

## Barriers to Effective Climate Change Adaptation Inquiry

Productivity Commission

Collins Street East, Melbourne

Dear Commissioners,

Thank you for the opportunity to provide a response to the draft report. It is a substantial contribution to what many see as impacting on the future well-being of Australia as we enter the “new climate era”.

Australia alone is no position to prevent the forces of climate changes impacting adversely on its social, economic and environmental conditions. Climate change has a very high probability during this century to challenge the very fabric of society including governance in this country. Unless there are significant international controls on emissions then what is our capacity as a nation to cope with the stresses of 2 to 4 degrees higher temperatures; and will the nation be prepared to make sacrifices in the way it uses land and marine resources given the need to make hard choices that will be a severe burden on the public purse.

As a coastal scientist of 50 years standing, I am very well informed of the implications of global warming to Australia. I participated in the first Prime Minister’s Science Council in 1989 and more recently chaired the federal Coasts and Climate Change Council. With this background I would strongly **recommend** the Commission changes the tone of the first paragraph of the Overview and stress the gravity of what the nation faces unless adaptation practices are developed. Yes, there are uncertainties, but if the PC accepts the “weight of scientific evidence” then it will be informed of the probabilities of impacts in space and time of what risks we face as a nation. There is an excessive use of the verb “could” in these opening statements when the science is telling us that Australia in its precarious geographic position is one of the most vulnerable nations on Earth. Qualifiers may be appropriate at a later point in the text but up front there should be no hesitation in the PC coming out hard on the point that things are going to change. For this country there are few projected benefits but a lot of potential adverse impacts.

The focus of my comments will deal with the Australian coast. The draft report quite rightly uses sources from coastal risk studies of DCCEE (2009, 2011) in which I was closely involved. These studies define the level of risk in a conservative way using different scenarios and methods to assess risk. If the PC is at all critical of those assessments then it should say so; on the other hand such assessments offer governments an indication of what is likely to happen if no actions are taken now or into the future along some defined and accepted decision pathway. Here is where I take a “big picture” overview. The scale of these future problems is potentially so great that our current federal-state-local governance structure and political economic /budgetary decision-making process could be inadequate to meet the challenges. The report notes that built into climate change are “surprises”; good science can help understand what they involve. But governments are not usually equipped to manage shocks or surprises or plan for the very long term. It took 30 years from the surprise of the great North Sea storm of 1953 for the London barriers to be designed and built. The Dutch also learnt a lesson from this storm and continue to design and upgrade their defences on a long term pathway of planning. I understand that they and the Germans are thinking out to 2300!

I do not get the impression from reading the PC draft report that there has been sufficient consideration of the dimension of change we face and how capable are our governance structures in meeting the planning and decision-making challenges. In the 2009 DCCEE coastal risk report we gave examples of future major infrastructure at risk and the need to consider ways to plan for future impacts especially of rising sea levels. Our ports and some airports have been designed on the basis of tidal ranges and positions staying the same. How and when will governments start the process of reviewing such risk? How do we resolve some of the decision-making that we have inherited from the constitution? My concern is that the PC has underestimated the capability of Australian governance structures in the new climate era and I would **recommend** they explore this matter further. The PC may come to the conclusion that current arrangements are adequate to meet all the challenges of a 2 to 4 degree warmer world with associated impacts, but it would be useful for the PC to say why they feel all will be ok in the future without a major rethink of how we are governed. Although COAG is mentioned and the Climate Commission, I cannot see how these entities would meet the huge

future challenges of adaptation including surprises without some major changes to their powers and resources.

I applaud the PC position on the need to appreciate the risks faced by the nation for hazards that are occurring under current variable climate conditions. As former Chair of the NSW Coastal Council (1989-2004), I am very familiar with the legacy of past decisions that have placed built assets in harm's way. Past assumptions when land has been subdivided and acceptance of cheap slab on ground building design have greatly exacerbated risks that coastal settlements are facing today let alone with climate change. The key is lessons to be learnt so we can minimise risks as we enter further the new climate era. I would **recommend** a box that captures some of the lessons from the impacts of climate driven hazards on planning and management of both the built and natural environment. Figure 1 is useful in this context but it highlights many of the potential inconsistencies that could arise from different decisions being made at state and local levels under different political circumstances. There is enough evidence to show how past state and local governments have made decisions that place burdens on present and future generations; this is where a few examples as lessons need to be more strongly made.

I strongly support the view that governments need to be more active in identifying "at risk" assets at a local scale. The process of identification and then notification is often full of problems. In coastal areas there is a considerable body of literature devoted to methods of defining coastal vulnerability. Federal and state governments have grappled with these issues for decades and often run into political problems of adversely affecting property values if a map shows the land to be on the "wrong" side of a hazard line. This applies to flood as well as coastal erosion lines. Governments have been known to withdraw or not disclose these lines under pressure from communities. So the question is who is in the best position to do the mapping. In one sense it is pleasing to see in Figure 1 that it should be the role of the Australian Government. Sorry, but that is not how it is. Depending on the state it can be a state agency that does the work, or council staff, or consultants who may be following a brief from a council according to some state or local guidelines. Nationally the provision of hazard information is very messy. The Commonwealth has entered this space through the work of GA at a very

general level for floods and has made available DCCEE maps combined with the GA NEXIS data base to show inundation and erosion coastal risk based on a set of assumptions (DCCEE 2009). The inadequacies of these maps are well known and so are the directions from the DCCEE work for local authorities to then do their own detailed analyses as has been done by Gold Coast City. It is hard to expect a federal agency to do this work at a local scale relevant to planning and approvals except to offer a portal for information and, perhaps with the agreements of states, an acceptance of methods. To date states have been reluctant to work cooperatively. Here is part of the national barrier to adaptation which I do not think the PC report adequately covers if Figure 1 is any indication. I **recommend** it be reviewed or withdrawn as I could point to other issues with it.

A very important recommendation in the report is the link between land use planning and building design. I would extend that to urban design more broadly given my experience in developing the NSW Coastal Design Guidelines 2002. Here is where decisions can be made now as noted by the 2009 House of Representatives report. This is an issue which intersects with liabilities facing councils, insurance, moral hazard, and governments as insurer of last resort, and current and probabilities of future risk. The PC should be as strong as possible in pushing the Building Code in coastal areas to reflect inundation and erosion risk. Insurers do not insure for action from the sea but what does that mean. We use the term “coincident events” to cover water surging in from the sea especially on a high tide coinciding with floods from the land. This report makes no reference to the tricky issues of interpreting such from insurance, building design and urban planning perspective. Yet the DCCEE 2009 report highlights the quantum of residential properties at risk under a higher sea level plus tide let alone flood tide surge on top of all that. We must recognise that we have a legacy at places like west Ballina, Swansea, Mackay, Lake Entrance, Mandurah, Cairns etc. where we have allowed relatively cheap houses to be built in harm’s way today. A national code should make clear that slab on ground houses should not be permitted in areas of potential inundation including an allowance for a level of sea level rise. I **recommend** that the national code then inform statutory local plans relevant to green field developments as well as rebuilding in existing urban areas.

One of the major barriers that should be noted relates to forces that drive local councils. The report does a good job in dealing with individuals and corporations, but on the coast it is often councils who for whatever reason accept maladaptation decisions. We can have numerous LAPs and CAPS, however, the reality of local developer driven politics backed by state governments keen to promote local employment in the building industry, leads to desire to develop in accessible flat lying land near the sea or waterway. The PC should note this as a barrier. Negative gearing encouraging second homes on the coast, loose or ambiguous planning rules, lack of a strong building code and the denial philosophy of many local politicians on the impacts of hazards as an issue for them in their term of office, has created many legacy adaptation issues for the nation. And it gets worse! Councils have their own assets like caravan parks behind beaches which they wish to protect. They place the public benefit of the financial and amenity return from that asset over the less tangible benefit over of a beach and protective foredune. This has happened recently at Kingscliff in Tweed Shire. The consequence was rocks on the beach at odds with state policy but no attempt at compliance. In this case I fear the push for “localism” will impede any long term strategic approach to keeping people and infrastructure out of harm’s way. What to do? I **recommend** that the report look more closely at what motives decisions by local councils which may have long term as well as current maladaptive implications.

Since the 2009 report of the House of Representatives there has been considerable discussion on the issue of legal liability of councils. Baker and McKenzie produced a report for ALGA and the Coasts and Climate Change Council on this matter reinforcing the view that the statutory process in NSW under s 733 of the Local Government Act 1993 as amended is worth adopting in other states. There is evidence that some local governments feel impeded by not having such a provision. Yet some states are reluctant to introduce similar legislation and appear to keep the liability issue vague. I am not sure why this is so. On the other hand some would argue in NSW that by including a climate change element it requires councils to develop ways of communicating uncertainty and probabilities of risk that negatively impacts on s 149 certificates on property and hence on insurance. Yet local governments also face an insurance dilemma if they do not show their insurers how they are protecting themselves; the PC should look more closely at council insurance. It

is clearly an area where a strong **recommendation** from PC could help clarify what is at the moment a difficult situation for local governments in planning and development approvals.

A major concern for me is one of capacity of governments to use the continuously evolving science. Let us assume that responsible national governments will continue to invest in climate change science including the science of impacts at various scales. IPCC will continue to develop reports and advice to governments. For some governments this will mean politically difficult decisions in both mitigation and adaptation. I will assume that for decades ahead Australia will continue to be active in climate change research supported by federal funds and in some cases by state funds (I assume also that insurers will maintain their own research capability). Under such circumstances as PC report notes levels of uncertainty should diminish but other levels unknown now may emerge, that is science. I would hope this PC report addresses that difficult issue as to how policy makers can incorporate this evolving body of knowledge into national adaptation practices. If there is no DCCEE for instance, where in federal government will advice be developed that will inform COAG or ministers or other stakeholders? There must be a place in government which has longevity to be a public resource of information and policy advice relevant to managing future risks to both built and natural assets. A Climate Commission properly serviced may be the answer, but at the moment it is dependent on offices in DCCEE. Advice to COAG requires well informed public service support that goes beyond the mandate of program type funding. I **recommend** that the PC gives more thought to this issue which is further linked to developing consistent adaptation responses at state and local government levels in the interest of national well-being.

A final point of concern is the question of “balance” between private and public interests. Australia lacks a clearly articulated public trust doctrine (PTD). I am including as an attachment a recent paper I have written on this subject which arose from a legal workshop run by NCCARF. I think it is relevant to this discussion of climate change adaptation because of the potential legal conflict between private ownership (and property rights attached to such ownership) and the public good. This is a coastal issue given the transient nature of coastal land and the loss of that land to the sea under rising sea levels and storm

impacts. Issues of compensation arise as lands “approved” for use are lost. We lack clarity in law as to how to handle such conflicts. The PC report is silent on such legal concerns. There are cases before the courts right now that could lead to precedents and we expect these will multiply in future unless clarified by the introduction of the PTD or equivalent. I **recommend** the PC look further at this issue and I would be happy to discuss it further.

Professor Bruce Thom AM, FTSE

Former Chair, Coasts and Climate Change Council