Response to Draft Productivity Commission Report *Barriers to Effective Climate Change Adaptation*

Context

Lake Macquarie City Council has approximately 200,000 residents living in urban and peri-urban settlements around Lake Macquarie. This large coastal estuary is subject to the effects of sea level rise, and to catchment flooding. The Council is a pioneer in NSW in assessing the risks to coastal and estuary settlements from predicted sea level rise and its effect on lake flooding, and is now working with government and community to decide changes to its land use planning system and development controls in response to the changed risks. Many of the comments below arise from our experience in dealing with the increased hazard and risks to established lakeside communities from predicted sea level rise.

Council also participated in the Echelon/Statewide Climate Change Risk Assessment program, and adopted an organisational Climate Change Adaptation Plan in April 2011.

Comment on recommendations and information requests

Recommendation 7.1 and 7.2: Council is pleased to note the recognition by the Productivity Commission that Local Government carries a large share of the burden of planning for climate change adaptation, and making and carrying out decisions on adaptive actions. This is particularly true in the areas of infrastructure provision and maintenance, land use planning and development, and emergency services.

Council supports the call by the Commission for Federal and State Governments to build the capacity of Local Government to deal with climate change adaptation, and the recognition that transfers to the Local Government sector through grants and other financial mechanisms are needed to match the increased demands on Local Government.

However, while these points are contained in Chapter 7 of the Report (e.g. in “Key Points” summary) they are not reflected in the Commission’s recommendations on “Local Government”, which are restricted to looking at legislative frameworks. The recommendations should include a specific call to resource Local Governments (through grants, or other mechanisms such as increasing their powers to raise revenue from other sources) to give them the capacity they need to plan for and act on climate change adaptation.

Recommendation 6.1 and 13.1: As the Report recognises in Chapter 6, the Federal Government, in particular, has a role in providing the best and most up-to-date information from national and international research, helping other levels of government understand the information and communicate it effectively to local communities, and providing a consistent national framework or methodology for assessment of local risks. This information will likely help reduce, but not eliminate, the uncertainty that makes the assessment of climate change adaptation options so difficult, as the report notes.

Lake Macquarie City Council has relied heavily on information and advice from organisations such as the CSIRO, ACE, and NCCARF in developing assessments of hazard and risk, and ways to manage and reduce risk. Local Governments do not have the capacity or resources to carry out such research and analysis. Continuing investment by the Federal Government in research in climate change, climate risk assessment, adaptation options, and natural disaster management is essential.

The Commission's Recommendation 6.1 on information coordination and provision is supported, but is unnecessarily narrow, focussing on flood risk and other natural hazards.

Recommendation 13.1 identifies "research and information provision" as a focus for Australian government resources. Reliable and understandable information at the national level is needed in many fields, including primary research into climate change, methodologies for decision-making and determining costs and benefits of adaptation options, and understanding community attitudes to climate risk and uncertainty.

Recommendation 5.1: The role of the Federal Government in providing a national information base is also addressed by Recommendation 5.1 concerning developing standard building codes, and supporting bodies such as the Building Codes Board and Standards Australia. This recommendation is supported, but should be expanded to recognise other standards and benchmarks such as Australian Rainfall and Runoff, asset maintenance and deterioration curves, and standards for valuation of ecosystem services, for example. Developing building and infrastructure design standards that are adaptable to changing and uncertain climate conditions, rather than the current static baselines, will require significant effort and resources.

Recommendation 7.2 and Information Request 7.1: The report rightly recognises the significant issue of legal liability for Local Government making, or not making, decisions to adapt to climate change. While its relevance to climate change adaptation remains largely untested in the NSW Courts, the protection from liability offered by Section 733 of the NSW Local Government Act was a significant factor in the willingness of Lake Macquarie City Council to make decisions to manage the risk from predicted sea level rise and flooding. The NSW legislation could provide a model for similar legislation in other States or at a national level.

Recommendation 4.1: As a general comment, the Commission's recommendations reflect its broader approach to economic and regulatory issues that favours an open and free market as a determinant of rational economic and personal choices. While this has its place, it is not the whole story, as the Report itself recognises in some of the discussion, such as Chapters 4 & 5. In particular, the report seems to underestimate the effect of some market distortions and institutional issues:

- The effect of "future discounting", and the bias towards avoiding losses over taking gains, are particularly strong when making decisions covering a long time period – typically 50-100 years for climate change adaptation – and when there is range of uncertainty in the predictions of future risk. This greatly increases the bias towards the status quo among consumers, businesses and industry, and governments, when they are considering their response to climate change. These and other biases are described in Box 6.7. In adapting to climate change, these biases reinforce each other, amplifying their effect. It may take legislative or other regulatory action to counteract the effect of these biases on market signals, cost-benefit evaluations, and other economic mechanisms.

- The report refers often to the “uncertainty” around climate change predictions, and how this may favour delaying action until more information is available and the level of uncertainty is reduced. The uncertainty isn’t about climate change itself, but rather about its rate, its intensity, and its consequences. Being conservative about investing in risk reduction and adaptive measures might be wise if the predictions prove to be alarmist, but ‘uncertainty’ means there is an equal chance that the predictions may be an underestimation. This is a particularly significant issue when the increase in risk is non-linear, which applies to many climate change risks, that increase exponentially over time and/or involve sudden jumps in risk as tipping points are reached. A good example is the damage curves for flood or wind damage to buildings. An alternative approach to this issue is to encourage flexibility and resilience, so a variety of future options are kept open until a decision needs to be made and/or can be made with more certainty. This can require measures antithetical to market mechanisms, such as built-in redundancy or excess capacity to accommodate unknowable or unmeasurable future risks. This is applicable to critical infrastructure, ecological conservation, and provision of land for future protection and retreat, for example.
- The report recommends a cautious approach to investment in adaptive actions, particularly if there is uncertainty about the balance between costs and benefits. Uncertainty is a constant companion of climate change adaptation, and inaction or delay is an adaptation strategy choice. It is important that any choice for delay or non-action be assessed by the same cost-benefit criteria, within the full range on uncertain futures, as any proposals for action. This is particularly important if tipping points or triggers are involved in the assessment, as these may simply concentrate the impact and cost of the issue into a shorter timeframe, which may actually make it harder to manage or respond to when the time comes. For example, requiring new buildings to meet more stringent conditions at the time of construction may mean some over-engineering and added cost now, but it will be spread over many years as old stock is progressively renewed and renovated. If such changes are left until a trigger or risk threshold is reached the cost of retro-fitting, particularly if the demand is concentrated over a short period, may outweigh the savings from delaying the action.

Information Request 8.2: The report sees market signals as a way to ensure individuals respond appropriately to climate change risks. For example, the cost of insurance will rise in areas where coastal flooding is exacerbated by sea level rise, encouraging people to move to safer locations. Alternatively, property values will drop, encouraging investment to shift elsewhere, or the cost of protection works will become prohibitive. However, these economic signals are masked by other factors. Often they are disproportionate – the cost of insurance is still only a small percentage of the capital value of the house and property – so the signal is weak. In other cases, the risk is likely to be transferred from a private risk to a community or public risk, shielding the individual from some or all of the cost. It is likely that the more properties and assets that are affected, or the larger the cost, the more likely it is that there will be pressure for public funds to be used to build or maintain protection works. As the old adage goes: “If you owe the bank ten thousand dollars it is your problem. If you owe the bank ten million dollars it is the bank’s problem. If you owe the bank ten billion dollars it’s the government’s problem.” There is a significant danger that by the time the ‘market signal’ is strong enough to affect the behaviour of individual owners, there will be pressure to transfer the cost to the community or government – as the report describes it in Chapter 12, the Government becomes the insurer of last resort. Where it is desirable for all or some costs to be borne privately, it may be necessary to use regulatory or other measures to facilitate early action, to avoid the danger of escalation of an issue to the extent that government is forced to take increasing responsibility. The experience with private landholders paying for retreat

or protection of assets on land known to be affected by coastal recession is a case in point, for example at Byron Bay and Lake Cathie in NSW.

Information Request 8.1: A significant barrier to adaptation action has not been recognised in the report. Planning laws are not designed to encourage or allow "un-planning", "back planning" or "back-zoning "as a result of changing conditions or new information. Land use and development decisions made in good faith a few years ago did not consider the effects of predicted sea level rise, for example. When the new information is considered, it may be reasonable to revise earlier decisions and reduce development intensity in vulnerable areas. Such a possibility is recognised in the *NSW Coastal Planning Guideline: Adapting the Sea level Rise* (Principle 4). If Local Governments are to seriously consider back-zoning to a less intense development type, or implement planned retreat strategies, they have little or no support in current policy or legislation, and very few legal precedents to guide them.

Recommendation 8.3 and Information Request 8.1: There is a similar lack of legal and practical experience in appropriate financial models for land use planning decisions, for example to provide compensation and support to private landholders and/or for public funds to be potentially available for infrastructure upgrade, and/or property purchase and relocation costs in some cases. These are issues that are best addressed at the national level. This issue gets some mention on page 17 of the report, recognising that it "may be necessary to develop national approaches and principles to support strategic management of climate change risks for existing settlements…" and Recommendation 8.3 refers the matter to COAG for further consideration. This is a serious underestimation of the urgency and importance of this issue to Local Government, and a more comprehensive assessment of this issue and recommendation(s) for action is required, including the involvement of decision makers and affected communities.

Recommendation 4.1:The market mechanisms, and the cost-benefit approach to assessing action on barriers to adaptation that are favoured in the report often ignore or undervalue the significance of ecological and social systems, and the complex interdependency of social, ecological, and economic systems. This should be more explicitly recognised by the report and its recommendations by, for example, explicitly including consideration of ecological services and conservation, and social capital and community values, in the assessment of options in Recommendation 4.1.

Dr Alice Howe
Manager Sustainability