SUBMISSION

PRODUCTIVITY COMMISSION

Public Inquiry into

Barriers to Effective Climate Change Adaptation

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EXECUTIVE SUMMARY

The potential impact of climate change is of particular concern to coastal communities. The Intergovernmental Panel on Climate Change (IPCC) identified coastal areas of Australia as the most exposed to potential climate change impacts, from sea level rise to increased frequency and velocity of extreme weather events (Christensen et al. 2007).

A 2011 survey of coastal councils in non-metropolitan coastal Australia and two expert round tables comprising coastal policy makers, scientists, local councillors and planners identified the following priority concerns:

- Respondents are concerned about the physical exposure of coastal areas to climate change risk, as well as concerns about legal liability in making decisions that might unnecessarily quarantine land from development or exacerbate future vulnerability.
- In high amenity coastal areas, potential impacts on local infrastructure and future quality of life are a major concern.
- Potential economic impacts associated with climate change for local tourism operators, fishery and agricultural industries continue are of continuing concern to respondents.
- Concerns were also expressed about the capacity of emergency response systems in the event of more frequent and severe extreme weather events.

Survey respondents expressed concerns about the adequacy of state and local legislation, regulation, and policy in relation to sea level rise, infrastructure design standards, building design standards, and inundation.

Gaining the resources necessary to conduct a climate change vulnerability assessment, risk analysis and implementing adaptation measures is a pressing issue, particularly for smaller councils.

There is a need for effective community communication and engagement. The implications for local property values and development have the potential to erode local political support for planning measures to address climate change adaptation.

The social profile of non-metro coastal communities compounds their susceptibility to the impacts of climate change. With lower household incomes, ageing populations and rapid population growth, non-metro coastal areas are exposed to the cumulative effects of physical exposure but have reduced capacity to adapt to climate risk.

Projected population increase by 2050 highlights the need for a national growth management plan. One of the objectives of such a plan would be to prevent the location of urban settlements in areas that are vulnerable to the impact of climate change.

It is timely and important to undertake a broad review of governance and institutional settings for the Australian coast. Such a review would describe the current situation, identify areas where improvements are needed, and develop options for improvement for consideration by governments.

RECOMMENDATIONS

The National Sea Change Taskforce makes the following recommendations in relation to the Productivity Commission inquiry into *Barriers to Effective Climate Change Adaptation:*

Recommendation 1 – Institutional Arrangements
Review current governance and institutional arrangements for the coastal zone. One option to consider is the recommendation by the Parliamentary coastal inquiry that the Australian Government develop an Intergovernmental Agreement on the Coastal Zone, in cooperation with state, territory and local governments. The agreement should define the roles and responsibilities of the three tiers of government involved in coastal zone management and be overseen by a Coastal Zone Ministerial Council. The Parliamentary coastal inquiry further recommended that the Intergovernmental Agreement on the Coastal Zone form the basis for a National Coastal Zone Policy and Strategy that sets out the principles, objectives and actions to be undertaken to address the challenges of integrated coastal zone management for Australia.

Recommendation 2 – Growth Management Policy
Develop a national growth management policy to better coordinate the planning and provision of infrastructure in regional and rural areas, including rapidly expanding coastal communities. The policy would involve the three spheres of government working collaboratively to more effectively meet growth in demand for economic, social, cultural and community infrastructure and services. One of the aims of the policy would be to prevent expanding populations being housed in areas that are vulnerable to the impacts of climate change. Another aim would be to prevent the loss of productive agricultural land which is a major issue in many rapidly-growing coastal communities.

Recommendation 3 – Consistent Legislation and Policy
There is a need to establish a consistent national approach to climate change adaptation, with the participation of Australian, State and Territory governments, to assist local government develop the capacity to address climate change risks. Australia has approximately 36,000kms of coastline which requires a consistent response to rising sea levels and other climate change risks, rather than the current piecemeal approach adopted in individual jurisdictions and local government areas.

Recommendation 4 – Government Support
There is a need for a comprehensive, nationally consistent program to support and guide local government adaptation decisions. Councils need adequate resources to implement adaptation measures and clearer guidance in determining when a development application should be refused. There is also a need for a Coastal Natural Disaster Mitigation scheme to assist councils to implement emergency mitigation, preparedness, response and recovery arrangements to address the impact of extreme weather events.

Recommendation 5 – Legal Liability
Promote the adoption in all jurisdictions of legislation to give similar effect to that provided by Section 733 of the NSW Local Government Act, which affords protection from legal liability for local councils where they provide advice or make a decision in good faith relating to coastal planning and the impact of climate change.

Recommendation 6 – Adaptive Capacity of Local Government
There is a need to increase the adaptive capacity of local government to deal with the impacts of climate change through measures such as the Local Adaptation Pathways Program, as recommended in Recommendation 7 of the Parliamentary coastal inquiry report, noting, however, that competitive funding programs are resource intensive and tend to disadvantage smaller councils which have fewer professional staff to prepare grant applications and implement funded programs.

INTRODUCTION

> *Coastal communities, particularly those beyond Australia's capital cities, are at the forefront of impending climate change impacts.*
> *(Gurran, Norman, and Hamin 2011, p4)*

This submission to the Productivity Commission inquiry into *Barriers to Effective Climate Change Adaptation* has been made by the National Sea Change Taskforce Inc. The Taskforce welcomes the inquiry and believes it has the potential to make a significant contribution to increasing the capacity of local councils to respond to the impacts of climate change.

As indicated in this submission, Australia's coastal councils are attempting to deal with a complex and difficult range of issues. Responding effectively to climate change is one of the most challenging of these issues.

Coastal councils are at the forefront of dealing with climate change risks. The implications of planning for climate change frequently present LGAs with a major legal dilemma. If a council approves a development in a potentially vulnerable location it faces the risk of legal liability if the property is damaged by inundation or coastal erosion at some point in the future. On the other hand, if the council refuses the development application, it is frequently faced with having to defend the decision in a costly legal action in a land and environment court or planning appeals tribunal.

Apart from the legal complexities of dealing with climate change adaptation, there are other challenges that must be dealt with. For many years coastal communities have experienced population growth at levels well above the national average. Between 1997 and 2010 the population of coastal areas outside the nation's metropolitan areas increased by two million people – from 4.9 million to 6.9 million (ABS 2011). This resulted in large numbers of people being housed in areas now considered vulnerable to the risk of inundation associated with rising sea levels and extreme weather events, as witnessed in Queensland in early 2011.

While significant numbers of people have moved to the coast in recent decades, resources have not moved with them. As a result, coastal councils are struggling to meet increasing demands for infrastructure and services in their communities without adequate funding support from state or Federal governments. This situation is compounded by the current methodology for collecting population data in the census, which understates the number of people who depend on basic infrastructure and services in coastal communities. The census is conducted at five yearly intervals in the middle of the week during winter. As a result it does not capture data on the large number of people who would otherwise be in these communities at weekends or at other times of the year.

This places coastal councils at a significant disadvantage in keeping pace with the continuing increase in demand for local community infrastructure and services, and at meeting the considerable costs involved in rebuilding or relocating infrastructure such as roads, water and sewerage systems to withstand the projected impacts of climate change.

One other pressing issue is gaining the resources required to conduct a climate change vulnerability assessment and risk analysis and to implement the adaptation measures that will be needed. This is a major challenge for smaller councils in particular, who in many cases lack the funds or professional staff to undertake such a task.

Another important issue for councils is making sure that they engage and communicate effectively with their local community over the issue of climate change. Implementing engagement strategies which gain community participation and input at an early stage in the process of developing an adaptation plan, can reduce community opposition arising from climate change scepticism, which erodes local political support for adaptation initiatives.

Finding feasible solutions to dealing with climate change risks will become increasingly urgent in the face of rapidly expanding coastal communities. The third Intergenerational Report, released by Treasury in February 2010, estimated the national population will increase 64% to reach 36 million by 2050. This is 8 million higher than previously estimated in the Intergenerational Report 2007 and 14 million higher than the current population. The National Sea Change Taskforce has analysed the revised figures and considered the impact on non-metro coastal communities. Projections by Infrastructure Australia, Major Cities Unit (Infrastructure Australia 2010) indicate that the capital cities are likely to grow from 14 million to 23.7 million over the next 40 years – an increase of 9.7 million people. This means the remaining 4.3 million people of the projected increase will need to be accommodated elsewhere, and the most likely scenario is that they will seek to settle in non-metro coastal areas. This is likely to result in population in non-metro coastal areas increasing by 77% by the mid 2050s - from 6.9 million to 12.2 million. The current resource base of LGAs in coastal areas is inadequate to meet the level of demand for economic, social and environmental infrastructure that will be generated by growth of this magnitude.

The scale of population increase by 2050 highlights the need for a national growth management plan as an integral part of a sustainable population strategy. The objective of the growth management plan would be to ensure that future growth is managed effectively and that adequate provision is made to meet projected demand for infrastructure and services. One of the objectives of such a plan would be to prevent the location of urban settlements in areas that are vulnerable to the impact of climate change. The consequences of allowing intensive development to occur in such vulnerable areas have been clearly demonstrated in the recent major flooding events in Queensland. Another critical objective would be to prevent the loss of productive agricultural land in the coastal zone.

Growth management at this national scale is beyond the capacity of state and local government. It requires the Australian Government to play a national leadership role in a collaborative effort involving all three tiers of government. The Australian Government has previously adopted this sort of leadership role in relation to the development of cities and regions under the Department of Urban and Regional Development in the early 1970s and the Building Better Cities Program in the early 1990s. Given the challenges that lie ahead it is timely and appropriate that the Commonwealth adopt this approach again.

CLIMATE CHANGE ADAPTATION RESEARCH FINDINGS

> *Varying levels of physical exposure to shoreline erosion, storm surge, flooding, and changed weather patterns, represent significant environmental, financial, social and legal risks to coastal populations.*
> *(Gurran, Norman, Gilbert and Hamin 2011, p 4)*

The National Sea Change Taskforce was one of the first Australian organizations to draw attention to the need to plan for the projected impact of climate change in coastal areas (Gurran, Norman, and Hamin, 2011) and the organisation has been at the forefront of policy development and advocacy in relation to this issue. The Taskforce has commissioned four stages of research focusing on the key planning issues facing coastal councils. Two of these research projects have focused specifically on the planning issues relating to climate change. The research projects have been undertaken by a research team headed by Associate Professor Nicole Gurran, of the University of Sydney Faculty of Architecture, Design and Planning.

Planning for the Impact of Climate Change Research Report (2008)

In 2007 the Taskforce commissioned the research team to undertake a special research project to assist coastal LGAs address the issues associated with planning for climate change. The research report, titled *Planning for Climate Change: Leading Practice for Sea Change Communities in Coastal Australia*, was released in July, 2008. The key findings of the report were as follows:

- Coastal areas are exposed to climate change risks associated with sea level rise, increased frequency and or velocity of storm events, shoreline erosion, flooding, and changed rainfall and temperature patterns, threatening marine and terrestrial biodiversity and ecosystems (Hennessey et al. 2007).
- These environmental risks represent a number of social and economic consequences for coastal amenity communities, exacerbated by existing socio-economic disadvantage and an aging population profile.
- People in temporary housing like caravans and manufactured homes are at particular risk in the event of a major natural disaster. These housing forms are an important source of housing for low income Australians and retirees, particularly along the coast. Without proper insurance or ownership of land there is a high likelihood that tenants will face long term displacement in the event of a disaster.
- Other social and amenity impacts for coastal communities include damage to beaches, recreational areas, and landscapes or items of cultural significance. Increased temperatures may make some forms of outdoor recreation – bushwalking, cycling, or golf, less appealing, particularly during summer. Beach and cliff top trails and paths may be subject to more frequent damage and increased exposure to landslip.
- Changed rainfall patterns and increased likelihood of major storm events represent both long term and abrupt unpredictable risks to agricultural and tourism industries, with major flow on implications for non metropolitan coastal economies.
- Over the next 20-30 years extreme weather events are likely to overwhelm existing infrastructure constructed to current design standards. Buildings, roads, railways, ports and airports, bridges and tunnels, will all experience increased pressures and require additional repair, maintenance and upgrading works.

The research project found that the social profile of non-metropolitan coastal communities compounds their susceptibility to the environmental and economic consequences of climate change. Characterised by lower household incomes, higher proportions of older people and rapid population growth and change, non-metropolitan coastal areas are exposed to the cumulative effects of physical exposure, higher levels of social disadvantage and reduced capacity to adapt to climate risk.

Planning for adaptation: State of Practice Research Report (2011)

In 2010 the National Sea Change Taskforce commissioned a further stage of research through the Faculty of Architecture, Design and Planning at The University of Sydney, titled *Planning for Climate Change Adaptation in Coastal Australia: State of Practice* (Gurran, Norman, and Hamin, 2011). The research project was undertaken by Associate Professor Nicole Gurran in association with Professor Barbara Norman, Foundation Chair of Urban and Regional Planning at the University of Canberra, and Elisabeth Hamin, Associate Professor of Regional Planning in the Landscape Architecture and Regional Planning Department at the University of Massachusetts, Amherst. This project was designed to build on, update, and extend the 2008 research report commissioned by the Taskforce.

The *State of Practice* research project involved a targeted review of existing practice in planning for climate change adaptation in Australia and internationally; an analysis of Australian coastal and planning legislation and policy; a survey of coastal councils in non-metropolitan coastal Australia, which was conducted from February to July 2011, and two expert round tables comprising coastal policy makers, scientists, lawyers, local councillors and planners.

The survey canvassed key issues associated with climate change and adaptation for coastal areas beyond the major capital cities; existing and emerging responses to these pressures; the adequacy of the existing legislative/policy/planning framework; financial expenditure by the local government, projected local expenditure, and funding shortfalls on adaptation measures; and priorities for support. The survey elicited responses from coastal 49 LGAs. In order to explore the survey themes in detail, two expert 'round tables' were held in conjunction with the Australian Coastal Councils Conference at Torquay, in March 2011. These 'round tables' were attended by officers and elected representatives of coastal LGAs.

The survey and round tables identified the following main issues for councils in adapting for climate change:

- Physical exposure associated with sea level rise, shoreline loss, storm surge, and coastal erosion continues to dominate local government concern.
- Development is continuing to occur in vulnerable locations, highlighting potential legal liability for councils in making planning decisions (with over 90 per cent of respondents identifying this as a priority or high priority issue).
- Councils may be challenged in court for refusing a development solely on the basis of potential climate change impacts while also liable in the future for damages if development in vulnerable locations is approved.

> "Our role is to provide approvals for people but not to put them at risk" (local government participant, March 2011).

- Other high priority issues related to potential loss of coastal foreshores, recreational areas, and terrestrial biodiversity. This theme was echoed in the expert round table discussions where participants emphasised that many coastal amenity communities face particular issues because of their older demographic profile.

> "We've got so many pensioners, retirees, and the main thing they do is walk … It's becoming difficult for them to get to the beach anyway. When the storm surge comes through … all of a sudden, you know, you've got thirteen beach access tracks that [need restoring]. We've got two sets of significant stairs already now that we've had to shut off. For a coastal council just that simple thing of getting access to the beach, the beach that they've walked on for the last forty years, becomes a problem" (local government participant, March 2011).

- The prohibitive costs of maintaining, renewing, and installing new coastal infrastructure was emphasised. Some expressed the view that vulnerability assessments undertaken by higher levels of government were focused on heavily populated areas leaving smaller towns without any protective adaptation work.

> "The attention has been where the major infrastructure is [but] we've got small towns of a few hundred people which are likely to never have any physical adaptation work to protect them…" (local government participant, March 2011)

> "People will be worried about the city … but they're not going to be worried about the coastal towns." (local government participant, March 2011)

- A number of respondents highlighted the potential risk to existing private homes and the possibility of future depopulation and disinvestment in exposed locations. Similarly, local planners expressed difficulties in evaluating decisions that may quarantine future development potential on private land.

> "There's a big social dilemma - how do you tell someone their land is worthless and they can't develop it?" (local government participant, March 2011).

- In the context of the wider socio-economic challenges affecting coastal communities beyond the major cities, potential economic impacts associated with climate change for local tourism operators, fishery, and agricultural industries continue to concern local government respondents.

Finally, several respondents called attention to the increased risks of bushfire, emphasising that their local councils lacked experience in planning for bushfire scenarios. This was also raised during the round table discussion. More widely, and in line with previously documented concerns, a number of survey respondents and round table participants pointed to inadequate data for modelling and assessment of potential climate risks at the local level.

INSTITUTIONAL ARRANGEMENTS

As the tier of government with the least financial and professional resources, local government is also faced with complex governance and institutional arrangements which create an additional barrier to adopting effective climate change adaptation measures. As identified in the research findings (Gurran, Squires and Blakely 2005) the National Sea Change Taskforce believes it is timely and important to undertake a broad scale review of these governance and institutional settings for the Australian coast. Such a review would describe the current situation, identify areas where improvements are needed and possible, and develop options for improvement for consideration by governments and stakeholder groups. As noted in the research report, coastal localities are:

> "... subject to complicated, cross jurisdictional planning and management processes relating to coastal management and protection, heritage conservation, and natural resource management (in addition to core land use planning and development responsibilities). As coastal regions are typically characterised by very high natural and cultural heritage values, there are frequently additional management and planning objectives or requirements at State, national, and international levels. It is often the responsibility for local governments to identify, monitor, or implement these requirements. Therefore mechanisms to combine planning and natural resource management systems need to be devised by each State – perhaps through consolidated legislation and planning policy administered by State governments but implemented by appropriately resourced local councils." (Gurran, Squires and Blakely 2005)

This matter was considered at a workshop on governance conducted by the National Sea Change Taskforce at Port Douglas in April 2006. The workshop participants, who included representatives of local government, Natural Resource Management groups and coastal researchers, concluded that more than a decade since the Resource Assessment Commission's overview, and given the widely perceived and often demonstrable fragmentation, overlaps, complexity and lack of coordination in coastal policy and management, that such a review should engage all levels of government, community stakeholder groups, industry, and relevant research organizations and experts, and draw on expertise both in coastal management and in institutional and policy coordination in federal systems. Amongst other things, the review would have the following objectives:

- Map and describe current institutions, legislative frameworks, organizations and policy processes that define coastal policy and management, taking an integrated approach (that is, covering environmental, social and economic dimensions).
- Clarify roles and responsibilities of different levels of government, agencies across one level of government, and other organizations.
- Identify unnecessary duplication and redundancies (noting that some redundancy and overlap may be desirable to provide resilience and checks and balances).
- Consider the appropriateness and adequacy of current resources available for coastal policy and management (including human, information and financial resources) currently assigned to those roles and responsibilities.
- Identify conflicting processes, policy goals and processes that impede achievement of integrated coastal policy.
- Identify a range of reforms, options and best practice models for better integration, communication and achievement of synergies.

Recommendation 1 – Institutional Arrangements

Review current governance and institutional arrangements for the coastal zone. One option to consider is the recommendation by the Parliamentary coastal inquiry that the Australian Government develop an Intergovernmental Agreement on the Coastal Zone, in cooperation with state, territory and local governments. The agreement should define the roles and responsibilities of the three tiers of government involved in coastal zone management and be overseen by a Coastal Zone Ministerial Council. The Parliamentary coastal inquiry further recommended that the Intergovernmental Agreement on the Coastal Zone form the basis for a National Coastal Zone Policy and Strategy that sets out the principles, objectives and actions to be undertaken to address the challenges of integrated coastal zone management for Australia.

CLIMATE CHANGE ADAPTATION AND POPULATION GROWTH

Finding feasible solutions to dealing with climate change risks will become increasingly urgent in the face of rapidly expanding coastal communities. For many years coastal communities have experienced population growth at levels well above the national average. Between 1997 and 2010 the population of coastal areas outside the nation's metropolitan areas increased by two million people – from 4.9 million to 6.9 million. This rate of growth is likely to accelerate over coming decades.

The third Intergenerational Report, released by Treasury in February 2010, estimated the national population will increase by 64% to reach 36 million by 2050. This is 8 million higher than previously estimated in the Intergenerational Report 2007 and 14 million higher than the current population. The National Sea Change Taskforce has analysed the revised figures and considered the impact on non-metro coastal communities.

Projections by Infrastructure Australia, Major Cities Unit (Infrastructure Australia 2010) indicate that the capital cities are likely to grow from 14 million to 23.7 million over the next 40 years – an increase of 9.7 million people. This means the remaining 4.3 million people of the projected increase will need to be accommodated elsewhere, and the most likely scenario is that they will seek to settle in non-metro coastal areas. This projected growth is in addition to the one million 'baby boomers' planning to retire to coastal areas between 2010 and 2026. The combined effect of this growth will be to increase population in coastal areas by 77% by the mid 2050s - from 6.9 million to 12.2 million. The current resource base of LGAs in coastal areas is inadequate to meet the level of demand for economic, social and environmental infrastructure that will be generated by growth of this magnitude.

This situation is compounded by the current methodology for collecting population data in the census, which understates the number of people who depend on basic infrastructure and services in coastal communities. The census is conducted at five yearly intervals in the middle of the week during winter. As a result it does not capture data on the large number of people who would otherwise be in these communities at weekends or at other times of the year. This places coastal councils at a significant disadvantage in keeping pace with the continuing increase in demand for local community infrastructure and services, and at meeting the considerable costs involved in rebuilding or relocating infrastructure such as roads, water and sewerage systems to withstand the projected impacts of climate change.

The scale of population increase by 2050 highlights the need for a national growth management plan as an integral part of a sustainable population and climate change strategy. One of the objectives of such a plan would be to prevent the location of urban settlements in areas that are vulnerable to the impact of climate change. The consequences of allowing intensive development to occur in such vulnerable areas have been clearly demonstrated in the major flooding events in Queensland in early 2011. Other critical objectives would be to ensure that adequate provision is made to meet projected demand for infrastructure and services and to prevent the loss of productive agricultural land in the coastal zone.

The Taskforce notes that current methods of planning, funding and managing population growth are inconsistent and inadequate. Gurran, Squires and Blakely (2005: 59) point out that 'there is a need for a national framework to lead coastal policy, establish strategy responses to population growth in coastal regions, and to support and resource regional and

local coastal planning initiatives. Suitable models for emulation exist in the UK, the US and the European Union'.

The need for greater cross jurisdictional coordination is also evident. The researchers state that in 'comparison to many other nations, Australia's national responses to coastal urbanisation are limited. This is partly due to an historic devolution of environmental responsibility to the States under the Australian Constitution. However, the Commonwealth has an important indirect influence on environmental policy and planning through its funding, taxation, and international trade powers. It can play an important role in national policy making, by setting policies directly and through national government councils such as the Council of Australian Governments and the Natural Resource Ministerial Council.'

The national growth management plan should promote a coordinated approach, involving all three levels of government, in the task of identifying, prioritising and funding the infrastructure needs of rapidly expanding communities. This approach could be informed by the Queensland Government's SEQ Regional Plan and accompanying infrastructure Plan, which provides a blueprint for meeting the infrastructure and service needs associated with rapid population growth.

Growth management at a national scale, as envisaged through the growth management plan, is clearly beyond the capacity of state and local government. It requires the Australian Government to play a national leadership role in a collaborative effort involving all three tiers of government. The Australian Government has previously adopted this sort of leadership role in relation to the development of cities and regions under the Department of Urban and Regional Development in the early 1970s and the Building Better Cities Program in the early 1990s. Given the challenges that lie ahead it is timely and appropriate that the Commonwealth adopt this approach again.

Recommendation 2 – Growth Management Policy
Develop a national growth management policy to better coordinate the planning and provision of infrastructure in regional and rural areas, including rapidly expanding coastal communities. The policy would involve the three spheres of government working collaboratively to more effectively meet growth in demand for economic, social, cultural and community infrastructure and services. One of the aims of the policy would be to prevent expanding populations being housed in areas that are vulnerable to the impacts of climate change. Another aim would be to prevent the loss of productive agricultural land which is a major issue in many rapidly-growing coastal communities.

CONSISTENT LEGISLATION AND POLICY FOR ADAPTATION

To assess perspectives on current and prospective legal and policy responses to climate change adaptation, the survey included a series of questions about the adequacy of state and local legislation, regulation, and policy in relation to sea level rise, infrastructure design standards, building design standards, and inundation. Overall, the majority of survey respondents expressed the view that each of these areas were either poorly addressed, or that policy requirements were unclear or inconsistent.

> "The legislative and policy framework is variable. I don't think there's been any serious attempt to update the actual legislation … there's nothing in the planning Act" (Local government participant, March 2011).

> "There's a whole range of tools and planning and legal tools that need to be developed" (Local government participant, March 2011).

Open ended responses to the survey emphasized the perceived shortcomings in state and local planning systems, particularly in relation to determining when a development application should be refused. Several round table participants called for a firmer set of mandates to guide local government planning.

> "Stronger planning policy is required from a state government level as to what to do with this information, when to say "no more" (Survey respondent, March 2011).

In the context of Victoria, survey respondents and round table participants expressed the view that despite weaknesses in the overall policy framework for coastal policy and climate change, the benchmark sea level rise threshold (of 0.8 meters by 2100) had provided a major step forward in planning for climate change:

> "We've got a stake in the ground at 0.8 of a meter which we must plan for. I think the way that we're arguing is, how do you do that, not is it a good idea. So we've actually got a major victory in terms of trying to progress the debate about planning. I think it's better to have a figure in than not, it's better to be having a conversation around are the tools adequate rather than still trying to argue over a number" (Former councillor, March 2011).

Others commented that the sea level rise benchmark provides a flexible tool to allow local responses to emerge:

> "The theory is that it needs to go back to local levels and you need different solutions for different places. So, you know, a heavily built up area that's got a huge amount of asset that sits behind it whether it be public or private, may call for a different defence response than say a small hamlet where it may in fact be cheaper to help those people relocate in whatever means you choose" (State government participant, March 2011).

Infrastructure and design standards

More generally, some respondents referred to a potential disconnection between State planning policies for more concentrated development in existing centres, through infill and urban consolidation, and climate adaptation considerations for building design. Others indicated that State government "inaction" meant that local governments have needed to progress responses independently, leading to "inconsistency and duplication" and a "waste of resources" (Survey respondent, March 2011).

Local planning framework

Views about local planning frameworks were slightly more mixed. In some areas, sea level rise is being addressed in local plans, with 13 respondents indicating that sea level rise was partially addressed in their planning framework. However, the majority of survey respondents indicate that sea level rise is not addressed or is poorly addressed in their controls.

In relation to other climate adaptation measures, again, most participants indicated that climate change adaptation related considerations for infrastructure and building design and inundation were poorly addressed or not addressed in statutory planning controls.

Several respondents asserted the difficulties in addressing climate change through statutory controls, due to the absence of sufficient mapping data. The issue of building heights is a particular concern in amenity areas. A number of respondents referred to the issue of building heights, which, they argued, should be lifted to provide protection against inundation. However, to do so would undermine existing standards relating to views and amenity.

Planning, risk management, and property rights

In discussing the adequacy of the planning framework, the issue of risk was a major focus for local government participants. Respondents indicated different, and changing, approaches to advising property owners of climate risk and of associated planning controls or requirements.

> "There was a period in council when we had the map, [but didn't] make that publicly available cause of the risk that there could be for property values. But, there's been a real ... shift in focus because now we're individually identifying properties at risk of storm surge and we're actually in the next couple of months actually putting stickers in the meter boxes of those properties." (local government participant, March 2011)

> "People want to know and once people know there's a risk of storm surge they know that there's sea level rise but they're still going to choose to live in the beach; they're going to take that risk." (Local government participant, March 2011)

The requirement for advice about coastal risk on NSW planning certificates applying to individual properties was regarded as a positive development by round table participants:

> "It's all about risk management, so that the information is there and people have got this if they go and buy a house in an area [that] has been identified as at risk. So it's really is just putting the information out to the community, it's just one other piece of information when you go and invest in property." (Local government participant, March 2011)

Others emphasised that the notion of risk in coastal contexts is not yet settled:

> "It might be fine till 2070, so it's OK at this point. Last thirty years it's getting its feet wet but it's had seventy years or sixty years from 2010 to 2070, sixty years where actual risk is below the one in hundred year [exposure]. That's a pretty safe bet for sixty years. So we haven't yet articulated what constitutes acceptable levels of risk." (Local government participant, March 2011)

As previous forums have identified (Department of Climate Change and Energy Efficiency 2010), a more nuanced approach to risk whereby different standards might apply for different development types and timeframes, was advocated by some round table participants.

> "You don't want your emergency control centre to be underwater and inaccessible in a flood so you'd be very safe and put it high and dry for sure. But, there's a classic

> example of a bar or restaurant ... right down at the prime location right next to the water. It's been wiped out five times and rebuilt in the same spot because it's very profitable to be there as a commercial enterprise. I'm not recommending that but the point is there are values in location. We spend a lot of time emphasising the cost and risk and there's nothing wrong with that, but we haven't yet spent as much effort looking at the value or the rationale or the benefits of some of these hazardous locations." (Local government participant, March 2011)
>
> "Now, we keep thinking that you've got to have this land, it's got to be dry 100% of the time for another hundred years. I don't know we should take a hundred years, why couldn't it be 60, 40? I think we need to look for some of those other opportunities rather than just saying it's got to be dry." (Local government participant, March 2011)

Several participants described pressure from more affluent newcomers who had purchased sites in vulnerable locations, and now sought to secure approval for new development, despite climate risk.

> "I've got residents who could have bought there in the past and they didn't because they accepted the risk. They watched the waves come in, they watched it all go, you know, the road go out and the jetty go out and the houses go, but now we've got some of the richest people in this country who came and bought it and quite frankly just said we don't give a stuff what the green council says, we've got mates in high places. We'll build it if we want." (Local government participant, March 2011)

These conflicting pressures arising from various stakeholder groups are a major concern for local councillors and professional staff.

Recommendation 3 – Consistent Legislation and Policy for Adaptation

There is a need to establish a consistent national approach to climate change adaptation, with the participation of Australian, State and Territory governments, to assist local government develop the capacity to address climate change risks. Australia has approximately 36,000kms of coastline which requires a consistent response to rising sea levels and other climate change risks, rather than the current piecemeal approach adopted in individual jurisdictions and local government areas.

GOVERNMENT SUPPORT

The survey of coastal councils conducted for the *State of Practice* research project (Gurran, Norman, and Hamin, 2011) explored which State and Commonwealth initiatives were likely to be of most benefit to councils in addressing climate change risks. The responses are set out in the following table:

Initiative	High priority	Priority
Stronger State policy	26	4
Stronger Commonwealth policy	26	4
Assistance in undertaking a climate change risk analysis and adaptation planning strategy	21	2
Funding for adaptation measures	20	8
Assistance in reviewing / change land use planning controls	17	12
Understanding / assessing community vulnerability	16	14
Better communication of information from initiatives	15	11
Access to legal advice	12	13
Assistance in developing strategies to assist with community engagement and build community resilience	10	19
A dedicated member of staff to undertake climate change adaptation initiatives	7	16
Staff training	4	20

Source: Climate change adaptation planning in Coastal Australia survey 2011, N=34

As shown in the table, stronger Commonwealth and State policy on climate change adaptation was ranked as the highest priority measure. Also a high priority was state or Commonwealth assistance in undertaking risk analysis, and in reviewing local government planning controls.

Thirty respondents called for assistance in understanding community vulnerability to climate change risk and 29 respondents prioritised assistance in developing strategies for community engagement and resilience.

Respondents also called for better communication of information arising from Commonwealth and State initiatives, both in terms of understanding the outcomes of these initiatives but also knowing opportunities to secure any available external resources.

Commonwealth and state mandates

In round table discussions, the wider policy work of the Commonwealth was regarded to be extremely important:

> "The first pass assessment really shifted [thinking]. For instance, in our council it has shifted us from this idea of mitigation to adaptation. There has been an evolution [of this work] over time and that has been deeply influential." (Local government participant, March 2011)

Round table participants also emphasized that strong state policy provided a mandate for local government action:

> "I'm of the view that you do need good legislative frameworks which don't give local governments wriggle room to get out of putting in place good land use policies." (Local government participant, March 2011)

Assistance in interpreting technical vulnerability assessments undertaken to support particular development applications was also raised as a priority in the round table discussions.

> "We're working at the tail end backing up the wrong way. There's been no process of rolling this out, no capacity building for local government, no training people in my role or funding for assistance." (Local government participant, March 2011)

As part of this, a major issue was assistance in addressing problems associated with existing development in locations that are now vulnerable:

> "It's the old stuff; it's the retrospective stuff that was built below sea level. Stuff that was built on reclaimed land that is now naturally getting washed away or whatever. Where the only practical albeit very expensive option [is] to buy these people out [on land that] should never have been developed." (Local government participant, March 2011)

A similar issue requiring higher level government support relates to whether damaged homes should be able to be rebuilt in vulnerable locations, such as areas prone to significant flood risk:

> "Common sense and the way in which we've been educated about the imperatives of climate change and adaptation, says that if it's stupid to have done it in the first place [we shouldn't build there again, but] how do we solve this problem for these guys without placing a huge burden on the other [residents] of the region to buy them out?" (Local government participant, March 2011)

Commenting on rebuilding following the Queensland floods, one participant noted the financial hardship faced by home owners who had recently purchased their property:

> "Unfortunately most of these families [are] not the original owners. They didn't build the houses. They bought them two years ago or nine months ago in some cases and so people sold them knowing that they did flood." (Local government participant, March 2011)

This was also seen to be a wider issue requiring government policy and financial support for resolution.

However, most activities are at a very preliminary stage of development. Smaller local government areas in particular face barriers to action associated with their limited financial and human resources. In some cases, pressure from affluent property owners, or community "pushback" arising from climate change scepticism is eroding local political support for adaptation planning initiatives.

Recommendation 4 – Government Support

There is a need for a comprehensive, nationally consistent program to support and guide local government adaptation decisions. Councils need adequate resources to implement adaptation measures and clearer guidance in determining when a development application should be refused. There is also a need for a Coastal Natural Disaster Mitigation scheme to assist councils to implement emergency mitigation, preparedness, response and recovery arrangements to address the impact of extreme weather events.

LEGAL LIABILITY

Councils come under considerable pressure from property-owners, commercial developers and state governments to allow developments in coastal areas which are potentially vulnerable to sea level rise and other climate change impacts. As the responsible authority the council is required to take a risk management approach to planning decisions affecting these areas in order to make sure that people and their property are not placed at risk from the climate change impacts which scientists warn are inevitable. The tension between these conflicting pressures is often difficult for councils to resolve satisfactorily. If they approve a development in what is considered to be a potentially vulnerable location they face the risk of legal liability at some point in the future if the property is damaged as a result of inundation or coastal erosion. But on the other hand, if they refuse the development application, they are often faced with defending the decision in a costly legal action before a land and environment court or planning appeals tribunal. In effect, they can find themselves facing a situation in which they are 'damned if they do and damned if they don't'.

In 2011 the Australian Local Government Association (ALGA) engaged the legal firm Baker & McKenzie to prepare a report (Baker & McKenzie 2011) to provide assistance to ALGA in collaboration with State and Territory local government associations to identify areas of potential legal risk and the liability of LGAs in relation to climate change with a particular reference to coastal areas. The report identified the following legislative and policy barriers to effective climate change adaptation facing councils:

Lack of decision making power – 'Planning is primarily a state-based responsibility. As a result of this, Councils must act within the legislative frameworks developed by State or Territory agencies...There is contention regarding what degree of guidance should be provided to Councils by State/Territory or Federal governments to ensure consistency in adaptation strategies...' (Baker & McKenzie 2011)

Lack of consistency – 'With some exceptions, state government policies do not provide clear and consistent guidance and the information available to inform Council decisions varies from jurisdiction to jurisdiction...Where there is inconsistency in information available to Council, such as in relation to sea level rise benchmarks, a Council must choose a source of information on which to base its decision. This could result in litigation where the information used contributes to the loss.' (Baker & McKenzie 2011)

Lack of clear guidance, materials and expertise – 'Climate change risk information is constantly changing and is often highly technical....There should... be ongoing programs run at state or national level, as well as locally within the individual Councils to educate and train staff and Councillors about the nature, impact and risks of climate change, the potential liability of councils and the most up-to-date information.' (Baker & McKenzie 2011)

Lack of funding – 'A large barrier which faces Councils with the development and implementation of climate change initiatives is the ability to obtain financial resources and skills within the organisation. Councils, particularly smaller councils, struggle to obtain resources due to budgetary constraints, and have difficulty processing the lag time between seeing the direct benefits or outcomes of climate change initiatives and their implementation.' (Baker & McKenzie 2011)

As noted in a paper titled '*Local Government Adapting to Climate Change – where the rubber hits the road'* by Doug Lord and Angus Gordon, which was presented at the 2011 Coasts and Ports Conference in Perth:

‘Local Government is increasingly being handed responsibility for implementing climate change adaptation measures, the States taking the position that the implementation of adaptation is a local issue and therefore properly lies with Local Government. Further, while encouraging Local Government to either defend or retreat their communities from their shorelines, they are not provided with the financial, legal or technical backing to underpin such actions, particularly as they affect private property. This opens the pathways further for such matters to be determined in a piecemeal way through the courts.’ (Lord and Gordon, 2011)

Recommendation 5 – Legal Liability
Promote the adoption in all jurisdictions of legislation to give similar effect to that provided by Section 733 of the NSW Local Government Act, which affords protection from legal liability for local councils where they provide advice or make a decision in good faith relating to coastal planning and the impact of climate change.

ADAPTIVE CAPACITY OF LOCAL GOVERNMENT

The survey of coastal councils and expert round tables conducted for the *State of Practice* research project (Gurran, Norman, and Hamin, 2011) explored the financial implications of climate change for local councils. Respondents were asked:

- whether their council had undertaken a risk or financial audit to estimate potential losses associated with climate change, and, if so, the magnitude of these losses;
- the amount of money that had been spent by the council on climate change adaptation measures to date;
- the amount of money, if any, that had been budgeted for climate change adaptation measures in the financial year between 2010-2011; and,
- the amount of funding allocated for climate change adaptation measures in the following financial year.

The report went on to observe: 'As anticipated, responses to these questions varied. Firstly, only six respondents indicated that their council had commenced an analysis of likely financial liability arising from climate change risk, although 19 advised that their council intended to undertake such an analysis in the near future.

'Of those who had commenced this analysis, the scope and methodology of the analysis varied greatly. Further, the scale of exposure and the nature and value of assets potentially exposed to climate change risk will differ significantly according to local context.

'Responses indicated that the major areas of financial exposure relate to infrastructure, insurance, and legal liability. Councils in areas with significant local infrastructure (particularly roads, water and sewer facilities) and regional facilities (particularly airports, hospitals, emergency services), located in low lying areas faced obvious financial exposure in the short to medium term, with estimates in the $100s of millions over time.

'Another issue associated with financial liability relates to risk and insurance against risk to life and property, with some councils having commenced discussions with the insurance industry to scope potential exposure. A third issue concerning financial exposure relates to potential legal litigation in relation to decisions about development in potentially vulnerable locations.

Resources expended and areas of expenditure

Expenditure on climate change adaptation is related to the level of activity already underway in each local government area, the amount of overall resources available to the council, and the nature and immediacy of climate risk.

Estimations of expenditure ranged from approximately $3,400 spent on staff education activities to over $10 million on coastal protection works relating to sea level rise. Responses indicated that:

- some councils have isolated climate adaptation spending in relation to specific projects or works, while others used a climate change fund to provide ongoing resources for strategic programs beyond capital works expenditure;
- a number of councils have begun to integrate climate change adaptation as one of the outcomes needing to be demonstrated as part of their capital works programs, with one respondent likening this to the way in which "occupational health and safety considerations" have been mainstreamed across council planning;
- therefore it can be difficult to separate out the funding commitment relating specifically to climate change adaptation; and,

- smaller councils tended to spend considerable resources on consultant studies and on the preparation of adaptation strategies or plans, in addition to imputed resources in staff time on these projects.

In summary, the main areas of expenditure to date have been on risk analyses, the preparation of adaptation strategies or plans, and legal opinions, as well as capacity building (staff education and development), community information and engagement, and infrastructure upgrading / coastal protection works.

Estimations of financial expenditure budgeted by the local government area for climate change adaptation in the current financial year were surprisingly definitive, suggesting that councils are beginning to identify specific funding for climate adaptation. Amounts budgeted ranged from nothing, through to $1.25m, with more typical amounts relating to the development of adaptation strategies (in the vicinity of $20,000-$50,000).

Estimates for the following financial year were less concrete, although a distinct cluster of local government respondents indicated projected expenditure of over $100,000, largely to carry out projects arising from risk adaptation strategies or to fund more assessment of risk.

Previous research projects have emphasized the importance of access to additional resources to assist councils build capacity for climate change adaptation, particularly in local government areas already struggling with resource constraints. Consequently, the survey conducted as part of the *State of Practice* research project (Gurran, Norman, and Hamin, 2011) asked respondents whether their council had sought or received any government or non-government assistance for climate change adaptation activities.

Twelve of the 49 survey respondents indicated they had already received funding for climate adaption activities from their State government, and nine from a non-government organisation, primarily from the international group Local Councils for Sustainability (ICLEII). Others had won funding under the Commonwealth's *Local Adaptation Pathways Program* (LAPP) which, as noted, provided funding for adaptation initiatives in 2009-2010.

State based local government associations have also been an important source of funding for climate adaptation in coastal areas.

The importance of funding for climate change adaptation initiatives was underscored by successful recipients and difficulties in seeking competitive funding were emphasised:

> "A lot of funding is competitive funding. When it's competitive funding there's a lot of energy that goes into going for grants and funding and time … [and often] you've got to match the funding. It would be great to have more strategic funding which gets everyone to the same benchmark" (Local government participant, March 2011).

Recommendation 6 – Adaptive Capacity of Local Government

There is a need to increase the adaptive capacity of local government to deal with the impacts of climate change through measures such as the Local Adaptation Pathways Program, as recommended in Recommendation 7 of the Parliamentary coastal inquiry report, noting, however, that competitive funding programs are resource intensive and tend to disadvantage smaller councils which have fewer professional staff to prepare grant applications and implement funded programs.

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ABOUT THE NATIONAL SEA CHANGE TASKFORCE

The National Sea Change Taskforce was established in 2004 as a national body to represent the interests of coastal councils. The role of the Taskforce is to provide support and guidance to coastal LGAs. Funding for the Taskforce's activities is derived from membership fees.

It was recognised at an early stage that an advocacy campaign needed to be supported by solid and credible research. In 2005 the Taskforce commissioned the first stage of an on-going research project to identify the priority issues facing coastal communities. The second stage of the research project, conducted by the Planning Research Centre at The University of Sydney, identified best practice models of local and regional planning for sea change communities. The third research project, titled *Planning for Climate Change: Leading Practice for Sea Change Communities in Coastal Australia*, was released in July, 2008 and identified best practice measures for responding to the impact of climate change on coastal communities. The fourth and most recent research project, titled *Planning for Climate Change Adaptation in Coastal Australia: State of Practice,* is due to be released in early 2012.

The findings of the Taskforce research reports have influenced the development of coastal policy at a Federal, State and local government level. In Victoria, for example, the Taskforce research reports were prime reference sources for the development of the 2008 Victorian Coastal Strategy.

Through an on-going advocacy campaign the Taskforce has placed the key issues facing coastal communities, including the impact of rapid growth, climate change and ageing populations, on the national political agenda. The Taskforce has also successfully engaged with the Federal Government on behalf of coastal councils and their communities.

APPENDIX 1 – *Planning for Climate Change: Leading Practice for Sea Change Communities in Coastal Australia*

Authors: Gurran, Hamin and Norman (2008)

Accompanies this report

APPENDIX 2 – *Planning for Climate Change Adaptation in Coastal Australia: State of Practice*

Authors: Gurran, Hamin and Norman (2011)

Accompanies this report