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Australian Local Government and Climate Change

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UTS Centre for Local Government

An Australian Government Initiative

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Disclaimer

This report represents a snapshot of climate change policy and programs current at the time of writing, June 2010. Due to frequent changes of policy and programs across all sectors involved in climate change policy and programs, readers are advised to check the relevant websites listed in the report for the latest information.

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1. Introduction

This working paper provides a snapshot of what is happening in local government in Australia in relation to climate change. In particular it explores the following questions:

1. What key government resources are available to councils on the science of climate change and the potential impacts?
2. What are the likely impacts of climate change at the local government level?
3. What initiatives are underway at a national, state and local government representative body level that local government decision makers should know about?
4. What is being done across the local government sector in response to climate change?
5. Where are the gaps, and what are the needs and challenges?

While the paper is written for a broad audience, it is intended that it be of particular use to local government elected representatives, managers who are at early stages of developing climate change strategies, and councils with less access to current research on this topic. The researchers have drawn on desktop research and interviews with a select number of experts in the field. The report is structured around key issues in relation to the questions outlined above.

1.1 The science of climate change

Although the science of climate change is not the focus of this paper, a brief overview of the position generally accepted by Australian governments is outlined below. The key web based resources available to local government on the science of climate change and the potential impacts of climate change are also listed below**.**

The majority of the world's scientists agree that human activities have resulted in observed increases in global average temperatures, particularly since the middle of the 20th century. Recent data indicates that the global mean temperature has increased by between 0.2 and 0.6°C since the late 19th century, while Australian average temperatures have increased by 0.8°C. For 2008, the global mean temperature was 14.3°C, making it the tenth warmest year recorded since 1850.[1]

The International Panel on Climate Change (IPCC) was established by the world Meteorological Organisation (WMO) and the United Nations Environment Programme (UNEP) to assess scientific, technical and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation. The IPPC reports are the primary source of information for policy makers.[2] The IPCC's 'Fourth Assessment Report' (2007) concludes that global warming has accelerated in recent decades, and there is new and stronger evidence that warming over the past 50 years is attributable to the increase in greenhouse gas emissions associated with human activities.

It is acknowledged that Australia is very vulnerable to the effects of climate change because it is the driest inhabited continent and heavily exposed to the dangers of extreme heat and drought. The CSIRO Climate Impacts Group is helping understand climate change across the different regions of Australia and advises policymakers on dealing with climate change.[3]

[1] World Meteorological Organisation, based on research by Met Office Hadley Centre and the Climatic Research Unit at University of East Anglia who maintain the global climate record for the WMO.
[2] Viewed June 2010 <www.ipcc.ch>
[3] Viewed June 2010 <www.csiro.au/science/Climate-Change-Regional-Impacts.html>

It is difficult to precisely predict what the impacts of climate change will be, as they vary with each region. Best estimates are that by 2030 Australia will face:

- a further 1ºC of warming
- up to 20 per cent more months of drought
- up to 25 per cent increase in days of very high or extreme fire danger
- increases in storm surges and severe weather events.[4]

Mean sea level is expected to rise with local and regional variations due to land-sea movements and changes to ocean currents. The anticipated range of sea level rise is estimated to be 18 to 76 cm by 2100 including contributions from ice sheet dynamics (IPCC 2007).

At the 2009 Copenhagen COP/MOP (Conference of the Parties of the UN Framework Convention on Climate Change/Meeting of the Parties to the Kyoto Protocol), the science of climate change was clearly accepted. However it is acknowledged that climate change – its causes, consequences and responses – has been a subject of political debate in Australia and overseas. The main focus of the debate has not been about whether the climate is changing but whether it is being caused largely by human activity.

The CSIRO and the Bureau of Meteorology's report, *State of the Climate Snapshot*, seeks to respond to growing attacks on the science that underpins human induced global warming.[5] When releasing the report, these organisations advised the public that they have been collecting objective and observable climate information for a century. The climate change website of the Australian Parliamentary Library is another useful source of regularly updated information on key climate change issues.[6] It includes summary information of some of the main scientific uncertainties and areas of disagreement, as well as some of the common misconceptions among the public.

1.2 Resources available to councils on the science

There is a huge range of resources on climate change science and related impacts in addition to the IPCC reports referenced above. The table below represents important Australian reports and associated websites that have been recommended by local government personnel interviewed for this report. The information contained in these reports on the science of climate change will provide a solid basis of knowledge for the non-specialist in local government.

In addition to these sources, the state and territory government bodies listed in Section Four provide a range of state based research reports on their websites. For those interested in further reading, a number of Australian universities make their climate change research findings publicly available.

The National Climate Change Adaptation Research Facility (NCCARF) is a leading national interdisciplinary research community seeking to generate information needed by decision-makers in government and in vulnerable sectors and communities. NCCARF, funded by the Department of Climate Change and Energy Efficiency, is responsible for preparing a number of National Adaptation Research Plans to identify critical gaps in the information available to decision-makers. Research networks have been established to work with NCCARF to implement the National Adaptation Research Plans. These networks, - Terrestrial Biodiversity, Primary Industries, Water Resources & Freshwater Biodiversity, Marine Biodiversity & Resources, Human Health, Settlements and Infrastructure, Emergency

[4] Commonwealth Department of Climate Change and Energy Efficiency
[5] CSIRO, viewed June 2010 <http://www.csiro.au/resources/State-of-the-Climate.html>
[6] APH Library, viewed June 2010 <www.aph.gov.au/Library/pubs/ClimateChange/index.htm>

Management and Social, Economic & Institutional Dimensions are hosted by different universities. For further information about the activities of NCCARF and calls for research proposals, visit: www.nccarf.edu.au

1.3 Useful reports on climate change in Australia

Organisation	Resources
CSIRO and the Bureau of Meteorology **www.climatechangeinaustralia.gov.au/index.php**	*Climate change in Australia: Technical report - 2007* provides the most up to date assessment of Australia's changing climate. It includes the results of climate change modelling of a range of climate change variables for each of three time horizons (2030, 2050, 2070) for each season (summer, autumn, winter, spring), as well as annual averages, for each of three greenhouse emission scenarios (low, medium, high) Catchment climate change scenarios (2009) *State of the Climate Snapshot* (March 2010)
Australian Government Department of Climate Change and Energy Efficiency **www.dcc.gov.au**	*Climate Change 2009: Faster Change & More Serious Risks.* Authored by Professor Will Steffen of the ANU Climate Change Institute, this report draws on the science of climate change since the IPCC's 2007 Fourth Assessment Report. Data on Australia's emissions. DCCEE publishes *Australia's National Greenhouse Accounts*, which outline Australia's greenhouse gas emissions as a nation, by state and by industry *Q & A – Climate change science fact and fiction* provides responses to common questions
Parliament of Australia - Parliamentary Library **www.aph.gov.au/library**	Series of background notes on climate change written for parliamentarians and updated on a regular basis. For example *Climate change: The case for action,* by Dr Julie Styles
Garnaut Climate Change Review **www.garnautreview.org.au**	*Garnaut Climate Change Review Final Report*, addressing llikely impacts of climate change on Australia's economy, environment and resources, and the costs and benefits of a range of possible policy interventions
Australian Local Government Association **www.alga.asn.au/sor/2007**	National Economics produces annual 'State of the Regions' reports for ALGA. The *2007-08 State of the Regions Report* focuses on climate change and its implications and impact on Australia's diverse regions. The issues of water supply, drought, health and legal impacts for local government are also discussed
The Climate Institute **www.climateinstitute.org.au**	Useful reports for local government decision makers include: *Bushfire Weather in Southeast Australia; Recent trends and projected climate change impacts* (2007)

2. Impacts of climate change at local government level

The Australian Local Government Association (ALGA) has produced a report on practical issues facing local government in dealing with climate change, as part of a broader discussion paper prepared for the Local Government and Planning Ministers' Council (LGPMC).[7] The paper reinforces the need for a dual approach:

- Management and reduction of greenhouse gas emissions (**mitigation**)
- Making adjustments to existing activities and practices so that vulnerability to potential impacts associated with climate change can be reduced and opportunities realised (**adaptation).**

For almost two decades councils have been undertaking *mitigation* strategies, with a focus on reducing greenhouse gas emissions associated with buildings, streetlighting, waste, transport, and water and sewerage systems. Other strategies include offsets and bio-sequestration (eg carbon storage through reafforestation) and adoption of renewable energy sources. However, there is increasing acceptance that the impacts of climate change are already being felt and although mitigation efforts may lessen these impacts, further change is inevitable and all levels of governments need to develop short, medium and long term responses.

Drawing on consultation with local, state and federal stakeholders, the ALGA report provides the following summary of the likely impacts of climate change on a wide array of local government services:

Planning policy and development assessment

- Inappropriate location of urban expansion areas
- Increased uncertainty in long-term land-use planning and infrastructure design, i.e. location of future developments, suitability of infrastructure designs to cope with changing climate, etc
- Loss of private property and community assets
- Increase in insurance costs and public liability claims
- Increased pressure on disaster management and response resources
- Early retirement of capital infrastructure
- Cost of retrofitting of systems

Litigation

- Potential legal challenges if it is argued that councils have unreasonably failed to take into account the likely effects of climate change in exercising a wide range of their service, planning and development activities
- Potential OHS and public liability claims

Roads and Transport

- Changes in rates of deterioration – faster deterioration in wetter areas but potentially slower deterioration in areas where rainfall decreases. Deterioration may also result from higher temperatures and increased solar radiation
- Inundation of surface and/or underground roads in coastal areas, potentially resulting in destruction
- Changes in frequency of interruption of road traffic from extreme weather events and emergency transport routes disrupted

Buildings and Housing

- Increased risk of damage from bushfires
- Changes in frequency of wind, rain, hail, flood, storm events and damage, potentially resulting in destruction
- Cyclone damage and destruction due to changes in wind intensity
- Higher rates of building deterioration and associated maintenance costs

[7] ALGA (2009) 'Towards a national planning framework for climate change mitigation and adaptation', (unpublished).

- Location of caravan parks
- Changes in building heating/cooling needs (can be either negative or positive)

Coastal infrastructure

- Increased coastal erosion and inundation
- Increased frequency, or permanent inundation of, coastal infrastructure and utilities e.g. water, sewerage, gas, telecommunications, electricity, transportation
- Destruction, damage and disturbance to council-managed marinas and boat ramps
- Increased erosion and/or exceedance of seawalls, jetties and other coastal defences

Economic Development and Tourism

- Impacts on viability of industries
- Pressure on tourism activities (especially those relying on natural resources)
- Impacts on tourism/recreation activities along the coast
- Increased costs associated with operation and maintenance costs of public amenities/recreational sites due to climate variation

Social and community planning

- Rural decline and climate impacts on the rural and regional sectors
- Increased population pressure on temperate zones
- Internal migration and accommodation of new migrants and climate change refugees

Provision and use of recreational facilities

- Impacts on coastal recreational infrastructure
- Loss of existing public space in coastal areas
- Impacts on tourism/recreation activities along the coast
- Increased costs associated with operation and maintenance costs of public amenities/recreational sites due to storm damage
- Variation in landscaping design and plant species
- Needing to provide additional climate protective infrastructure for the young and elderly

Maintenance of recreational facilities

- Reduced water quality and quantity resulting in less watering/irrigation of open space and sports grounds and closure of ovals
- Limited water for swimming pools, etc
- Beach and inland lake closures, eg. due to e.coli levels after storms
- Limited water for swimming pools
- Need for more open space shelters

Health services; Community/workplace health

- Milder winters improving communities' comfort levels
- Increase in geographical range and seasonality of vector-borne diseases and the possibility for an expansion of infect zones (eg Ross River fever)
- Potential increased role in community immunization
- High temperatures increasing incidence of food and water-borne diseases
- Risk of increased cryptosporidium infections during open water swimming in summer
- Health impacts due to exposure to extreme weather, e.g. heat waves
- Extreme rainfall events transporting contaminants into waterways and drinking water supplies
- Increased pressure on drinking water supplies
- An increase in injuries due to increased intensity of extreme events, e.g. storm surge and coastal flooding in coastal regions of Australia due to changes in sea level rise and human settlement expansion into coastal catchments

Emergency/bushfire management

- Increased emergency response and recovery operations
- Risks to public safety and tourism and longer term impacts on regional economies
- Responding to flooding, drought, bushfire, cyclones/major storms, coastal inundation, heat wave, landslides, erosion
- Reduction in water availability for irrigation
- Changes in pest management

Agriculture/biosecurity

- Changes in the type and viability of primary industries
- Loss of farming properties
- Reduction in water availability for irrigation
- Changes in pest management

Natural resource management/coastal management

- Increased coastal erosion and inundation
- Loss of private property/community assets
- Loss of beach width
- Changes to wetlands due to sea level rise, shoreline erosion and saltwater intrusion

Weed/pest management

- Changes in distribution of invasive species due to changes in climate and associated loss of biodiversity and changes to bushfire intensity

Biodiversity Protection

- Shifts in distributions of plant and animal species
- Increased risk of population and species extinctions
- Reduced ecosystem resilience to stress
- Increased ecosystem and species heat stress
- Increased pressure on dunal systems
- Changes to mangrove habitats due to salt water intrusion
- Increases in ecological disturbances

Water and sewerage services

- Inundation of storm water and sewerage systems
- Reduced security of water supply (depending on source)
- Environmental and supply contamination
- Increased peak flows
- Increased potential for erosion
- Changes in groundwater levels
- Changes in flood plains
- Reduced dry weather sewerage flows
- Reduced/unreliability of power supply for sewage pumping and treatment if existing electricity suppliers cannot maintain pace with long term changes in climate

Stormwater and drainage

- More intense rainfall resulting in inflow and infiltration into wastewater networks
- Exceedance of existing flood defences
- Exceedance of drainage capacity
- Reduction in drainage capacity due to sea level rise and storm surge
- Changes in mean and peak stream and river flows
- Lower levels of rainfall, reducing pressure on storm water systems

Wastewater

- Changes in intensity of rainfall events impacting inflow and infiltration to wastewater network
- Potential for blockages and dry weather overflows during dry spells

Water supply

- Changes in mean and peak stream and river flows
- Uncertain water availability
- Insufficient water supply in some areas
- Increased potential for water contamination
- Salination of surface and groundwater supplies
- Changes in availability of groundwater available for irrigation

3. Federal government initiatives, support and funding

3.1 Federal government climate change commitments

The Federal government has made the following commitments in relation to climate change:

- Reduce carbon pollution emissions to 108 per cent of 1990 levels in the first compliance period and track progress against the target in Australia's National Greenhouse Accounts (commitment under the Kyoto Protocol)
- Reduce emissions to 25 per cent below 2000 levels by 2020 by restraining atmospheric concentrations of greenhouse gases to 450 parts per million (equivalent to reducing the average emissions of every Australian by almost a half over the next ten years). This is on the condition that there is a fair contribution from all emitters around the world to take strong action to reduce the risk of dangerous climate change
- If the international community is unable to reach agreement on a 450 parts per million target, Australia will reduce emissions between 5 and 15 per cent below 2000 levels by 2020.

The Federal government reports that Australia is on track in meeting the Kyoto commitments.[8] However it needs to be noted that energy sector emissions grew by 40% between 1990 and 2006 (due largely to our reliance on coal) but during that period, total growth was moderated by significant reductions in land clearing.[9] Australia's per capita emissions are nevertheless the highest amongst OECD countries.

Draft legislation for the Carbon Pollution Reduction Scheme (CPRS), released on 10 March 2009, was voted down by the Senate in August and December 2009. The Federal Government introduced the legislation into the Parliament for the third time in February 2010 and then in April 2010 announced the decision to delay the introduction of the (CPRS) due to lack of bipartisan support. The Government is committed to re-introduce the CPRS after the end of the current commitment period of the Kyoto Protocol (which ends in 2012) and only when there is greater clarity on the actions of other major economies including the United States, China and India.

To deliver national emission reduction targets in the near term, the Government advises that it will boost existing investments in clean and renewable energy and support greater energy efficiency measures.

In October 2009, the House of Representatives Standing Committee on Climate Change, Water, Environment and the Arts tabled the report, *Managing our coastal zone in a changing climate,*[10] following extensive consultation across the country. Proposals include governance arrangements for the coastal zone. In response to concern raised by local government authorities about legal liability, several recommendations deal with insurance and legal matters and how planning schemes can better respond to projected climate change impacts capacity building for local government. In February 2010, the Federal government released the position paper, *Adapting to Climate Change in Australia*, which sets out the government's policy agenda for coordinating national efforts to adapt to the impacts of

[8] Australian Government (2009) 'Tracking to Kyoto and 2020', viewed June 2010 <http://www.climatechange.gov.au/publications/projections/tracking-to-kyoto.aspx>

[9] Professor Ross Garnaut (2008) *The Garnaut Climate Change Review: Final report,* viewed June 2010 <http://www.garnautreview.org.au/index.htm>

[10] Parliament of the Commonwealth of Australia (2009) *Managing our coastal zone in a changing climate,* viewed June 2010 <http://www.aph.gov.au/house/committee/ccwea/coastalzone/report.htm>

climate change. Further information on Federal Government commitments and its position in relation to ongoing international negotiations on climate change, can be found at: www.climatechange.gov.au

3.2 Summary of federal climate change related legislation

- **Kyoto Protocol**

The Kyoto Protocol is a legally binding international agreement linked to the United Nations Framework Convention on Climate Change. The protocol came into force from February 16, 2005. Australia ratified the protocol in 2007. The protocol sets binding targets for reducing greenhouse gas emissions and is also designed to help countries adapt to the impacts of climate change. See www.unfccc.int/kyoto_protocol/items/2830.php

- **Commonwealth Carbon Pollution Reduction Scheme Draft Legislation**

Under the proposed CPRS, the government would set an annual limit (or cap) on the total amount of carbon pollution that can be emitted under the scheme within Australia. The cap would be gradually lowered, reducing the level of carbon pollution we produce each year. If a CPRS is introduced, industries including local government will pay for the emissions they generate.

ALGA and several local government associations made submissions on the CPRS exposure draft. The key issues addressed in these submissions related to what were considered to be unfair attribution of costs to landfill operators and subsequently customers. The ALGA submission also argued that the retrospective imposition of costs relating to waste that has already been deposited in landfills was inequitable. The Federal government announced in May 2009 that legacy waste would not be included in the proposed CPRS, and that it would consult with local government and the waste sector on any arrangements affecting landfills below a threshold of 25,000 tonnes carbon dioxide equivalent.
See www.climatechange.gov.au/emissionstrading/legislation/index.html

- **National Greenhouse and Energy Reporting Act 2007**

The *National Greenhouse and Energy Reporting Act 2007* (Cth) requires corporations and facilities that emit greenhouse gases above a certain threshold to report their emissions, energy usage and consumption, including some local governments.
See www.comlaw.gov.au

- **Renewable Energy Target (RET) Scheme**

The RET scheme stipulates that by 2020, 20% of Australia's electricity supply will come from renewable sources. The RET expands on the existing Mandatory Renewable Energy Target (MRET) which began in 2001. Legislation to implement the expanded RET scheme was passed by the Commonwealth Parliament on 20 August 2009.
See www.climatechange.gov.au/government/initiatives/renewable-target

3.3 National frameworks and programs relevant to local government

There is increasing recognition by the Federal Government that local government is on the frontline in dealing with the impact of climate change on communities, and that a whole of government response is required to manage this challenge. According to the Prime Minister, the Australian Council of Local Governments (ACLG) was created so that we can "...hear from, and talk to, all levels of government."[11] The first meeting of ACLG was held on 28th November 2008. Climate change is one of the issues on its agenda.

The following table summarises key federal government climate change guidelines, reports and funding programs of relevance to local government.

Federal Government department	Guideline and funding/resources
Climate Change and Energy Efficiency www.climatechange.gov.au www.LivingGreener.gov.au	**GUIDELINE** *Climate Change Impacts and Risk Management – A Guide for Business and Government* (2006) *National Biodiversity and Climate Change Action Plan, 2004 – 2007* Climate Change – Potential Impacts and Costs [prepared for each state] *Local Government Climate Change Adaptation Toolkit* (developed by ICLEI for DCC) *Climate Change Adaptation Actions for Local Government* (2009) *Climate Change Adaptation Action Plan* (2009) designed to assist emergency services adapt to climate change **FUNDING/RESOURCES** *Local Adaptation Pathways Program* – funding for climate change risk assessment projects. See DCCEE website for funded projects and also for information on the Climate Change Risk Management Services Panel (a panel of approved consultants for applicants) The *LivingGreener website* (www.livinggreener.gov.au) provides information on government funding and support, including state and territory rebate programs. See also www.climatechange.gov.au for updated information on the Green Loans program and the Renewable Energy Bonus Scheme
Environment, Heritage, Water & the Arts (DEWHA)	**FUNDING/RESOURCES** Responsibilities for energy efficiency and renewable energy programs have been transferred from DEWHA to

[11] Prime Minister's address to the Business Council of Australia 27 October 2009, "*Building a big Australia : Future planning needs of our major cities",* viewed June 2010 <www.bca.com.au/Content/101620.aspx>

www.environment.gov.au	the Department of Climate Change and Energy Efficiency. DEWHA continues to manage rebates for households under the *National Rainwater and Greywater Initiative* and *Education for Sustainability* programs Web resources include a wide range of research and educational publications
Infrastructure, Transport, Regional Development and Local Government **www.infrastructure.gov.au**	**FUNDING/RESOURCES** $25 million *Local Government Reform Fund***,** aimed at building local government capacity by 'funding collaborative projects which help build resilience in critical areas such as asset and financial management, workforce planning, or demographic and climate change adaptation.' Funding applicable to states and territories in partnership with local government associations Management of Grantslink website: www.grantslink.gov.au
Attorney-General's Department **www.ag.gov.au**	**FUNDING/RESOURCES** The Federal Government under the Natural Disaster Resilience Program (NDRP) is offering the Natural Disaster Resilience Grants Scheme (NDRGS). The NDRGS replaces the Natural Disaster Mitigation Program and makes grants available to local governments and agencies to undertake a wide range of natural disaster risk assessments and risk reduction works. Past funded projects include disaster risk management plans, bushfire hazard and risk assessment, flood mitigation works and sea level rise scoping studies

4. State and territory targets, initiatives and funding

4.1 Policy initiatives and funding by state and territory

The following summary presents the main state or territory climate change initiatives relevant to local government at the time of writing. These reflect a mix of approaches - including market-based measures, information and awareness-raising, and regulation, to assist in meeting emission reduction targets. Where available, targets are also included.

State or territory	Policy initiative/ Funding and resources
New South Wales **Department of Environment, Climate Change and Water** **www.environment.nsw.gov.au** **Targets** **60% cut in ghg emissions by 2050 and return to year 2000 greenhouse emission levels in NSW by 2025**	**POLICY INITIATIVE** *NSW State Plan*, contains emission reduction and renewable energy consumption targets Policy initiatives include NSW Greenhouse Gas Reduction Scheme, residential and commercial building rating tools and Energy Efficiency Strategy. *NSW Sea Level rise policy statement (2010)* contains guidelines on incorporating sea level rise benchmarks into coastal hazard assessment and flood risk assessment. *Memorandum of Understanding* with the LGSA on Climate Change **FUNDING/RESOURCES** $700 million Climate Change Fund (over 5 years) for communities, schools and business $150 million NSW Energy Efficiency Strategy and the Energy Savings Scheme The NSW Environmental Trust provision of funds on a competitive basis to councils and groups of councils for sustainability plans and projects. *NSW Climate change Impact Profile: The impacts of climate change on the biophysical environment of NSW (2010)* *The Business Guide to the Low Carbon Economy: New South Wales (2009)*
Victoria **Office of Climate Change, Dept of Premier and Cabinet** **www.climatechange.vic.gov.au**	**POLICY INITIATIVE** *Victorian Climate Change Green and White Papers* and proposed *Climate Change Bill* *Victoria Coastal Strategy 2008* *Future Coasts* program (Dept of Sustainability & Environment) includes information about the impacts of sea level rise along the Victorian coast, with a focus on

Targets **Support federal government reduction target depending on global agreement being reached**	coastal erosion and flooding. $5 million 'Centre of Excellence' for climate change adaptation research. For range of initiatives covering renewable energy, energy efficiency, transport, business programs, carbon sinks and waste, see www.climatechange.gov.au **FUNDING/ RESOURCES** *The Victorian Local Sustainability Accord* funding program has provided total $5 million to councils to date. $23 million Climate Communities program to support community initiatives Energy efficiency programs, include '*Black Balloon'* campaign and energy saving fact sheets (www.saveenergy.vic.gov.au) Resources include *Emissions Trading Factsheets* (DSE) and education materials
Queensland **Office of Climate Change** **www.climatechange.qld.gov.au** **Targets** ***ClimateSmart 2050* supports the national greenhouse gas emissions reduction target of 60% below 2000 levels by 2050**	**POLICY INITIATIVE** Revised strategy, *ClimateQ: Towards a Greener Queensland* *ClimateSmart 2050,* covering the community, energy, transport, primary industries, industry, planning and building sectors. Initiatives include Queensland Climate Change Fund, Queensland Renewable Energy Plan, Solar Bonus Scheme, Smart Energy Saving Program. *ClimateSmart Adaptation: 2007-2012 Action Plan* Banning broadscale clearing of native vegetation (2007) **FUNDING/RESOURCES** Office of Climate Change web resources Office of Clean Energy resources include information on rebates, Home EnergyWise and WaterWise programs. *The Business Guide to the Low Carbon Economy: Queensland (2009)*
South Australia **Sustainability and Climate Change Office** **www.climatechange.sa.gov.au**	**POLICY INITIATIVE** *Climate Change and Greenhouse Emissions Reduction Act 2007 (SA)* *SA Greenhouse Strategy 2007-2020* *Planning Strategy for Greater Adelaide,* - including

Targets **The Government of South Australia will work towards becoming carbon neutral for its own operations by the year 2020.** **Achieve the Kyoto target by limiting the State's greenhouse gas emissions to 108% of 1990 levels during 2008-12, as a first step towards reducing emissions by 60% by 2050.**	strategies for climate change adaptation Premier's Climate Change Council **FUNDING/ RESOURCES** $2 million Building Innovation Fund $20 million Renewable Energy Fund SA Urban Forest Million Trees Fund
Western Australia **Department of Environment & Conservation (DEC)** **www.dec.wa.gov.au** **Targets** **No stated state policy or target**	**POLICY INITIATIVE** Office of Climate Change now absorbed into DEC and developing climate change adaptation and mitigation strategies. *Strategic Energy Initiative* Discussion Paper (Office of Energy) Local Government partnership program **FUNDING/RESOURCES** Support to WALGA for adaptation projects including Adaptation toolkit, and assistance to councils in applying for LAPP grants *$30 million Low Emissions energy Development Fund* Energy efficiency initiatives now under Office of Energy (www.clean.energy.wa.gov.au)
Tasmania **Office of Climate Change** **www.climatechange.tas.gov.au** **Targets** **Target to reduce its greenhouse emissions to at least 60% below 1990 levels by 2050.**	**POLICY INITIATIVE** *Framework for Action on Climate Change* Climate Change Impact Statements $3 million *Climate Futures for Tasmania* project, - providing climate change data at a local scale Climate Change Office partnership program Partnership agreement with local government (2008) **FUNDING/RESOURCES** *Climate Connect* Community Grants Program

Northern Territory **Climate Change Policy and Coordination Unit, Department of the Chief Minister, NT Government** **www.nt.gov.au/nreta/environment/greenhouse** **www.greeningnt.nt.gov.au/climate/policy.html** **Targets** **Aspirational target of 60% carbon emissions reduction by 2050**	**POLICY INITIATIVE** $34 million Northern Territory *Climate Change Policy* (2009) **FUNDING/RESOURCES** *Greening the Territory* website *Energy Smart* rebates NT *EnvironmeNT* Grants [for schools, business, education] Support for *Coolmob* programs
ACT **Department of the Environment, Climate Change, Energy and Water** **www.environment.act.gov.au/climate_change** **Targets** **The ACT Government has set a target of carbon neutrality by the year 2060, with a peak in per capita greenhouse gas emissions by 2013.**	**POLICY INITIATIVE** *Weathering the Change,* ACT Climate Change Strategy 2007 - 2025 ACT Greenhouse Gas Inventory ACT Government Climate Change News **FUNDING/RESOURCES** ACTSmart rebates and assistance (energy and water) – for households, business, schools and the community
Comparative work - National	Barbara Norman, *Planning for coastal climate change, An insight into international and national approaches* (www.climatechange.vic.gov.au/futurecoasts). Produced for the Victorian Departments of Planning and Community Development and Sustainability and Environment, this report includes a summary of state and territory responses prepared by the Intergovernmental Coastal Advisory Group research of April 2009, *Managing climate change impacts on the coast: A stock take of policies and technical documents from around Australia*

4.2 The Local Government and Planning Ministers' Council

The Local Government and Planning Ministers' Council (LGPMC) is one of 40 Commonwealth-State Ministerial Councils.[12] It leads debate and decision making on key strategic policy matters for local government and planning in Australia and New Zealand. In 2009 LGPMC agreed to develop a national framework and tools for use by local government to inform planning for climate change mitigation and climate change. See section 6 for a discussion on this initiative.

[12] www.lgpmcouncil.gov.au

5. Action by local government representative bodies

5.1 Local government associations

Representative body	Support/initiatives	Resources for councils
ALGA www.alga.asn.au	Participation in COAG, other relevant Ministerial Councils, committees and groups Policy advice to governments, submissions to relevant enquiries, Federal Budget submissions Briefings for Local Government and Planning Ministers, and Planning Officers Group Preparation of paper, *Towards a national planning framework for climate change mitigation and adaptation,* to be developed into a climate change planning framework	Policy adviser provides assistance to local government associations Web resources include: -Briefing paper (2008), *National Greenhouse and Energy Reporting Scheme, Carbon Pollution Reduction Scheme and complementary measures* -Local Government toolkit with specific products (in development)
LGSA NSW www.lgsa.org.au	*Climate Change Action Pack* program with support from NSW Government Workshops/training for councils *NSW Mayors Agreement on Climate Change* Awards and online discussion forum include climate change category	Policy officers – funded by NSW Government Web resources include: -Climate Change workshop papers -Tools, templates and techniques for addressing climate change -Funding opportunities -Case studies
MAV www.mav.asn.au	Briefings for members covering climate change issues, on a needs basis Environment Forum on Climate Change (2008) Workshop on adaptation for local government managers (Nov 09) Submissions to Victorian Climate Change Green Paper; CPRS (Green & White Papers)	Policy Adviser MAV Sustainability web resources include: -Conference papers & copies of submissions -LG Environment Management surveys (2002, 2006, 2008) Climate Change Case study snapshots (2009)
LGAQ www.lgaq.asn.au	Advocacy role through government advisory groups Preparation of *Climate Change Adaptation Guide (*2007) and *Climate Change Mitigation Guide* (2009)	No dedicated Climate change policy adviser Web resources available (for members only)
LGA SA www.lga.sa.gov.au	*LGA Climate Change Strategy 2008-2012* *SA Local Government Sector Agreement – Climate Change* *Coordinating risk & adaptation*	Policy Adviser Web resources include: -2007 Climate Change Survey (results available on request) -2008 Local Climate Change

	management framework, will produce data on every SA council and recommendations	Summit presentations -2009 Renewable Energy Forum presentations
WALGA **www.walga.asn.au** **www.walgaclimatechange.org.au**	*WALGA Climate Change Strategy* *Climate Change and Sustainability Annual review* Support for NGERS/CPRS Reporting for Local Governments Integrated planning project for climate change management with WA Office of Climate Change and DPI Web-based Climate Change Management toolkit *Greensense* Local government Emissions reporting platform (replacing CCP inventory)	Policy Adviser Web resources include: -Template Climate Change Policy Statement -Region specific information, publications & case studies -2008 Climate Change Survey results
LGAT **www.lgat.tas.gov.au**	Workshops and conferences Climate Change toolkit development Contract with Planet Footprint to assist 28 councils measure energy, water and greenhouse performance, assisted by State government	Policy Adviser Web resources include: -Climate Change toolkit -2009 Conference papers, *Local Govt Planning for Community in a changing climate* -Snapshot of local climate change initiatives (7 out of 29 councils employing full or part-time officers)
LGANT **www.lgant.nt.gov.au**	Through local government reference groups, seek to influence planning and priorities, and learn of issues and concerns Represent local government in NT Government *Climate Change Policy Working Group* Acted as proponent for councils with federal LAPP funding applications	Policy Officer funded by LAPP program Updates on climate change issues through newsletter Publication, *Disaster Risk Management in Northern Territory Aboriginal Communities(2005)*
ICLEI – Local Governments for Sustainability **www.iclei.org**	An international association of local governments providing membership services to over 1100 cities. In Australia and New Zealand (ICLEI Oceania) there are currently 130 Members with over 200 councils active in programs encompassing sustainability and climate change Provides access to international expertise, information and contacts to support and further the sustainable development needs of their councils. Political, program and technical	Programs to support councils action on climate change mitigation, adaptation, water management, sustainability and community health, include: -Adaptive and Resilient Communities -Water Campaign -Integrated Sustainability Services Access to international practice and case studies, including *The City Climate Catalogue* - a virtual tool portraying the climate

	support to elected representatives and management	commitments of the world's cities (ICLEI-UEP initiative) The ICLEI Cities for Climate Protection program played a unique role in supporting Australian council climate change work between 1997 and 2009.
CCCLM – Council of Capital City Lord Mayors **www.lordmayors.org**	Coordination of Major Cities Working Group Advocacy at national and international level, eg Copenhagen climate meeting 2009	Research papers for capital cities, covering sustainability, transport and infrastructure including the *Role of Australian Cities in Addressing Climate Change (2009)*

5.2 Regional Organisations and Greenhouse Alliances

Regional organisations of councils, funded by member councils, operate in most states of Australia. A number of these are undertaking nationally recognised action on climate change on behalf of their members. In Victoria many councils are part of greenhouse alliances, initially funded by Victorian Government, and now drawing on funding from alliance members.

Some council groupings focus on mitigation efforts and others on adaptation. Examples of documented initiatives that could be useful to other regions are listed below.

Regional Grouping	Initiative
Hunter & Central Coast region (HCCREMS) with Newcastle University, NSW **www.hccrems.com.au/climate_change**	Regional Climate Change project – projections for three sub regional climate zones with case studies
Sydney Coastal Councils Group, NSW **www.sydneycoastalcouncils.com.au**	SCCG research projects include: Coastal councils planning for climate change, Systems approach to regional climate change adaptation, Climate Change legislation project
Northern Alliance for Greenhouse Action, VIC **www.naga.org.au**	Alliance of nine councils and Moreland energy Foundation. Greenhouse gas reduction projects include *Towards Zero Net Emissions* for the NAGA region
South East Councils Climate Change Alliance, VIC **www.seccca.org.au**	Alliance of five councils with CSIRO and Victorian government that has produced an integrated assessment of impacts on regional settlements and adaptation responses

6. Progress reports and case studies from councils

As indicated in the introduction, individual councils and groups of councils have taken action on climate change for at least two decades. Most jurisdictions have requirements for the consideration of ecologically sustainable development (ESD) principles within the relevant local government legislation, and councils have been addressing the impacts of climate change in the context of ESD planning.

As the full range of initiatives of councils from across Australia cannot be addressed in this brief paper, the following is provided as an indicator of what is being achieved at the individual council level:

- Progress reports on council achievements as a sector
- Case studies that provide examples of significant achievements by councils or highlight an important issue for further consideration
- Sources of council case studies for further reference

6.1 Progress reports on local government action

The most recent report covering the contribution of councils to the national effort to reduce greenhouse gas emissions was prepared by ICLEI, reporting on the Cities for Climate Protection Program (CCP).[13] In 2007/08 over 3000 greenhouse gas abatement actions were reported by 184 councils across Australia. Based on CCP methodology, these actions are estimated to have collectively prevented 4.7 million tonnes of carbon dioxide equivalent (Co2-e) from entering the atmosphere. Further it was estimated that since the start of reporting in 1998/99, 18 million tonnes Co2-e were abated. It was also estimated that Councils saved almost 650,000 tonnes Co2-e through actions to reduce their corporate emissions from their buildings, street lighting, vehicle fleets, water and sewerage operations and from waste. They also purchased accredited offsets equivalent to 93,000 tonnes Co2-e. Following the closure of the ICLEI Cities for Climate Protection (CCP) program due to loss of federal funding, some state-based local government associations are assisting councils with emissions reporting to replace the inventory function formerly provided by CCP. However it is noted that the loss of this program has left a large gap.

Planning for adaptation to the impacts of climate change is considered to be at an early stage and research has not identified any comprehensive reports that summarise local government adaptation responses. However the Federal government report on climate change adaptation actions provides examples of initiatives and a range of case studies,[14] some of which have been referenced in section 6.2 below.

6.2 Case studies of mitigation initiatives

The following case studies were chosen to reflect key emission sources that could be influenced by local government, - acknowledging the variations in responsibilities of councils across the country. Many of the actions taken by councils to reduce emissions have other benefits including cost savings and social and health benefits which have assisted councils in gaining support for climate change related actions.

[13] ICLEI (2009) *Local Government Action on Climate Change, Measures Evaluation Report,* viewed June 2010 <http://www.iclei.org/index.php?id=ccp-reports>

[14] Australian Government (2009) *Climate Change Adaptation Actions for Local Government,* viewed June 2010 <http://www.climatechange.gov.au/en/what-you-can-do/community/local-government.aspx>

- **Transport and land use planning**

Darebin City Council in Victoria has implemented a range of sustainable transport initiatives through the *Darebin Integrated Travel Plan*. Council's own *Green Travel Plan* has resulted in a significant increase in sustainable modes by transport by staff, and also by visitors to council facilities.

- **Building Energy Efficiency**

As residential and commercial buildings are a major source of emissions in most Australian cities, councils have taken the lead in implementing and promoting energy efficient planning and building regulations. The **City of Melbourne** is implementing a *1200 Buildings Program* designed to retrofit 70% or 1200 of the existing commercial office buildings through incentives, awareness raising and regulation.

- **Low carbon energy solutions**

A number of councils have implemented renewable energy projects within their own operations. The **City of Sydney** is implementing the city wide *Green Transformers* project, which uses cogeneration technology (the simultaneous generation of electricity and harvesting of waste heat) on a large scale to provide low greenhouse heating and cooling for homes and workplaces.

- **Street lighting**

Brisbane City Council has installed stand alone solar lights in six locations across the city. As well as showcasing the use renewable energy technology as part of a city's public lighting, the project supports cycling and public safety objectives.

- **Revegetation for carbon income and biodiversity**

NSW councils, **Liverpool Plains Shire Council** and **Blacktown City Council** are partners in the *Regenesis* project. This project is aimed at creating carbon credits through tree planting on rural properties and generating income for local landholders and increasing biodiversity on private land.

- **Education and awareness-raising**

The **City of Newcastle** in NSW has achieve a 20% reduction in greenhouse gas emissions below projected 2008 levels through a range of community programs. The *Climate Cam* program, through a public website and public billboard enables council, schools, businesses and the wider community, to monitor energy and resource consumption. The billboard tracks monthly greenhouse gas data for the 15 Climate Cam zones.

- **Leading by example**

The **City of Melbourne** reduced its own emissions by 41% between 1996/97 and 2006/07 and now reports zero net emissions for the annual operations of the council.

Coonamble Shire Council, a rural shire in Central NSW with a population of less than 3,000 people resolved to become carbon neutral by the end of the 2009 calendar year with the first 50% becoming effective by the end of 2008. Initiatives to achieve this goal included the purchase of 100% green power, planting of 5000 trees and alternative fuel source for Council's plant fleet.

Councils are demonstrating innovation in the mechanisms they use to achieve emission reduction targets. For example, **Randwick City Council** is leading a group of 12 NSW councils in trialling a Local Government Emissions Trading Scheme (LGETS). The voluntary scheme (which is based on a flexible cap and trade emissions trading framework) is focused

on council's own operations including energy and gas consumption, fleet operations and street lighting.

6.3 Case studies of adaptation initiatives

Several councils at particular risk from the consequences of sea level rise and coastal inundation began putting adaptation measures in place as early as the 1980s, for example **Byron Shire Council**. Many more councils have begun implementing adaptation measures in recent times, building on climate change risk assessments funded by the Commonwealth government and state governments, and supported by local government representative bodies. The case studies below provide examples of the kind of initiatives being undertaken in response to existing and anticipated impacts on the main areas of council responsibility.

- **Climate change adaptation tool**

Ku-ring-gai Council in NSW has developed a climate change adaptation tool to assist it demonstrate precautionary diligence in relation to the impacts of climate change. This is a benefit/cost assessment tool which ranks climate change risk on a local scale and establishes a means to determine the appropriate level and timing of responses. It has been applied to local storm events and will be tested on all facets of climate change that may affect the council area. The tool is being used by council as a key element of the *Ku-Ring-Gai Climate Change Adaptation Strategy*, and documented in detail in the *Local Government Law Journal*.[15] For details of the strategy visit: www.kmc.nsw.gov.au

- **Infrastructure and property services**

Clarence City Council in Tasmania is undertaking the *Integrated Assessment and Responses to Sea-Level Rise Impacts on Clarence Foreshore* project, established to examine approaches that could be adopted by small coastal communities. The approaches to practical management options include planning controls for new development, and for locations where erosion threatens future development; physical works such as seawalls, groynes, dune management or sand nourishment, temporary or permanent flood barriers, reconstructions of public infrastructure above flood levels, detailed emergency management and evacuation planning, and education and information for the community. As a result, Council is now undertaking a range of work, including adding more sand to, and revegetation of, beaches and dune areas, the raising and reinforcement of some roads, the installation of effective sewerage systems and the development of new standards and planning controls. To download the reports, visit: www.ccc.tas.gov.au

- **Health Services**

As indicated in the discussion above on potential impacts, some regions of Australia will experience increased susceptibility to mosquito borne diseases such as the Ross River virus and dengue fever. The **City of Mandurah** and neighbouring councils in Western Australia's Peel region are already facing health risks from high numbers of mosquitoes that breed in the salt marshes. With the support of the WA Department of Health, the councils are undertaking aerial larvicide operations, and trialling new mosquito control techniques.

For information on the City of Mandurah mosquito control program visit www.mandurah.was.gov.au

[15] J.Scott, L.Hayward and A.Joyce (2008) 'Climate Change Adaptation – Socialising the Science', *Local Government Law Journal*, 14: 52-68.

Kingston City Council has developed a Heatwave Plan to supplement the Municipal Emergency Management Plan. The Plan was developed with guidelines and support provided by the Department of Human Services in response to the January 2009 heatwave during which 374 deaths were recorded in Victoria. The Plan raises awareness of the dangers posed by heatwaves to vulnerable groups living in the municipality and also to Council's employees. The Plan also considers how heatwaves may impact Council's ability to deliver services. For a copy of the plan and further information visit: www.kingston.vic.gov.au

- **Planning and Development Approvals**

In response to concerns about sea level rise and coastal erosion, **Byron Shire Council** has had in place a strategy of 'planned retreat' since 1988 which places restrictions on new development consents and additions to existing structures within the shire. The conditions of approval identify the need for some coastal buildings to be demountable and the trigger for removal is stated on the development consent. Information on coastal hazards is also placed on Section 149 Certificates to inform prospective buyers of restrictions. The policy which denies coastal property owners the right to erect or reinforce storm walls in order to push back development from the seafront, was at the centre of a dispute between Council and a landowner. It was settled out of court in January 2010. For information on Byron Shire Council policy, visit: www.byron.nsw.gov.au

Another example relating to property infrastructure is the type of building material that can be used to minimise the risk of damage from bushfire. The **ACT Planning and Land Authority** has developed planning guidelines for bushfire management as a result of the 2003 bushfires that devastated Canberra. All new suburban estates and rural residences within declared Bushfire Prone areas are now required to undertake a bushfire risk assessment. A number of risk mitigation measures have been identified within the guidelines. Similar practices are in place across NSW. For information on the guidelines and information brochures, contact 02 6207 923.

- **Natural Resource Management**

Salisbury City Council in South Australia has been constructing wetlands as an integral part of stormwater drainage systems for a number of years, with all new residential subdivisions in the last ten years required to install wetlands to contain stormwater on site as much as possible. As a result, the City now has more than 30 wetlands that cover approximately 250 hectares. This strategy has met a number of council objectives, including greater flood control and harvesting of water for reuse and aquifer recharge. For information on this and related initiatives, visit: www.salisbury.sa.gov.au

- **Water and Sewerage Services**

Groundwater provides a major source of Western Australia water supply and in particular supplies about 60% of Perth's water. Although the relationship between groundwater and climate change is still uncertain, there is the potential threat of groundwater being lost through increased evaporation rates. In order to ensure that sustainable yields from the aquifers are maintained into the future, the **City of Melville*** has been progressively adding meters to its groundwater bores to enable monitoring and management of extraction over the last 10 to 15 years. For information on the project, visit www.melville.wa.gov.au

6.4 Sources of further case studies

Further case studies can be sourced from a number of the local government association websites listed above, in particular the Municipal Association of Victoria (MAV), the Local Government and Shires Associations of NSW, and the Western Australian Local

Government Association. The MAV for example has produced two reports containing 21 case studies in total that aim to demonstrate innovation and best practice mitigation, adaptation and awareness-raising. The LGSA NSW 'Climate Change Action Pack' contains 30 case studies from different regions of NSW.[16]

It is acknowledged that there is a wide range of other excellent local government initiatives which are not documented in published case studies. Councils with innovative approaches to climate change are invited to contact the Australian Centre of Excellence for Local Government (www.acelg.org.au) and provide an outline of their initiative.

[16] See <http://www.lgsa-plus.net.au/www/html/1903-climate-change-action-pack.asp> viewed June 2010.

7. Gaps, needs and challenges

The following summary of key issues, needs and challenges identified by the local government sector has been drawn from surveys undertaken by local government associations and state and territory agencies, and by feedback from interviews with local government representative bodies. A number of these issues are also addressed in the October 2009 House of Representatives Committee report, *Managing our Coastal Zone in a Changing Climate*, referred to in Section 2 of this paper, and reflected in the *recommendations* of that report.

7.1 Information and research needs

A high priority identified by councils is the *need for specialist localised information on effects, impacts and responses.* Progress is being made in some regions, but much more work is needed. Consistent messages from all key sources will also assist in enabling decisive action by local authorities.

Research on *legal issues*, in particular in relation to local authorities acting or not acting in terms of climate change adaptation, is an ongoing priority. A related issue is the need for information about *costs* that would be involved in adapting to climate change, under different scenarios. Given the failure of the recent Copenhagen COP/MOP to agree a firm plan of action to limit further increases in global temperatures, it seems inevitable that councils will be faced with at least several decades of progressive adaptation, particularly in terms of local infrastructure and community facilities. Likely costs need to be established in as much detail as possible and factored into long term asset management and financial planning and related policy settings (eg federal financial assistance to local government, rate-pegging in NSW).

Even where information and research is available, the question of *access to information* has been raised and the need for a central database of key reports, templates and tools to assist decision making and action.

7.2 Planning guidance from state and federal government agencies

Variations between state and territory jurisdictions in the guidelines provided to councils, for example in relation to coastal vulnerability, are a source of frustration. With some exceptions, state government policies do not provide clear and consistent guidance, and councils near borders between jurisdictions face particular challenges. Councils are looking for *support in prioritising actions and expenditure* in response to risk factors in the context of limited revenues and many unknowns in terms of specific impacts. It is hoped that the LGPMC initiative (see Section 4) to develop a national framework for climate change mitigation and adaptation will go a considerable way towards addressing these needs, and that a clear timeframe for completion of this framework will be established.

Meanwhile councils are calling for more backing by their state government planning agencies in *enforcing existing planning guidelines*, for example floodplain management guidelines, and responding to the need for back- zoning in vulnerable areas. Councils who are trying to manage risks associated with existing and proposed development are faced with legal action by landowners and developers concerned about the impact on land values.

Consistency between policies of different departments within a jurisdiction is also crucial. Policies and plans for population growth areas need to take into account projections relating to climate change impacts.

7.3 State and territory government funding and support

Apart from significant funding to NSW councils through the NSW Environmental Trust (a competitive funding program), state and territory governments provide limited direct funding to councils for climate change related initiatives. However state funding for some of the climate change programs of the local government associations has been very well utilised in providing support and guidance to councils across the country.

There is an expectation by other levels of government that councils will play a major role in communicating with local communities and promoting awareness and behaviour change. In order to be effective in these roles, it is felt that *increased financial support and access to tools and templates* that can help reduce costs and avoid re-inventing the wheel should be a high priority. The successful Black Balloon education campaign was mentioned as an example.

7.4 Federal government funding and support

The Federal government formerly funded the Cities for Climate Protection program, which provided a formal milestone framework to reduce council and community emissions. 238 councils were members of the voluntary program, with a number having gone beyond the agreed milestones. The closure of the program in June 2009has left a significant gap for a number of councils, and no other organisation provides such a service on a national basis. The ALGA National General Assembly 2009 communiqué advocated the reinstatement of funding for the program.

Federal Government funding for climate change risk assessment, and for natural disaster mitigation, has been welcomed by councils. However, the following observations have been made about the main recent funding program, the *Local Adaptation Pathway Program* (LAPP).[17] The LAPP provided a small amount of money for each recipient to hire an external consultant (approved by the Federal government) to carry out the risk assessment. The view in the sector is that this approach has resulted in plans that are quite generic, of uneven quality, and not detailed enough to result in concrete action. It is also felt that to assist councils that did not receive funding, the findings from completed projects could be collated and the learning from completed projects shared more widely.

In its submission to the federal budget ALGA has advocated that the LAPP program be further expanded and funding increased from current levels to $100,000 per project, and comprise two components: support for conducting climate change risk management assessments, plus funding to develop adaptation and implementation plans to address identified risks.[18]

Budget allocations were also recommended by ALGA for a program to assist councils pay for strategic infrastructure projects, for capacity building, and enabling the exchange of best practice amongst local government practitioners. An annual national climate change adaptation summit and speakers series, and a local government climate change facilitators' network were other recommendations.

The House of Representatives Committee report acknowledges that councils lack the capacity and resources to do everything that is required of them. Council capacity and capability is clearly a significant factor in achieving an effective national response to climate change, and federal and state governments need to carefully examine how to further assist those councils that have very limited resources – many located in some of the areas most

[17] See <http://www.climatechange.gov.au/government/initiatives/lapp.aspx> viewed June 2010.
[18] Australian Local Government Association (Jan 2010) *2010 – 2011,* 'Budget submission', viewed June 2010 <http://www.alga.asn.au/submissions> under Submissions: 2010.

vulnerable to climate change impacts. In addition to the ALGA recommendations outlined above, consideration will almost certainly need to be given to adjustments to federal financial assistance grant allocations or other funding measures to help councils meet the long term challenges of climate change mitigation and, especially, adaptation measures.

7.5 Guidance and resourcing offered by local government associations

In response to the community priority placed on responding to climate change, local government associations are playing a key role in representing council interests on the issue, and providing resources, training and support to member councils. The collaborative nature of the sector has resulted in the sharing of resources between jurisdictions. As indicated above, local government associations are also stepping in to fill gaps, for example, through providing the inventory function supplied by the former CCP program. Gaps in research knowledge at a regional level are also being filled by regional groupings of councils.

It needs to be emphasised, however, that most climate change policy staff in the associations are funded from external sources and have a finite term, and not all associations have a full-time officer dedicated to climate change. As it is widely acknowledged that effective responses need to be developed over the long term, and continuity of support and guidance is essential in a changing policy landscape, a resourcing strategy for all these positions needs to be secured.

7.6 Local politics and local capacity

While there is very little debate about the science of climate change amongst governments around the world, those relying on the Australian media for information may have a different impression. The views of the political parties or other organisations to which some councillors belong, and those of the interest groups who influence councils, understandably have a bearing on the policies and actions of individual councils.

Although many councils have endorsed climate change policies, as evidenced by membership of the former CCP program, there are still a number of councils who have not taken any action on this issue, including some coastal councils.

For councils with major mining operations in their areas, such as in the Hunter region in NSW, Gladstone in Queensland, and the Pilbara in Western Australia, climate change policies with a focus on low carbon futures present particular challenges. Councils may be expected to show leadership in climate change mitigation, but also in maximising the returns from existing mining operations for the long term benefit of their communities, and planning for reduced reliance on income from mining.

7.7 Taking the next step

The fundamental challenge now for councils is to view climate change action as becoming core business and a central consideration in their short, medium and long term planning for their communities.

Concerns about climate change, and local impacts of climate change, are high on the agenda of many communities around Australia and there is increasing pressure on councils to come up with solutions. In response, councils are asking for localised information on impacts on which they can rely when making planning decisions. Many also need specialist

advice on planning and engineering options and other aspects of adaptation. Development of consistent national guidelines, adapted as required to different regional circumstances, seems likely to offer the most efficient and effective way forward.

Thus while there are already individual councils, and groups of councils, developing high quality plans, and many fine examples of mitigation and adaptation actions (as outlined above), local government representative bodies are advocating for common frameworks and metrics to assist with benchmarking and maximising consistency. Establishment of clear and consistent legal frameworks is another priority identified by these bodies.

Irrespective of whether or not Cities for Climate Protection or some similar program is re-instated, a valuable next step would be the establishment of a national 'secretariat' or 'clearing house' to provide local councils with as much consistent advice and support as possible across areas such as planning, asset management and legal issues. This could build on the experience and expertise gathered by ICLEI and others during the life of CCP. The cost would be modest – perhaps $1-2 million per annum including a small core staff and funds for technical research and advisory services.

Glossary - Abbreviations and key terms

Adaptation	Adjustment in natural or human systems in response to actual or expected climatic changes or their effects, which moderates harm or exploits beneficial opportunities. This is the primary means for maximising the gains and minimising the losses associated with climate change.
ALCG	Australian Council of Local Governments
ALGA	Australian Local Government Association
CCP, ICLEI	Cities for Climate Protection – a program of the International Council for Local Environment Initiatives, ICLEI
CPRS	Carbon Pollution Reduction Scheme
Climate Change	Any change in the state of the climate that persists over time, whether due to natural variability or as a result of human activity.
Climate projection	Projection of the response of the climate system typically based upon climate model simulations. These differ from climate predictions in that projections are based on assumptions that may or may not occur (e.g. technological and socio-economic developments) and are therefore subject to substantial uncertainty
Co2-e	Carbon dioxide equivalent
DCCEE	Commonwealth Department of Climate Change
EFS	Education for Sustainability
ESD	Ecologically Sustainable Development
GHG	Greenhouse Gas
LAPP	Local Adaptation Pathways Program, Australian Government
LGA SA	Local Government Association of South Australia
LGANT	Local Government Association of Northern Territory
LGAT	Local Government Association of Tasmania
IPCC	Intergovernmental Panel on Climate Change
LGMA	Local Government Managers Association
LGPMC	Local Government and Planning Ministerial Council
LGSA NSW	Local Government & Shires Associations of NSW
LGAQ	Local Government Association of Queensland
MAV	Municipal Association of Victoria
Mitigation	Response strategies that reduce the sources of greenhouse gases or enhance their sinks, to reduce the probability of reaching a given level of climate change. Mitigation reduces the likelihood of exceeding the adaptive capacity of natural systems and human societies.
ROC	Regional Organisation of Councils
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
WALGA	Western Australia Local Government Association
WMO	World Meteorological Organisation