SUMMARY OF COUNCIL RECOMMENDATIONS TO THE AUSTRALIAN GOVERNMENT

The Council believes early action is needed to manage the climate adaptation challenge. We have engaged with a range of stakeholders over two years and commissioned studies to inform our advice. The areas for action summarised below seek to address current barriers to adaptation and help build capacity to manage coastal climate risks more effectively.

1) Climate risk protection standard to guide planning and investment

- Develop a coastal risk based standard to guide developers and asset managers on managing climate change risk, where Australian Government investment and funding is involved.
- Progress a national approach to the development and application of the coastal risk based standard for major investment decisions with states and local government.
- Conduct a five yearly national audit to assess how climate change risks are being incorporated in major investment decisions in order to minimise future risk.

2) Improving decision making through better science and information

- Establish a collaborative work program with states and local government to develop and deliver access to the best available evidence on coastal climate change risk and sea level rise, involving two elements:
  - ready access to nationally consistent and scientifically based information on physical effects of climate change to support goverment decision making.
  - regional modelling approaches and nationally consistent hazard assessment methodology to inform coastal management planning.

3) Coastal policy and regulatory reform

- Facilitate implementation of a regulatory reform agenda, in partnership with states and local government, to address existing barriers to adaptation (risk disclosure, building codes, existing use rights, legal liability).
- Further explore key emerging issues such as the use of the public trust doctrine to balance public interests and property holders' rights.

4) On ground adaptation - tackling hotspots

- Develop assessment criteria to identify nationally significant hotspots where early coastal adaptation action (across governments) is warranted.
- Broker government and private sector partnerships to commence on ground adaptation planning in nominated hotspots.

5) Integrating climate change into national agendas

- Strengthen the focus on coastal climate change adaptation in three key areas:
  - the national urban and regional policy agenda
  - insurance and banking sector reform
  - managing natural disaster risk (planning and response).

Council advice to Minister Combet – December 2011

Even with concerted global action to reduce greenhouse gas emissions, the science tells us sea levels will continue to rise for centuries to come. This will have implications for Australia and our coastal society. Rising sea levels will expose homes, infrastructure and beaches to inundation, erosion and saltwater intrusion (saline water and higher corrosion rates). Low lying settlements around estuaries, lakes and rivers will also be vulnerable.

Managing climate change risk, or the consequences of climate change, is made more complex with the need to accommodate a growing population without putting people in harm's way or increasing national levels of financial risk.

The Council believes early action is needed to manage the climate adaptation challenge. It will take time to identify and consider options to reduce the vulnerability of our major cities, to remove people from harm's way in high risk settlements and to ensure major infrastructure can continue to deliver the services that underpin our wellbeing and productivity.

It will be more cost effective if we have the opportunity to avoid risk or spread the cost over longer timeframes and ensure large scale, longer term risks are systematically integrated into planning processes.

The Council has engaged with a range of stakeholders over the last year. We have talked to planners, the banking and insurance sectors, valuers and the property industry, local government, and legal and engineering experts. We have also benefited from two legal studies that assessed current regulatory responses to coastal climate change risk and the issue of local government liability.

This advice seeks to address key barriers and build capacity to manage climate risks more effectively. As identified in the House of Representatives Standing Committee report *Managing our Coastal Zone in a Changing Climate, the time to act is now* (2009) the Council believes Australian Government leadership is fundamental to drive coordinated action. Recommendations are made in five areas that would benefit from action now:

1. National coastal climate risk standard to guide planning and investment
2. Improving decision making through better science and information
3. Coastal policy and regulatory reform
4. On ground adaptation - tackling hotspots of extreme risk
5. Integrating climate change into national agendas.

(1) Climate risk protection standard for coastal planning and investment

Decision makers are faced with questions about 'what should get built where and for how long' in areas that have little or no risk now but are likely to have significantly increased risk into the future.

There is considerable confusion amongst coastal decision makers about the appropriate level of risk management that should be adopted now to ensure valued natural and built assets are protected into the future. For example current planning seeks to limit development in high risk storm surge areas (eg the 1 in 100 year storm) or where there are

known erosion risks. With climate change, decision makers are asking what level of risk protection is appropriate, and where and when it should be applied. There is also a preference at local government level for greater national consistency across risk protection measures.

While jurisdictions have started to address the issue of coastal risk and climate change for new developments there are gaps and inconsistencies in how policies are applied on the ground. For example not all states have sea level rise planning benchmarks.

Where sea level rise policies do exist, a key issue in on-ground implementation is how to deal with the uncertainty around how quickly sea levels may rise (the rate of change) and how to manage the changing nature of the risk as sea levels will continuously rise over coming decades and even centuries. Decisions about short lived assets such as a utility block will not need to consider a 100 year timeframe and 80cm sea level rise, although decisions about new residential settlement areas should consider that longer term risk.

It is evident that there is still incomplete consideration of future coastal risks in current planning decisions. For example, an expansion of a health facility in Busselton, WA, valued at over $100 million, is currently planned to be built 100m from the beach. The site is likely to be at risk from erosion under a climate change scenario, with access roads vulnerable to flooding in a big storm/rainfall event and little consideration of emergency access.

The Australian Government has a vested interest in minimising climate risk for its own assets and investments. It also faces increasing liability in its role as insurer of last resort.

Consistent with preliminary advice provided this year, the Council recommends the Australian Government develop a best practice, risk based approach to manage climate risk for Commonwealth assets and investments, and as a condition of Australian Government funding. This guidance could also inform state and local government approaches. The *National Green Leasing Policy* provides a useful model: it sets targets and legal requirements to encourage a nationally consistent effort by state and territory governments to reduce the environmental impact of leased office buildings.

The Council recommends that the Australian Government:

- Develop a coastal risk based standard to guide developers and asset managers on managing climate change risk, where Australian Government investment and funding is involved.
- Progress a national approach to the development and application of the coastal risk based standard for major investment decisions with states and local government.
- Conduct a five yearly national audit to assess how climate change risks are being incorporated in major investment decisions in order to minimise future risk.

(2) Science and information for decision makers

Easily accessible, high quality information that can support good planning decisions is often not available to coastal decision makers. The need for such information has been consistently raised through the House of Representatives report (2009), the national coastal forum (2010) and most recently through the Baker & McKenzie legal liability study (2011).

Council's engagement with stakeholders has identified three areas of need:

i. Scientifically based information to support sound decision making

Local government and professional stakeholders have uncertainty about what constitutes robust, fit-for-purpose science and information. Many of these decision makers have no climate science expertise in house and are seeking access to a reliable and robust source of science to underpin decisions. Information is commonly sought on regional sea level rise projections, extreme sea level events and potential rates of erosion. Having access to reliable and robust information would improve confidence in decision making, reduce future liability and, most importantly, improve decisions and prevent future harm.

The Council welcomes the Government's recent commitment to provide centralised access to consistent flood modelling data in response to the Trowbridge Natural Disaster Insurance Review.

ii. Guidance on integrating climate change into hazard modelling

Understanding the impacts of rising sea levels is a relatively new focus of hazard and risk assessment modelling. It brings with it new challenges. Improved modelling approaches will be required to understand:

- the likelihood of accelerated erosion for many beaches around Australia over the longer term; the switch from generally stable or accreting beaches (gaining sand) to a receding coastline is acknowledged as a key threshold question for coastal management and is not well understood[1].
- the combined impact of erosion and flooding; to date, modelling of sea level rise impacts has tended to assess erosion and flooding impacts separately, whereas in reality these will occur simultaneously.
- how estuaries will respond to/be reshaped by rising sea levels; some estuaries may draw in more sediment and surrounding coastal areas will lose access to that sediment and recede. While other estuaries may deepen, which will change tidal flows into the estuary and up rivers, and potentially the area at risk of inundation.
- what the potential risk is from a combined storm surge and coincident catchment flooding event, especially for areas that are close to the coast and have a major river drainage outlet.

Collaboration with states and local government is required to address modelling and information provision needs. It would minimise duplication and make the most of very limited funding and research capacity in Australia. It may also help in fostering greater consistency in how information supports decision making.

iii. Reducing the uncertainty of Australian climate change projections of sea level rise

Given the focus of Australian settlements along the coast and the complex interaction of different oceans around the Australian coastline, it is important we understand the regional variation in sea level rise projections. Council supports long term investment in the science of sea level rise to ensure the best physical science is available to support government policy. This should be given priority in the implementation of the Australian Climate Change Science program.

[1] Chapter 2 - *Climate Change Risks to Australia's Coast*: *A first pass national assessment* (2009), DCCEE

The Council recommends that the Australian Government:

- Establish a collaborative work program with states and local government to develop and deliver access to the best available evidence on coastal climate change risk and sea level rise, involving two elements:
  - ready access to nationally consistent and scientifically based information on physical effects of climate change to support goverment decision making.
  - regional modelling approaches and nationally consistent hazard assessment methodology to inform coastal management planning.

(3) Coastal policy and regulatory reform

Earlier advice to you in October identified some of the barriers impeding coastal adaptation and practices in jurisdictions that could be more broadly applied to improve decision making and make risks more transparent to property holders. These include:

i. *Risk disclosure*: In most areas of Australia, information on climate risks such as inundation or coastal erosion due to sea level rise is not available for specific properties. This prevents individuals and the private sector from making investment decisions that reflect future climate risk and may also be a factor in legal challenges to planning decisions. Currently, NSW is the only state where local councils are required to disclose coastal hazard risk on planning certificates. A national approach to improve the transparency of climate risk would enable individuals and private sector interests to better account for those risks in valuing market goods.

ii. *Building codes*: The Building Code of Australia provides guidance on design, materials and construction for building across the range of Australian climates. The Building Code will play a key role in determining whether houses built now are adapted to the future impacts of climate change. The current focus of the Building Code is on predictable forms of risk and does not yet incorporate guidance on how to manage the uncertainty surrounding climate change.

iii. *Existing use rights/injurious affection*: The legal concept of 'existing use rights' protects current land use from any new restrictions and limits the ability of governments to re-zone land to restrict the intensity of development in areas at future risk. In some states, new development may also be protected through rights to claim compensation if a planning scheme is amended that diminishes development rights (injurious affection). These legal provisions pose a significant barrier to adaptation.

iv. *Liability for local government*: Legal liability was identified as a key issue in the parliamentary committee report *Managing our Coastal Zone in a Changing Climate*. Many local governments are concerned about liability if they approve a development that is likely to be exposed to inundation from future sea level rise. NSW legislation offers a model to indemnify local government decisions providing they are based on the best available scientific information at that time. Lack of certainty about liability results in decisions being referred and tested in the courts and can impose a signficant burden on local government budgets with complex lawsuits extending to hundreds of thousands of dollars.

More broadly, the Council believes further investigation is needed on how to balance the rights of public vs private interests. Shoreline positions will change and there will be increasing inundation of low-lying areas and assets, creating conflict between public rights and property holders' interests. This is an emerging issue which is likely to have a significant national impact. There is currently greater emphasis in law on protecting development and property interests than public amenity such as beach access. Legal conflicts have already emerged and will undoubtedly grow. Where the law currently assumes little or no significant change to property boundaries and entitlements, and does not recognise public rights and the transient nature of land, there is potential for compensation claims to emerge. There is an opportunity to review approaches internationally such as the use of the public trust doctrine in the US.

The Council notes the Productivity Commission inquiry, *Regulatory and policy barriers to effective climate change adaptation,* is underway and is likely to provide further consideration of these issues.

The Council recommends that the Australian Government:

- Facilitate implementation of a regulatory reform agenda, in partnership with states and local government, to address existing barriers to adaptation (risk disclosure, building codes, existing use rights, legal liability).
- Further explore key emerging issues such as the use of the public trust doctrine to balance public interests and property holders' rights.

(4) On ground adaptation action – tackling hotspots

Nearly all of our capital cities are located on the coast. Some cities, such as Brisbane, already have a large exposure to extreme events. Other cities have vulnerable locations around major ports and industry such as Botany Bay and Port Phillip Bay. These areas have high value commercial, residential and industrial assets, which suggests that protective measures are likely to be feasible and cost effective, in the same way that the Thames Barrage in the UK protects the city of London. Early planning to develop climate change adaptation strategies will enable the myriad of small incremental decisions to be made in a manner and timing that is consistent with longer term strategies for protective works and ensure new residential developments are not located in areas that will become high risk.

Thinking ahead for large scale adaptation requires a collaborative multi-decadal approach, with engagement across governments and the private sector. A small number of nationally significant hotspots need to be systematically identified through agreed criteria, and partnerships brokered and commenced in forward scenario planning. This is likely to include major cities, particularly those with foreshore frontage such as Brisbane, Botany Bay and Port Phillip Bay - areas with major infrastructure of national importance.

The Council recommends that the Australian Government:

- Develop assessment criteria to identify nationally significant hotspots where early coastal adaptation action (across governments) is warranted.
- Broker government and private sector partnerships to commence on ground adaptation planning in nominated hotspots.

(5) Integrating climate change into national agendas

There is an opportunity for the Government to ensure coastal climate change risk is strongly considered through a number of COAG or interjurisdictional agenda initiatives currently underway. These include:

i. *Urban planning*: National criteria were developed to shape capital city planning and ensure cities have long term plans to manage population and economic growth, address climate change, improve housing affordability and tackle urban congestion. The COAG Reform Council will provide a final report to COAG in December 2011 on how well the planning regimes meet criteria. In particular, the *National Urban Policy Framework* identified areas of work that would support cities to become more resilient to climate change risks and reduce the exposure of urban assets to those risks.

ii. *Insurance*: The floods in the summer of 2010/2011 raised issues about the adequacy of insurance coverage for flood and flood definitions; these were examined in the Trowbridge Review of Natural Disaster Insurance (Treasury). Further consultation is underway on more complex questions, including how best to cover high and extreme flood risk homes in an affordable way (flood reinsurance).

With climate change projected to increase the intensity of extreme events, and as the insurer of last resort, it is in the Government's interest to understand how the risk of inundation will change (both catchment flooding and ocean storm surges) under different climate change scenarios.

The Council recommends that sea inundation and erosion issues be included in the discussion on insurance coverage. Further, the Council advises the Australian Government to consider how best to address the issue of affordable insurance within an adaptation context and constrain future growth in high risk areas. In some instances it may not be feasible to offer affordable insurance and continuing occupation; relocation may be in the long term interest.

iii. *Natural disaster mitigation*: COAG adopted a *Natural Disaster Resilience Strategy* in February 2011 that places greater emphasis on preparing and planning for natural disasters. There needs to be a stronger recognition of climate change impacts and adaptation in hazard mapping and modelling, and in key emergency management policies, to ensure future risks can be addressed. For example, the Australian Government may need to consider thresholds that might trigger different action under recovery payments (eg no future rebuilding of expensive assets in high risk areas).

The Council recommends that the Australian Government:

- Strengthen the focus on coastal climate change adaptation in three key areas:
  - the national urban and regional policy agenda
  - insurance and banking sector reform
  - managing natural disaster risk (planning and response).