MUNICIPAL ASSOCIATION OF VICTORIA

Municipal Association of Victoria

Submission

Productivity Commission - Barriers to Effective Climate Change Adaptation

January 2012

MUNICIPAL ASSOCIATION OF VICTORIA

The MAV can provide this publication in an alternative format upon request, including large print, Braille and audio.

The MAV is the statutory peak body for local government in Victoria, representing all 79 municipalities.

While this paper aims to broadly reflect the views of local government in Victoria, it does not purport to reflect the exact views of individual councils. This Submission has been endorsed by the MAV Board for submission to the Productivity Commission.

For further information about this submission contact:

Ben Morris
Manager Environment
Municipal Association of Victoria

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1 Executive Summary

The Municipal Association of Victoria (MAV) is pleased to make a submission to the Productivity Commission Inquiry into Barriers to Effective Climate Change Adaptation. Councils have significant and diverse roles and responsibilities under State and Federal legislation. Through the provision of planning, asset management, community services and environmental management responsibilities, councils influence land use and development. Councils also support and shape community values and behaviours in ways which can enhance, or detract from communities' climate change adaptation.

For councils to effectively contribute to communities' climate change adaptation, they must be supported by clear policy, good data and access to technical expertise. Their operating environment requires a proactive yet precautionary and cooperative approach where climate change mitigation and adaptation measures are fully integrated.

Unfortunately, councils currently experience barriers to effective adaptation from other levels of government and at a community level.

This submission identifies existing initiatives which support councils' adaptation efforts and identifies critical barriers that prevent or hamper progress. MAV research[1] has identified six critical issues that must be addressed for successful adaptation planning:

1. Information and guidance on climate change adaptation and planning
2. Understanding of and engagement in adaptation planning and implementation amongst council executive, council staff and councillors
3. Resources to conduct initial assessments and planning, and to facilitate and monitor implementation
4. Technical advice and collaboration on issues as they arise during implementation of adaptation plans
5. Information and data of sufficient detail regarding projected changes in climate to be integrated into councils' asset management and business continuity plans
6. Policies and guidelines that facilitate implementation of adaptation actions.

The MAV supports recommendations by the Productivity Commission that address the organisation's priority policy areas and the barriers to climate change adaptation identified in this submission.

[1] *Supporting Victorian Local Government Manage Climate Risks and Plan for Change* (2011), http://www.sustainability.mav.asn.au/council-operations/Supporting_Victorian_Local_Government_Manage_Climate_Risks_and_Plan_for_Change-6287

Key Recommendations

Community health and wellbeing:

- Support for councils to develop and implement robust Municipal Public Health and Wellbeing Plans
- Provide supplementary resources to enable councils to implement resilience-building programs that reach all categories of people with vulnerabilities, so that they can better prepare for, mitigate and adapt to the effects of climate change
- Undertake modelling of vector-borne illnesses to guide ongoing planning, resource allocation and community education activities.

Land use planning:

- Broad unrestricted access to relevant spatial data and modelling held by government
- Coastal adaptation guidance be developed specific to local government's needs
- Councils, as responsible planning authorities, be reasonably protected from common law liability when acting in good faith, consistent with State policy and guidance materials
- Ensure that impacts on national and regional food production are assessed and considered when land is being rezoned for urban expansion. Assessment of impacts could be commissioned from an independent body of agriculture, economic, environmental and social experts.

Built Environment (including transport):

- National Construction Code goals be amended to include sustainability
- That national guidance be provided about how planning and building systems can be adapted to best support Ecologically Sustainable Development (ESD)
- To increase resilience to a changing climate (and pressure on fossil fuels), tie future investment in transport infrastructure to affordable access to education and work opportunities and health and community services.
- Focus major infrastructure projects on extending the public transport network and non-road freight modes, rather than on increasing the road network capacity.

Infrastructure and Asset Management:

- Expand funding programs such as the Roads to Recovery program to other infrastructure categories to enhance maintenance and adaptation to climate change impacts and to support innovation in design and materials used
- Ensure risk areas are mapped to inform capital investment decisions, such as improving important roads, bridges, drainage and community infrastructure
- Increase the resiliency of roads to climate change stressors through identification and enforcement of preferred routes for heavy vehicles to reduce road damage
- Model impacts of increased rainfall on drainage infrastructure, and facilitate access to this modelling where it exists.

Insurance

- The Australian Government lead a project to accurately map climate change risks and impacts. This would assist in providing accurate pricing of insurance, shifting from a lag (insurance claims trends) to a lead indicator.

Natural Environment and Environmental Services:

- Develop national guidance on integrating ecosystems services and environmental values into adaptation decision-making
- Support the continued investment in technologies for integrated water management and increase the take up through improved role clarity and regulatory reform
- Use market-based instruments to incentivise habitat protection and restoration at a landscape scale for ecosystems resilience, whilst supporting and improving the policy and regulatory settings
- Improve the quality and accessibility of data on biodiversity and pest plants and animals, including how the impacts of climate change may combine with existing stressors.

Emergency management:

- Reform reimbursement arrangements for councils following emergencies
- Invest in building community resilience, particularly disaster resilience
- Support construction of disaster-resilient infrastructure and betterment of existing infrastructure
- Provide assistance for revision of Emergency Management Plans to accommodate probable climate change impacts.

2 Introduction

This submission includes a discussion of councils' roles in climate change adaptation and explores the barriers to more effective adaptation to climate change faced by councils. In exploring councils' roles, the MAV draws on a recent research reports, *Stocktake of Current Victorian Local Government Climate Change Adaptation Planning (*The Stocktake Report)[2] commissioned in May 2011 and *Supporting Victorian Local Government Manage Climate Risks and Plan for Change*[3] (2011), and recent experiences of councils dealing with the impacts of extreme weather events.

Although the Productivity Commission has taken a market-focused approach to its inquiry, councils generally use a 'triple bottom line' approach to ensure social and environmental aspects are considered.

2.1 The Municipal Association of Victoria (MAV)

The MAV is the peak representative and advocacy body for Victoria's 79 councils. It was formed in 1879 and given statutory authority under the *Municipal Association Act* 1907. The MAV represents and advocates the interests of local government, raises the sector's profile, ensures its long-term security and provides policy advice, strategic advice, capacity building programs and insurance services to local government.

The MAV provides public liability and professional indemnity insurance to almost all Victorian councils through a mutual scheme. While MAV Insurance is exposed to risks associated with climate change impacts, it is also able to encourage the adoption of practices to manage the insurable risks associated with climate change through its risk management audit processes.

2.2 The MAV 'stocktake' of climate change adaptation by councils

In 2010, the MAV initiated a study of councils' climate change adaptation activities to:

> *"identify and assess the nature and scope of local government climate change adaptation planning, impact and risk assessments and the appropriateness of the methodologies used."*

The report revealed the following:

- Twenty-two councils (28 per cent) have not undertaken any form of planning for climate change. Rural and urban councils are evenly represented in this group
- Thirty-eight councils (48 per cent) have undertaken planning on individual issues (such as reduced water availability, increased extreme heat events and/or sea-level rise, in

[2] Municipal Association of Victoria (2011) *Supporting Victorian Local Government Manage Climate Risks and Plan for Change,* prepared by RMCG for Municipal Association of Victoria, available at: http://www.mav.asn.au/policy-services/environment/climate-change/impacts-adaptation/Relateddocuments/Supporting%20Victorian%20local%20government%20manage%20climate%20risks%20and%20plan%20for%20change%20-%20August%202011.doc

[3] http://www.sustainability.mav.asn.au/council-operations/Supporting_Victorian_Local_Government_Manage_Climate_Risks_and_Plan_for_Change-6287

isolation from the rest of council business). Rural councils represent a slightly higher proportion of this group (70 per cent) than they do of all councils (60 per cent)
- Nineteen councils (24 per cent) have undertaken planning for the impacts across the entirety of their businesses, with some extending this to the community
- Many councils completed a whole-of-business adaptation planning process, based on the Australian Greenhouse Office in *Climate change and risk management: A guide for business and government*, and
- Twenty-six councils surveyed or interviewed are undertaking further work, including seven councils which have formed the Western Alliance for Greenhouse Action, who are commencing a region-wide risk assessment process.

The Stocktake Report was the first part of a two-part project, with the second specifically focused on the barriers, needs and opportunities for local government in adapting to a changing climate where lower overall rainfall, more frequent intense storm activity, higher peak temperatures, sea level rise and inundation are likely.

The second part of the project, *Supporting Victorian Local Government Manage Climate Risks and Plan for Change* (2011) used interviews and workshops, aimed to:

1. Understand the barriers and constraints councils face in undertaking, integrating and implementing adaptation planning
2. Assess councils' experience and the ability of current methodologies, guidance, information and tools to address these issues and barriers
3. Identify potential measures to assist councils in their adaptation planning.

The report identified six issues critical for successful adaptation planning:

1. Information and guidance on climate change adaptation and planning
2. Understanding of and engagement in adaptation planning and implementation amongst council executive, council staff and councillors
3. Resources to conduct initial assessments and planning, and to facilitate and monitor implementation
4. Technical advice and collaboration on issues as they arise during implementation of adaptation plans
5. Information and data of sufficient detail regarding projected changes in climate to be integrated into councils' asset management and business continuity plans
6. Policies and guidelines that facilitate implementation of adaptation actions.

3 High Level Barriers identified by councils

3.1 Introduction

The following section provides an introduction to the high-level barriers councils face in effective climate change adaptation planning and implementation. It is based on the MAV research report, *Supporting Victorian Local Government Manage Climate Risks and Plan for Change*[4] (2011). The barriers should be read as a preface to the more detailed, policy area-specific discussions of local government in section 4. This section also provides examples of initiatives (as indented boxes) that are planned or have been implemented by the MAV and our partners to assist in overcoming these barriers, with further examples are provided in the report.

3.2 Information sharing, training and guidance

Many council officers believe they lack a clear understanding of climate change adaptation and planning. Officers report that they do not have sufficient time to research approaches to adaptation and are discouraged by the perception that there is a large amount of information that they need to understand before they can begin.

At a minimum council officer capacity building should aim to provide education on:

- The likely impacts of climate change on council operations and potential adaptation measures, and the level of detailed information required (or not)
- The purposes, likely contents and intended outcomes of adaptation planning
- Guidance regarding best practice processes and tools for assessing the risks and opportunities posed by climate change.

This could be provided in the form of guidance material, training, mentoring, and/or an information portal and should be specific to the functional needs across councils' diverse service obligations.

MAV Sustainability Website – www.sustainability.mav.asn.au

The MAV Sustainability website was developed in 2008 with funding from the Victorian Local Sustainability Accord to facilitate the sharing of local government work and information. The MAV is currently working to enhance the website's usability, improve the content and support greater collaboration between councils so that the website will be increasingly useful for councils to share their climate change risk assessments, community engagement approaches, policies and strategies.

3.3 Understanding and engagement across the organisation

When the council executive, council staff and councillors understand the risks associated with climate change for council assets, services and the community; and have in place strategies to mitigate those risks, climate change adaptation is given a far higher priority within the council

[4] http://www.sustainability.mav.asn.au/council-operations/Supporting_Victorian_Local_Government_Manage_Climate_Risks_and_Plan_for_Change-6287

organisation. Furthermore, long term strategic thinking is hampered by strategic and budgetary processes and the political cycle length; not too dissimilar from the challenges for other levels of government.

Many councils implement strategies but do not recognise them as 'climate change adaptation'. These include refurbishing sporting ovals with drought-tolerant species. Recognising these as part of adapting to a new or changing climate can empower and engage council staff and generate greater ownership of the issue across council business areas.

Climate Change Adaptation and Coastal Management Training Package

The MAV is delivering a training package for local government on behalf of the Department of Sustainability and Environment's (DSE) Future Coasts Program. The training package will be delivered in two targeted packages.

The first training package will be a half-day session for local government councillors and executive staff on climate change and coastal adaptation planning. The session will include an introduction to climate change science, the principles of climate change adaptation and coastal management decision-making.

The second training package will be a full day session for coastal managers and will be more technical in nature. The session will include an overview of the tools and products from the Future Coasts Program and other relevant organisations to assist coastal adaptation planning.

3.4 Technical advice and collaboration

Councils that have undertaken adaptation planning reported difficulty in implementing the actions identified in their adaptation plans as they, and their fellow council officers, simply didn't know how to implement the actions. This issue arises because there is no corporate memory or history of undertaking such actions, so each time a new approach must be developed. This is daunting and time-consuming for council officers, especially when this is not their only priority or their area of expertise.

3.5 Localised information, projections and data

Where they exist, local government climate change adaptation plans often include actions for councils to review existing arrangements (such as backup power generation, preparation for emergencies and heatwaves, maintenance of street trees, operation of public spaces). While the available climate projections are usually sufficient to undertake high-level, broad scope risk assessments, there is rarely sufficient detail to accurately assess the appropriateness of existing plans, to develop alternative plans or to quantify the impacts of climate change on assets.

The main data deficiencies noted were:

- Detailed projections of extreme events (such as the intensity and duration of rainfall in storms)

- Localised information (such as areas that will be more exposed to the heat island effect and areas that will be eroded or inundated by sea level rise)
- The impacts of some changes (such as the effect of heat stress on street trees).

3.6 Resources for assessments and implementation

Dedicated resources (staff and funding for projects) were considered a critical element in the successful adaptation planning and implementation of a number of councils. Dedicated staff were identified as being particularly important in the initial assessment phase. Staff would engage others across council departments and undertake the necessary research and assessment; or alternatively manage a consultancy ensuring the results would be relevant for council. Staff resources are critical in the monitoring and implementation phase, as without these many plans are not implemented and sit on a shelf.

Large councils, with their greater staffing base, are likely to be able to move resources. However, this is less likely in smaller councils, with resources only being applied when sufficient budget is found, which may take several years.

Port Phillip Bay Adaptation Pathways Project

The Port Phillip Adaptation Pathways Project will develop a range of adaptation and risk management options through to July 2012 to assist councils to adopt the most appropriate actions for coastal asset management over time.

This project is split into two parts, looking at the economics of coastal inundation risks followed by an exploration of future coastal development scenarios and their implications, based on four key study areas in the Cities of Melbourne, Port Phillip, Kingston and the Mornington Peninsula Shire.

The project will produce a range of approaches for coastal asset managers to draw on. These include methodologies to assess the value of coastal assets and assist in determining the economic value of occupying identified hazard areas; and a list of options for managing risks to assets dependent on site context, net benefits and future risks.

4 Key Local Government Roles and Barriers Faced in Climate Change Adaptation

4.1 Introduction

Councils have significant and diverse roles and responsibilities under State and Federal legislation. Through the provision of planning, asset management, community service and environmental management responsibilities, councils influence land use and development. Local government can also support and shape community values and behaviours in ways which may enhance, or detract from communities' climate change adaptation.

For councils to effectively contribute to communities' climate change adaptation, they must be supported by clear policy, good data and access to technical expertise. Their operating environment requires a proactive, yet precautionary and cooperative approach where climate change mitigation and adaptation measures are fully integrated.

4.2 Community Health and Wellbeing

Role and Context

Councils have statutory responsibilities under the *Public Health and Wellbeing Act* 2008 to seek to protect, improve and promote public health and wellbeing within their municipalities.

Councils also have obligations under the *Public Health and Wellbeing Regulations* 2009. Section 14 of the *Climate Change Act* 2010 requires government policy-makers to have regard to the impacts of climate change through their acquittal of other statutory responsibilities, which includes the preparation of their municipal public health and wellbeing plan. In particular, councils play an important role in identifying, supporting and safeguarding those who are most vulnerable.

All strategies which aim to build community resilience and change behaviour are difficult to evaluate in the short term. As such, many councils have difficulty resourcing and sustaining these programs over the longer term.

Key Challenges and Opportunities

Supporting vulnerable people

A number of Victorian Government programs have provided funding through councils to assist people to adapt their homes for a changing climate. Some examples include: Home and Community Care (HACC) home maintenance support for water and power conservation and heat protection devices, and support for councils with the preparation of personal emergency plans for those who are vulnerable and without capacity and families to assist.

To date, however, there is no common method of capturing coverage and efficacy of these actions and outcomes. The Victorian Department of Health's Aged Care Branch is undertaking a review of actions and outcomes by councils who have received additional funding and the MAV hopes this will lead to improvements in data collection and reporting, and identify the resources and actions needed to improve coverage.

Following the Victorian Bushfires Royal Commission report and recommendations, the Department of Human Services has been leading work around the identification and support for people identified as vulnerable.

Councils with bushfire risk have been required to record the location and contact details of those funded agencies likely to be servicing people with vulnerabilities, as part of their Municipal Emergency Management Plan.

Councils do not have the capacity to identify and reach all people with vulnerabilities, particularly those not already receiving funded services, or who are unlikely to respond to general community messaging and information.

Whilst the highest priority is supporting the most vulnerable in our communities, there is a need to work with other levels of government to build the resiliency right across the community.

Heatwaves

The Victorian Department of Health developed the Victorian Heatwave Strategy in 2007 which, supporting its aims, assisted councils to develop and implement heatwave plans. During 2010/11, councils' experiences and concerns were discussed as part of an evaluation and findings and recommendations were used in the revised 2011 Heatwave Strategy. Council concerns included the need to clarify what is required of councils in legislation, against the expectations of the State Government and the community and good practice examples.

Common to many policy areas for local government, there is a need for ongoing State resourcing and assistance, so councils can implement heatwave plans and review them annually. Councils have also made several suggestions for improvements to the Victorian Government's heat alert system and communication channels and practices so that the messages reach the people that need to know. The evaluation suggested that capacity for community heatwave preparation is maturing into a more systemic and integrated approach in Victoria, but requires continuous improvement.

Disease control

Councils in areas subject to regular flooding are actively involved in vector control activities to minimise the spread of mosquito-borne viruses to humans. If climate change results in warmer conditions and better breeding conditions for mosquitoes carrying serious viruses in southern Victoria, this issue will escalate. This requires spraying of areas where mosquito breeding is prevalent, presenting conservation management issues, and draining of water from areas likely to encourage insect breeding. Costs associated with staff expertise and access to equipment and insecticides will be significant barriers if breeding of mosquitoes carrying serious illness increases to a significant extent in areas where this has not previously been a significant problem.

Recommendations

- Support for councils to develop and implement robust Municipal Public Health and Wellbeing Plans
- Provide supplementary resources to enable councils to implement resilience-building programs that reach all categories of people with vulnerabilities, so that they can better prepare for, mitigate and adapt to the effects of climate change

- Undertake modelling of vector-borne illnesses to guide ongoing planning, resource allocation and community education activities.

4.3 Land use planning

Role and Context

Under the Victorian *Planning and Environment Act* 1987 councils prepare and administer a planning scheme for their municipal district using the Victoria Planning Provisions.

Planning Schemes have prescribed State content and any local content must be consistent with State policy and approved by the Victorian Minister for Planning after a public process. Councils are responsible to enforce compliance with their planning scheme and with land use and development decisions made, even when made by other parties such as the Victorian Civil and Administrative Tribunal (VCAT). The Council of Australian Governments (COAG) has endorsed national criteria for cities planning, which in theory should integrate climate change considerations. How councils foster activity in support of higher order and long term policy aspirations can be challenging.

The cumulative impact of council decisions as a responsible planning authority affect how land is used and developed and how cities function, and is a critical policy tool for climate change adaptation.

Key Challenges and Opportunities

Coastal Adaptation

There are 22 councils along Victoria's coast including rural, metropolitan and regional cities. Many councils lack funds to undertake mapping or modelling for strategic planning. Councils often lack technical expertise to assess impacts which may change over time or to respond to technical information provided to them. Often councils are working in a politically charged and litigious environment – both from ratepayers and developers.

How councils will and should respond to potential climate change impacts will vary. Councils are rightly cautious in making statutory decisions restricting broad-scale adaptation and innovative approaches. Currently the predominant approach is to assess vulnerability on a site-by-site basis and to seek to limit investment and not locate vulnerable uses in areas at risk. Costs of coastal hazard vulnerability assessments are prohibitive and their value is greatest as an input to strategic planning, rather than at the permit stage. In a few highly developed areas, the intensity of use and residual asset life may warrant a different adaptive response: such as to 'attack' the problem and concentrate investment in areas at greatest risk. This may enable the transformation of an area so that it can coexist with inundation and may prove more cost effective.

The policy and guidance available for Victorian councils is less developed than in NSW, for example, and roles and responsibilities remain unclear (state and local government, private and public land owners). The change of government has seen a shift in policy to "allow for sustainable private development, but at private risk." However, MAV advice confirms it is not possible to quarantine councils from potential legal exposure for development approved in at-risk locations, despite the decisions being made by the Minister for Planning or by VCAT, even

where a council may have raised objection[5]. This creates confusion about roles, responsibilities and policy implementation.

Access to data, such as the Digital Elevation Modelling data generated under the Victorian Future Coasts program is provided conditionally, leaving councils with access to information about potential impacts that they are unable to share with potentially affected property owners. The MAV is advising councils not to accept conditional access to information due to the risk it presents for those councils.

As well as seeking improved access to data, modelling of various scenarios, guidance and clear policy, councils in Victoria seek to limit their common law liability for land use decisions with climate change impacts (negligence and nuisance) as is the case in NSW where clause 733 of the *Local Government Act* 1993 (NSW) provides such indemnity where decisions are taken in "good faith".

Fire and Flood

Adaptation to manage impacts of frequent inundation and fire events are already challenges for councils. This will increase under climate change scenarios. The State section of all planning schemes should provide the most rigorous and up-to-date hazard maps for fire, flood and inundation. This must be done at a State level so that there is consistency in approach, transparency and affected property owners treated in an equitable way.

Financial constraints on councils borrowing restricts expenditure on, for example, land acquisition for future adaptive flexibility.

The policy settings on the level of acceptable impact and the contribution private land owners or beneficial users should make towards implementing adaptation actions need to be addressed at a State, or even national level.

Food production and urban expansion

Victoria is a major exporter of food out of the state, and its productive output and capacity is recognised nationally. This is under pressure with the expansion of our cities, both metropolitan and regional, though the associated loss of productive arable land. This is becoming more acute as transport costs increase and access to water becomes less assured. These pressures are recognised at a national level, with the current development of the National Food Plan that will need to be translated and incorporated into state-level, local and regional strategic land use planning.

Recommendations

- Broad unrestricted access to relevant spatial data and modelling held by government
- Coastal adaptation guidance be developed specific to local government's needs
- Councils, as responsible planning authorities be reasonably protected from common law liability when acting in good faith, consistent with State policy and guidance materials
- Ensure that impacts on national and regional food production are assessed and considered when land is being rezoned for urban expansion. Assessment of impacts

[5] Refer to: http://www.theage.com.au/victoria/sea-change-the-new-reality-20110415-1dhx5.html#ixzz1LAklAamL

could be commissioned from an independent body of agriculture, economic, environmental and social experts.

4.4 Built Environment (including transport)

Role and Context

The built environment is a critical priority for broad-based and wholesale adaptation. Using existing technology, cost effective interventions are possible for both new development and for the necessary retrofitting of existing and poor performing building stock as detailed in the McKinsey cost curve for greenhouse gas reduction[6]. This can be done at a number of scales; from the individual building on a site, to neighbourhood or precinct scale; and at a higher order about how cities are planned, where jobs are located and what investment decisions about infrastructure, utilities and transport are made. At this scale decisions can have the longest term consequences.

Key Challenges and Opportunities

Ecologically Sustainable Development (ESD)

Although some councils have adopted sustainability objectives in their Municipal Strategic Statements, or through the incorporation of a local policy *(City of Manningham for Doncaster Hill; City of Melbourne for office development*), many more councils remain frustrated having spent much time and money on policy development which do not have the support of the Victorian Government. These policies relate to water-sensitive urban design (WSUD) and ecologically sustainable development (ESD). Local policies require the Department of Planning and Community Development (DPCD) to facilitate Ministerial authorisation for the amendment process to commence.

DPCD often advises councils that ESD is the remit of the building control system. The National Construction Code goals (health, safety and amenity) do not include sustainability despite previous Productivity Commission recommendations[7]. As such, the current National Construction Code appears to function as a 'cap' on performance, and despite innovative practice by some top end commercial developers and individuals, the mass housing market remains largely resistant. This has then a compounding effect in the identification and uptake of new materials and alternative design responses.

The MAV believes that planning and zoning, administered through the statutory permit approvals processes are essential and complementary to the use of building codes to achieve ESD, particularly for passive solar design, water harvesting, water sensitive urban design and urban ecology.

[6] http://www.mckinsey.com/Client_Service/Sustainability/Latest_thinking/Costcurves

[7] For example: Page 46 of http://www.pc.gov.au/__data/assets/pdf_file/0016/16009/building.pdf

MAV Sustainable Building Guide

The MAV developed the *Sustainable Building Guide* as a toolkit for councils to improve the performance of buildings by leveraging the planning approvals processes. The toolkit explains how to introduce practices to improve the sustainability of buildings constructed within their municipalities. It helps councils identify and then communicate information to building designers and applicants about what will be considered at the planning permit application stage.

The toolkit uses case studies, planning scheme amendment reports and VCAT decisions to illustrate ways in which the planning scheme can be used to encourage the construction of more sustainable buildings. The planning system provides the opportunity for new initiatives to be introduced and trialled, with the potential of adoption in the State planning policy framework, and subsequently the National Construction Code to give them national status.

Affordable living

Local government as a planning authority can influence the design, standard and location of residential, commercial and industrial development and associated infrastructure. The design and built form of Victoria's cities and towns is affected by municipal planning and building policy and approvals systems which are largely determined by State and Federal Government, and administered locally.

The predominance of low density greenfield development in Victoria, rather than more effective use of existing infrastructure is a State policy decision which will have significant impacts on affordable living for residents in those areas over time.

Just as savings from energy efficient design accrue to occupiers over time (and therefore provide no incentive for developers to provide), the disadvantages of poorly located 'affordable' housing also accrue as the social, economic and environmental costs become more apparent over time. Too often these communities have fewer transport choices and require higher levels of car ownership, have less access to employment, community services and cultural and recreational facilities. Often these areas are more likely to be affected by hazards such as fire or flood. Building community resilience, critical to climate change adaptation will be more difficult in such areas for communities with higher needs.

The failure of policy and decision-makers at all levels of government to take a longer term or inter-generational view when considering housing affordability is known to councils who seek to have the policy discussion broadened to affordable living.

Transport

Transport plays a key role in supporting healthy connected communities. Councils provide infrastructure such as roads, community transport and are strong advocates for public transport. Councils actively promote cycling and walking by providing improved infrastructure and facilities on the local roads network that they own and maintain within their respective budgetary constraints. Early provision of transport infrastructure and services is essential for growing suburbs, whose residents rely on single occupant vehicles to reach employment, services and recreation and who spend disproportionately more of their income on transport.

The *Melbourne Atlas 2006* showed that public services tend to cluster along the main rail lines, including those running through disadvantaged areas. Decades of under-investment in public transport infrastructure has created inequality within metropolitan Melbourne and for many urban fringe, regional and rural communities. Poor land use planning and a lack of adequate transport planning contributed to this, while poor communication and coordination between all levels of government (and between the relevant State Government departments) and private developers exacerbated the problems.

A long-term, integrated transport strategy with a significantly increased financial commitment is required to address the current and future transport needs of Victoria. This is 'essential infrastructure' in the context of building resilience and demands strong Federal support.

The inquiry should promote integrated land use and transport planning based on the principles of social inclusiveness, and environmental and economic sustainability. Future investment in transport infrastructure should aim to reduce travel times to schools, work, health and community services, and leisure activities, made in concert with strategic land use planning.

Recommendations

- National Construction Code goals be amended to include sustainability
- That national guidance be provided about how planning and building systems can be adapted to best support Ecologically Sustainable Development (ESD)
- To increase resilience to a changing climate (and pressure on fossil fuels), tie future investment in transport infrastructure to affordable access to education and work opportunities and health and community services.
- Focus major infrastructure projects on extending the public transport network and non-road freight modes, rather than on increasing the road network capacity.

4.5 Infrastructure and Asset Management

Role and Context

Victorian councils collectively manage $55 billion worth of assets including roads, bridges, drains, town halls, recreation and leisure facilities, community service facilities, libraries and parks. Funding infrastructure construction and maintenance is already a major financial challenge for local government, requiring long-term planning and resourcing. Climate change is likely to reduce the lifespan of infrastructure and increase maintenance and repair costs.

Key Challenges and Opportunities

A central challenge for Victorian local government as significant infrastructure, owner and manager making decisions on new or refurbished infrastructure, is dealing with climate change time horizons of 50 or 100 years. As identified in section 3.5, councils lack the information they need to make adaptive and not maladaptive decisions, particularly where the cost of financing is substantial.

With ownership of 85 per cent of Victoria's road network, the construction and maintenance of road infrastructure is a major cost for councils. Austroads' (the association of Australian and New Zealand road transport and traffic authorities) 2004 report *Impact of Climate Change on*

Road Infrastructure[8] identified that increased frequency or intensity of temperature, rainfall, salinity and flooding from climate change will require more frequent repair of potholes, resealing, or replacement, increasing road maintenance costs. Austroads' modelling of climate change impacts on population, travel habits and climatic impact predicts that Victorian road management agency costs will increase 38 per cent by the year 2100.

Some councils are constructing new assets to a higher standard with climate change impacts in mind. However, since many councils struggle to finance baseline capital expenditure requirements, the additional cost of climate-proofing infrastructure is too much.

The MAV Step Asset Management Program is helping councils build sector capacity, reduce infrastructure backlogs, and improve councils' asset planning, management and performance reporting. A key feature of the program is to calculate council's infrastructure renewal funding deficit and establish strategies to lower it. Since 2007, across Victoria, the program has reduced the annual council infrastructure funding deficit from $280m to $100m.

Climate Change Impacts on Council Assets – Translating to Financial And Asset Management Plans

The MAV is participating in a project, run by the Local Government Association of South Australia and funded predominately by the National Climate Change Adaptation Research Facility (NCCARF), that is building tools to translate key climate change impacts on roads into financial and asset management plans.

The objectives of the project are to:

- identify key council assets vulnerable to climate change (roads identified as the focus)
- determine the likely impacts of climate change on roads
- undertake an extensive financial risk modelling exercise including full life-cycle economic analysis of the various options for councils to reduce climate change asset risk
- develop the necessary modifications to existing asset management and financial sustainability tools so that councils may evaluate various climate change action scenarios at the management planning level and guide service level standards.

Two Victorian councils are participating in the pilot of the tools that will model the impacts of climate change on local roads, and the subsequent changes to maintenance and renewal regimes. The project is due to be completed in July 2012.

Integrating innovative design and more efficient use of materials, recycled products and resiliency in the face of threats to essential services such as electricity, is a challenge for adaptation. Grants for local government capital works should support councils facing these challenges.

[8] http://www.bitre.gov.au/publications/92/Files/climate_change.pdf

Councils are responsible for many kilometres of drainage infrastructure, with much of it designed for a mid-20th century climate. Councils require support for the considerable and complex modelling that is required to understand the impacts on drainage infrastructure with a changing climate – particularly with the prediction of more intense rainfall events. While Melbourne Water has undertaken modelling for a number of Melbourne Metropolitan catchments, access to this is restricted to particular projects, for example the Port Phillip Bay Adaptation project (see Case Study, section 4.6). Regional Water Authorities may not have the capability to undertake such modelling.

Recommendations:

- Expand funding programs such as the Roads to Recovery program to other infrastructure categories to enhance maintenance and adaptation to climate change impacts and to support innovation in design and materials used
- Ensure risk areas are mapped to inform capital investment decisions, such as improving important roads, bridges, drainage and community infrastructure
- Increase the resiliency of roads to climate change stressors through identification and enforcement of preferred routes for heavy vehicles to reduce road damage
- Model impacts of increased rainfall on drainage infrastructure, and facilitate access to this modeling where it exists.

4.6 Insurance

Role and Context

As the Issues Paper notes, climate change adaptation is linked closely to the insurance industry. The MAV provides insurance for public liability and professional indemnity insurance for 78 of the 79 Victorian councils and all 29 Tasmanian councils. Further insurance protection is provided by the private sector for general insurance lines, such as property and motor vehicle.

The major traditional public liability and professional indemnity exposures of local government are also exposed to the consequences of climate change. These include property damage and personal injury (typically resulting from the design and maintenance of assets), and planning and building decisions.

Key Challenges and Opportunities

Adaptation to climate change will present several challenges to local government insurers, including the MAV. Three major claims drivers will be influenced by climate change: (1) more frequent disasters are likely to lead to additional claims for property damage, as existing infrastructure (such as drainage) comes under increased pressure; (2) extreme weather events lead to faster degradation of infrastructure, potentially exposing councils to increased maintenance and renewal regimes; and (3) as noted in this submission, councils are exposed to risks from historical planning decisions, even where they were not responsible for that decision, potentially leading to increased exposure should the strategic planning regime and other adaptation measures not respond effectively to climate change.

Public liability and professional indemnity insurance generally involve long-tailed risks. As such, adequate data and information on changing claim trends often takes years to become available. This general issue is accentuated by the relative small size of the insurance market for local government, with only a small number of claims annually. The result is that climate change impacts are not properly priced by the insurance market.

If insurance is not properly priced, or if climate change risks are underpriced, the availability of insurance can be a negative force for climate change adaptation – allowing organisations to postpone necessary adaptations. Although significant work has been undertaken to better understand the potential exposures resulting from climate change, more robust mapping of climate change risks and impacts would underpin more accurate pricing of insurance, before changes to claims trends are evident.

A further risk for local government is the continuing availability of reinsurance cover for the sector. MAV Insurance was created in response to the failure of the private market to provide insurance products to councils. While the mutual structure of MAV Insurance means this is unlikely to occur in the future, it remains possible that increased claims could result in rapidly escalating reinsurance costs or the dissolution of existing reinsurance markets for councils, with potentially significant consequences for the ability of the sector to spread risks.

Recommendations

- The Australian Government lead a project to accurately map climate change risks and impacts. This would assist in providing accurate pricing of insurance, shifting from a lag (insurance claims trends) to a lead indicator.

4.7 Natural Environment and Environmental Services

Role and Context

The role of local government in environmental and natural resource management is driven by a range of factors, from voluntary action spurred by community expectations to compliance with environmental legislation.

Councils' actions are often driven by the State and Federal Government legislative requirements. The 2010 MAV Local Government Environmental Sustainability Survey Report shows 58 per cent of Victorian councils consider environmental legislation a key driver of council involvement in environmental management, second only to council environment staff.

Council activities which impact on the natural environment include waste management and resource recovery, water management, native vegetation management and conservation, greenhouse gas reduction and abatement, and community education in environmental sustainability. Although many of these actions are driven by the legislative requirements, many are also driven by the desire of councils to be more resource efficient, reduce their vulnerability to climate change and lessen their impact on the natural environment.

Key Challenges and Opportunities

All natural ecosystems are vulnerable to climate change. By councils incorporating climate change and adaptive thinking into their activities they can often achieve multiple benefits for the environment and their communities. Such examples include improving the number and quality

of green spaces within a municipality to achieve increased biodiversity outcomes. This could also result in reduced urban temperatures reducing heat wave impacts on human health, or the development of wetlands to reduce stormwater runoff into waterways to improve water quality and reduce flooding impacts.

Climate change is predicted to increase the number of intense rainfall events, but result in longer dry periods. There is now a shift in the way councils view water management, from a drainage only system to an integrated system which draws upon a range of water resources including rainwater, stormwater, groundwater and potable water. An increasing number of Victorian councils have developed integrated water management plans which aim to reduce their reliance on potable water through the use of alternative water technologies which hold water within an integrated system, rather than expelling it. Using this approach to water management, councils have a more secure base on which to draw water, including during periods of limited rainfall. An important use of this approach during the recent drought in Victoria was the use of stormwater harvesting and recycling projects for watering sporting fields, which allowed the continued use of these venues for important community activities. These technologies also have the ability to reduce the flow of pollutants into waterways during periods of intense rainfall, a predicted climatic scenario for Victoria.

There are opportunities for technologies which allow councils to meet their integrated water management objectives and provide greater security of water supply under changing climatic conditions. Increased investment and uptake of these technologies would be encouraged through clarification of roles and responsibilities and regulatory frameworks for stormwater harvesting and reuse, aquifer recharge and wastewater reuse.

Victorian councils are managers of substantive natural resources and are involved in the direct management of land such as bush land reserves, roadside vegetation, and also play a major role in the delivery of *Victoria's Native Vegetation Management Framework* through on-ground planning decisions. Councils also have responsibilities under the Victorian *Flora and Fauna Guarantee* Act 1988 and the Commonwealth *Environmental Protection and Biodiversity Conservation* Act 1999 to protect threatened species and ecological communities.

Victoria is the most cleared state in Australia and biodiversity in Victoria is declining due to expanding urbanisation, agricultural land use changes, invasive species and altered water regimes. Climate change will add to these stress agents in a significant way, directly impacting on biodiversity, whilst providing more favourable conditions to exotic pest plants and animals facilitating greater disbursement and new introductions. The impacts of these combined effects needs to be assessed across different landscapes and made available to appropriate stakeholders.

To ensure existing ecosystems are resilient to a changing climate, there is a need to protect and enhance these systems, from existing stresses. A recent Victorian Environmental Assessment Council report found a substantial extent of native vegetation is on road reserves (used and unused) in many of the most cleared landscapes in Victoria. There is an opportunity for councils to enhance the quality of vegetation on road reserves to provide habitat for threatened species and improve biodiversity, whilst balancing risks from bushfire. For example, Project Hindmarsh[9],

[9] http://www.victorianaturally.org.au/page.php?nameIdentifier=projecthindmarsh10yearsandbeyoye

which has linked the Big and Little deserts in north-west Victoria, restored more than 2 000 km of roadside vegetation and established over 1.5 million trees and shrubs. Following on from this success is Habitat 141, which stretches more than 500 km. This project aims to restore and reconnect the distinct landscapes that straddle the South Australian and Victorian borders from Portland to the Murray River in north west Victoria. Initiatives such as these require strong coordination, significant human resources, solid biodiversity data and focussed investment.

A significant amount of work needs to be done to address these challenges and support from other levels of government, and partnerships with the community and private industry are required.

Recommendations

- Develop national guidance on integrating ecosystems services and environmental values into adaptation decision-making
- Support the continued investment in technologies for integrated water management and increase the take up through improved role clarity and regulatory reform
- Use market-based instruments to incentivise habitat protection and restoration at a landscape scale for ecosystems resilience, whilst supporting and improving the policy and regulatory settings
- Improve the quality and accessibility of data on biodiversity and pest plants and animals, including how the impacts of climate change may combine with existing stressors.

4.8 Emergency Management

Role and Context

Victorian councils' emergency management responsibilities stem primarily from Part 4 of the *Emergency Management Act* 1986, which requires councils to establish a Municipal Emergency [Management] Planning Committee involving various local stakeholder organisations to develop a municipal emergency management plan and appoint at least one Municipal Emergency Resource Officer who coordinates the use of municipal resources needed for responding to and recovering from emergencies.[1]

The *Country Fire Authority Act* 1958 and the *Metropolitan Fire Brigades Act* 1958 require councils to appoint a fire prevention officer to inspect fire hazards and issue notices.

In addition, councils have a wide range of emergency management obligations, including risk mitigation resulting from other Victorian legislation such as the *Planning & Environment Act* 1987, the *Building Act* 1993 and the *Electricity Safety Act* 1998.

Emergency management responsibilities also arise in the delivery of day-to-day council services where - for example, as significant operators of child care and kindergarten services - councils must maintain an emergency management plan to manage internal and external risks.

It is significant that while the *Emergency Management Manual Victoria* identifies councils as the lead agency for relief and recovery at the local level, this is not set out in legislation. Councils

[1] Victorian Legislation and Parliamentary Documents, *Emergency Management Act 1986*, http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/PubLawToday.nsf/

are well-positioned to deliver relief and recovery services, but need significant support from the other levels of government to do so effectively.

The range of these responsibilities is often well beyond the current capacity and capability of many councils. The frequency and severity of recent natural disasters in Victoria has put a number of councils and their staff under considerable stress.

Key Challenges and Opportunities

Climate change is expected to result in an increase in the frequency and severity of extreme weather events (drought, heatwaves, bushfire, flood, hail and windstorms). It is also expected that snowline will rise and snow-free periods will be longer increasing bushfire risk, sea levels will rise and there will be more airborne and vector-carried infectious diseases. These impacts will cause individuals and communities to be subjected to greater risks and reduced time between events, therefore shorter recovery periods, also affecting the emergency management and health systems.

Councils, at the frontline of community recovery, will be dealing with social impacts (loss and trauma), as well as local economic impacts, and damage to the built and natural environments. There is a need to address current arrangements to determine their suitability for the future.

The MAV has identified the following emergency management related barriers to adaptation:

- Variable ability of local government management, staff and councillors to understand climate change scenarios with their technical terms and probabilities
- Council staff are often already working at capacity
- Reimbursement policies do not recognise the breadth of local government's role in emergency management, particularly their relief and recovery roles
- Councils undertaking climate change initiatives often lack knowledge of successful implementation of such initiatives or alternative approaches. Additionally, small councils may need specialist support for legal and technical issues
- Variable acceptance of climate change science among councils and constituents requiring support for communication to gain support for adaptation initiatives
- Access to historical data not accessible in a digital form
- Legislative barriers – councils are subordinate to State and Federal governments and any initiatives must be consistent with prevailing State or Federal legislation.

Although there are a number of adaptation opportunities available which would benefit the emergency management sector and councils, resources and support are required. Key opportunities include:

- Building capacity through training, assistance with business continuity and fatigue management, funding, communications and information management
- Better understanding of risk and vulnerabilities, including data on past events and their impact and current vulnerabilities, forecasts of future events and future patterns of vulnerability and the emergency management implications
- Education, awareness raising and building community resilience (driving culture change from protection and post-event support to personal responsibility for risk mitigation and recovery)
- Investment in State-managed warning systems and recovery systems

Recommendations

- Councils need to be trained and funded to better prepare for natural disasters and lead community recovery. While councils are reimbursed for some natural disaster-related expenses through the Victorian Natural Disaster Financial Arrangements, the program is in need of review so that they can better prepare for natural disasters and lead community recovery. The review should consider: quicker release of funds, more certainty about funding formulae, greater flexibility (e.g. where day labour contractors are scarce), the effectiveness of betterment funding and to allow direct funding for recovery and up-front payments for low resourced councils
- There is a need to develop resilience-enhancement and vulnerability-reduction strategies. As part of the implementation of the national disaster resilience program, the MAV recommends investment in pilot programs that focus on building community resilience through strengthening and supporting rural communities and better preparing high-risk communities for natural disasters. There are also examples of successful pilot programs, such as the VICSES StormSmart and Flood Smart programs, which require investment so they can be rolled out across the state
- Greater investment in mapping and guidance around rebuilding and preparing homes and infrastructure
- Provide assistance for revision of Emergency Management Plans to accommodate probable climate change impacts.

5 Conclusion

This submission has demonstrated that significant and diverse roles and responsibilities under State and Federal legislation and the provision of local government services will face significant challenges from a changing climate. Councils are strategically well-placed to support and shape community values and behaviours in ways which may enhance, or detract from communities' climate change adaptation, not to mention their land use influence or infrastructure investment.

For councils to effectively contribute to the effort of assisting Australia adapt for a changing climate, they must be supported by clear policy, good data and access to technical expertise. This is critical due to the long-term nature of climate change impacts and the need to continually reassess risks and adapt responses.

The local government operating environment requires a proactive, yet precautionary and cooperative approach where climate change mitigation and adaptation measures are fully integrated. To achieve this, councils will need to work in an even deeper way with communities to share information, address vulnerabilities, support community action and ensure appropriate risk allocation and intergenerational equity.

While the size of the challenge is large, this submission has outlined many opportunities that can be activated to address the issue. The boxed examples demonstrate that partnerships can be effective in taking on the range of challenges.