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Ms Janet Holmes
 Committee Secretary
 Standing Committee on Climate Change, Water, Environment and the Arts
 PO Box 6021
 House of Representatives
 Parliament House
 CANBERRA ACT 2600
 AUSTRALIA

23 May 2008

Dear Ms Holmes

**Inquiry into climate change and environmental impacts
 on coastal communities**

The Australian Local Government Association (ALGA) is the national voice of local government, and represents the over 600 councils across Australia. ALGA is a federation of state and territory local government associations. These in turn represent and work closely with councils throughout Australia.

Local government has a strong interest in the matters specified in the Terms of Reference of this Inquiry, through its roles as:

- the agency responsible for land use planning throughout much of the coastal zone
- the agency commonly responsible for significant aspects of environmental management in the coastal zone, including the provision of waste removal and treatment services, and the provision of water, drainage and sewerage services
- the land manager for many coastal reserves and other coastal buffer areas
- the agency commonly responsible for provision and management of public infrastructure such as roads, recreational areas and parks, in the coastal zone.

Climate change will result in two principal direct physical environmental effects in the coastal zone:

- sea level rise
- significantly altered rainfall patterns¹.

These will cause a cascade of direct and indirect impacts on the physical, economic and social environments in the coastal zone, which will require assessment and response by public sector agencies, including local governments.

The focus of this submission is on the impacts of climate change on the **physical environment** in **developed** areas of the Australian coastal zone.² The intent of the submission is to highlight the critical requirements which must be met to enable the impacts of climate change in the coastal zone to be addressed effectively. This is addressed through consideration of the particular requirements of **local government**, in its role as a key planning and management public sector agency in the coastal zone.

The Terms of Reference are addressed sequentially below.

Existing policies and programs related to coastal zone management, taking in the catchment-coast-ocean continuum

Local government plays a key role in land use planning in most terrestrial areas of the Australian coastal zone. The extent of this role is defined by the State/Territory legislation, policies and programs which affect both planning in general and coastal zone development, planning and management in particular. In some jurisdictions, local government also has a potential planning role below the intertidal zone.

Further, local government's exercise of its planning powers may be influenced by Australian Government legislation, policies and programs affecting either coastal zone development, planning and management, or particular species or habitats in the coastal zone.

To exercise its multiple roles effectively in the coastal zone, local government requires:

- minimisation of potential overlaps and conflicts within and between State/Territory and Australian Government legislation, policies and programs
- accurate timely data on current coastal population growth and demographic change
- accurate estimates of future coastal population growth and demographic change.

¹ Other anticipated effects due to climate change include increased temperatures and increased frequency of extreme weather events.

² The potentially significant impacts of climate change on remote undeveloped areas in the coastal zone, and the potential impacts on the economic and social environments in developed areas, are beyond the scope of this submission.

The environmental impacts of coastal population growth and mechanisms to promote sustainable use of coastal resources

The environmental impacts of continued coastal population growth will be significant. All levels of government should work collaboratively, to address the issues raised by coastal population growth, and to require enhanced sustainability in the design, development and management of infrastructure to serve these increased populations. This will require coordinated planning at local, regional, State/Territory and national scales.

Sound land use and infrastructure planning, based on accurate land capability data, using an effective and affordable nationally endorsed digital elevation model (DEM), and accurate population growth and demographic change estimates, will enable local government to :

- mitigate these environmental impacts
- plan effectively for changes in demand for environmental services such as waste removal and treatment, and water, drainage and sewerage.

To ensure these essential functions are performed effectively and efficiently, local government requires:

- accurate timely data on current coastal population growth and demographic change
- accurate estimates of future coastal population growth and demographic change
- accurate land capability data at appropriate scales
- sound estimates of future water availability, for both surface and ground water
- timely advice on emerging technologies for environmental services such as waste removal and treatment, and water, drainage and sewerage
- access to regional, State/Territory and national scale planning information.

It is noted that there is a substantial amount of applied research into the probable impacts of climate change in the coastal zone currently being conducted by Australian Government and State/Territory Government agencies. It would be of significant benefit to all three levels of government if the details and results of this research could be shared nationally, on an ongoing basis.

The specific impacts of sea level rise on coastal reserves are a particular concern. These reserves, which provide a major community recreational resource, a conservation zone, and a protective buffer for adjacent infrastructure, are in many cases under severe user pressure and much effort has been expended on stabilising coastal dune and wetland systems and other reserve areas throughout Australia. However, impending sea level rise will inundate many coastal areas and will destroy many dune and wetland systems.

The impact of climate change on coastal areas and strategies to deal with climate change adaptation, particularly in response to projected sea level rise

The essential starting point for effective climate change adaptation in the coastal zone is the development of nationally consistent estimates of projected sea level rise over time, and methods for estimating the resultant inland extent of inundation.

It is understood that there is not yet consistency or agreement at the national and State/Territory government levels regarding:

- the temperature rise scenarios to be used in assessing the impacts of climate change in the coastal zone
- the sea level rise which these would cause over a specified period
- the resultant areal extent of inundation, guided by a nationally endorsed and accepted digital elevation model.

These matters need to be resolved, and a nationally consistent framework for estimating the impacts of sea level rise developed. This would then permit the development of effective adaptation strategies and mechanisms, suitable for modification to meet local circumstances and subsequent adoption.

This information could then guide planning and development decisions regarding the coastal zone. The use of a nationally consistent basis for this information would ensure that all jurisdictions worked on the same basis and thus that there were no additional distortions in the development investment market.

It is noted that the National Coastal Climate Change Vulnerability Assessment currently being conducted under the aegis of the Department of Climate Change will provide some general information on the potential impacts of climate change in the coastal zone, and more detailed information from six site-specific case studies.³

There is also a need for a nationally consistent, transparent, approach to the insurance of infrastructure in the coastal zone. This national approach should be based on the nationally consistent detailed accurate estimates of projected sea level rise and inland extent referred to above.

Much of the public environmentally-related infrastructure located in the coastal zone will be at risk of direct or indirect damage due to sea level rise and the increased frequency of extreme weather events. Increased local government capability, tools and resources are required for the planning and design of new public infrastructure, the hardening of existing infrastructure, and for appropriate emergency responses to extreme events.

Detailed projections of water demand and supply in the coastal zone are also essential, given:

- the anticipated increased populations

³ The results of this work will not be available until (at earliest) late 2008, potentially too late to inform this Inquiry.

- the anticipated altered rainfall in catchment areas due to climate change.

In short, to ensure that effective climate change adaptation strategies are developed and adopted at the local level, local government requires:

- for **land use planning** - nationally consistent estimates of projected sea level rise over time and methods for estimating the resultant inland extent of inundation
- for **infrastructure planning, design and management**
 - a nationally consistent, transparent, approach to the insurance of infrastructure in the coastal zone
 - increased capability and resources for planning and design of new infrastructure, and hardening of existing infrastructure
- for the **provision of environmental services** - detailed projections of critical resource shortfalls (particularly water) in the coastal zone

Mechanisms to promote sustainable coastal communities

Physically, economically and socially sustainable coastal communities should be encouraged, promoted and supported by detailed national, State/Territory, regional and local government planning. This planning should be based on the most accurate available projections of coastal population growth and demographic change, and accurately reflect the relevant physical, economic and social contexts.

Local government is a key stakeholder in this matter, given its multiple roles in the development and management of many aspects of communities.

Governance and institutional arrangements for the coastal zone

The Department of Climate Change has commissioned the preparation of a report identifying key governance issues that will arise in the coastal zone under climate change. The final report from this work is expected to be available in late August.

On the currently available evidence, ALGA does not consider that specific coastal zone governance and institutional arrangements are warranted at this time. Existing Australian Government and State/Territory legislation, policies and programs provide sufficient mechanisms to ensure effective responses to the current environmental impacts due to climate change in the coastal zone.

However, it is anticipated that climate change impacts will increase significantly over time, requiring altered governance and institutional arrangements. ALGA considers that immediate investigation of new nationally consistent governance and institutional options is required, in order to protect local governments, communities and developers. These options should include indemnification for planning decisions influenced by climate change considerations.

The effective management of anticipated climate change impacts in the coastal zone will require significant additional capability and resources. Local government, as the

key planning and management agency over much of the coastal zone, must be adequately equipped to ensure effective responses to these difficult challenges.

ALGA would be pleased to expand on this submission before the Committee, if required.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Adrian Beresford-Wyllie', written in a cursive style.

Adrian Beresford-Wyllie
Chief Executive