensive website.

**Highlights for 2010**

- The Centre for Water Sensitive Cities and its flagship program, Cities as Water Supply Catchments, were launched on 1 February 2010 by The Hon. Tim Holding, then Victorian Minister for Water. The Cities as Water Supply Catchments program was subsequently also launched in Sydney and Adelaide.

- The Centre commenced two industry-outreach programs: a science–policy partnership with the Victorian Department of Sustainability and Environment (DSE) and a capacity building partnership with Clearwater.

- The Centre as Water Supply Catchments Program released the “blueprint2011”, the first version of a living document on realisation of water sensitive cities through innovative management of urban stormwater, at the end of 2010.
Flagship program: Cities as Water Supply Catchments

The Centre’s $20 million, five-year flagship research program aims to harness the potential of stormwater to overcome water shortages, reduce urban temperatures, and improve waterway health and the landscape of Australian cities. Working with industry and government, the program will provide ongoing practical solutions to harvesting stormwater by improving existing infrastructure, implementing new environment-friendly systems and developing urban design policies.

The program consists of eight interlinked research projects (see diagram above) and integrated demonstration and communications strategies. The research program has been developed with significant input from key investors and stakeholders. It involves interdisciplinary collaboration across eight academic disciplines, three universities, three water corporations, three private sector organisations, and twenty federal, state and local governments or government agencies. The main deliverable of the program for 2010 was the “blueprint2011” on realisation of water sensitive cities.

blueprint2011: Stormwater management in a water sensitive city

The blueprint is a living ‘how to’ guide to support the transition to water sensitive cities. Based on a comprehensive literature review across multiple disciplines it outlines approaches to the management of urban stormwater and to the integration of appropriate management technologies into Australian urban design practice in the planning of urban developments and re-developments. The blueprint will be updated regularly by the Cities as Water Supply Catchments team to incorporate the latest research in this area.

Thematic programs

The Centre’s thematic research programs undertake fundamental and applied research on specific issues relating to water sensitive cities. Most of the programs build on already existing projects that have been developed in several faculties and departments. The research teams continue working within the faculties, and most also contribute to the flagship programs run by the Centre.

The WSUD treatment technologies program aims to develop and test a range of new technologies for managing urban water systems, in particular urban stormwater. It builds on research and commercialisation projects undertaken by the Facility for Advancing Water Biofiltration at the Department of Civil Engineering, which has already provided proof-of-concept for stormwater biofiltration treatment systems.
The Urban Water Governance Program builds on the successful National Urban Water Governance Program of the School of Geography and Environmental Science in the Faculty of Arts. It undertakes national and international research to bridge the policy-implementation gap through fundamental and applied research in urban water management, in particular in the areas of institutions and organisations, innovation and adoption, community water management, and urban water futures.

The Ecosystem Dynamics Program explores the link between urban water systems, the urban landscape and ecosystems, with a particular emphasis on aquatic receiving waters such as streams, wetlands and estuaries. This program has only commenced its development in 2010, and will bring together several projects from the Department of Civil Engineering and the School of Biology.

The Urban Climatology Program aims to improve understanding of climatic phenomena within the urban environment, with the ultimate aim of mitigating urban heat and the human health impacts associated with the built environment. It builds on research undertaken by the School of Geography and Environmental Science.

The Implementation Models Program is developing tools (e.g. mathematical models and software packages) and frameworks to help practitioners implement water sensitive cities. It encompasses projects developed by the Department of Civil Engineering and the School of Geography and Environmental Science.

Outreach programs

In December 2010 the Centre and the Victorian Government Department of Sustainability and Environment (DSE) established a Science-Policy Partnership for advancing water sensitive cities in Victoria. This partnership will foster the development of enabling policies and regulatory and administrative frameworks in fields such as integrated water management, climate change adaptation, and social and institutional capital of water sensitive cities. Dr Phillip Johnstone from DSE has been seconded to the Centre for three years as Program Leader.

The Capacity Building Program for Water Sensitive Cities, which commenced on 1 July 2010, is a partnership between the Centre and Melbourne Water. It links the Centre's innovative research with Clearwater, Melbourne Water's award-winning industry-training program. The capacity building program, led by Emily Kaye from Melbourne Water with four full-time industry outreach officers, will provide industry professionals with technical training, forums, site tours, advice and online information in order to increase their awareness and adoption of best practice and develop their technical and leadership skills.
Uniwater

www.uniwater.edu.au

Uniwater is a joint initiative of the University of Melbourne and Monash University that acts as an incubator and hub for research activities in water across the two universities. Uniwater develops interdisciplinary activities to address the complex water challenges arising in the context of climate change and increased competition. It aims to realise the potential of agriculture to use less water through effective water policies and institutions, while ensuring effective regard of economic performance, environmental impact, resource-use efficiency, and social support.

Highlights for 2010

- Negotiation of a funding collaboration between the Committee for the Economic Development of Australia (CEDA), Harvard University and Uniwater.
- Establishment of the National Water Governance Research Initiative with the National Climate Change Adaptation Research Facility (NCCARF).
- Participating in three of the four first-round projects funded by the Victorian Centre for Climate Change Adaptation Research (VCCCAR).

CEDA water policy reform

In 2010 Uniwater negotiated an agreement for funding collaboration with CEDA and Harvard University to review the performance of Australian water policy reforms during the extended 13-year drought in south-eastern Australia, and prepare an agenda for future water policy reform. The project has raised $600,000 to date.

NCCARF Adaptation Research Network for Water Resources and Freshwater Biodiversity – Victorian Node

Uniwater coordinates the Victorian activities of the NCCARF Water Network. Based on an earlier consultation on what would inform climate change adaptation in the context of water resources and freshwater biodiversity, the Victorian node held a workshop in 2010 on developing a freshwater long-term ecological research program in Victoria. The workshop was attended by researchers, managers and policy-makers, and its outcomes are being developed into a research proposal.

Managing demand for electricity and water in Victoria

Earlier MSI work found that the electricity sector has made little progress with demand management or efficiency compared with the water and transport sectors. With funding from the Helen Macpherson Smith Trust, Uniwater reviewed electricity demand management and efficiency measures in Australia and internationally, and identified potential measures that would be appropriate for the Victorian context.

Farms, rivers and markets

This complex interdisciplinary project explores the interactions between farming systems and river operating systems in order to deliver better water products and services that allow both farmers and environmental water holders to “do more with less water”. The project is a collaboration between Monash, the University of Melbourne and the Murray Darling Freshwater Research Centre. Monash, through Uniwater, is contributing to the river ecology component of the project.

Systemic and Adaptive Governance Program

Uniwater’s Systemic and Adaptive Governance Program, led by Professor Ray Ison, explores the practical and theoretical robustness of current water and climate change governance regimes and develops new models and strategies to make future governance fit-for-purpose in a climate-changing world. The program includes projects on water governance, climate change adaptation, social learning and systems thinking.
NCCARF National Water Governance Research Initiative

This initiative is a theme of the NCCARF Water Network. Its objectives are to create a community of conversation about water governance in Australia. Activities to date have included a survey of water governance researchers, a workshop on water governance research held in Canberra in November and the formation of a national reference group. The first outcome is a national agenda for water governance research.

Critical perspectives on scenario planning

The Systemic and Adaptive Governance Program delivered a critical assessment of scenario praxis within government as part of the VCCCAR project ‘Building common understanding of climate adaptation scenario approaches and strategies’, which engages with Victorian climate adaptation policy makers to improve climate adaptation outcomes.

Framing multi-level and multi-actor adaptation responses in the Victorian context

This VCCCAR-funded project is led by RMIT and involves Monash, the University of Melbourne and the Victorian Department of Sustainability and Environment. The Monash-led component, ‘Exploring local narratives’, investigates local perceptions of climate-related risks and attitudes to the management of uncertainty in Port Fairy and the City of Melbourne. The project will analyse how traditions of environmental knowledge and practice constrain or promote innovation and change for climate change adaptation.

Systemic and adaptive water governance: Lessons for Australia from China and South Africa

This new ARC Linkage project is undertaking comparative research of catchments in Australia, China and South Africa in order to provide a comprehensive science-policy linked, systemic and adaptive water governance framework that addresses the scarcity, uncertainty and complexity of water in the catchments. In 2010 the team completed a literature review and visited the China case study area.

Strengthening research capacity of China and South Africa in sustainable water resources management with UK and Australian experiences

This project, funded by the Ecosystems Services for Poverty Alleviation (ESPA) programme (UK) and led by Professor Ison, is a partnership between Chinese and South African researchers with support from Uniwater, the University of Melbourne, and the Open University (UK). Monash, including researchers in the Centre for Water Sensitive Cities, is developing a case study in Timor Leste for the project’s follow up bid for 2011 ESPA funding.

Systems thinking – Capability development and application in relation to climate change adaptation and water managing

This project with the Victorian Department of Primary Industries (DPI) undertook several systemic inquiries of DPI staff and organisation in order to understand how systems approaches could be incorporated into DPI’s climate change adaptation research repertoire and how a systems community of practice can be created in DPI.

Opening conversations for communities of practice in water governance: Sydney

This project is working with the Sydney Metropolitan Catchment Management Authority and Blacktown City Council to identify key stakeholders in the water sector and examine how connections can be built between them in order to facilitate transition to water sensitive cities. The project is being undertaken in conjunction with the Centre for Water Sensitive Cities.

History of water managing in the Goulburn-Broken Catchment

This project evaluates the Victorian Government’s strategy for improving irrigation in the Goulburn Murray Irrigation District through infrastructure upgrades and looks at alternatives to the current top-down approach of water governance in the district. In addition it is undertaking a research inquiry into the history of salinity management in the catchment.
Natural Resource Management in Asia in Response to Climate Change

Climate change – in combination with increasing urbanisation, increased water demand from irrigation and industry, changes to land management through forestry and agriculture, population increase and poverty – presents an enormous challenge to developing countries in Asia. The projects in this AusAID-funded portfolio focus on bringing together multidisciplinary, multi-stakeholder teams to collaboratively develop adaptation and mitigation policies and natural resource management frameworks that respond to these challenges. Several projects examine options for reducing greenhouse gas emissions by preventing deforestation and forest degradation, particularly in Indonesia. For adaptation, several projects focus on improved water resource and catchment management.

Highlights for 2010

• Senior leaders of the University of Palangka Raya and members of the National Council on Climate Change (Indonesia) visited Monash to consolidate ongoing collaborative activities. In addition collaborations were established with the Indian Institute of Technology Bombay, the Vietnam National University and the Vietnam Ministry of Natural Resources and Environment.

• An academic from the University of Palangka Raya was awarded an Australian Development Scholarship by AusAID for doctoral study at Monash.

• The six-week visit by Australian Leadership Award Fellows was celebrated with a dinner hosted by Vice-Chancellor Professor Ed Byrne, with guest of honour the Consul-General of India, Anita Nayar.

Developing integrated catchment management strategies in Indonesia, Vietnam and India for sustainable water use in response to climate change

This project brought together experts from Monash and research and management agencies in Indonesia, Vietnam and India to address management of major catchments in these countries in response to climate change and other issues, such changes in land management, biodiversity and trans-boundary water resource allocation. The team is using Bayesian networks to develop integrated catchment models for the Ciliwung (Jakarta), Sebangau (Central Kalimantan), and Red (Vietnam) rivers. The models are being used to evaluate alternative management options and to assess likely climate change scenarios. A further study evaluated climate change impacts on the Mekong Delta and worked with policy makers to develop collaborative governance approaches to managing them.

Developing proactive policy and practice for land and water management responsive to climate change in South Asia

Fourteen senior academics from India and Bangladesh visited Monash for six weeks as part of AusAID’s Australian Leadership Awards (ALA) Fellowship program. The program aimed to encourage an integrated multidisciplinary approach to regional climate change adaptation and mitigation. The visit included a five-day forum and further activities at the Monash Asia Institute, and a follow up forum in Kolkata, India. The discussions resulted in several research proposals relating to community development and climate change in the Ganges River basin for submission to the Australia–India Strategic Research Fund.

Managing community impacts of climate change in India and Bangladesh

This AusAID-funded project started with a two-day workshop in Kolkata, India. The workshop brought together Australian, Indian and Bangladeshi stakeholders to evaluate the consequences of likely climate change on communities of the Ganges River Basin. A priority will be to examine the role of women and children in vulnerable communities. The project aims to develop a policy framework, including an integrated assessment, targeted at regional management agencies.
Responding to climate change in Indonesia

Indonesia is the world’s third largest emitter of carbon, principally from deforestation and peat degradation. Reducing these emissions is a priority for both the Indonesian and Australian governments, who work collaboratively through the Indonesia-Australia Forest Carbon Partnership. MSI is working on this issue with several Indonesian institutions. The work focuses on the potential for implementing REDD projects in Indonesia. REDD (Reducing Emissions from Deforestation and Forest Degradation), is a United Nations effort to offer incentives for developing countries to prevent forest emissions.

MSI’s projects address potential barriers to REDD, including land tenure, governance, law and regulation, alternative livelihoods, and knowledge management.

Developing capacity for proactive climate change mitigation and adaptation in Indonesia

This project aims to build capacity at the University of Palangka Raya (UNPAR) in Central Kalimantan to address current climate change issues, in particular those relating to REDD. Activities so far included a visit by a Monash delegation to Central Kalimantan to visit proposed REDD sites, consult with local stakeholders and develop research approaches. In addition, a representative from Monash’s English Language College visited UNPAR and prepared a training strategy to assist Indonesian scholars with entry to a doctoral program at Monash.

Strengthening capacity for responsive climate change policy development and application in Indonesia

The Government of Indonesia established the National Council on Climate Change (DNPI) to develop and help implement policies aimed at reducing carbon emissions. This project aims to strengthen DNPI’s capacity for policy development by improving its knowledge management capabilities. The Monash team has worked closely with DNPI and a Jakarta-based project team to map how DNPI collects information and disseminates it to relevant agencies. They identified two key approaches: A top down approach linking central government agencies through DNPI; and a bottom-up approach that works with communities to understand economic and social drivers of alternative action.

Extending successful community-based forestry management experience for application to REDD scheme reforestation trials and development of an Asian carbon economy

This project aims to reduce carbon emissions from forest degradation in Asian countries by extending an approach known as community-based forestry management. A workshop in Kolkata, India, brought together stakeholders from Australia, India, Indonesia, Cambodia and Vietnam to compare how this approach might fit within the context of climate change policy development and implementation in their countries. They identified several areas for clarification – such as consistent forest assessment methodologies and development of carbon-based forest management protocols – that are currently being developed as research proposals.
Each year, thousands of bushfires are deliberately lit around Australia, yet existing prevention measures are generally limited in scope, lack a scientific basis and have not been evaluated.

To address this, MSI formed the Australian Bushfire Arson Prevention Initiative in mid-2009 in partnership with the Monash Centre for Forensic Behavioural Science and Bond University, with seed funding from RACV Insurance.

The Initiative aims to foster the development of multidisciplinary evidence-based approaches in four key areas: (1) community-based prevention, (2) mental health intervention and treatment, (3) legislative responses and (4) stakeholder linkage networks and information exchange.

**Highlights for 2010**

- Holding the Symposium for Advancing Bushfire Arson Prevention in Australia, which was opened by The Hon. Robert McClelland, MP, Attorney-General for Australia.
- Being invited to present the symposium’s outcomes to 40 arson specialists from around the country at the Attorney General’s 2010 National Bushfire Arson Forum.
- Being asked by Crime Stoppers Victoria to assist them in developing posters for a bushfire arson prevention campaign

**Symposium Advancing Bushfire Arson Prevention in Australia**

This two-day symposium, held in partnership with the Australian Institute of Criminology, aimed to broaden the discussion about solutions to bushfire arson in Australia. It had over 110 participants from emergency services, criminal justice, mental health, community groups, the commercial sector, government and academia. The discussion and recommendations were captured in a widely circulated report, which also included over 20 discussion papers on specific prevention approaches.

**Community-based prevention**

This program area seeks to understand the interface between communities and fire as the basis for developing arson prevention measures. Work in 2010 included research with behaviour change experts in the Faculty of Business and Economics on what would motivate people to report suspicions of bushfire arson, in support of a Crime Stoppers bushfire arson campaign. Research has also commenced on the factors that influence youth fire-setting. The Initiative has joined the Gippsland Arson Prevention Program and is working with them on regional prevention strategies.

**Mental health intervention and treatment**

This work area aims to identify and facilitate the development of evidence-based psychological interventions to reduce the risk of re-offending by both adult and juvenile fire-setters. As a first step in 2010, the team prepared review papers on what is currently known about why people set fires, how their risk of doing it can be assessed, and how they can be treated. These papers will be published in early 2011 in a special issue of Psychiatry, Psychology and Law.

**Legislative responses**

This project compared the myriad legal provisions and legislative and sentencing ideologies relating to bushfire arson across Australia and internationally. The results suggest that legal proscriptions alone are unlikely to deter potential offenders, but that non-adversarial justice processes and restorative justice modes may assist in reducing re-offending rates.

**Bushfire research coordination across Monash**

Following the publication of the final report of the 2009 Victorian Bushfire Royal Commission, which recommended the establishment of a National Bushfire Research Centre, the Initiative coordinated bushfire researchers across Monash in putting forward Monash’s involvement in the proposed centre.
STOP
BUSHFIRE
ARSON

UP TO 50% OF BUSHFIRES IN VICTORIA ARE DELIBERATELY OR RECKLESSLY LIT.*
BUSHFIRE ARSON CAUSES DEATH AND INJURY, AND PROPERTY, STOCK, WILDLIFE
AND HABITAT LOSSES. WE ALL NEED TO DO EVERYTHING WE CAN TO STOP
BUSHFIRE ARSON. PLEASE PLAY YOUR PART.

The more chance of being caught the less likely an arsonist will be able to light an illegal fire.

If you see something that looks out of place, this may be what police are looking for.

Record details of vehicles (make, model, registration number) in vulnerable areas.

Report individuals or activity if you think it is suspicious. Call Crime Stoppers. We don’t want your name, just the names of possible bushfire arsonists or information about suspicious activity.

If you’ve seen something, if you know something, say something.

1800 333 000 vic.crimestoppers.com.au  Dial 000 in emergencies

*Estimates from the Australian Institute of Criminology and Monash Sustainability Institute indicate that between 30% and 50% of Victorian bushfires are deliberately or recklessly lit.

A public safety initiative of:
Climate Change, Biodiversity and Health Program

This program aims to identify and explore new and emerging research questions and build knowledge related to the health consequences of climate change and the decline in biodiversity. The program leader is supported through a funding partnership between VicHealth and Monash with additional support from the Victorian Department of Sustainability and Environment.

Work in 2010 focussed on building collaborative relationships within Monash and with external stakeholders, and developing projects that explore the health impacts of climate change and how to adapt to these.

Climate change and extreme heat

Extreme heat events already contribute significantly to mortality and community illness in Australia. With climate change likely to make these events more common, and with a population growing increasingly vulnerable through aging, urbanisation and higher rates of chronic disease, this program has developed several projects aimed at improving public health responses to extreme heat events:

- Assisting health services in Victoria to adapt to extreme heat and associated air pollution through service provision, prevention and health promotion. This project is being developed by MSI with researchers from Monash, La Trobe University, the University of Melbourne and CSIRO.
- Understanding the implications of climate change for the health and well-being of the urban homeless, and how services can adapt to changing needs.
- Improving the capacity of the primary health care system to prevent and manage the predicted health impacts of heat events. The project is being undertaken in collaboration with the University of the Sunshine Coast.

Impacts of long-term water insecurity on the health and well-being of rural residents

MSI and the Monash Departments of Epidemiology and Preventive Medicine and Rural and Indigenous Health developed this project to investigate how residents of rural towns adapt to the perceived effects of long-term water insecurity on their health and well-being, as well as to identify their risk factors for vulnerability. The project will commence in 2011 with seed funding from the Monash Faculty of Medicine, Nursing and Health Sciences.

The Monash Climate and Health Research Alliance (MoCHRA)

MoCHRA is a network, initiated by MSI, of Monash researchers with an interest in the health aspects of climate change impacts, adaptation strategies, or environmental change. The network serves to promote and link external individuals and agencies to Monash work in this area, as well as to facilitate collaboration and idea generation within Monash.

Biodiversity and health

Recent international assessments have highlighted the close dependence of human health on biodiversity, through benefits such as ecosystem services, disease regulation and genetic resources. However biodiversity loss is occurring at an unprecedented rate through environmental degradation and climate change. This project, in partnership with the Victorian Department of Sustainability and Environment and the University of Melbourne, is working to synthesise and disseminate information on the links between biodiversity and human health in an Australian context and the implications of biodiversity loss.
The Interface between Social and Environmental Sustainability

MSI is contributing to expanding understanding of how social and environmental sustainability are inter-related, and to identification of policy solutions that would maximise outcomes in both areas.

This work is set in the context of increasing inequality, rising environmental degradation and climate change. It focuses on policy and community engagement in climate change mitigation and adaptation; the provision of land transport and its interconnections with social inclusion; and the measurement of social and environmental sustainability.

These issues are considered from individual to national levels, and are compared both within and between countries. The projects include both strategic and applied work, looking at the interface between issues, impacts and policies. This approach has resulted in the research influencing policy development in Australia and having an international impact.

Investigating transport disadvantage, social exclusion and well-being in metropolitan, regional and rural Victoria

This large multi-discipline and multi-year ARC-funded research, led by Professor Graham Currie at the Institute of Transport Studies, has led to considerable new knowledge, including how to measure social exclusion and related variables and the financial value of mobility. In 2010 the team reported results in academic journals and a book, developed policy advice, and presented the results to several federal government departments, including the Social Inclusion Unit in the Department of Prime Minister and Cabinet.

Exploring transport to arts and cultural activities as a facilitator of social inclusion

Victoria Johnson has almost completed her doctoral studies on the role of arts and cultural activities in fostering social inclusion, and the barriers, especially transport-related, to participation. She found that social exclusion is associated with less participation in arts and cultural activities and that both the location of activities and access to transport are important influences on participation.

Reconceptualising needs, equity and well-being in the context of global sustainability

As part of his doctoral studies, Paul Read has been looking at improved measurement of social well-being and environmental sustainability at the country level, such as through the Human Development Index. This work is improving understanding of how to measure human needs and how to identify the point at which economic growth, human well-being and environmental sustainability are all maximised.

Contested sustainabilities

Stephen Derrick has commenced doctoral work on the development of a sustainability framework to facilitate a social response to prevent and manage environmental pollution.

Project development to assist with the CRC for Social Inclusion bid

MSI assisted with the development of a Monash bid, with over 40 partners, for a CRC in Social Inclusion. The CRC’s aim is to maximise understanding of the causes of social exclusion and place-based disadvantage, and how to reduce them. Although the bid was not successful, Monash plans to resubmit in 2011.
Sustainable Cities Program

This program seeks to better understand the many challenges facing urban form, especially those relating to climate change. In particular, it aims to identify responses to the challenges of significantly reducing greenhouse gas emissions while maintaining a city that is inclusive, accessible and has high liveability. Although this program is still being developed, considerable progress has already been achieved on energy efficiency in households, including consideration of community development and risk of exclusion as well as to technological aides to monitor energy and water savings. Work is also being undertaken on transport infrastructure, housing and densification in response to climate change. A program is also being developed on housing, place-based disadvantage and the sustainability of new low-cost housing on the fringes of the city.

Highlights for 2010

- Monash University played a significant role in the ADC Cities Summit, providing a flagship review of urban form and cities, and a platform to build work on the future city challenges.
- Monash has increased its involvement with the Australian Housing Urban Research Institute (AHURI) Swinburne-Monash Research Centre.
- Dr Phil Blythe joined MSI to progress this program and engage with environmental sustainability at Monash on energy efficiency.
- Work has commenced with Moreland Energy Foundation Ltd. (MEFL), a non-profit organisation dedicated to sustainable energy and working with the community to achieve sustainability goals.
- The program was involved in the lead up presentations and conference of VicUrban's Melbourne Place Making Series.

ADC Cities Summit

Monash played a significant role, through participation and sponsorship, in the ADC Cities Summit, which took place in Melbourne on 29–30 March 2010. It involved leading a series of ‘think-tank’ workshops prior to the Summit and the writing of the ADC Cities Report. This work has lead to comprehensive thinking about productivity, liveability and environmental sustainability in cities and recommendations to the federal government and the Council of Australian Governments, including criteria and targets for assessing capital city strategic plans.

Moreland Solar City project

This project provides monitoring, evaluation and policy advice to a cluster of projects in the City of Moreland, including the Australian Government-funded Moreland Solar City project. The work relates to community engagement, urban development, decentralised energy, energy efficiency and climate policy.

Melbourne Place Making Series

The program was involved in the Melbourne Place Making Series, which encouraged people to consider how collaborative ‘place making’ can make our cities more liveable. Monash staff reported on recent research findings at a lead up event, and led a workshop on the relationship between the physical structure of places and human connection at the final conference on 27–29 October 2010. When a place promotes human contact, mobility and empowerment, lower rates of depression and exclusion follow.

Project development

The program was involved in the development of several funding proposals this year, including:

- Optimising social and environmental outcomes in urban densification
- Social inclusion, well-being and housing
- The homeless and climate change (with MSI’s Climate Change and Health Program)
- Place-based disadvantage
- Achieving public acceptance for adaptive housing on the urban fringes of Melbourne (with Professor Alan Petersen)
- Housing energy efficiency monitoring
Behaviour Change Initiative

The MSI Behaviour Change Initiative, which commences officially in January 2011, will bring together researchers from a range of disciplines with a common interest in cutting-edge research on how to best influence sustainable behaviour and implement successful behaviour change programs. Outcomes from the Initiative will be driven by research-based, transdisciplinary and holistic approaches to influencing behaviour. With a strong focus on collaborative partnerships, the Initiative will bring together the best people working in academia, the community, business and government to achieve effective policies, strategies and outcomes across a range of sustainability issues.

Activities in 2010 involved establishing the foundations and securing funding for the Initiative. Liaising with leading academics from across Monash, the development team prepared a ‘prospectus’ detailing the Initiative’s proposed objectives, outcomes and activities. The prospectus was presented to EPA Victoria, Sustainability Victoria and the Shannon Group, resulting in a three-year financial commitment to the Initiative.

Subsequent actions have involved writing a business plan, developing a work program for the first year and starting to assemble the team of Monash academics who will be part of the Initiative. In addition, Dr Liam Smith has been appointed as the Director of the Initiative and Dr Jim Curtis has been appointed as a Research Fellow within it.

Monash University Soil Carbon Initiative

This initiative sets out a proposal for a research program, led by Monash, to advance understanding of key aspects of soil carbon sequestration, from monitoring and evaluation to governance and integration. Our vision is to inform soil carbon sequestration policy and practice by generating the knowledge and expertise to evaluate the long-term performance of carbon in soils, from molecular to landscape scales.

The Soil Carbon team prepared a submission to the Victorian Environment and Natural Resources Committee’s Inquiry into Soil Carbon Sequestration in Victoria. The team was invited to present evidence at a public hearing for the inquiry, and much of the evidence presented appeared in the committee’s final report. This initiative is ongoing and seeks to develop research programs into soil carbon with key government agencies.

Other relevant activities include:

- Dr Philip Wallis attended the National Business Leaders Forum, held at Parliament House, Canberra, 27–28 May 2010. This forum had a session on soil carbon.
- Dr Philip Wallis participated in the Round Table on the Carbon Farming Initiative, hosted by The Climate Institute, Melbourne, 25 Oct 2010.
- Drs Tim Cavagnaro and Tony Patti attended the 19th World Congress of Soil Science, held in Brisbane, 1–6 Aug 2010.
Developing Victoria’s Geothermal Energy Resource

Victoria has abundant reserves of geothermal energy, which is energy derived from heat in the earth’s crust. This energy is currently stored in hot water aquifers that are more than 2 km below the surface. Monash University is interested in developing this energy source as a low-carbon alternative to brown coal, Victoria’s current carbon-intensive energy source. The project is currently exploring ways to overcome two of the main barriers to making geophysical energy a viable renewable energy source: cost and technology.

As drilling deep bores is very expensive, the project is identifying additional geophysical information to more accurately target geothermal aquifers and reduce the commercial risk of drilling.

In addition, the geothermal water is insufficiently hot for use in a standard steam engine, so electricity generation with it is inefficient and may not be cost effective. To overcome this limitation, the project has developed a small scale organic Rankine cycle (ORC) engine, which operates on the same principle as steam engines but uses fluids with a lower boiling point than water to generate pressure to turn turbines which generate electricity. The advantage of this approach is that heat sources with temperatures as low as 75°C can be used.

We have developed an ORC prototype which uses a novel expander design developed by local engineers. The next step is to build a 10 to 20 kW grid-connected ORC.

Energy Theme Activities

In 2010 MSI supported a part-time Energy Theme Leader, whose role is to assist in expanding Monash’s research and teaching capacity in sustainable energy. Key activities included:

- Coordination of the Monash part of a successful joint HRL/Monash application for a Brown Coal Innovation Australia (BCIA) Research Leader Fellowship. Professor Klaus Hein, a world-leading researcher in brown coal technology from Germany, has now been appointed in a joint Monash/HRL professorial position – a first for Monash – at the Faculty of Engineering.

- Facilitation of an ARC Linkage Grant application between the Department of Chemical Engineering at Monash and biological farming company LawrieCo. The proposed project will look at the potential of granulation technology to create fertiliser that can increase soil carbon, thus contributing significantly to CO₂ biosequestration and restoration of carbon-depleted Australian soils. The fertiliser contains material extracted from brown coal.

- Arranging a joint workshop with MBD Energy Ltd. on research on algae for both CO₂ capture and manufacture of biofuels/stockfeed. It is anticipated this will lead to collaborative research and development work in support of the installation of 10 hectares of algae ponds at Loy Yang power station by MBD.
Learning from Indigenous Natural Resources Management in the Barmah-Millewa

The goal of this project under development is to allow us to learn from Indigenous natural resources management in the Barmah-Millewa forests to determine how the ecological, cultural, legal and policy environment of the region informs an understanding of the competing demands on finite and diminishing water resources in the Murray-Darling Basin.

As part of the development of this project, MSI contributed funding to support Neville Atkinson, Lee Joachim and Denise Morgan-Bulled from the Yorta Yorta Nations Climate Change Group and Amanda Lynch from Monash University to attend the Ninth Session of the United Nations Permanent Forum on Indigenous Issues in New York on 18–30 April 2010. Additional funding was provided by the Victorian Commissioner for Environmental Sustainability and The Myer Foundation.

The forum is an advisory body to the UN Economic and Social Council, with a mandate to discuss indigenous issues related to economic and social development, culture, the environment, education, health and human rights. The Yorta Yorta Climate Change Group was invited to attend by the World Bank’s Indigenous Peoples Sustainable Development Network.

In addition, a series of meetings in New York and Washington DC was arranged for the group, including with the following:

- The Indigenous Program, Division of Environmental Planning and Protection, US Environmental Protection Agency
- The American Indian Program and the Northeast Regional Climate Center at Cornell University
- The Office of Climate Change, Department of Environmental Conservation and related departments of the State of New York
- The World Bank, including the Human Development Network, the Environment and NRM Program, and the Sustainable Development Department in the Latin America and the Caribbean Region
- The National Museum of the American Indian
- The Hon Kim Beazley, AC, Australian Ambassador to US

People

Project leader
Professor Dave Griggs (MSI)

Research team
Dr Mark Harris
(School of Law, Latrobe University)
Professor John Langford (MSI)
Professor Amanda Lynch
(School of Geography and Environmental Science, Faculty of Arts)

Yorta Yorta Nations Climate Change Group
Neville Atkinson
Lee Joachim
Denise Morgan-Bulled

Partners

Project implementation
Yorta Yorta Nation Aboriginal Corporation
Office of the Victorian Commissioner for Environmental Sustainability

Funding
Office of the Victorian Commissioner for Environment and Sustainability
The Myer Foundation

The Barmah-Millewa Forests (photo: Dave Griggs).
Green Steps is a sustainability education and internship program that empowers participants with the hands-on skills and knowledge to drive environmentally sustainable practices within organisations and the wider community.

Developed by Monash students in 2000, the program is now delivered Australia-wide to both tertiary students and people already in the workplace. It has trained more than 500 people and partnered with over 300 organisations to reduce greenhouse gas emissions and contribute to a sustainable future.

In 2010 Green Steps delivered 10 training courses to 110 university students and people within the workforce.

**Highlights for 2010**

- The program won three awards in 2010:
  - Victorian Premier’s Sustainability Awards (Tertiary Category)
  - United Nations Association of Australia World Environment Day Awards (Education Category)
  - Australasian Campuses Towards Sustainability Green Gown Award (Student Campaigns and Initiatives Category)

- Received funding from the Australian Government’s Workforce Innovations Program to develop a nationally accredited green skills training program and to conduct a comprehensive evaluation of Green Steps’ impacts and outcomes.

- Appointed a new Internship and Alumni coordinator role. This will enable Green Steps to coordinate and receive income from a nationwide internship program and develop an even more active network of program participants.

**Green Steps training (universities)**

Green Steps is a six-day intensive training course for university students, which focuses on environmental assessment, communication and change management skills. Students from all academic disciplines are competitively selected for participation in this extra-curricular course, which is provided free of charge. In 2010 Green Steps held courses at the Australian National University, Griffith University, Flinders University, Macquarie University and Monash.

**Green Steps internships (universities)**

University students who have undergone Green Steps training put what they have learnt into practice through a 12-day internship, working on a real-life sustainability project within a host organisation. In 2010 approximately 50 internships were undertaken, hosted at organisations such as the National Gallery of Australia, Pacific Hydro, Queensland Health, Rockdale City Council, the Victorian Country Fire Authority and Victorian Legal Aid.

**People**

**Manager**
Mark Boulet (MSI)

**Team**
Emma Grace (MSI)
Anna Lohse (MSI)
Erin Simpson (MSI)
Kati Thompson (MSI)

**Sessional trainers**
Aimee Maud (Monash student)
Alison Raymond (Sustainability consultant)
Ciaran MacComaic (The Brotherhood of St Laurence)
David Roberston (Griffith University student)
Deb Riley (Melbourne Water)
Kat Lavers (Permablitz Melbourne)
Megan Argyriou (Climateworks Australia)
Simonne Shore (Pittwater Council)
Stefan Hladinki (Victorian Department of Premier and Cabinet)
Suzie Brown (Sustainability consultant)
Tom McMurchy (Monash student)
Green Steps @ Work training

This four-day intensive training course for people already in the work force focuses on environmental assessment, communication and change management skills. Participants, who pay to participate, develop a work-based sustainability project to apply in their organisation. In 2010 the program was run in Melbourne, and debuted in Sydney in a course hosted by Fuji Xerox Australia.

Green Steps Train the Trainer

This two-day course trains new Green Steps trainers. It is an integral component of the training calendar, ensuring high-quality trainers and enabling succession planning. In 2010 seven new trainers were trained in Melbourne and six at the Australian National University.

Green Steps program evaluation

In 2010 Green Steps conducted a comprehensive evaluation of its impacts and outcomes over the last ten years. Data was collected through interviews and an internet survey. The process culminated in a workshop attended by 30 past participants, some from the 2001 program, as well as government and industry partners. The evaluation report will be released in 2011.
The MSI Education team uses its extensive experience in environmental sustainability and education program development to create and deliver customised cutting-edge training programs and other consultancy services. They specialise in a highly interactive form of teaching and learning that recognises participants’ existing knowledge, encourages discussion and group work, and is based on an understanding of the processes of organisational change. In 2010 they delivered 17 training courses and events, engaging over 250 people from around Australia and providing them with a broad variety of sustainability skills and knowledge.

ResourceSmart HealthCare and Tertiary Education training
The team delivered training on environmental management programs as part of two Sustainability Victoria ResourceSmart programs: Healthcare, which is provided in conjunction with the Victorian Departments of Health and Sustainability and Environment (DSE) to hospitals; and Tertiary Education, which is provided in conjunction with Skills Victoria and DSE, to universities and TAFEs. The MSI Sustainability Reporting team also delivered other components of the Tertiary Education program (see separate section).

Queensland Youth Environment Council training
The Queensland Youth Environment Council (QYEC) is hosted by the Queensland Department of Environment and Resource Management. The team provided two days of training to 16 members of QYEC, enabling them to develop a halls of residence sustainability program at Griffith University.

AFL Green Clubs education module
The team developed a sustainability ‘how to’ guide for AFL community clubs as part of their ‘Quality Clubs’ program, which goes out to over 2,000 clubs around Australia.

Yarra Environment Network – Greening Workplace training
The Yarra Environment Network is a collection of community-based organisations in the City of Yarra. The team delivered four capacity-building workshops for 15 member organisations.

Law Institute of Victoria – Green Practice training (pilot)
The Law Institute Victoria piloted a sustainability skills training program for young lawyers in law firms in and around Melbourne. The team delivered the first of three sessions in this program and looked at organisational mapping and environmental data collection.

Oaktree Foundation – Global Changers training
Global changers is a leadership course that gives university students the skills, experiences, attitudes and knowledge necessary to be a leader of significant change in issues of global poverty and development. The team was involved in facilitating a weekend retreat with Monash students and ran several evening workshops for them on project management and behavioural change.

Fuji Xerox – Sustainable dealers training
The team ran a three-hour environmental action planning workshop during a sustainability conference held by Fuji Xerox Australia to representatives from approximately 20 dealerships around Australia.

AECOM – Change Agent training
The team is the chosen training provider for the Change Agent program developed by AECOM under licence to DSE. It aims to assist government departments and agencies to develop behaviour change programs for staff. In 2010 the team delivered three day-long sessions with representatives from five Victorian government agencies and departments.

Oxfam Australia – Trailwalker event
MSI hired a former Green Steps participant to perform a simple impact assessment for different sections of the 2010 Oxfam Trailwalker event.
MSI does not have a direct teaching responsibility within Monash. However, it contributes to the development and teaching of units in other faculties, as well as to other official activities for Monash students.

**Faculty of Arts**
GES1020/ENV1022 – Australian physical environments: Evolution, status and management
- Tutorials and field trip: Dr Almut Beringer.

GES2460/ENV2011 – Environmental policy and management
- Tutorials: Dr Almut Beringer.

SCY2580 – Sustainable societies
- Guest lecture: Dr Janet Stanley.

**Faculty of Business and Economics**
AFF9012 – Carbon pricing
- Guest lecture: Meg Argyriou, ‘Low carbon growth plan for Australia’.
- Guest lecture: Professor Dave Griggs, ‘Climate change and the sustainability challenge’.
- Guest lectures: Dr Janet Stanley, ‘Transport’ and ‘Social impacts of mitigation in the CPRS’.

GSB5011 – Pathways from science to wealth (with the Monash Asia Pacific Centre for Science and Wealth Creation)

**Faculty of Engineering**
ENE3408 – Energy systems
- Guest lecture: Meg Argyriou, ‘Low carbon growth plan for Australia’.
- Guest lecture: Mark Boulet, ‘Behaviour change 101’.
- Guest lecture: Professor Dave Griggs, ‘Climate change and the sustainability challenge’.

- Unit activity: ClimateWorks Australia assisted students to prepare an emission reduction cost curve for Monash University using the methodology developed for ClimateWorks’ Low Carbon Growth Plan for Australia. Anna Skarbek, Meg Argyriou and Professor Dave Griggs worked with the course director to design the project and participated in the project steering committee. As part of the project, students analysed 25 emission reduction opportunities agreed with the Monash Office of Environmental Sustainability. They calculated the amount of greenhouse gas emissions that could be reduced by each opportunity, as well as the cost per tonne of emissions reduced of implementing it. They identified a total of 180,000 tonnes of emission reductions, almost 40 per cent of which can be achieved with negative cost. The students presented their results to the Monash University Senior Management Team (Environment).

**Faculty of Science**
ATM1020 – The science of climate
- Guest lecture: Professor Dave Griggs

Bachelor of Environmental Science
- Facilitator of panel discussion on waste: Professor Dave Griggs

Monash Passport 2 sustainability depth unit
- Unit development: Professor Dave Griggs, Dr Philip Wallis and Mark Boulet from MSI are part of the development team for this new all-faculty second-year unit, which will introduce students to the concept of sustainability. The unit will present sustainability through multiple research-informed perspectives, and encourage students to explore new interpretations, applications and evaluations of sustainability. From a better understanding of sustainability, students will have the opportunity to be active advocates for sustainability in and beyond their immediate environments.

**Vice Chancellor’s Ancora Imparo Student Leadership Program**
- Evening seminar panel member: Professor Dave Griggs, “How do societies balance their energy needs against their responsibility to protect the environment”, 20 Sept 2010.
MSI Postgraduate Unit

MSI established a postgraduate student research unit in early 2009. Momentum has steadily grown, and the unit now has three doctoral students. An honours student will commence in early 2011, and two doctoral applications are in development. The unit offers students the opportunity to undertake multidisciplinary research related to sustainability, with supervision shared by MSI and a Monash faculty. The unit aims to lead to the production of high-quality research, as well as to extend research collaborations and projects across Monash.

The unit also assists prospective students interested in undertaking research on sustainability to identify and contact potential supervisors across Monash. This year it advised 22 students, and referred most of them to the appropriate Monash faculties. The unit also assisted Monash students seeking advice on sustainability topics and class work.

**Doctoral projects**

Stephen Derrick, ‘Contested sustainabilities: The factors that shape how people practice and understand environmental sustainability’, supervised by Dr Janet Stanley (MSI) and Professor Alan Petersen (School of Political and Social Inquiry, Faculty of Arts). Commenced towards the end of 2010.

Victoria Johnson, ‘Arts and cultural participation, transport disadvantage and social exclusion’, supervised by Professor Graham Currie (Institute of Transport Studies, Faculty of Engineering) and Dr Janet Stanley (MSI).

Paul Read, ‘Reconceptualising needs, equity and well-being in the context of global sustainability’, supervised by Dr Janet Stanley (MSI) and Dr Dianne Vella-Brodrick (School of Psychology and Psychiatry, Faculty of Medicine, Nursing and Health Sciences). Transferred from the University of Melbourne at the beginning of 2010.

**People**

- **Unit coordinator**
  - Dr Janet Stanley (MSI)

- **Doctoral students**
  - Stephen Derrick
  - Victoria Johnson
  - Paul Read

Photo: Emma Grace
Action
ClimateWorks Australia

www.climateworksaustralia.org

ClimateWorks Australia is a non-profit collaboration hosted by Monash University in partnership with The Myer Foundation that will provide practical solutions dedicated to a sustainable and prosperous low carbon society.

ClimateWorks Australia came about after The Myer Foundation commissioned a comprehensive feasibility study that found that philanthropy has a significant role to play as an honest broker, coming from a position unaligned with commercial, political or non-governmental organisation interests.

ClimateWorks Australia aims to contribute to substantial emissions reduction in the next five years and focuses on enabling Australian organisations to reduce their emissions by providing targeted interventions that drive behavioural and structural change.

Highlights for 2010

- The Low Carbon Growth Plan (LCGP) for Australia was published by ClimateWorks Australia in March 2010, setting out a cost curve and roadmap for how Australia can achieve a 25 per cent reduction in emissions from 2000 levels using least-cost commercially available technologies. The Plan won the highly regarded Eureka Prize for Innovative Solutions to Climate Change and the Ethical Investor Award for Sustainability Research.

- The methodology of the LCGP has received wide recognition as a highly useful tool for designing climate change mitigation strategies across all levels of decision making in government and business.

- The communication ‘reach’ of the LCGP has been significant – its launch received national media coverage in print, radio and TV, including a front-page story in the Sydney Morning Herald. The findings have also been presented to at least 4000 people.

- The Executive Director and Chairman of ClimateWorks Australia have both been appointed to the Federal Government’s 20-member Non-governmental Roundtable on Climate Change.

- Climate Scientists Australia held three well-attended parliamentary visits in Canberra, Brisbane and Melbourne, discussing climate change with about 100 parliamentarians.

People

Management
Professor Dave Griggs (MSI)
Anna Skarbek (MSI)

Team
Meg Argyriou (MSI)
Chrissie Murray (MSI)
Tanya Petersen (Consultant)
Jane Simpson (Consultant)
Dr Tahl Kestin (MSI)

Board
Professor John Thwaites (MSI)
David Shelmerdine (The Myer Foundation)
Sam Mostyn
Professor Edwina Cornish (Monash University)
Jon Myer (The Myer Foundation)
The Hon. Mark Dreyfus QC MP (to Sept 2010)
Howard Bamsey (from Nov 2010)

Partners

Overall funding and support
The Myer Foundation

LCGP funding and support
Australian Carbon Trust
ClimateWorks Foundation, San Francisco
Australian Department of Climate Change and Energy Efficiency
Environment Protection Authority, Victoria
McKinsey & Company
National Australia Bank
Victorian Department of Sustainability and Environment
Victorian Department of Transport

John Thwaites (ClimateWorks Australia), ‘David Shelmerdine (The Myer Foundation), Christine Edwards (The Myer Foundation) and Anna Skarbek (ClimateWorks Australia) at the Eureka Prize ceremony (photo: Australian Museum Eureka Prizes and 247 Studios).
Low Carbon Growth Plan for Australia

The LCGP provides the first comprehensive economy-wide blueprint for substantially reducing emissions in a least-cost practical way while continuing to grow the economy and offering profitable opportunities for business. Further detail can be found in the break-out box opposite.

Regional and sectoral low carbon growth plans

The methodology of the national LCGP has been further refined to provide granular analysis of specific regions, localities and sectors, to enable targeted mitigation actions. ClimateWorks Australia is now working on such plans for the City of Greater Geelong, the Gippsland region, the National Australia Bank and the Macquarie Park Business precinct.

Climate Scientists Australia

ClimateWorks Australia hosts the secretariat of this independent group of 13 senior Australian climate scientists, who are volunteering their time to advance the use of balanced, scientifically-based information on climate change. The group’s activities are focused on engaging with influential decision makers on the science of climate change and the policy implications clearly deducible from it. In 2010 the group visited the Federal, Victorian and Queensland Parliaments, and provided briefings, individual discussions and follow up conversations with about 100 politicians. It has also briefed business leaders in Sydney and Melbourne in partnership with KPMG and WWF Australia.

Sustainable Futures Forums

These forums provide a place where key thought leaders and decision makers can come together to discuss in a confidential manner issues vital to creating a sustainable future. In partnership with the Cranlana Programme, two forums were held in 2010: one on low-carbon agriculture and one on engaging small and medium enterprises in energy efficiency.

ClimateWatch

ClimateWatch is an innovative project that enables ordinary Australians to observe and record the impact of climate change on the environment through an interactive website and database. ClimateWorks Australia supported the establishment of this program by Earthwatch, and it has now generated over 10,000 observations from 1000 participants.
Low Carbon Growth Plan for Australia

The Low Carbon Growth Plan is currently ClimateWorks Australia’s focal project. It provides a comprehensive economy-wide blueprint for how Australia can achieve a 25 per cent reduction in greenhouse gas emissions below year 2000 levels, while also building a low carbon economy. This target is achievable using technologies available today at net a cost of the equivalent of just A$185 per household per year in 2020.

Based on detailed economic and policy analysis, the Plan identifies 54 opportunities that together achieve the emission reduction. It also identifies the barriers to their implementation and their relative cost. The Plan finds that prompt action is required, as delay will mean some low-cost opportunities will be lost, resulting in greater cost to society and business in the long run.

This is the first time that the whole-of-economy cost curve has also been presented from the investor perspective, taking into account the private cost of capital for each sector, energy taxes, retail margins and subsidies. This provides a clear signal to businesses about which opportunities are already profitable.

The Plan was launched in Melbourne, Canberra and Sydney, with attendance of 600 people from government, industry, academia and community. Over 2000 hard copies of the summary and full report were provided free to interested parties and at least 6000 were downloaded from our website.

In addition, the team presented the report findings in meetings, briefings, conferences and seminars on approximately 150 occasions reaching at least 4000 audience members from business, government, industry and community.

The report received at least 40 media citations nationally, with the findings covered in all states in print, radio and television media, including a front-page story in the *Sydney Morning Herald*.

The findings of the report have been referenced by business groups – including Australian Industry Group, Siemens Australia and Deutsche Bank – and peak bodies such as the Energy Efficiency Council; and cited in government reports such as the Prime Minister’s Energy Efficiency Task Group Report.
The Sustainable Campus Group (SCG) is a group of universities, TAFE institutes and state government organisations in Australia working together to improve environmental performance in the tertiary education sector. SCG was initiated by MSI in 2006 in Victoria, and is now open to all tertiary education institutions in Australia.

SCG uses a collaborative approach to promote learning and communication on environmental sustainability, provide the benefits of professional networking to members, advocate continuous improvement and catalyse environmental sustainability best practice within the sector. SCG’s main initiative is the annual Australian Campuses Sustainability Assessment Report.

SCG activities have helped infuse sustainability philosophy, principles and practice throughout tertiary education governance, research, education, and operations and facilities management. SCG has also encouraged government departments and other stakeholders to work more closely with the sector to promote sustainability outcomes and reduce duplication of reporting demands.

Highlights for 2010

- SCG was rolled out nationally in 2010, and now includes 28 tertiary education institutions, encompassing about 30 per cent of all tertiary education institutions in Australia, and more than 55,000 staff and students.
- Twenty seven members reported their environmental data to the inaugural national 2009 Australian Campuses Sustainability Assessment Report.
- The report was presented at the 10th International Australasian Campuses Towards Sustainability (ACTS) conference in Melbourne, 29 September to 31 October 2010, resulting in the establishment of international collaborations on sustainability tracking, assessment and reporting.
- SCG received a ‘highly commended’ citation in the inaugural Green Gown Awards, in the Continuous Improvement – Institutional Change category.

Australian Campuses Sustainability Assessment

Each year SCG facilitates an assessment and reporting project on environmental sustainability in the Australian tertiary education sector. The annual reports benchmark and publicise institutional environmental sustainability performance. In 2010, 27 institutions nationally submitted data on their commitment to sustainability operations (including energy, greenhouse gas emissions, water and waste and recycling) and education for sustainability activities to SCG. The resulting 2009 Australian Campuses Sustainability Assessment Report was presented at the 10th International Australasian Campuses Towards Sustainability (ACTS) conference, and will be launched in Victoria and NSW. It will be provided to senior leadership, senior management, and environment and sustainability staff in the tertiary education sector, as well as to relevant federal and state government representatives and other stakeholders.

SCG assessment and reporting instrument

The SCG Workbook is SCG’s data monitoring, assessment and reporting tool. It captures energy use, greenhouse gas emissions, water, waste and recycling, transport and building data, as well as information on institutional commitment to sustainability. In 2010 it was extended to collect data on green IT, green procurement and education for sustainability. The SCG Workbook charts progress over time and can be used for internal monitoring and reporting.

SCG member meetings

In addition to the preparation of the sector report, SCG held four capacity-building and professional networking meetings in Melbourne in 2010 for Victorian members.

SCG NSW

SCG is currently working in close collaboration with NSW TAFEs regarding tertiary education sustainability monitoring and reporting in NSW, towards establishing SCG NSW.
ResourceSmart Tertiary Education

In 2010 MSI delivered ResourceSmart Tertiary Education, a program of Sustainability Victoria, Skills Victoria and the Victorian Department of Sustainability and Environment, to 18 universities, TAFEs and adult education organisations in Victoria. Participants produce a bi-annual environmental management plan (the ResourceSmart Strategy), which includes targets, detailed action plans and a communication and engagement strategy. It touches all aspects of governance and management, operations and the academic mission of the institutions.

The program provides assistance in developing and implementing the ResourceSmart Strategy through training, coaching, complementary information resources, networking opportunities and a rewards and recognition scheme.

Following a pilot program with five institutions in 2009 MSI delivered the program in 2010 to seven universities, ten TAFEs, and one adult education organisation. It provided each institution with four training sessions, six hours of personal coaching and assistance with writing their ResourceSmart Strategy. Team members travelled to each institution and worked with senior management, environment and sustainability staff, and education for sustainability staff on developing an environmental management program and cultural change strategies toward reducing the institutional environmental footprint.

Sustainability Victoria has also signed a memorandum of understanding with MSI’s Sustainable Campus Group (SCG) to provide joint capacity-building and professional networking opportunities for SCG and ResourceSmart Tertiary Education participants through four annual meetings.

Monash University Annual Report

MSI coordinates the environmental and social performance sections of Monash’s Annual Report, working with all units and departments within the University. In 2010 it produced these sections for the Annual Report 2009 and has commenced data collection for the Annual Report 2010.

The Annual Report follows triple-bottom-line accounting, reporting on environmental, social and financial performance. Environmental performance includes cultural change campaigns, energy use, transport, greenhouse gas emissions, water consumption, biodiversity, procurement, waste and the built environment. Social performance includes Monash people, stakeholder engagement, occupational health and safety, diversity and equal opportunity, equity and access, indigenous students, health, well-being and family, social responsibility and human ethics and animal welfare in research.
Engagement and Outreach
In 2010, MSI initiated a seminar series to showcase the latest work and thinking on sustainability. During this first year of the series MSI hosted 19 seminars, featuring speakers from MSI and Monash University in general, as well as external speakers. In addition, ClimateWorks Australia hosted Dr Cameron Hepburn (Oxford University, UK) to give a lecture to the Department of Economics, Faculty of Business and Economics, in October 2010.

### MSI Seminar Series

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<tr>
<th>Date</th>
<th>Seminar</th>
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<tr>
<td>10 Feb</td>
<td>‘Growing sustainable cities’ – Professor Jonathan Fink (Arizona State University, US)</td>
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<tr>
<td>3 Mar</td>
<td>‘What type of energy for the future of humanity?’ – Dr Federico Rosei (University of Quebec, Canada)</td>
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<td>24 Mar</td>
<td>‘Perspectives on The Politics of Climate Change by Anthony Giddens’ – Professor Ray Ison (MSI and School of Geography and Environmental Science, Faculty of Arts), Professor Bob Birrell (School of Political and Social Inquiry, Faculty of Arts) and Professor Alan Petersen (School of Political and Social Inquiry, Faculty of Arts)</td>
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<td>8 Apr</td>
<td>‘The changing climate research agenda’ – Dr Chris Gordon (Met Office Hadley Centre, UK)</td>
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<td>21 Apr</td>
<td>‘Sustainable campuses’ – Belinda Towns (MSI) and Paul Barton (Monash Office of Environmental Sustainability)</td>
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<td>12 May</td>
<td>‘A low carbon growth plan for Australia’ – Anna Skarbek, Meg Argyriou and Professor Dave Griggs (ClimateWorks Australia)</td>
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<td>19 May</td>
<td>‘Living (well) on sustainable energy: Dream or reality?’ – Professor David Cahen (Weizmann Institute, Israel)</td>
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<td>25 May</td>
<td>‘A road map for water sensitive cities’ – Professor Tony Wong (MSI)</td>
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<td>24 Jun</td>
<td>‘Managing Victoria’s electricity demand’ – Dr Philip Wallis and Akaash Sachdeva (MSI)</td>
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<td>10 Jun</td>
<td>‘How do you achieve mobility that is environmentally, socially and economically sustainable?’ – Dr Janet Stanley (MSI)</td>
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<tr>
<td>7 Jul</td>
<td>‘Challenges for management of freshwater ecosystems in Europe’ – Dr Martin Kernan (University College London, UK)</td>
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<td>13 Jul</td>
<td>‘Climate chaos – What’s love got to do with it?’ – Rev. Dr David Gregory (Senior Minister, Croxley Green Baptist Church, UK)</td>
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<td>26 Jul</td>
<td>‘From principles to practice: National approaches to managing biodiversity under climate change’ – Professor Will Steffen (Australian National University)</td>
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<td>5 Aug</td>
<td>‘Securing migrants’ rights: Information campaign through community-based organisations’ – Professor Tasneem Siddiqui (University of Dhaka, Bangladesh)</td>
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<tr>
<td>23 Sep</td>
<td>‘The psychology of climate change communication and “scepticism”’ – Professor Stephan Lewandowsky (University of Western Australia)</td>
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<tr>
<td>29 Sep</td>
<td>‘Education for sustainability’ – Professor Stephen Sterling (Centre for Sustainable Futures, University of Plymouth, UK)</td>
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<tr>
<td>22 Oct</td>
<td>‘Accelerating the transition to electric vehicles’ – Dr Alan Finkel (Better Place Australia and Monash University)</td>
</tr>
<tr>
<td>4 Nov</td>
<td>‘Assisting integrated catchment management for water resources: Risk assessment, Bayesian networks and case studies from the Asia-Pacific’ – Dr Terence Chan (MSI &amp; Water Studies Centre, Faculty of Science)</td>
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<tr>
<td>17 Nov</td>
<td>‘Merchants of Doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to global warming’ – Professor Naomi Oreskes (University of California, San Diego, US)*</td>
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* Hosted jointly with the Melbourne Sustainable Society Institute, the University of Melbourne

Naomi Oreskes’ lecture at the State Library of Victoria (photo: Emma Joughin).
Policy Advice

Policy submissions and commentary


Submission to the Prime Minister’s Task Group on Energy Efficiency by ClimateWorks Australia, May 2010.


Briefing note on Climate change: An opportunity to demonstrate leadership, inspire action, and create positive change in Australia by MSI & ClimateWorks Australia, July 2010.


Submission to the Inquiry into the management of the Murray-Darling Basin of the Senate Standing Committee on Rural Affairs and Transport by the NCCARF National Water Governance Research Initiative (N Rubenstein, P Wallis, L Godden & R Ison), Dec 2010.

Expert standing offer services

MSI has been selected as a supplier of climate change information to the Australian Department of Climate Change and Energy Efficiency, as well as AusAID.

Presentations

Meg Argyriou


Almut Beringer


Phil Blythe


Marion Carey

‘The effects of climate change on air quality in Australia and related health impacts’, with Martine Dennekamp and Malcolm Sim, Second International Conference on Climate Change: Impacts and Responses, Brisbane 8–10 July 2010.

Terence Chan


‘Integrated catchment management for sustainable water use’, guest lecture to the Departments of Hydrology, Meteorology and Oceanography, Geology and Geo-Environment, and Environmental Health at Hanoi University of Science, Vietnam National University, 23 March 2010.

‘The Monash Sustainability Institute, the Water Studies Centre and Monash University’, guest lecture to the Departments of Hydrology, Meteorology and Oceanography, Geology and Geo-Environment, and Environmental Health at Hanoi University of Science, Vietnam National University, 24 March 2010.


Andrew Cock

‘Forest carbon and land use change: Why systemic analysis is needed to illuminate a key potential pathology’, Australian Leadership Award Fellowship forum: Developing proactive policy and practice for land and water management responsive to climate change, Melbourne Museum, 5–9 July 2010.


‘Forestry and agrarian change in contemporary Cambodia: A new analytical approach’, Cambodia Roundtable, Centre of Southeast Asian Studies, Monash Asia Institute, 29 Oct 2010.

Dave Griggs

‘Sustainability at Monash’, seminar at the Global Institute of Sustainability, Arizona State University, Tempe, Arizona, US, 11 Jan 2010.


‘Climate Change and the role of ClimateWorks Australia’, The Myer Foundation Directors and Members, Melbourne, 5 Feb 2010.

Demands for Climate Services in Antalya, Turkey

Professor Dave Griggs at the World Meteorological Organisation/World Climate Research Programme Technical Conference on Changing Climate and Demands for Climate Services in Antalya, Turkey, 16–18 Feb 2010.

Facilitator, Go8 Future Research Leaders Program event, Monash University, 15 March 2010.


‘Climate change and the alpine region’, 5th Annual Alpine Resorts Sustainability Forum, Mt Buller, 6–8 May 2010.


‘The role of MSI in meeting global climate change and sustainability challenges’, Vice-Chancellor’s boardroom lunch, Monash University, 3 Sept 2010.


Graduation address, Faculty of Arts Graduation Ceremony, Monash University, 14 Oct 2010.

‘Experiences of setting up a sustainability institute’, Faculty Research Cluster in Environmental Sustainability Seminar, Deakin University, Melbourne, 11 Nov 2010.


Ray Ison


‘Water and environmental governance under climate change’, invited lecture, Australia-China Workshop on Adaptation to Climate Change in the Field of Water Environment, University of Melbourne, 19 May 2010.

‘Reframing – Enhancing organisational learning by asking the right questions’, invited participant conceptualiser in CSIRO SAF (Flagship Collaboration Fund) specialist workshop, Brisbane, 31 May – 1 June 2010.


Tahl Kestin


Paul McShane


John Langford

‘Reform of Australian water policy’, presentations to CEDA-Harvard-Uniwater Initiative Forums in Sydney, Brisbane Melbourne and Adelaide in Nov 2010, as well as to the CEDA Trustees.

Kerry Pratt


Anna Skarbek


‘What is a low carbon future?’ Williamson Community Leadership Program seminar, Leadership Victoria, Melbourne, 14 May 2010.


Post Council meeting speaker, Monash University Council, Monash University, 1 July 2010.


Invited presentations on the findings of the Low Carbon Growth Plan for Australia to the following organisations: Australian Carbon Trust; Australian Department of Climate Change and Energy Efficiency, Department of Families, Housing, Community Services & Indigenous Affairs and Department of Prime Minister and Cabinet; Australian Industry Group (AIG); Citigroup clients; City of Melbourne; Climate Alliance; Clinton Climate Initiative; Committee for Economic Development of Australia (CEDA); Corporate Environment Managers Group; Victorian Department of Innovation, Industry and Regional Development, Department of Sustainability and Environment, Department of Education and Early Childhood Development Executive Group, and the Victorian Premier, Treasurer, Minister for Energy and Resources, Opposition Leader and Shadow Environment Minister; EPA Victoria Board; Grain Growers Association; Great Barrier Reef Foundation; Investor Group on Climate Change; KPMG; National Housing Supply Council; Prime Minister’s Energy Efficiency Task Group; Property Council of Australia; PricewaterhouseCoopers; South East Melbourne Innovation Precinct; Sustainability Victoria; Monash University Deans of the Faculties of Law and Business and Economics.

Janet Stanley


Discussant, Leverage for Social Change Seminar by Professor David Byrne (Durham University), Monash University, 4 April 2010.


‘How do you achieve mobility that is environmentally, socially and economically sustainable?’ MSI Seminar Series, Monash University, 10 June 2010.

‘Transport to arts and cultural activities: Determinants, dynamics and impacts on social inclusion’, special session on mobility, social exclusion and well-being, 12th World Conference on Transport Research, Lisbon, Portugal, 11–15 July 2010.

‘The place, role and experience of mobility for people at high risk of social exclusion’, special session on mobility, social exclusion and well-being, 12th World Conference on Transport Research, Lisbon, Portugal, 11–15 July 2010.

Panel member and speaker, Community Sector Events, Melbourne Place Making Series, Melbourne, 16–17 Aug 2010.


‘New evidence on social inclusion’, with John Stanley, invited briefing to the Social Inclusion Unit, Australian Department of Prime Minister and Cabinet, Canberra, 10 Dec 2010.

John Thwaites


Guest speaker, Net Balance Foundation, Launch of the Australian Legal Sector Alliance (LSA) for Sustainability, Melbourne, 18 March 2010.


‘Managing relationships with stakeholders during change’, Victorian Catchment Management Associations and Coastal Boards Conference, Melbourne, 4 June 2010.


Green Building Council of Australia Inaugural Chairman’s Dinner and Debate on ‘Australian companies don’t need to lead and bleed, innovation is for fools – we can be sustainable by following the rest of the world’, Melbourne, 24 June 2010.

‘Cities as Water Supply Catchments Program’, South Australian Program launch, Adelaide, 1 July 2010.

‘Role of leadership in local government’, Local Government Executive Leadership program, Melbourne, 22 July 2010.
'Are our buildings ready for a changing climate?' Maddocks and Hassell Building Seminar, Melbourne, 2 & 16 Aug 2010.

‘If sustainability is so good, why aren’t all businesses doing it?’, keynote speaker, Business and Higher Education Roundtable, Melbourne, 4 Aug 2010.


‘The role of leadership in local councils’, Australian Institute of Company Directors, Melbourne, 16 Sept 2010.


‘Communicating science to politicians’, the Australian Meteorological and Oceanographic Society Melbourne Centre Climate Science Communication Workshop, Melbourne University, 24 Sept 2010.


‘Tourism and behaviour change for sustainability’, Tourism Research Unit (TRU) Seminar, Monash University, 16 Nov 2010.


Belinda Towns


Philip Wallis


‘Melbourne’s water situation’, invited seminar given to the Victorian Department of Justice on World Water Day, Melbourne, Australia, 22 March 2010.


Tony Wong

‘Water sensitive cities: A road map for cities’ adaptation to climate and population pressures on urban water’, invited lecture, Australia–Korea Green Growth International Workshop, the Australian Academy of Technological Sciences and Engineering (ATSE) in conjunction with the National Academy of Engineering of Korea (NAEK), Seoul, Republic of Korea, 27–29 April 2010.


‘Interdisciplinary research at the Centre for Water Sensitive Cities’, invited lecture to the Research collaboration dinner function hosted by the Jewish National Fund, Tel Aviv, Israel, June 2010.


‘Water sensitive cities: A road map for cities’ adaptation to climate and population pressures on urban water’, invited lecture, Workshop on Climate Change Impact and the Urban Environment, the Australian Academy of Science and the Australian Academy of Technological Sciences and Engineering as part of Australia–China Science and Technology Week, Shanghai Expo 2010, Shanghai, Peoples Republic of China, 2–6 Aug 2010.


‘Water sensitive cities: A road map for cities’ adaptation to climate and population pressures on urban water’, keynote address, Deltas in Times of Climate Change, Rotterdam, the Netherlands, 29 Sept – 1 Oct 2010.

Representation

Almut Beringer
Member, 10th International ACTS Conference Organizing Committee
Member, Monash University Senior Management Team (Environment)
Member, Monash University Carbon Neutrality Stakeholder Committee
Member, Monash University Green Purchasing Committee
Member, Monash University Procurement Board
Member, Ecological spirituality and theology research group

Mark Boulet
Regional Director (Vic), Australasian Campuses Towards Sustainability
Member, Education for Sustainability Steering Group (Vic)
Member, Business and the Environment network committee (BATE)
Member, Law Institute of Victoria Green Practice Steering Group

Marion Carey
Member, Climate Change Working Group of the Royal Australasian College of Physicians

Andrew Cock
Member, Global Change, Peace & Security (Routledge) Editorial Committee

Ana Deletić
Member, Professorial Promotions Committee, Monash University
Fellow, Engineers Australia
Chair, International Working Group on Data and Models of the Joint Committee on Urban Drainage (IWA/IAHR)
Associate Editor, Water Research
Associate Editor, Water Science and Technology

Dave Griggs
Vice-Chair, World Climate Research Programme
Member, Victorian Ministerial Reference Council on Climate Change Adaptation
Member, Climate Institute Strategic Council
Member, International Union for Conservation of Nature, Commission on Education and Communication
Member, Australian Council of Environmental Deans and Directors
Member, European Research Council Starting Grants Panel
Member, Monash University Senior Management Team (Environment)
Member, Monash University Research Strategy Advisory Group
Member, Monash University Sustainability Matters Planning Group
Member, Unwater Governing Committee
Board member, Victorian Centre for Climate Change Adaptation (VCCCAR)
Chair, Review Panel for CSIRO Marine and Atmospheric Science Division
Panel Member, External Review of the Monash University Civil Engineering Department
Convenor, Climate Scientists Australia
Invited participant, Garnaut Climate Change Review – Update 2011 Workshop, Melbourne, 17 Dec 2010

Ray Ison
Independent reviewer, National Water Commission’s Developing Future Directions for the Urban Water Sector project
Panel member, Expert Review of the European Union’s Sustainable Water Management in the City of the Future (SWITCH) program

John Langford
Chairman, Murray Darling Freshwater Research Centre
Member, Victorian Water Trust Advisory Council
Member, Independent Panel advising Cabinet on the Victorian Sustainable Water Strategies
Member, Independent Panel advising NSW Government on Sydney’s Metropolitan Water Plan
Member, Expert Working Group, Prime Minister’s Science, Engineering and Innovation Council: Challenges at Energy-Water-Carbon Intersections
Board Member, Peter Cullen Water and Environment Trust

Kerry Pratt
Coordinator, Australian Academy of Technological Sciences and Engineering, Parliamentary Science and Technology Briefing Program
Member, Clean Coal Victoria Advisory Committee, Victorian Department of Primary Industries

Anna Skarbek
Member, Australian Government Non-Government Organisation Roundtable on Climate Change
Board member, Carbon Market Institute
Board member, Sustainable Melbourne Fund
Board member, Thermometer Foundation for Social Research on Climate Change
Board member, Linking Melbourne Authority

Janet Stanley
Member, Ministerial Reference Council for Climate Change Adaptation for Minister Gavin Jennings, Minister for the Environment under Victorian Labor Government
Member, Transport and Social Inclusion Committee, Victoria Department of Transport
Interim Board member, Melbourne Transformation Cluster, Committee for Melbourne
Research Associate, Institute of Transport Studies, Monash University

John Thwaites
Member, Australian Government Non-Government Organisation Roundtable on Climate Change
Chair, ClimateWorks Australia
Chair, The Climate Group Ltd.
Chair, Peter Cullen Water and Environment Trust
Chair, Australian Centre for the Moving Image
Chair, The Brotherhood of St Laurence Low-Income Families and Climate Change Taskgroup
Director, Green Building Council of Australia
Member, Steering Committee for Sanitation and Drainage in Dili Timor Leste
Congress Ambassador, International Healthy Parks Healthy People Congress 2010
Invited participant, Think Tank on Planning Principles for Climate Change, Local Government and Planning Officials Group, Brisbane, 8 March 2010

Invited participant, Future directions for water reform: The role of institutional arrangements, National Water Commission and ANZSOG Workshop, Melbourne, 13 May 2010

Invited participant, The Global Foundation Australia Unlimited Roundtable, Melbourne, 30 June 2010

Invited participant, Melbourne a Knowledge City, Melbourne Leaders’ Forum, 19 Nov 2010

Belinda Towns
Monash Representative, Higher Education Sustainability Victoria Steering Group
Member, Monash University Senior Management Team (Environment)
Member, Monash University Carbon Neutrality Stakeholder Reference Committee
Member, Monash University Green Purchasing Committee
Vice-President, Australasian Campuses Towards Sustainability

Awards and Fellowships

Mark Boulet
Exceptional Performance Award, Monash University
Top 100 Most Influential People, The Age (Melbourne) Magazine (Fairfax Media)

Rebekah Brown
Finalist, National Water Commission Professor Peter Cullen Eureka Prize for Water Research and Innovation
WME Leaders List: Urban and Industrial Water

Paul Read
Australian Postgraduate Award

Anna Skarbek
2010 Future Summit Leadership Award, Australian Davos Connection (ADC)

Philip Wallis
Peter Cullen Trust Fellowship, 2010 Leadership Program “Bridging Water Science and Policy”

Tony Wong
Sir John Holland Civil Engineer of the Year Award

Publications

Books and book chapters

Peer-reviewed journal articles
In press peer-reviewed journal articles


Other articles


Conference papers


Reports


Ison, RL, B Iaquinto, KB Collins & J Floyd (2010) Transitioning Sydney to a water sensitive city. A report based on two day workshop with 119 water practitioners in Sydney in February 2009, Sydney Metropolitan Catchment Management Authority, Blacktown City Council, School of Geography and Environmental Science (Monash University) and Centre for Water Sensitive Cities (Monash University), Melbourne.


Grants and Philanthropic support
This table lists current grants and grants received in 2010.

<table>
<thead>
<tr>
<th>Source</th>
<th>Project title</th>
<th>Recipients</th>
<th>Total funding</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC Linkage Grant</td>
<td>Systemic and adaptive water governance: Lessons for Australia from China and South Africa</td>
<td>Yongping Wei, John Langford, Ray Ison, Qi Feng &amp; John Colvin</td>
<td>$320,553</td>
<td>2010 – 2012</td>
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<tr>
<td>AusAid</td>
<td>Catchment management Indonesia</td>
<td>Paul McShane</td>
<td>$209,000</td>
<td>2009 – 2010</td>
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<td>AusAid</td>
<td>Catchment management Vietnam</td>
<td>Paul McShane</td>
<td>$160,400</td>
<td>2009 – 2010</td>
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<tr>
<td>AusAid</td>
<td>Extending successful community-based forestry management experience for application in REDD scheme reforestation trials and development of an Asian carbon economy</td>
<td>Paul McShane</td>
<td>$255,000</td>
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<tr>
<td>AusAid</td>
<td>Managing community impacts of climate change in India and Bangladesh</td>
<td>Paul McShane</td>
<td>$250,000</td>
<td>2009 – 2010</td>
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<tr>
<td>AusAid</td>
<td>Strengthening capacity for climate change policy development (Indonesia)</td>
<td>Paul McShane</td>
<td>$245,000</td>
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<tr>
<td>AusAID Australian Leadership Awards Fellowship</td>
<td>Developing proactive policy and practice for land and water management responsive to climate change</td>
<td>Paul McShane</td>
<td>$321,500</td>
<td>2010</td>
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<tr>
<td>AusAID Australian Leadership Awards Fellowship</td>
<td>Integrated management of international rivers in response to climate change</td>
<td>Paul McShane</td>
<td>$220,200</td>
<td>2010</td>
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<td>Australian Carbon Trust, through the Australian Department of Climate Change and Energy Efficiency</td>
<td>Low Carbon Growth Plan contribution</td>
<td>ClimateWorks Australia</td>
<td>$181,820</td>
<td>2010</td>
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<td>Australian Football League</td>
<td>AFL – Green Club Program</td>
<td>Mark Boulet</td>
<td>$20,000</td>
<td>2010</td>
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<td>Australian Housing and Urban Research Institute (AHURI)</td>
<td>Feasibility study on place-based disadvantage</td>
<td>Janet Stanley</td>
<td>$8,000</td>
<td>2010</td>
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<td>Brown Coal Innovation Australia (BCIA)</td>
<td>BCIA Fellow</td>
<td>Kerry Pratt</td>
<td>$1,000,000</td>
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<td>Committee for Economic Development of Australia</td>
<td>Australian Water Resources Project</td>
<td>John Langford</td>
<td>$100,000</td>
<td>2010</td>
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<tr>
<td>Commonwealth Department of Education, Employment and Workplace Relations – Workplace Innovations Programme</td>
<td>Evaluation of Green Steps program and development of accreditation under Vocational Education and Training system</td>
<td>Mark Boulet</td>
<td>$225,000</td>
<td>2010</td>
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<td>Diversicon Environmental Foundation</td>
<td>Climate Scientists Australia</td>
<td>ClimateWorks Australia</td>
<td>$20,000</td>
<td>2009 – 2010</td>
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<tr>
<td>Dusseldorf Skills Forum</td>
<td>The igreen and Y Green projects: Potential benefits from program expansion</td>
<td>Janet Stanley</td>
<td>$4,000</td>
<td>2010</td>
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<tr>
<td>Ecosystems Services Poverty Alleviation programme</td>
<td>Strengthening research capacity of China and South Africa in sustainable water resources management with UK and Australian experiences</td>
<td>Ray Ison</td>
<td>£120,000</td>
<td>2009 – 2010</td>
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<td>Energy Red</td>
<td>Internship funding</td>
<td>ClimateWorks Australia</td>
<td>$1,600</td>
<td>2010</td>
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<tr>
<td>EPA Victoria</td>
<td>Regional Low Carbon Growth Plan for Geelong</td>
<td>ClimateWorks Australia</td>
<td>$200,000</td>
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<td>EPA Victoria, Sustainability Victoria &amp; The Shannon Company</td>
<td>Behaviour Change Initiative</td>
<td>Liam Smith &amp; John Thwaites</td>
<td>$729,000</td>
<td>2011 – 2013</td>
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<tr>
<td>Source</td>
<td>Project title</td>
<td>Recipients</td>
<td>Total funding</td>
<td>Years</td>
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<td>--------------------------------------------------------------</td>
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<td>Fuji Xerox Australia</td>
<td>Sustainability training for dealers</td>
<td>Mark Boulet</td>
<td>$5,000</td>
<td>2010</td>
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<td>Greensync Pty. Ltd.</td>
<td>Social and environmental sustainability</td>
<td>Janet Stanley &amp; Phil Blythe</td>
<td>$10,000</td>
<td>2010</td>
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<td>Helen Macpherson Smith Trust</td>
<td>Electricity and water demand management</td>
<td>Janet Stanley, John Langford &amp; Philip Wallis</td>
<td>$45,000</td>
<td>2009 – 2010</td>
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<td>McKinsey &amp; Company</td>
<td>Low Carbon Growth Plan contribution</td>
<td>ClimateWorks Australia</td>
<td>$420,000 in kind</td>
<td>2010</td>
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<td>Monash Faculty of Medicine, Nursing and Health Sciences 2011 Faculty Strategic Grants</td>
<td>Perceived impacts of long term water insecurity on health and well-being of residents in small towns in rural Victoria</td>
<td>Marion Carey, Martha Sinclair, Malcolm Sim &amp; Margaret Stebbing</td>
<td>$14,034</td>
<td>2011</td>
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<td>Moreland Energy Foundation Ltd.</td>
<td>Monitoring and research advice to the Moreland Energy Foundation and Solar Cities project</td>
<td>Janet Stanley &amp; Phil Blythe</td>
<td>$33,000</td>
<td>2010</td>
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<td>National Australia Bank</td>
<td>Investor Perspectives’ Report for Retail &amp; Healthcare</td>
<td>ClimateWorks Australia</td>
<td>$50,000</td>
<td>2010</td>
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<tr>
<td>National Australia Bank</td>
<td>Sustainable Futures Forums</td>
<td>ClimateWorks Australia</td>
<td>$50,000</td>
<td>2010</td>
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<td>Natural Disaster Resilience Grants Scheme, Office of the Victorian Emergency Services Commissioner</td>
<td>Improving an information campaign for prevention of bushfire arson</td>
<td>Janet Stanley</td>
<td>$35,000</td>
<td>2010 – 2012</td>
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<td>Oaktree Foundation</td>
<td>Global Changers Program – facilitator</td>
<td>Mark Boulet</td>
<td>$2,000</td>
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<td>Qld Department of Environment and Resource Management &amp; Griffith university</td>
<td>Queensland Youth Environment Council</td>
<td>Mark Boulet</td>
<td>$10,400</td>
<td>2010</td>
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<td>RACV Insurance</td>
<td>Causes and prevention of bushfire arson</td>
<td>Janet Stanley</td>
<td>$75,000</td>
<td>2009 – 2010</td>
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<td>RACV Insurance</td>
<td>The Australian Bushfire Arson Prevention Initiative</td>
<td>Janet Stanley</td>
<td>$30,000</td>
<td>2010 – 2011</td>
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<td>Regional Development Victoria</td>
<td>Regional Low Carbon Growth Plan for Gippsland</td>
<td>ClimateWorks Australia</td>
<td>$300,000</td>
<td>2010</td>
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<td>Sustainability Victoria</td>
<td>Green Steps internship support for government agencies participating in ResourceSmart program</td>
<td>Mark Boulet</td>
<td>$20,000</td>
<td>2010</td>
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<td>Sustainability Victoria</td>
<td>ResourceSmart Healthcare</td>
<td>Mark Boulet</td>
<td>$61,000</td>
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<td>Sustainability Victoria</td>
<td>ResourceSmart Tertiary Education</td>
<td>Monash Sustainability Institute</td>
<td>$81,904</td>
<td>2010</td>
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<td>Sustainable Campus Group members</td>
<td>SCG membership fee 2010</td>
<td>Monash Sustainability Institute</td>
<td>$98,912</td>
<td>2010</td>
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<td>Sydney Metropolitan Catchment Management Authority &amp; Blacktown City Council</td>
<td>Opening conversations for communities of practice in water governance: Sydney</td>
<td>Ray Ison</td>
<td>$38,000</td>
<td>2010 – 2011</td>
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<td>The Myer Foundation</td>
<td>ClimateWorks Australia</td>
<td>Dave Griggs</td>
<td>$4,600,000</td>
<td>2009 – 2013</td>
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<td>VicHealth</td>
<td>Climate change and biodiversity health effects research fellowship</td>
<td>Dave Griggs</td>
<td>$403,000</td>
<td>2009 – 2012</td>
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<tr>
<td>Victorian Centre for Climate Change Adaptation Research (VCCCAR)</td>
<td>Critical perspectives on scenario planning</td>
<td>Ray Ison</td>
<td>$10,000</td>
<td>2010 – 2011</td>
</tr>
<tr>
<td>Victorian Centre for Climate Change Adaptation Research (VCCCCAR)</td>
<td>Framing multi-level and multi-actor adaptation responses in the Victorian context</td>
<td>Ray Ison &amp; Philip Wallis</td>
<td>$120,000</td>
<td>2010 – 2011</td>
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<td>Victorian Department of Primary Industries</td>
<td>Systems thinking – capability development and application in relation to climate change adaptation and water managing</td>
<td>Ray Ison</td>
<td>$105,500</td>
<td>2009 – 2010</td>
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<td>Victorian Department of Sustainability and Environment</td>
<td>Low Carbon Growth Plan contribution</td>
<td>ClimateWorks Australia</td>
<td>$100,000</td>
<td>2010</td>
</tr>
</tbody>
</table>
Contacts

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Building 74, Clayton Campus
Monash University, Victoria 3800, Australia

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E: enquiries@msi.monash.edu.au
W: www.monash.edu/research/sustainability-institute