



## FACT SHEET 4

### *Considering climate change:*

#### **Review of policy and initiatives relevant to climate change adaptation**

The Peel Climate Change Adaptation Policy and Initiatives review, outlined below in alphabetical order, provides a brief summary of some of the climate change policies and adaptation initiatives relevant to the development of climate change adaptation policy in Western Australia.

#### **Adapting To Climate Change: A Queensland Local Government Guide Local Government Association of Queensland (LGAQ) (QLD)**

This gives assistance to assess climate change impacts on Queensland local governments and appropriate adaptation responses.

#### **Adapting to the Impacts of Climate Change in the Western Port Region 2005-2006 Projects – Western Port Greenhouse Alliance (WPGA)**

The Project was funded by the Victorian Department of Sustainability and Environment to assess the knowledge needs for responding to climate change in the Western Ports area and raise awareness about climate change. Marsden Jacob Associates, CSIRO and the Regional Development Company were engaged to deliver the project.

Documents and reports associated with the project are available at [http://www.seccca.org.au/project\\_summary.asp?data\\_id=11](http://www.seccca.org.au/project_summary.asp?data_id=11)

#### **Australian Local Government Association (ALGA)**

The Australian Local Government Association provides information and resources and represents local government. ALGA has prepared a climate change discussion paper that highlights the wide ranging implications of climate change for local government and identifies issues of relevance to local government, including: access to science and information, potential impacts of the Carbon Pollution Reduction Scheme, planning for the future (the need to review new information and incorporate it into policy etc, actions to support local adaptation, water reform and managing emergencies).

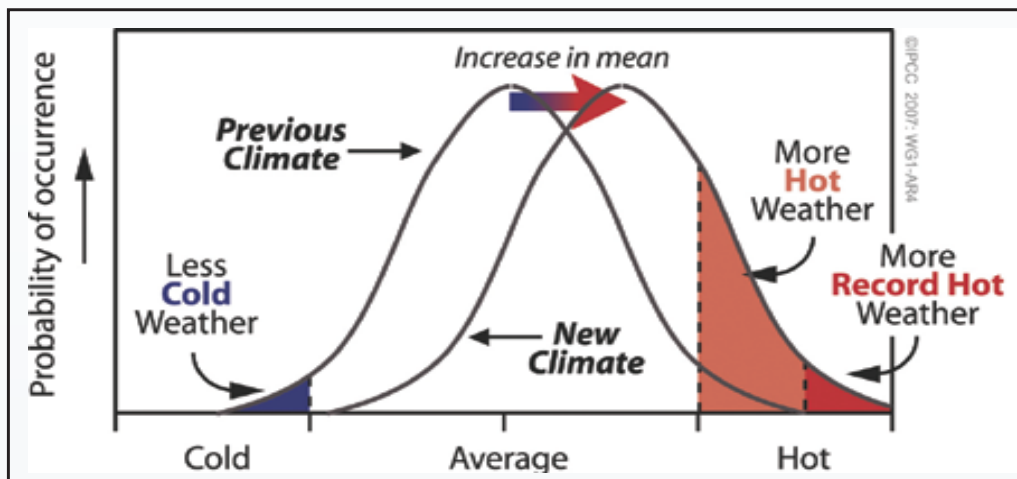
#### **Australia's Biodiversity and Climate Change (Department of Climate Change)**

This summarises the strategic assessment of the vulnerability of Australia's biodiversity to climate change. An independent Expert Advisory Group (commissioned by the Natural Resource Management Ministerial Council) conducted the assessment and reported findings to the department of climate change. Key findings include:

- Climate change will exacerbate existing threats to biodiversity as well as having direct impacts
- Effects are already discernable at genetic, species and ecosystem levels
- The magnitude and rate of change is problematic
- *“Management objectives for the future aimed at maintaining all species in their present locations and ecosystems in their present composition will no longer be appropriate. A management priority must be to maintain the provision of ecosystem services through a diversity of well functioning ecosystems, some of which may have no present day equivalent”* (p. 20 summary for policy makers).

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- There is a need to build resilience by:
  - managing connectivity of ecosystems
  - protecting key refugia
  - fire and disturbance management regimes
  - enhancing the national reserve system
  - effective control of invasive species
  - ecological engineering (in some circumstances)
- Risk assessments are needed to identify vulnerable species and ecosystems
- Reorientation of policy and legislative frameworks, reform of institutional and governance frameworks to support novel strategies for biodiversity conservation, **e.g. integrated regional approaches tailored for regional differences in environments, climate change impacts and socio-economic trends are necessary**
- Ongoing mitigation of greenhouse gas is necessary.



Relationship between means and extremes: This graph shows the relationship between a shifting mean and the proportion of extreme events when extreme events are defined as some fixed physiological or life history threshold. Source: (IPCC 2007b). The report recognises that biodiversity conservation has been underfunded for the last 200 years.

### **Biodiversity at the Heights (BATH) Project – Gold Coast City Council (QLD)**

The Biodiversity at the Heights project is an International project led by Griffith University. The project is undertaking a fauna and insect study in Lamington National Park to identify signs of climate change effects on biodiversity. Information will be used to develop the nature conservation strategy to incorporate adaptation strategies to reduce climate change impacts on vulnerable species and ecosystems.

### **Capacity Building in Local Government Mitigation and Adaptation Project Local Government Shires Association of New South Wales (LGSA)**

This project develops and disseminates information to increase local governments' understanding of climate change scenarios, impacts and mitigation and adaptation opportunities through a strategic approach. The website has information and resources available.

Contact: Amy Lovesey, Climate Change Mitigation and Adaptation Policy Officer, amy.lovesey@lgsa.org.au, 02 9242 4128. <http://lgsa.org.au/policy/planning-for-climate-change>

### **Carbon Pollution Reduction Scheme (CPRS) Draft Legislation (Aust)**

Draft legislation for a national emissions trading scheme was released on 10 March 2009. The proposed CPRS is a cap and trade scheme and was due to commence in 2010; however, it has been the subject of a Parliamentary review and this and the recent economic downturn have seen the delay of implementation until 1 July, 2011. The development of a national carbon pollution reduction scheme will be a key driver of greenhouse gas reductions in Western Australia.

### **Climate Change Planning for Byron Shire – Byron Shire Council (NSW)**

In November 2008, Byron Shire Council approved plans to ensure that climate change scenarios were incorporated into council planning frameworks. All planning reports must now include climate change assessments and impacts. A climate change action plan is also being prepared. [www.byron.nsw.gov.au](http://www.byron.nsw.gov.au)

### **Climate Change Risk Assessment Project – Swan River Trust**

The Swan River Trust produced a technical paper in 2007; *Potential Impacts on Swan and Canning Rivers*. A Climate Change Risk Assessment methodology has been developed (with the assistance of City of Perth and based on the Australian/New Zealand Standard (4360:2004)) for Local Governments to assess risks to foreshores and identify adaptation options. This model is currently being used to conduct a risk assessment at Point Fraser (on the Swan River). Mapping is currently being undertaken with the results expected in September 2009.

Contact: Christie Atkinson, [christie.atkinson@dec.wa.gov.au](mailto:christie.atkinson@dec.wa.gov.au), 08 9278 0852.

### **WALGA Climate Change Management Toolkit**

The Western Australian Local Government Association has developed toolkit to assist local governments in Western Australia adapt to climate change. The website provides a 7 step process to help local government managers develop climate change adaptation strategies through the provision of information and tools.

The toolkit is available at [www.walgaclimatechange.com.au](http://www.walgaclimatechange.com.au)

### **Climate Change Vulnerability Assessment Project – Town of Cottesloe (WA)**

This is a pioneering risk assessment project funded by Emergency Management Australia and facilitated by Coastal Zone Management (CZM). The project identified risks to key infrastructure and options available for treatment. It outlines international and Australian best practice.

Project reports are available at <http://cottesloe.wa.gov.au>

### **Climate Change Working Party – Western Sydney Regional Organisation of Councils (NSW)**

The Climate Change Working Party was developed to support member councils in responding to climate change through the development of partnerships with researchers and to provide localised and specific climate change information to identify risks and adaptation options. Councils involved in the project include: Auburn Council, Bankstown City Council, Blacktown City Council, Blue Mountains City Council, Fairfield City Council, Hawkesbury City Council, Holroyd City Council, Liverpool City Council, Parramatta City Council, Penrith City Council, Hills Shire Council.

Contact: Colin Berryman, WSROC Natural and Built Environment Coordinator. Information and resources are available at: [www.wsroc.com.au](http://www.wsroc.com.au)

### **Climate Impacts on Clarence Coastal Areas Project – Clarence City Council (Tas)**

Clarence City Council received funding from the Department of Climate Change National Climate Change Adaptation Program, State Government State Emergency Service through the Tasmanian Risk Mitigation Program and Clarence City Council to undertake an assessment of the climate change impacts on coastal areas in the Clarence City Council in response to concerns about flooding in low lying coastal areas.

The report *Integrated Assessment (1A) Climate Change Impacts* is available on the Clarence City Council website and includes draft changes to the planning scheme. Public forums were held to inform the community of the project and the report, and a survey was undertaken to assess community attitudes and knowledge of climate change.

Contact: John Stevens, [twebb@ccc.tas.gov.au](mailto:twebb@ccc.tas.gov.au)

The project received the (Tasmanian) Premiers Award for Climate Action in 2009.

### **Coastal Options Project – City of Thuringowa**

The City of Thuringowa in partnership with James Cook University undertook a two-year investigation into climate change impacts of sea level rise, coastal erosion and storm surge on coastal communities north of Townsville. The project included a risk assessment on existing and future development and the development of adaptation options.

### **Coastal Zone Risk Assessment – City of Mandurah (WA)**

The City of Mandurah secured funding under the Federal Governments Local Adaptation Planning program to undertake a risk assessment of the coastal zone. Risk assessment and adaptation workshops were undertaken under the facilitation of Coastal Zone Management.

Contact: Craig Perry 9550 3777.

## **Commonwealth Scientific and Industrial Research Organisation (CSIRO) Climate Impacts Group**

The Climate Impacts Group was launched in the late 1980s and currently has several divisions engaged in climate change research. Its focus is on providing comprehensive, rigorous science to help Australia understand and plan for climate change. The Climate Adaptation National Research Flagship is developing responses to adapt to the expected impacts of climate change. A new adaptation initiative has recently been announced. **The Online Tool for Community Adaptation to Climate Change** has attracted \$330 000 from the Department of Climate change (announced on 4 March 2009).

Contact: Dr Andrew Ash, Director, Climate Adaptation Flagship 07 3214 2346, Andrew.Ash@csiro.au

## **Cost Benefit Model for Climate Change Adaptation and Mitigation at the Local Scale Ku-ring-gai Council**

Ku-ring-gai Council developed a conceptual risk analysis and cost benefit response model that expands on the Australian Greenhouse Office risk assessment model. Ku-ring-gai Council is working with Macquarie University to develop this into a generic planning model suitable for use by local government agencies globally. The cost benefit analysis tool was used to assist with identifying and prioritising adaptation options.

Contact: Jennifer Scott, Sustainability Program Leader, 02 9424 0862, jscott@kmc.nsw.gov.au

## **Department of Agriculture and Food (WA) Climate Change and Adaptation in South West Western Australia: Community, industry and government views on past and future climate change for South West Western Australia (November 2006)**

Action 5.5 of the Western Australian Greenhouse Strategy.

Two phases:

1. How residents, organisations, institutions, industries and natural systems have responded to climate changes that began in 1970's:
  - historical review 1970-2006
  - stakeholder consultation
  - scoping report
2. A detailed study to assess the vulnerability of the region's various sectors to future climate change and improve adaptation capacity:
  - Consultation with stakeholders from community, industry, government.

## **Future Proofing Perth's Eastern Region: Adapting to Climate Change – Eastern Metropolitan Regional Council (EMRC) (WA)**

The Eastern Metropolitan Regional Council is a regional organisation of six councils (Town of Bassendean, City of Bayswater, City of Belmont, Shire of Kalamunda, Shire of Mundaring and City of Swan). The project was funded by EMRC and through the Federal Local Adaptations Pathways program to undertake a regional climate change risk assessment and develop an adaptation plan. Coastal Zone Management facilitated the workshops. Reports are not currently publicly available.

Contact: Naomi Rakela, Senior Policy Officer, (08) 9424 2273, Naomi.Rakela@emrc.org.au



## **Garnaut Review (Aust)**

The Council of Australian Governments commissioned a review of the impact of climate change on the Australian Economy. The Review was conducted by Professor Ross Garnaut. The Review report and other documents can be found at <http://www.garnautreview.org.au/>. Following the 2007 federal election, the Commonwealth joined the review and committed to investigating an emissions trading scheme.

## **Impacts of Climate Change on Human Settlements in the Western Port Region: An Integrated Assessment – Western Port Greenhouse Alliance (WPGA)**

This two-year project was funded by the Australian Government Department of Climate Change and the Victorian Department of Sustainability and Environment. It was managed jointly by Marsden Jacob Associates and the Western Port Greenhouse Alliance.

The report builds on the *Adapting to the Impacts of Climate Change in the Western Port Region 2005-2006 project* (see above). The project aims to improve the understanding of the economic, social and scientific impacts of climate change on the region, build the capacity of local governments to adapt and develop a strategy that could be used by other local governments in Australia for built environment and local adaptation responses to those impacts. The project follows a risk assessment and adaptation process. Reports are available at: [http://www.wpga.org.au/projects/Final\\_Risks\\_and\\_Adaptation.pdf](http://www.wpga.org.au/projects/Final_Risks_and_Adaptation.pdf), or by contacting Greg Hunt, Executive Officer, ph (03) 9705 5129.

## **'International Council for Local Environmental Initiatives' – Local Governments for Sustainability; (ICLEI) Cities for Climate Protection Program**

The Cities for Climate Protection (CCP) program focused on greenhouse gas emissions abatement and mitigation in local governments via a milestone framework. Although the program has now finished, information and resource are available on the ICLEI website.

## **'International Council for Local Environmental Initiatives' – Local Governments for Sustainability; (ICLEI) Local Government Adaptation Toolkit**

The Local Adaptation Toolkit is based on the Federal Government's Climate Change and Risk Management Framework and uses conceptual models to identify information on individual topics. It aims to build capacity within local governments to develop and implement climate change adaptation plans via a milestone process. An adaptation toolbox provides additional information and resources.

## **Intergovernmental Panel on Climate Change (IPCC)**

The Intergovernmental Panel on Climate Change (IPCC) is recognised as the leading authority on climate change. It is responsible for reviewing climate change research to '*understand the risk of human induced climate change, its observed and projected impacts and options for adaptation and mitigation*' (IPCC, 2007). The IPCC has been reviewing and summarising climate change data since 1988. The Fourth Assessment Report was released in 2007.

The Fifth Assessment Report is currently being outlined and is due for release in 2014. Additionally, the IPCC is preparing a report on '*Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*' which is due in 2011.



## Kyoto Protocol

The Kyoto Protocol is the primary international legal instrument for addressing climate change and has been ratified by 177 countries, including Australia (see below). The protocol includes legally binding targets of at least 5% below 1990 levels for the period 2008-2012.

The Rudd Labour Government ratified the Kyoto protocol on 3 December 2007 and became a party to the protocol on 11 March 2008. This means that Australia's commitment to a reduction of 108% of 1990 greenhouse gas levels (Department of Premier and Cabinet 2002) is now binding.

## Local Adaptation Pathways Program (Department of Climate Change – Australia)

The Federal Government's Local Adaptation Pathways Program provides funding for local governments to assess climate change risks and develop adaptation strategies. Thirty-three projects were funded in the first round and seven projects were funded in the second round. Projects funded under the first round are nearing completion and information on some projects will become available in the near future.

## Local Adaptations Pathways Program (LAPP) Southern Metropolitan Regional Council (SMRC) (WA)

The Southern Metropolitan Regional Council includes the Cities of Canning, Cockburn, Fremantle and Rockingham and Towns of East Fremantle and Kwinana. The LAPP project aimed to identify the climate change risks to participating councils across the suite of council operational areas and implement a risk management framework. The project was funded by the Federal Government's Local Adaptations Pathways program. GHD Australia was contracted to facilitate workshops. The Risk Assessment report has been completed and the Adaptation Report is currently in draft form. The reports are expected to be available in August 2009.

Contact: Anis Zaman, anis@smrc.com.au

## Managing Science Intensive Public Policy: Institutional Arrangements and Climate Change Policy – Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC) (Australia)

This project investigates how science research is integrated into public policy to improve communication amongst scientists and decision makers to facilitate the development and deliverance of targeted public policy that is in the public interest. ACE CRC is collaborating with a number of research, education and government bodies.

Contact: Dr Rosemary Sandford, Project Leader, Policy, rosemary.sandford@acecrc.org.au

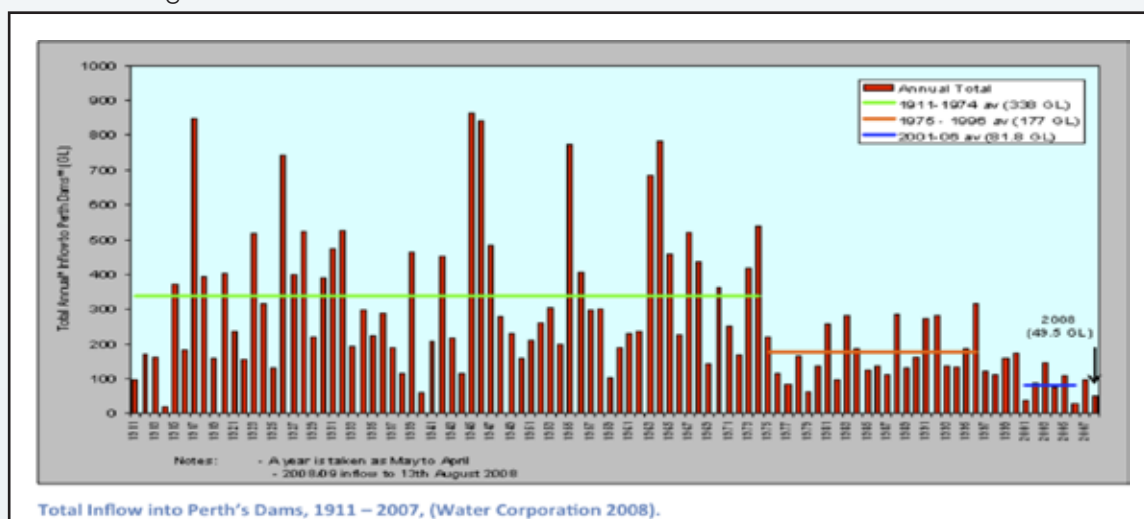
## National Adaptation Research Plan – Emergency Management (Aust)

The National Adaptation Research Plan has been developed to address climate change adaptation needs in the disaster management and emergency services areas. This research plan is currently awaiting ministerial approval.

Contact: Florence Crick, f.crick@griffith.edu.au. <http://www.nccarf.edu.au/content/narp-emergency-management>

## National Climate Change Adaptation Program (NCCAP) (Aust)

NCCAAP identifies research gaps and tools to be developed to assist governments, industries and community to adapt to climate change. The program was launched under the Australian Greenhouse Office in 2004 and is focused on impacts of climate change.



## **National Climate Change Adaptation Framework (Australia)**

The Council of Australian Governments (COAG) National Climate Change Adaptation Framework identifies a collaborative framework for all levels of government in Australia to adapt to climate change. The COAG Working Group on Climate Change and Water was tasked with accelerating implementation of agreed upon action in the 2007 National Climate Change Adaptation Framework by:

- developing, implementing and reviewing policies and strategies, including regulation, standards and economic instruments. This includes integrating climate change considerations into existing policies and strategies;
- establishing and maintaining community and essential services to deal with the impacts of climate change, including emergency management and health services;
- building adaptive capacity, including providing tools and information, raising awareness of adaptation options, educating key professionals about adaptation and investing in climate change science as well as related social, ecological and economic studies;
- managing risks from climate change to their own programs, activities and assets, including natural ecosystems for which governments have management responsibility (e.g. crown land, state forest, national parks) and infrastructure (e.g. transport, electricity and water); and
- Implement policies and measures to promote awareness, build adaptive capacity and facilitate adaption.

## **National Climate Change Adaptation Research Facility (NCCARF) (Australia)**

Hosted by Griffith University, the National Climate Change Adaptation Research Facility is a multi-institutional research collaborative and a focus point for climate change adaptation. \$126 million has been funded by the Department of Climate Change. The facility is developing sector or topic based National Adaptation Research Plans with other institutions and end users with a focus on generating the knowledge required for Australia to adapt to the physical impacts of climate change. [www.nccarf.edu.au](http://www.nccarf.edu.au)

## **New England Strategic Alliance of Councils (NSW) Climate Change Adaptation Project**

The New England Strategic Alliance of Councils secured funding under the Federal Local Adaptations Pathways program to develop a regional climate change adaptation strategy. Councils involved in this project include Armidale Dumaresq, Uralla, Walcha and Guyra. This project builds on the work of the NSW Community Climate Consensus Project (2008) and was facilitated by SKM consultants. The draft adaptation report is available at <http://armidale.nsw.gov.au/images/documents/armidale/mig/133741-Climate.pdf>. Contact: Director Sustainable Planning and Living, Steve Gow Phone: (02) 6770 3853, [sgow@armidale.nsw.gov.au](mailto:sgow@armidale.nsw.gov.au)

## **Ocean Beach Coastline Management Plan – Manly Council (NSW)**

This involves the development of a coastal management plan and emergency action plan to direct future management of Manly Ocean Beach which incorporates future climate change impacts into the planning process. The project has developed a 10-20 year strategic plan for the area. A copy of the Management Plan is available on the website at <http://www.manly.nsw.gov.au>.

## **Office of Climate Change (WA)**

The Office of Climate Change was established within the Department of Environment and Conservation in May 2007. It is responsible for a whole of government approach to the economic, environmental and social impacts of climate change in Western Australia.

## **Renewable Energy (Electricity) Act 2000 (Commonwealth of Australia)**

The Renewable Energy (Electricity) Act 2000 encourages additional renewable energy generation by obligating electricity retailers to source a proportion of their electricity from approved renewable energy sources under mandatory renewable energy targets (MRET) which apply until 2020. Renewable energy certificates (RECs) are generated for each megawatt of renewable energy produced (including small scale renewable energy sources such as photovoltaics, wind generation). Electricity generators must surrender sufficient RECs based on energy used. Failure to surrender sufficient RECs results in financial penalties.

### **Risk Assessment Model – South West Catchments Council (SWCC) (WA)**

GHD has been contracted by the South West Catchments Council to develop a risk assessment model for biodiversity/natural resources management. The risk assessment tool is expected to be available by August. Contact: Fionnuala Hannon, Principal Environmental Consultant, GHD, [fionnuala.hannon@ghd.com.au](mailto:fionnuala.hannon@ghd.com.au)

### **Sea Level Rise – Gold Coast City Council (QLD)**

In 1998 the Gold Coast City Council pioneered the introduction of the impact of sea level rise on town planning to identify implications for future land development. CSIRO modelling was used in the analysis. Consequently an additional 27cm buffer on top of Q100 flood levels was incorporated into plans. Further modelling was commissioned to identify impacts of storm surges and frequency specific to the area.

### **Start Early, Finish Early Cook Shire Council (Qld)**

This is an adaptation initiative where the council has implemented changes to the external workforce working hours to avoid temperature related climate change risks.

### **United Nations Framework convention on Climate Change (UNFCCC)**

The UNFCCC was adopted at the 'Earth Summit' on 4 June 1992 and entered into force on 21 March 1994. It is the primary foundation for international cooperation to address climate change and aims to stabilise 'greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system' (United Nations, 1992, p. 4). Parties to the UNFCCC agree to mitigate greenhouse gas emissions, however these commitments are not binding. Binding targets are included in the Kyoto Protocol.

### **Victorian Climate Change Adaptation Program**

This program developed a policy choice framework for decision makers to select policies to assist primary industries adapt to climate change. It involved collaboration between several Victorian Government Departments including: Sustainability and Environment, Primary Industries, Human Services, Premier and Cabinet, and Innovation, Industry and Regional Development. The Victorian Climate Change Adaptation Program undertook a review of climate change policy (high level) to inform climate change policy in Victoria.

### **Victorian Climate Change Green Paper**

The Victorian Government has recently released a Green Paper on Climate Change. Discussion on this draft policy will help shape the Victorian Government's policy response to climate change.

The development of the green paper was influenced by the Victorian Climate Change Summit. The summit was held on 4 April 2008 to gather information to assist in the development of the green paper. One hundred delegates from a range of disciplines attended. Following the summit a discussion paper, A Climate of Opportunity was released to continue to raise awareness and generate debate in the community. A copy of the Green Paper can be found at: [http://www.climatechange.vic.gov.au/\\_\\_data/assets/pdf\\_file/0016/125422/Victorian-Climate-Change-Green-Paper-July-2009.pdf](http://www.climatechange.vic.gov.au/__data/assets/pdf_file/0016/125422/Victorian-Climate-Change-Green-Paper-July-2009.pdf)