Too much too soon? On the rise and fall of Australia's coastal climate change law

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For a number of years, government and academic sources have labelled adaptation to climate change an issue for risk management. These sources have recommended methods and procedures for calculating the range of risks presented by climate change. However, analysing risk is only one part of the equation; the more intractable problem lies in deciding how to respond to those risks. The article explores how the risk threshold has been set in recent policy documents and in newly emergent legislation. It analyses two case studies – neither of which can claim unequivocal success – as test cases for the leading policy recommendations. Given the twists and turns in the law and policy at work in both case studies, it is questioned whether the risk threshold was set correctly in either case and also considered are what changes need to be made, both in setting the risk threshold and in determining the appropriate legal tools for that threshold.

INTRODUCTION

Climate change will impact on coastal environments in ways that are both dramatic and severe. In the short to medium term an increase in the number and severity of extreme weather events is expected.[1] Sea level rise and loss of biodiversity may be more gradual but largely irreversible. Different regions are likely to experience rising sea level, changes to weather patterns, ocean currents and ocean temperature, and storm surges to varying degrees.[2] With over 80% of its population living in the coastal zone, Australia is highly exposed to the coastal impacts of climate change.[3] As some degree of climate change is now irreversible, the Australian community needs to start considering how it will adapt to climate change, especially in the coastal zone. A number of reports and policy documents have been commissioned and the courts are starting to acknowledge these issues.[4] This article tracks Australia's recent experience in tackling a core problem – how to respond to emergent, yet uncertain, risks of climate change in the coastal zone.

For a number of years, government and academic sources have labelled adaptation to climate change an issue for risk management. These sources have recommended methods and procedures for calculating the range of risks presented by climate change.[5] However, *analysing* risk is only one part of the equation – and as the science of climate change becomes ever more certain that task may get

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[1] Pachuri RK and Resinger A (eds), "Climate Change 2007: Synthesis Report" – *Contribution of Working Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (IPCC, 2007) s 1.1, http://www.ipcc.ch/publications_and_data/ar4/syr/en/contents.html; Parry ML, Canziani OF, Palutikof JP, van der Linden PJ and Hanson CE (eds), "Impacts, Adaptation and Vulnerability" – *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2007) at 6.3.2.

[2] Parry et al, n 1 at 6.3.2, 6.4.3.

[3] Parry et al, n 1 at 6.3.2, 11.4.5.

[4] The most notable case law to date includes: *Taip v East Gippsland Shire Council* (2010) 177 LGERA 236; *Gippsland Coastal Board v South Gippsland SC* [2008] VCAT 1545; *Northcape Properties Pty Ltd v District Council of York Peninsula* [2008] SASR 57; *Minister for Planning v Walker* (2008) 161 LGERA 423; *Myers v South Gippsland SC (No 2)* [2009] VCAT 2414; *Aldous v Greater Taree City Council* [2009] NSWLEC 252; *Ronchi v Wellington Shire Council* [2009] VCAT 1206.

[5] SMEC Australia, *Climate Change Adaptation Actions for Local Government* (Australian Greenhouse Office, 2007); SMEC Australia, *Climate Change Impacts and Risk Management: A Guide for Business and Government* (AGO, 2006); Local Government Assn of Queensland, *Adapting to Climate Change: A Queensland Local Government Guide* (2007); Australian

easier. The more intractable problem lies in deciding how to *respond* to those risks. This task is more than information gathering, it is about how to make actual decisions based on the available information. It is a governance issue that will be determined as much by social, political and context specific circumstances as by any particular calculation of risk.[6] For decision-makers operating in this sphere, evaluating and acting on risk information is a type of "mathematicized morality":

> Risk statements are neither purely factual claims nor exclusively value claims. Instead they are either both at the same time or something in between, a mathematicized morality as it were… As mathematical calculations, risks are related directly and indirectly to cultural definitions and standards of a tolerable or intolerable life. So in a risk society the question we must ask ourselves is: How do we want to live?[7]

The problem for risk managers dealing with climate change adaptation is that standard types of cost-benefit analysis are of limited assistance at the current time – there is simply too much inherent uncertainty about the costs of inaction, the appropriateness of various responses and their cost-effectiveness over time.[8] This is particularly the case for sea level rise where any preventive, adaptive action may be short-lived if climate change is not successfully mitigated – as presumably the sea will continue to rise and land will be lost forever.

In recent years, a number of alternative approaches to decision-making have been suggested, reflecting different degrees of risk tolerance. The most conservative approach is the "precautionary principle", already an accepted principle of environmental law, which holds that, where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.[9] The precautionary principle requires a "careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment". At the other end of the spectrum is "autonomous adaptation", whose proponents argue in favour of minimal government interference so that individuals may decide for themselves how to respond to climate change.[10] This strategy recognises that, as with insurance, people have different risk thresholds (ie risk tolerance levels) and different ways of dealing with risk.

Lying somewhere in between the conservatism of the precautionary principle and the laissez-faire approach of autonomous adaptation are various types of adaptive decision-making. Adaptive decision-making is an iterative process – a "learning as you go" method of dealing with uncertainty.[11]

Greenhouse Office, *National Climate Change Adaptation Framework* (COAG, 2007); Australian Government, *Climate Change Risks to Australia's Coast: A First Pass National Assessment* (Department of Climate Change, 2009); Smith T et al, *Sydney Coastal Councils' Vulnerability to Climate Change* (Regional Workshops Synthesis Report, 2008); Feenstra JF, Burton I, Smith JB and Tol RSJ (eds), *Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies* (UNEP and Institute for Environmental Studies/Vrije Universiteit, 1998).

[6] Kane S and Yohe G, "Societal Adaptation to Climate Variability and Change: An Introduction" (2000) 45(1) *Climatic Change* 1; Kelly M and Adger N, "Theory and Practice in Assessing Vulnerability to Climate Change and Facilitating Adaptation" (2000) 47 *Climatic Change* 325; Burton I et al, *Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures* (Cambridge University Press, 2005); Adger et al, *Adapting to Climate Change: Thresholds, Values, Governance* (Cambridge University Press, 2009).

[7] Beck U, "Risk Society Revisited: Theory, Politics and Research Programmes" in Adam B et al (eds), *The Risk Society and Beyond: Critical Issues for Social Theory* (Sage Publications, 2000) p 215.

[8] Kane and Yohe, n 6 at 2. For coverage of the literature attempting a cost-benefit analysis, see Parry et al, n 1 at 17.2.3.

[9] *National Strategy for Ecologically Sustainable Development* (1992), "Guiding Principles".

[10] As discussed below, this approach is supported in part by the Australian Government, see Australian Government, *Roles and Responsibilities for Climate Change Adaptation in Australia* (Department of Climate Change and Energy Efficiency, undated), http://www.climatechange.gov.au/community-discussion.

[11] Brunner RD, Steelman TA, Coe-Juell L, Cromley CM, Edwards CM and Tucker DW (eds), *Adaptive Governance: Integrating Science, Policy and Decision Making* (Columbia University Press, 2005); Brunner R and Lynch A, *Adaptive Governance and Climate Change* (American Meteorological Society, 2010); Ruhl B "Thinking of Environmental Law as a Complex Adaptive System" (1997) 34 *Houston Law Review* 933; Craig R, "Stationarity is Dead – Long Live Transformation: Five Principles for Climate Change Adaptation" (2010) 34 *Harvard Environmental Law Review* 9.

Because it allows (even requires) decision-makers to modify their response over time and in the light of experience, adaptive decision-making is well-suited to the realities of political life.[12] Types of adaptive decision-making include:

- *No regrets decision-making* – where co-benefits and no regrets options are preferred.[13]
- *Incremental decision-making* – where small incremental actions are taken over time as appropriate, or abandoned at some point but with minimal lost investment.
- *Robust decision-making* – where a small amount of optimal performance is traded for less sensitivity to changing circumstances; it aims to ensure reasonable performance over a wide range of plausible futures whilst leaving future options open.[14]

Whilst the precautionary principle is no stranger to the courts,[15] government decision-makers seem more attracted to types of adaptive decision-making.[16] Of course, there is no one right or wrong method – the literature can and does only go so far as presenting the alternatives. At the end of the day, governments, the community and individuals must decide for themselves which approach best meets their respective risk thresholds. That is the hard task.

This article analyses the risk management strategies underlying recent policy documents and newly emergent legislation. It analyses two case studies – neither of which can claim unequivocal success – as test cases for the leading policy recommendations. Given the twists and turns in the law and policy at work in both case studies, it is questioned whether the risk management strategy in each case was adequately matched to the risk thresholds of different stakeholders. It considers what changes need to be made, both in establishing the risk threshold and in determining the appropriate legal tools for that threshold.

ADAPTATION IN THE COASTAL ZONE: THE EMERGING POLICY FRAMEWORK

Since 2007, the policy vacuum associated with climate change adaptation in Australia has filled dramatically. Initially, in 2007, the Council of Australian Governments agreed on a National Climate Change Adaptation Framework. This document outlined a future agenda for collaboration between governments on climate change impacts and made the case for establishing an Australian centre for climate change adaptation to provide clear and reliable information on adaptation strategies.[17] Meanwhile, the Commonwealth government published a report by SMEC Australia entitled *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.[18] However, for the most part, the focus was 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. The SMEC report also

[12] Johnstone J, "Managing Strategically" in Dollery B and Marshall N, *Australian Local Government Reform and Renewal* (MacMillan Education Australia, 1997) p 227.

[13] Heltberg R, "Addressing Human Vulnerability to Climate Change: Towards a No Regrets Approach" (2009) 19 *Global Environmental Change* 89; Hallegatte S, "Strategies to Adapt to an Uncertain Climate Change" (2009) 19(2) *Global Environmental Change* 240.

[14] Lempert RJ and Collins MT, "Managing the Risk of Uncertain Threshold Response: Comparison of Robust, Optimum, and Precautionary Approaches" (2007) 27 *Risk Analysis* 1009; Lempert R and Schlesinger M, "Robust Strategies for Abating Climatic Change" (2000) 45(3/4) *Climatic Change* 387. See also Macintosh A, Foerster A and McDonald J, *Limp, Leap or Learn? Developing Legal Frameworks for Climate Change Adaptation in Australia: Final Report* (NCCARF/UTAS, 2013).

[15] Leading case law on the precautionary principle includes: *Telstra Corp Ltd v Hornsby Shire Council* (2006) 67 NSWLR 256; 146 LGERA 10; *Murrumbidgee Ground-Water Preservation Assn v Minister for Natural Resources* [2004] NSWLEC 122; *BGP Properties Pty Ltd v Lake Macquarie CC* (2004) 138 LGERA 237; *Conservation Council of South Australia v Tuna Boat Owners Assn (No 2)* [1999] SAERDC 86; *Carstens v Pittwater Council* (1999) 111 LGERA 1; *Leatch v Director General of National Parks and Wildlife Service* (1993) 81 LGERA 270.

[16] See eg Australian Government, n 5, p 137, discussed below.

[17] Australian Greenhouse Office, n 5.

[18] SMEC Australia (2007), n 5, p 15. See also SMEC Australia (2006), n 5; Local Government Assn of Queensland, n 5; Australian Greenhouse Office, n 5; Australian Government, n 5.

identified the important role of local government in adaptation to climate change. This report became the basis for the Local Adaptation Pathways Program, which sponsored local government initiatives to plan for adaptation to climate change.[19]

In 2009, the House of Representative Standing Committee on Climate Change, Water, Environment and the Arts released a report focussing specifically on climate change adaptation in the coastal zone.[20] 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.[21] 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.[22]

Also in 2009, the Department of Climate Change published a first pass national assessment of climate change risks to Australia's coast.[23] This report argued the case for beginning early with national action to reduce current risks and to avoid new exposures – a precautionary approach. 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.[24]

It therefore 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 action that was recommended was taking measures to allocate or clarify risks.[25]

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.[26] This document endorsed a policy built on private responsibilities and local initiatives with the Commonwealth government playing a minor but supportive role. In summary, it states:

- 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.

[19] See Australian Government, *Local Adaptation Pathways Program* (Department of Climate Change, undated), http://www.climatechange.gov.au/government/initiatives/lapp.aspx.

[20] House of Representatives Standing Committee on Climate Change, Water, Environment and the Arts, *Managing Our Coastal Zone in a Changing Climate: The Time to Act is Now* (Parliamentary Paper 36/2009, 2009).

[21] House of Representatives Committee Report, *Australian Government Response – Managing Our Coastal Zone in a Changing Climate: The Time to Act is Now* (2010).

[22] Australian Government, *Developing a National Coastal Adaptation Agenda – A Report on the National Coastal Climate Change Forum* (Department of Climate Change, 2010) p 2.

[23] Australian Government, n 5, p 135.

[24] Australian Government, n 5, p 137.

[25] Australian Government, n 5, p 137.

[26] Australian Government, n 10.

- Governments – on behalf of the community – should primarily be responsible for managing risks to public goods and assets (including the natural environment), as well as government service delivery and creating an institutional, market and regulatory environment that supports and promotes private adaptation.

Also in 2012, the Productivity Commission completed an inquiry into barriers to effective climate change. Its final report was published in March 2013.[27] This report endorsed the government's emphasis on private adaptation generally but accepted a slightly more expansive view of the role of government. It states:

> Governments have a role to play where climate change poses risks to government activities, where the goods and services necessary to facilitate adaptation are underprovided by the market, where regulatory and policy frameworks are necessary to manage adaptation decisions that affect the wider community and where there is a need to protect the vulnerable.[28]

The remainder of this article provides two case studies of the early implementation of legal measures addressing the need for climate change adaptation in coastal areas. Although both case studies seem to fit neatly within the emerging policy framework their implementation on the ground has not been so harmonious.

CASE STUDY NO 1: INFORMATION AND DISCLOSURE REQUIREMENTS IN NEW SOUTH WALES

Several recent policy documents have drawn attention to the important role information provision will play in encouraging private adaptation. For instance, the Commonwealth's discussion paper entitled *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.[29]

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.[30] Not surprisingly, therefore, some local governments have spearheaded techniques to deliver risk information to existing owners, developers and purchasers of land.

In one such example, Gosford City Council determined, on 1 December 2009, that information should 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 0.9 m by the year 2100 as adopted by Council at its meeting held on 1st December 2009 Min No. 2009/823. Council's

[27] Productivity Commission, *Barriers to Effective Climate Change Adaptation* (2013).

[28] Productivity Commission, n 27, p 57.

[29] Australian Government, n 10, p 1. See also Productivity Commission, n 27, Ch 7.

[30] Baker and McKenzie, *Local Councils' Risk of Liability in the Face of Climate Change – Resolving Uncertainties: A Report for the Australian Local Government Association* (2011) p 41; England P, "Heating Up: Climate Change Law and the Evolving Responsibilities of Local Government" (2008) 13 LGLJ 209; McDonald J, "A Risky Climate for Decision-making: The Liability of Development Authorities for Climate Change Impacts" (2007) 24 EPLJ 405; McDonald J, "The Adaptation Imperative: Managing the Legal Risks of Climate Change Impacts" in Bonyhady T and Christoff P, *Climate Law in Australia* (Federation Press, 2007) p 124.

> adopted sea level rise planning level of 0.9 m 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.[31]

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.[32]

In light of ongoing public opposition, Gosford City Council voted to remove its s 149 notification 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.[33]

Amendments to the *Coastal Protection Act 1979* (NSW) in 2010 went some way towards 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.[34] However, this State-wide approach also met with opposition. After a change of government in 2011, a new amendment to the *Coastal Protection Act* in 2012 removed the requirement to give notice of coastal hazards in s 149 planning certificates. It also gave landowners greater rights to employ temporary protective measures (sandbagging) without the need to apply for a licence.[35] Also of note, in September 2012 the New South Wales government announced its 2009 New South Wales Sea Level Rise Policy (including a sea level rise bench mark of 90 cm by 2100) is no longer government policy.[36]

The New South Wales government is not alone in its rejection of tailored, compulsory notifications of coastal hazards. 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, as well as problems for developers and landowners in financing projects, obtaining insurance and selling the land.[37] It remains to be seen whether a similar proposal in Western Australia's Draft State Planning Policy 2.6 will eventuate.[38]

Experience from overseas provides a sobering comparison. In Florida, United States, sellers of coastal property seaward of the Coastal Construction Control Line (CCCL) have been required, since 2006, to notify prospective purchasers that their property "may be subject to coastal erosion and to federal, state or local regulations that govern coastal property".[39] A 2012 review of Florida's *Coastal*

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[31] Coastal Residents, *Petition Gosford Council* (2010), http://coastalresidents.tumblr.com/petition.

[32] Coastal Residents, n 31.

[33] Vince ML, "Gosford Council Repeals Controversial Sea Level Policy", *ABC News* (4 July 2012).

[34] *Coastal Protection Act 1979* (NSW), ss 55C, 56B; *Coastal Protection Regulation 2011* (NSW), reg 15.

[35] *Coastal Protection Amendment Act 2012* (NSW), Sch 2(3).

[36] New South Wales Government, *Sea Level Rise* (Department of Environment and Heritage, 2013), "NSW Government Policy", http://www.environment.nsw.gov.au/climatechange/sealevel.htm.

[37] Sommer N, "Planning for Climate Change in Western Australia – Public Disclosure of Coastal Hazards, Transferable Development Rights and Infill Development" in Maddocks, *Sustainability and Climate Change: Quarterly Update* (June 2012) p 6.

[38] Western Australian Government, *Draft State Planning Policy 2.6: State Coastal Planning Policy* (Department of Planning/Western Australian Planning Commission, 2012) s 5.5 – "Coastal Hazard Risk Management and Adaptation Planning".

[39] Florida Statutes, s 161.57 as amended 2006.

Hazards Disclosure Law found the law was not accomplishing its statutory purpose.[40] In a survey of local residents, the review discovered widespread non-compliance with the law. In particular, it found:

- the vast majority of the mail survey respondents (85.7%) either did not receive or do not recall receiving the coastal hazards disclosure statement that the law requires;
- a majority of mail survey respondents did not know their properties were partially or totally seaward of the CCCL, and did not consider that fact in their decision to buy coastal property;
- when asked who they received the information from, the majority of survey respondents either never received or did not remember receiving any information from a person regarding the CCCL;[41] and
- despite their lack of knowledge at the time of purchase, many residents later became aware of and were affected by the same hazards that should have been identified in the disclosure notice at the time of purchase.[42]

Experience from Gosford and Florida suggests two lessons. First, what counts as a low-cost or no-regrets option for one stakeholder will not necessarily be viewed that way by other stakeholders. No doubt Gosford City Council, mindful of its potential risk of liability for failing to give reasonable advice, regarded the warning in its planning certificates as a fair, reasonable and objective measure involving minimal cost to itself. Affected landowners, however, saw the measure in a very different light. For them, this unsolicited and rather vague warning had the potential to create significant economic costs. In their view, the measure undermined the value of their property and reduced their prospects of selling or developing their land. It might also affect their eligibility for insurance. For these stakeholders, this was certainly not a low-cost or no-regrets action.

In this scenario, it may have helped if the information and education strategies had been kept clearly separate to questions of council's potential liability. At this early stage in climate change adaptation, with so many unknown details and with so many climate sceptics still at large, there is huge scope for general information and awareness raising strategies. These may serve as a prelude to more targeted and more prescriptive information strategies in the future. In the meantime, it is advisable for all Australian States to follow New South Wales' lead in limiting council officers' exposure to liability for the provision of advice about natural hazards.[43] Section 733(2) of the *Local Government Act 1993* (NSW) states:

> A council does not incur any liability in respect of:
>
> (a) any advice furnished in good faith by the council relating to the likelihood of any land in the coastal zone being affected by a coastline hazard (as described in a manual referred to in subsection (5)(b)) or the nature or extent of any such hazard, or
>
> (b) anything done or omitted to be done in good faith by the council in so far as it relates to the likelihood of land being so affected.

A council will generally be assumed to have acted in good faith for the purposes of s 733 if the advice was furnished, or the thing was done or omitted to be done, substantially in accordance with the principles contained in a relevant manual approved by the Minister for Planning.[44] The statutory exemption in s 733 applies with respect to the provision of information about the anticipated impacts of climate change including sea level rise.[45]

Another lesson from the Gosford case study is that State intervention – and perhaps even federal action – will not necessarily save the day. Just as the public undermined the information strategy of Gosford City Council, interested parties appear to have had a similar influence on State governments

[40] Woznak K et al, *Florida's Coastal Hazards Disclosure Law: Property Owner Perceptions of the Physical and Regulatory Environment* (Sea Grant, 2012).

[41] Woznak K et al, n 40, p 2.

[42] Woznak K et al, n 40, p 3.

[43] Baker and Mackenzie, n 30, p 85.

[44] *Local Government Act 1993* (NSW), s 733(4).

[45] *Local Government Act 1993* (NSW), s 733(3)(f5).

in both Victoria and New South Wales. Surely the take-home message is that long-lasting strategies will need to be better negotiated amongst all affected stakeholders and made more palatable – or at least less antagonistic – to their interests. Climate change action needs to be carefully timed and more smoothly introduced.

CASE STUDY NO 2: PLANNED RETREAT IN BYRON SHIRE COUNCIL

A widely mooted legal "solution" for the coastal zone is the use of time-bound or event trigger conditions in development approvals. The Productivity Commission's draft report states:

> A key element of adopting a risk management approach for land-use planning is to match the time frame of the relevant land use and its associated potential risks. In this context, time limited development approvals or the use of triggers, could provide a useful tool for councils to manage the risks of climate change.[46]

Time-bound or event trigger conditions are development conditions that require the licence holder to remove development at a particular time in the future or when specified risk thresholds are met. For instance, Wellington Shire Council (in Victoria) has made use of event trigger conditions in new development approvals. Abandonment is required if, over time, the annual event probability of a severe flood deeper than 300 mm exceeds 10%.[47] In general, event trigger conditions are to be preferred over time-bound conditions because they rely on contingent rather than firmly predicted outcomes. As such, they cater particularly well for situations involving imprecise knowledge of future events. This is because they shift the risk burden into the hands of the licence holder and they do not require governments to supply any particular information (or misinformation) for which they may later be held liable. Additionally, as there is no inevitable surrender of a property right, merely a possibility of that outcome, any potential claims for compensation (for compulsory acquisition of a proprietary right) have little basis on which to proceed.[48]

Event trigger conditions may be used in conjunction with a development condition that restricts or prohibits landowners from protecting their land from long-term coastal erosion. This ensures the operation of the event trigger condition will not be artificially delayed at the expense of an orderly retreat from the land.

Although they have not been widely used in the past, planning legislation generally allows for event trigger or time-bound development conditions. For instance, the *Sustainable Planning Act 2009* (Qld) allows conditions that "place a limit on how long a lawful use may continue or works may remain in place".[49] The New South Wales Coastal Planning Guideline 2010 specifically supports the use of time-bound or event trigger conditions if new development may only meet the requisite planning criteria for a finite period of time.[50]

Despite the simple appeal of event trigger or time-bound development conditions there are some obvious drawbacks. First, development conditions may only be imposed in response to a development application or on an application to modify an existing approval. Councils have no power to unilaterally impose new conditions on existing development. That being so, the condition-making power only really has potential in relation to new development and even then its application will be piecemeal – as setting conditions is generally a local government responsibility. Secondly, conditions

[46] Productivity Commission, n 27, p 144. See also McDonald J and England P, *Adaptation in Land Use Planning and Human Settlements: Managing and Allocating Natural Hazard Risks: Report the Premier's Council on Climate Change* (Queensland Government, 2011) p 15; Titus JG, *Rolling Easements* (US EPA, 2011) p 5; Caldwell M and Segall C, "No Day at the Beach: Sea Level Rise, Ecosystem Loss and Public Access along the California Coast" (2007) 34 *Ecology Law Quarterly* 533.

[47] Productivity Commission, n 27, p 147

[48] Caldwell and Segall, n 46 at 567; Titus J, "Rising Seas, Coastal Erosion and the Takings Clause: How to Save Wetlands and Beaches without Hurting Property Owners" (1998) 57(4) *Maryland Law Review* 1279 at 1357.

[49] *Sustainable Planning Act 2009* (Qld), s 346(1)(a). See also *Environmental Planning and Assessment Act 1979* (NSW), s 80A; *Planning and Environment Act 1987* (Vic), s 62; *Planning and Development Act 2007* (ACT), s 165; *Planning Act* (NT), s 55; *Development Act 1993* (SA), s 42; *Planning and Development Act 2005* (WA), s 116.

[50] *NSW Coastal Planning Guideline: Adapting to Sea Level Rise* (2010), p 17.

on development must generally satisfy common law tests of reasonableness and relevance, including such considerations as reasonable cost on the developer, parity with other developments etc.[51] McDonald suggests event trigger or time-bound approvals will be unpopular with the development industry, which will argue they unreasonably devalue property and make new development unviable.[52]

The leading example of event trigger conditions in Australia is Byron Shire Council's policy of planned retreat. This policy was first adopted in 1988.[53] Where it applies, the policy prohibits any new development within 20 m of the coastal escarpment. For development on land subject to coastal erosion, special conditions apply to ensure that, should the development fall within 20 m (or in some cases 50 m) of the coastal escarpment over time, it will be removed at the cost of the owner. To that end, the council's Development Control Plan 2010 recognises three precincts applying to coastal erosion lands. Any new development in precinct 1 (from the beach escarpment to the immediate impact zone) must be set back at least 20 m from the erosion escarpment and be temporary in form – ie single storey, modular and easily relocateable within 12 hours. Alterations or extensions to existing buildings in precinct 1 will only be considered if there will be no adverse effect on the ability of the building to be removed in an emergency.[54]

In precincts 2 (between the immediate impact line and the 50-year erosion line) and 3 (between the 50-year and 100-year erosion lines) any development consent will cease if and when the erosion escarpment comes within 50 m of the development. At that time the owner of the land will be responsible for removal of all buildings.[55]

In addition to these conditions on new development, where the policy applies, all landowners are affected by strict limitations on beach protection works. The Development Control Plan 2010 states:

- any work carried out by individual property owners to protect land from erosion will require the consent of council;
- council will consider consent for such works only where such works will have no adverse effect on any adjoining properties or on any coastal processes; and
- rock, concrete and like hard materials must not be used for the construction of beach protection works.[56]

The reasons for this highly precautionary approach to coastal planning are said to be:

- to ensure residents of the coastal fringe are removed from the immediate risk posed by future coastal erosion in a timely manner;
- to enable vital natural processes to occur, including the growth and health of coastal vegetation;
- to enable the maintenance of dunal habitat, which is extremely important for coastal fauna and flora (biodiversity);
- to enable the maintenance of natural dunal processes, including erosion and growth, which are paramount to the retention of a natural dune and beach system; and
- to enable maintenance and improvement of visual beach amenity.[57]

Byron Shire has had previous experience with abandonment. In the 1970s, homes in Sheltering Palms, north of Brunswick Heads, were abandoned following significant storm damage. At the Belongil Spit, houses and the road along the beachfront have also been lost to coastal erosion and storms. In 2004 and 2006, the Land and Environment Court upheld the council's decision not to allow property to be rebuilt in the same location at Belongil due to the site's proximity to the coastal

[51] *Mackay Conservation Group Inc v Mackay City Council* [2005] QPEC 94; *Daikyo (North Qld) Pty Ltd v Cairns City Council* [2003] QPELR 606; *Jolin Nominees Pty Ltd v Moreland City Council* (2006) 145 LGERA 357.

[52] McDonald and England, n 46, p 21.

[53] Byron Shire Council, *Planned Retreat Fact Sheet* (2009) p 2.

[54] Byron Shire Council, *Development Control Plan* (2010) at J2.1.

[55] Byron Shire Council, n 54 at J2.3.

[56] Byron Shire Council, n 54 at J2.5.

[57] Byron Shire Council, n 53, p 4.

escarpment.[58] However, it is one thing to prevent new development (or rebuilding) occurring on hazardous coastal land but it is quite another matter, as the council recently discovered, to prevent private landowners from taking measures to protect their existing property from coastal erosion for as long as possible.

In *Vaughan v Byron Shire Council* [2009] NSWLEC 88 and *Vaughan v Byron Shire Council (No 2)* [2009] NSWLEC 110, the Vaughans had attempted to rebuild a sandbank and sandbag wall – originally built by the council – to protect their property whilst awaiting the requisite development consent from the council. Byron Shire Council sought an injunction to restrain the Vaughans from proceeding in this way without development consent. Initially, an interlocutory injunction was granted restraining the Vaughans. Prior to the listed court hearing, the parties agreed on consent orders. Confirming those orders, the court declared:

- the council was obliged to monitor, maintain and repair its own beach stabilisation works; and
- the Vaughans were also entitled, but not obliged, to maintain and repair existing beach protection works.[59]

Following this case, the New South Wales Parliament enacted the *Coastal Protection and Other Legislation Amendment Act 2010* (NSW). This Act allowed landowners to apply to the relevant council or the Director-General for a certificate allowing them to erect emergency coastal protection works on public land.[60] It also recognised a category of emergency coastal protection works (involving sand or sandbagging) on private land for which no development consent would be required. Essentially, this legislation overrode Byron Shire's requirement for development consent for all protective works. In 2012, another amendment to the *Coastal Protection and Other Legislation Amendment Act* further liberalised the requirements for erecting emergency coastal protection works on private land (now renamed temporary coastal protection works) so that such works may remain in place indefinitely without any need for obtaining a development certificate.[61]

Experience in New South Wales shows that, although planned retreat has not been wholly rejected as a suitable planning tool for dealing with coastal erosion, individuals will strive to remain on their land for as long as possible by halting or slowing the pace and timing of coastal erosion. Whilst this is not a fatal blow to any policy of planned retreat, it is evidence of the unpopularity of such measures and the likelihood of public resistance to them.

Popular resistance to policies of planned retreat is further evidenced in Queensland. A recent survey of residents in Mission Beach, for instance, found that, despite the ravages of Tropical Cyclone Yasi in 2011, if given their time over 84% of respondents would still choose to live in the Mission Beach area.[62] When asked about the importance of different adaptation strategies, 48% of respondents did not believe retreat to be an important strategy, 16% were unsure, whilst 81% of respondents stated they would not be vacating their properties.[63]

The demise of the 2011 Queensland Coastal Plan may be further evidence of the general unpopularity of compulsory retreat strategies. In 2011, the Bligh Government finalised a new Coastal Plan that acknowledged climate change and the need for adaptation in the coastal zone. In general terms, the Plan prohibited any new urban development on land outside an existing urban locality and within a coastal hazard area. An exception was made for development that is "temporary, readily

[58] Byron Shire Council, n 53, p 4.

[59] Smith C and Glassborow K, "Coastal Reforms in New South Wales – A Legislative Sea Change" in Clayton Utz, *Environment and Planning Insights* (2012).

[60] *Coastal Protection and Other Legislation Amendment Act 2010* (NSW), Sch 1, cl 26, inserting s 55T of the *Coastal Protection Act 1979* (NSW).

[61] *Coastal Protection and Other Amendment Act 2012* (NSW), Sch 1, cl 6, amending ss 55O-55S of the *Coastal Protection Act 1979* (NSW).

[62] King et al, *Planning, Building and Insuring: Adaptation of Built Environment to Climate Change Induced Increased Intensity of Natural Hazards, Final Report* (JCU/NCCARF, 2013) p 58.

[63] King et al, n 62, p 60.

relocatable or able to be abandoned".[64] The Plan included other restrictions on development in existing urban areas. For example, in high coastal hazard impact areas a development application could only be considered if it was consistent with an adaptation strategy adopted by the council or, in the absence of an adaptation strategy, if the proposal did not increase the intensity of use and the application included a risk assessment strategy and was made within a set timeframe.[65] As part of its 2012 election campaign, the Liberal-National Party promised to scrap the Coastal Plan if elected because it unnecessarily hindered development.[66] The Plan has now been suspended and a new, less-onerous regulation issued.[67]

Once again, American experience is enlightening. In the United States, many States recognise the existence of a public trust over the foreshore. This means land or water comprising the foreshore is held by the State in trust solely for the benefit of the public. In coastal areas, that public benefit includes the right to use submerged land and adjacent tidal land (up to the high water mark) for hunting, fishing, transportation along the shore and landing boats.[68] In some American jurisdictions, the public trust doctrine has been expanded to include access along the dry beach for recreation and preservation of the natural environment.[69] The public trust doctrine holds that the State, as custodian of the public trust, will need to protect the interest of the public in foreshore land in the event of long-term permanent coastal erosion. This is achieved by way of a rolling easement – as the sea migrates inward so does the boundary of the public trust land with adjacent landowners forfeiting their property to make way for the public trust land.[70] Further, as the State has no power to sacrifice the shore to private interests, it *must* forbid landowners from erecting protective works to prevent or postpone the inward migration of the shore.[71] Reflecting these principles, the Texas *Open Beaches Act*, building on the public trust doctrine, requires houses to be removed if they encroach upon or interfere with an area of the beach to which the public has acquired an easement through prescription, dedication or continuous use.[72] Despite early claims this Act was a confiscatory measure (and therefore unconstitutional without just compensation) several cases have, in the past, upheld this statute on the basis it was merely declaratory of a pre-existing common law right (the public trust). In one recent case, however, a coastal landowner questioned the applicability of the statute to land where there was no evidence that public access had been established and maintained in practice.[73] The Texas Supreme Court held that, without evidence of a sufficient tradition of public access and enjoyment, the public trust doctrine – and so also the statute – could not apply to that part of the coast. Although this particular decision applies only to West Galveston Island, it could potentially affect other areas of the coast.[74]

Despite its basis in the common law tradition, the public trust has received little judicial support in Australia.[75] Courts are more likely to look to the terms or purposes of a relevant statute or policy to

[64] *Queensland Coastal Plan* (2011), s. 2.5.1.

[65] *Queensland Coastal Plan* (2011), s 2.5.2. See further England P, "Precaution Creeps In – the Queensland Coastal Plan, 2011" (2011) 26(8) *Australian Environment Review* 216.

[66] LNP Queensland, *The CanDo Property and Construction Strategy* (2012) p 24.

[67] Queensland Government, *Coastal Protection State Planning Regulatory Provision* (Department of State Development, Infrastructure and Planning, 2013).

[68] Titus, n 48 at 1365

[69] Titus, n 48 at 1366; Caldwell and Segall, n 46 at 552.

[70] Titus, n 46, p 23.

[71] Titus, n 46, p 23; Titus, n 48 at 1384, 1371.

[72] *Texas Open Beaches Act* (Natural Resources Code, Title 2, Ch 61, 1959); Titus, n 48 at 1378.

[73] *Severance v Patterson*, 2012 Tex LEXIS 260, 42 (Tex 2012).

[74] *Texas Open Beaches Act* (1959); Rice H, "Open Beaches an Issue in Texas Supreme Court Race", *Chron* (19 June 2012).

[75] Bonyhady T, "A Usable Past: The Public Trust in Australia" (1995) 12 EPLJ 329; Meyers G, "Divining Common Law Standards for Environmental Protection: Application of the Public Trust Doctrine in the Context of Reforming NEPA and the Commonwealth Environmental Protection Act" (1994) 11 EPLJ 289.

ascertain the extent of public rights.[76] Often these instruments place considerable importance on the public's right to use and access coastal land but these principles apply in conjunction with other policy imperatives, such as conservation of the coast, and do not possess the overriding status attributed to the public trust in the United States.

As with the case study of Gosford City Council, experience in Byron Shire Council suggests that careful timing and long-term, open debate – not just communication – are important precursors to successful adaptation strategies. The social science literature confirms this finding:

> Scientific analysis and political efforts should be targeted at those preconditions that are most in need of improvement in a particular context. For example, if there is little awareness among policy-makers and other stakeholders of the health risks associated with climate variability and change, the assessment should focus on identifying and emphasizing these risks and the risk reducing potential of adaptive measures. If stakeholders are aware of the risks but have little information about what to do about them, the assessment should suggest feasible and effective measures, preferably considering the experience of dealing with similar risks in already affected regions. If stakeholders are aware of the risks and knowledgeable about effective response measures, the assessment is more likely to focus on the expected costs and benefits of the specific options available, and on overcoming potential barriers to their implementation.[77]

Emerging government policy is to rely heavily on private stakeholders to adapt to climate change, in their own time and as they please.[78] That being the case, it seems ideologically inappropriate for governments to hastily adopt prescriptive measures, at least in the short term. The case studies suggest it may also be counter-productive as community dissent will sooner or later defeat such measures. This is particularly likely where there is a mismatch between the costs (or perceived costs) to private stakeholders as compared with the costs to government and the community at large. No doubt prescriptive measures will still be needed at some point in time but the evidence suggests that, where the stakes are high, they will probably require a longer lead time, with more open discussion of alternative options and with some give and take on both sides.

CONCLUSION

This article has reviewed some recent regulatory measures that addressed climate change issues in the coastal zone. All of the measures proved contentious in at least some respects and none of the measures can claim resounding success. Some have been discontinued after a relatively brief existence. What are the lessons to be learned? The evidence suggests that, where measures are adopted from the "top down" without the consent of, or at least begrudging acceptance of, all the relevant stakeholders, the end result may be defiance and opposition – which may ultimately defeat the strategy altogether. Low-cost or no-regrets options are not always what they seem. In the case studies discussed in this article, the adopted measures appeared reasonable, robust and low cost to government decision-makers yet, for other stakeholders, there was a lot to lose – the value of their property and their quality of life. Clearly what counts as a "low-cost" or "no-regrets" strategy for one stakeholder may not be perceived that way by another. The extent of the mismatch in the case studies discussed suggests much more attention needs to be paid to general awareness raising, community debate and methods of co-learning so that, if and when compulsory measures are introduced, they will be more readily accepted. These findings are consistent with experience in other jurisdictions:

> Now that we've raised basic awareness about global warming here and there, we can document that awareness raising is not nearly enough to foster change... [I]t will take a concerted, lasting and far more

[76] Bonyhady, n 75 at 330.

[77] Fussel HM, "Adaptation Planning for Climate Change" (2007) 2 *Sustainability Science* 265 at 270.

[78] Australian Government, n 10.

> creative effort than we've seen to date to engage the public on a challenging, complex, long term, scientifically and morally uncertain problem like climate change.[79]

Adapting to climate change is an ongoing process. Although in some instances, such as planning for new development, the time to act is now, in other areas, particularly where existing stakeholders have a lot to lose and little to gain, a more gradual and participatory approach may ultimately be more successful. At least with respect to sea level rise, there is still some time.

[79] Moser S, "Foreward" in Whitmarsh L, O'Neill S and Lornezoni I (eds), *Engaging the Public with Climate Change: Behaviour Change and Communication* (Earthscan, 2011) p xvi. See also Hine et al, *Enhancing Climate Change Communication: Strategies for Profiling and Targeting Australian Interpretive Communities* (NCCARF Synthesis and Integrative Research Final Report, 2013).