
Climate change and coastal settlements: the story so far

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Scientific evidence of global warming is now unequivocal: the years 1995–2006 ranked among the 12 warmest years since 1850; the Arctic sea ice extent has shrunk by an annual average of 2.7 per cent each decade since 1978; mountain glaciers and average snow cover have declined in both hemispheres; and the sea level has risen on average 1.8 mm per annum since 1960 (3.1 mm per annum since 1993).¹ Other impacts on oceans and coasts include increasing acidification, more frequent tropical cyclones, storm surges and coastal erosion.² Some effects, such as the increasing number and severity of extreme weather events, will be intermittent. Other impacts, such as sea level rise and loss of biodiversity, will be gradual but largely irreversible. Different regions are likely to experience rising sea level and changes to weather patterns, ocean currents, ocean temperature and storm surges to varying degrees.³ Unfortunately, Australia is particularly at risk.⁴ With over 80 per cent of its population living in the coastal zone, the nation is highly exposed to the coastal impacts of climate change.⁵

Exposure to risk is not the same as vulnerability. Vulnerability is a combination of exposure to risks, ability to cope with stresses, and the capacity of a system to recover.⁶ With respect to climate change, vulnerability may be defined as “the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes”.⁷ Countries that strengthen their ability to respond to and recover from climate variability will reduce their vulnerability (or increase their resilience) to the impacts of climate change. Climate change adaptation is therefore about improving our environmental, social and economic resilience to the expected (as well as uncertain) impacts of climate change.

Compared to many developing countries, Australia is well placed to embark upon a program of climate change adaptation. It has the opportunity to prepare for and absorb the shocks of climate change over time and across the economy. A strong adaptive response may serve to lessen environmental impacts and share the burden of adaptation more equitably and with greater cost effectiveness. To bring this about, strong leadership and a commitment to adaptive governance will be required. This article explores some of our efforts to

date, at a policy and legal level, in preparing for climate change adaptation in the coastal zone.

Adaptation in the coastal zone: the emerging policy framework

Since 2007, the policy vacuum associated with climate change adaptation has filled dramatically. Initially, in 2007, the Commonwealth government published a report by SMEC Australia titled *Climate Change Adaptation Actions for Local Government*. This document (and others like it) advocated using risk management techniques to make decisions — including budgetary allocations — about how to adapt to anticipated climate change.⁸ It identified the important role of local government in adaptation to climate change. This guidance became the basis for the Local Adaptation Pathways Program, which sponsored local government initiatives to plan for adaptation to climate change.⁹ These initiatives tended to focus on the process for considering the multifaceted problem of climate change; substantive guidance on how to choose between competing objectives and budgetary demands was relatively light on. Routine cost-benefit analysis was, and is, unlikely to suffice when the problem is so truly a “wicked”¹⁰ one — bedevilled by uncertainty about impacts, timing, costs, solutions and so on. More recent academic work has explored the applicability of a number of frameworks that may assist in the ultimate task of decision-making — ranging from the precautionary principle to adopting “real options”, no regrets or robust decision-making.¹¹

In 2009, the House of Representatives Standing Committee on Climate Change, Water, Environment and the Arts released a report focusing more specifically on climate change adaptation in the coastal zone.¹² This report offered 47 recommendations aimed at improving national leadership within a collaborative framework involving state and local government. It recommended investigating a number of potential legal reforms, including clarifying liability and insurance issues; revising the Building Code of Australia; and adopting a nationally consistent sea level rise planning benchmark. In its response, the Commonwealth government indicated its intention to work towards developing a national coastal

adaptation strategy.¹³ To that end, the government sponsored a national coastal climate change forum in late 2010. Among other things, this forum highlighted the need to revise current approaches to information and data handling and identified a need to address liability issues for local government.¹⁴

In 2009, the Department of Climate Change published a first pass national assessment of climate change risks to Australia's coast (2009 DCC Report).¹⁵ This report argued the case for beginning early with national action to reduce current risks and to avoid new exposures. However, it also recognised the potential for "over-adaptation", given the combined effects of scientific uncertainty and economic discounting:

The level of uncertainty in climate change projections and in the timing of location-specific impacts can tend to justify deferring investment to minimise a risk of "over-adaptation" particularly if it is assumed that knowledge will improve within a few years. Furthermore, a dollar today is usually preferred over a dollar in the future, and there is a reluctance to invest now to avoid a poorly quantified future cost.¹⁶

It recommended exploring *real options* for action — those that hedge against future risks, build on cost-benefit analysis, and recognise that future streams of costs and revenues and the optimal timing for intervention cannot always be confidently predicted. One such action would be taking measures to allocate or clarify risks.¹⁷

Early in 2012, the Commonwealth government released a discussion paper on roles and responsibilities for climate change adaptation, including a number of Guiding Principles for the management and allocation of climate change risks.¹⁸ This latest document endorses a policy built on private responsibilities and local initiatives, with the Commonwealth government playing a minor but supportive role. In summary, it states the following (emphasis added):

- Climate-related risks should generally be assigned to those best able to manage them, favouring a reliance on local initiative and private responsibility where the benefits of adaptation accrue to those undertaking the response and where there are no third-party spillovers.
- Private parties should be responsible for managing risks to private assets and incomes.
- Governments — on behalf of the community — should primarily be responsible for managing risks to public goods and assets (including the natural environment) and government service delivery, and for *creating an institutional, market and regulatory environment that supports and promotes private adaptation.*

Last, but not least, the Productivity Commission has recently concluded its inquiry into barriers to effective climate change and its report will be released shortly.¹⁹ The consultation document it produced earlier this year correlates closely with the strategic and policy direction in which the federal government is now heading.²⁰

The remainder of this article provides a case study of the early implementation of one legal mechanism — information and disclosure requirements — which seems to fit neatly within the emerging policy framework just described.

Case study: information and disclosure requirements in NSW

Several recent policy documents have drawn attention to the important role that information provision will play in encouraging private adaptation. For instance, the Commonwealth's recent discussion paper on *Roles and Responsibilities for Climate Change Adaptation* states:

For risk allocation to be effective in practice, risk bearers need to understand and accept their climate change risks and responsibility to manage them ...

Parties with a clear understanding of their climate change risks and responsibilities will be better placed to identify those actions that are necessary to manage these risks.²¹

Information about the expected impacts of climate change may be provided at a general, non-specific level or in a more tailored form targeting those most likely to be directly impacted. Arguably, a more focused approach will better serve to put affected risk bearers on notice of their risks and responsibilities. Also, and of great concern to local government, a more focused strategy may serve to shift some of the risk of legal liability away from local councils (which, due to their role in local planning and development control, are hugely exposed in this area) by putting developers and purchasers on notice of the risks they are dealing with. Not surprisingly, therefore, some local governments have spear-headed techniques to deliver risk information to developers and purchasers of land.

In one such example, Gosford City Council determined, on 1 December 2009, that information will be placed on s 149 Planning Certificates for properties potentially affected by predicted sea level rise. These certificates are available under the Environmental Planning and Assessment Act 1979 (NSW) to advise prospective purchasers and developers of any development restrictions on land. The message approved by Gosford City Council stated:

This land has been identified as being potentially affected by sea level rise of up to 0.9m by the year 2100 as adopted by Council at its meeting held on 1st December 2009 Min No. 2009/823. Council's adopted sea level rise planning level of 0.9m is consistent with the NSW State Government's Sea Level Rise Policy Statement. All applications to

develop the land need to consider sea level rise but as council does not currently have relevant strategic plans with respect to management of sea level rise for the area, no specific sea level rise development controls apply to this land. Council is currently undertaking a program of studies that may affect future development on the land. Please refer to Council's website, www.gosford.nsw.gov.au for more information.²²

Sadly for Gosford City Council, this information was not well received by local residents. A public petition to the council in 2010 indicates the strength of public opposition to this initiative:

This decision has been poorly conceived and does not take into account the immediate and longer term impact that this decision will have on both the residents and property owners that it affects ... The decision has been made without any true process of consultation with both affected residents and property owners or with Gosford property owners and residents generally.²³

In light of ongoing public opposition, Gosford City Council voted to remove its s 149 notification process on 3 July 2012. Both local councilors and the Coast Residents Association were now of the view that only a state-wide response would suffice.²⁴

Amendments to the Coastal Protection Act 1979 (NSW) in 2010 went some way to dealing with this issue. The Act required coastal councils to include details from any applicable Coastal Zone Management Plan (including information about categorised risks from coastal hazards) in s 149 planning certificates.²⁵ However, this state-wide approach is also now at risk. A new Bill to amend the Coastal Protection Act is currently before the state parliament. It proposes to remove information requirements about specific risk categories from s 149 certificates.²⁶ Also of note, in September 2012, the NSW government announced that its 2009 NSW Sea Level Rise Policy (including a sea level rise bench mark of 90 cm by 2100) is no longer NSW government policy.²⁷

If the NSW government proceeds with the current Coastal Protection Amendment Bill, it will not be alone. In June 2012, the Victorian Planning Minister rejected a proposal to register climate change information on land titles. In making this decision, the Planning Minister referred to the likelihood of inconsistent notices and problems for developers and landowners in financing projects, obtaining insurance and selling the land.²⁸ It remains to be seen whether a similar proposal in Western Australia's Draft State Planning Policy 2.6 will eventuate.²⁹

Conclusion

The stop-start experience with notification of coastal hazards in NSW in particular provides a salutary warning to decision makers about the rollout of legal mea-

asures to prepare for climate change adaptation. As identified in the 2009 DCCC Report, society's discounting of future impacts is extremely high and the uncertainty surrounding the timing and precise nature of climate change impacts further compounds the problem. Disclosure requirements may seem tailor made to fit within the policy framework of promoting "local initiative and private responsibility", yet, as the NSW experience demonstrates, even this measure is problematic. Although the cost to coastal councils of disclosing information about coastal hazards may be relatively low (provided they protect their liability from the risk of inaccurate information), the cost to private landowners and developers is perceived quite differently. For them, regardless of what the climate science is telling us, disclosure requirements are not so much a "real option" as an alarmist over-reaction. Only time — and more actual evidence — may alter that perception. In the meantime, coastal councils may be best advised to educate themselves on actual climate change impacts in their areas; apply that information in their own decision making; ensure that relevant information is publicly available at least in a general form; and, with the assistance of appropriate state legislation, ensure that they are protected from liability for information provided in good faith.³⁰

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Footnotes

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