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CITY OF
Port Adelaide Enfield

SUBMISSION

To
The Commonwealth House of Representatives
Standing Committee
on
Climate Change, Water, Environment and the Arts

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

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Introduction

The City of Port Adelaide Enfield Council and its administration welcome the opportunity to provide input to the Committee's inquiry into the coastal impacts of climate change, and strongly supports the Commonwealth Government's investigations and focus on this critical area.

Local Government has core operational and policy interests in relation to coastal management, and the potential *added* pressures associated with climate change focuses further attention on the need for systematic assessment and inter-governmental co-ordinated response.

The COAG Working Group on Climate Change and Water has recently called on local government to begin a range of assessments and planning projects in relation to coastal management in the era of climate change. Each region will have its own particular climate change-related issues, pressures, and responses (environmental, social, and economic). Many strategic *local-level* responses will be addressed by Councils themselves in partnership with the State Governments - particularly in relation to development planning policies or mitigating local flooding risks, for example - however these prioritised responses and actions must be based on scientific vulnerability and risk assessments, which are logically undertaken at a regional level, rather than by each Council individually.

We call on the Commonwealth and State Governments to facilitate *regional* vulnerability assessments, in order to provide the baseline data and analysis to underpin the co-ordinated development of future strategic planning and programmed investments.

The key recommendation is therefore –

(1) to support the Commonwealth Government's proposal (February 2008) that regional coastal vulnerability assessments (incorporating economic, social, and environmental impact assessment) be undertaken in accordance with a nationally consistent framework, with the flexibility to include particular issues of local interest or concern.

We understand that significant Commonwealth funding will be available in the near future for the undertaking of coastal *elevation or terrain modelling*, as has occurred in the central Sydney and New South Wales north coast recently, as a project collaboration between Councils, universities, and the CSIRO. This additional resourcing assistance would be of critical importance to South Australia, where a programme of coastal mapping studies of this kind has been not been supported by the State Government to this point. The detailed terrain mapping is only one part of the picture, but provides a critical basis to allow a genuine vulnerability assessment of the potential economic, social and

environmental impacts of projected sea level rise and increased storm energies in our coastal areas.

The Port Adelaide Seawater and Stormwater Flood Study

In 2005 Port Adelaide Enfield Council approached the State and Commonwealth Governments to support the undertaking of a detailed mapping study of the Lefevre Peninsula and Barker Inlet area, which are key coastal stretches within the Council. It was apparent to the Council administration that this was an area at immediate risk from projected sea level rise and associated climate change impacts, including storm surges. The coastal area contains key strategic assets that support the economic and social base of the State, including –

- three power stations that supply the bulk of South Australia's electricity,
- key nationally linked natural gas pipelines,
- the port site (Birkenhead), where all of metropolitan Adelaide's fuel supplies are received and distributed since the closure of Mobil's Pt Stanvac site,
- major industrial sites (Adelaide Brighton Cement, Penrice etc),
- an international port (Outer Harbor) that serves both Adelaide's domestic markets, but also commodities import and export – including the northern SA mines expansion,
- major commercial freight rail and road infrastructure that serves the various ports on the coast and within the Port Adelaide River,
- the new naval precinct (Techport at Osborne) where the Commonwealth's warfare destroyer project is occurring,
- the bringing on-line by the State Government of large tracts of land at Gillman for immediate industrial development (this land being until now a tidal flood plain accommodating ecologically valuable samphire and mangrove habitats that will be under threat from sea level rise unless migration/retreat buffers are in place – these buffers are not currently planned for by the State's planning authority or the State's land management agency releasing the land),
- large constructed tidal wetlands in Gillman, that treat the majority of north-western Adelaide's stormwater prior to discharge to the coast - these wetlands are the largest constructed wetlands on earth and are also key biodiversity assets, with several migratory bird species protected by international treaty,
- critical natural fish nursery and 'grow-out' sites in the tidal and estuarine areas of the Barker Inlet coast, which support the multi-million dollar SA commercial and recreational fishing industry,

- key tourism assets, and
- the State Government's legislated Dolphin Sanctuary, is also contained in large part in the Council's coastal area.

With this profile in mind, and the major potential State-wide disruption that would be caused by increased flood risk and coastal infrastructure disturbance in the area, Council staff took the initiative to prepare a project brief to undertake a major coastal study to assess the combined effects of projected sea level rise, increased storm surges and energies, land subsidence, and increased stormwater generation in future development scenarios. Support funding was sought from a range of State and Commonwealth agencies, with an equal tripartite funding arrangement being achieved between the Commonwealth DOTARS Natural Disaster Mitigation Programme, the State Government's Dept Premier and Cabinet (Security and Emergency Management Office) and Council itself. Council has project managed the study in full.

The project is in two parts –

- Stage (1) A full assessment of the potential risks associated with the projected coastal impacts of climate change, combined with the existing flooding profile;
- Stage (2) A strategic plan to address the issues identified in the above study, with associated investment programme.

Stage 1 has been completed, and a copy of the Stage 1 Report and the full mapping results has been provided to the Committee in CD format, to support this submission.

Stage 2 is currently underway (2008/2009). The future funding of the study is in some flux given the possible winding up of the Commonwealth NDMP funding after the next year – Council would be keen to discuss this resourcing aspect with the Commonwealth and State agencies via the appropriate channels in the near future, so as to ensure that the project can be completed, and the 'best value' mix of effective strategic adaptation actions can be planned and put in place by the three levels of government in partnership.

The results of Stage 1 are evident. Using CSIRO's data regarding local coastal climate change impacts and storm energy projections, and using the relevant projections from the IPCC report of 2001, it is clear that a very significant and immediate risk exists in the entire study area.

The study reported floodplain mapping and damage estimates for a range of future sea level rise scenarios of inundation combined with a 100 year storm event. These predict that the damages associated with a 100 year storm event will increase dramatically from existing conditions (\$8m-\$28m) to future

scenarios associated with 500-880mm of sea level rise (\$180m-\$310m) within the City of Port Adelaide Enfield.

The results of the Stage 1 study were reported to the Elected Members of Council in 2007 and made public, and the work was reported comprehensively in the media – and it is important to note that, rather than creating concerns regarding property values or insurance ramifications, the feedback from the community was very positive in applauding the work that was being done by Council, with a view to proactively managing the medium and long term coastal impacts associated with climate change. This was a valuable demonstration that governments at all levels need not take a 'head in the sand' approach to climate change impacts, or their solutions.

It should be noted that the kind of study that Port Adelaide Enfield have undertaken is not a genuine 'vulnerability assessment' – which would include assessment of other climate change risks such as increased heatwaves, public health effects, ecological and biodiversity impacts, groundwater impacts etc – and would entail a profiling of the assets, infrastructure, and communities to be affected, including an assessment of the capacity of businesses and the community to cope and respond to the potential hazards. This broader assessment is now urgently required for this highly strategic area. However, the study does provide an excellent scientific baseline of coastal flooding risk at a detailed geographic scale, from which can be determined an appropriate, efficient, and co-ordinated 'no regrets' response.

Terms of Reference

Some further comments are provided below, with reference to the Inquiry's Terms of Reference.

(1) existing policies and programs related to coastal zone management, taking in the catchment-coast-ocean continuum

In 2007 the SA State Government amended the Local Government Act 1999 to require as mandatory the preparation of *Stormwater Management Plans* (SMP) by Councils. These are to be integrated Plans to address stormwater quantity and quality issues *and* maximise stormwater conservation and reuse, by preparing a mix of land use planning, engineering and environmental strategies and investment programmes to achieve agreed objectives and optimal outcomes for each catchment. These plans will provide an excellent vehicle for improved water management generally across key catchments in metropolitan Adelaide, including those that discharge to, or have an inter-relationship with, coastal land. Port Adelaide Enfield Council is preparing the first SMP of this kind currently, with support from the SA Dept Transport, Energy and Infrastructure.

There is a lack of clarity regarding governance and funding arrangements at State level in regard to the preparation of these Plans, which has delayed the initiation of these valuable projects to date. There also appears to be a lack of alignment across State agencies regarding planning in this regard – for example, the SA Government's excellent *Tackling Climate Change – SA's Greenhouse Strategy* requires that Stormwater Management Plans include assessment of the impacts of climate change on hydrology and related modelling in each catchment however, the State's Guidelines for preparing the Stormwater Management Plans is silent on this key issue. Greater co-ordination of to develop strategic objectives, and joint overall planning is required across State and Federal agencies on this matter, and between the levels of government (including Local government).

- (2) *the environmental impacts of coastal population growth and mechanisms to promote sustainable use of coastal resources*

The potential for the impacts of future intensive development in coastal areas is not limited to residential development (the 'sea change' phenomenon). The vacant land at Gillman (Barker Inlet coastal area) for industrial and logistics development will result in significant growth of activity and infrastructure investment in the area, which will require significant forward planning and management to ensure impacts of climate change are considered in the master planning of these areas, currently being conducted by the State Government. This approach is welcome however it should include an appropriate assessment in terms of climate change impacts to ensure a sustainable industrial development for the future. This would be assisted to some extent by an intergovernmental and coordinated approach to the planning.

- (3) *the impact of climate change on coastal areas and strategies to deal with climate change adaptation, particularly in response to projected sea level rise*

See above regarding the Council's Port Adelaide Flood Risk Study, which addresses this item.

- (4) *governance and institutional arrangements for the coastal zone.*

The governance arrangements for coastal planning and management in South Australia are currently in flux. The Adelaide and Mt Lofty Ranges (AML) Natural Resource Management Board (NRM) will be responsible for the channelling of funding from the Commonwealth's new *Caring for Country* programme – however, following a recent restructure, the entire metropolitan area is no longer represented by a 'Group' in the AML NRM region. It remains unclear at this point to the relevant coastal Councils how the coastal areas in general, including planning and investment to address climate change issues, will be managed in

the new system, and how funding will be allocated in a targeted manner according to strategic priorities.

For further information

Council's recently completed *State of the Environment Report 2007* highlights a wide range of issues in relation to coastal planning and management generally – the full State of the Environment Report is available on Council's website at www.portenf.sa.gov.au

Also, for the Committee's information and interest, we have attached a recent media article by Barbara Norman (Planning Institute of Australia) which well describes several of the issues relevant to this Inquiry, particularly in relation to land use planning in coastal areas.