

The adaptation imperative: Managing the legal risks of climate change impacts

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The location of existing and new settlements should be carefully considered, and in some areas, people should be encouraged with appropriate incentives to move away from the most vulnerable coastal and river valley locations. Buildings and other infrastructure in coastal regions that are designed to withstand more intense storms, floods, and higher sea levels can also minimize human and economic losses from climate change. The option of qualified retreat from high-risk coastal zones should routinely be considered in all long-term planning schemes.¹

Introduction

Some climate impacts are now unavoidable, even under the best mitigation scenarios. The damage inflicted by these impacts depends in part on how well human communities and natural systems can adapt, yet there has been remarkably little attention given to the need for the best means by which to adapt to these inevitable impacts.² The vast majority of scientific research and political energy has been devoted to confirming the causes of climate change, predicting impacts and seeking acceptable methods of greenhouse gas reduction. While mitigating climate change through reductions in greenhouse gas emissions must continue to be a national and international priority, adaptation measures are both urgent and imperative. As well as the projected health impacts, property owners – including the managers of public infrastructure – risk physical damage from severe climate events. Development agencies, local governments, property developers and insurers all risk future financial or legal exposure if their decision-making does not explicitly address current climate impact predictions.

This chapter is a first consideration of some of the legal dimensions of the adaptation imperative. The part headed ‘The adaptation imperative’

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For those nations whose geography or levels of development limit their options, adaptation will involve making the best of a very bad situation. Indeed, for some, a policy of 'planned retreat' may spell the demise of their nation. The legal dimensions of the development-adaptation interface demand further research, especially given the high risks of environmental refugees, but these issues are beyond the scope of the present study. They are mentioned here to remind us that, while Australia must turn its mind to climate adaptation, it must also protect these vulnerable groups by working to reverse climate change and reduce its impacts.

Notes

- 1 Scientific Expert Group (SEG) on Climate Change, *Confronting Climate Change: Avoiding the Unmanageable and Managing the Unavoidable*, Sigma Xi & UN Foundation, Research Triangle Park & Washington DC, 2007 <www.unfoundation.org/files/pdf/2007/SEG_Report.pdf>, p 102.
- 2 For an early assessment of vulnerability to climate impacts, see Ian Pearman (ed), *Greenhouse: Planning for Climate Change*, CSIRO-Brill, Leiden, 1988.
- 3 Working Group II Contribution to the Intergovernmental Panel on Climate Change, *Fourth Assessment Report, Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability, Summary for Policymakers*, 2007.
- 4 JA Church et al, 'Changes in sea level', in JT Houghton et al (eds), *Climate Change 2001: The Scientific Basis*, Cambridge University Press, Cambridge and New York, 2001, pp 639-694.
- 5 NSW Government, *New South Wales Coastal Policy*, Sydney, 1997, p 12.
- 6 SEG, above n 1, p 82.
- 7 United Nations Framework Convention on Climate Change 1992 (UNFCCC), <<http://unfccc.int/resource/docs/convkp/conveng.pdf>>, Art 4.1(b)(e).
- 8 UNFCCC, Art 4.1(1)(e).
- 9 UNFCCC website, Adaptation page: <<http://unfccc.int/adaptation/items/2973.php>>.
- 10 UNFCCC Press Release, 'UNFCCC Executive Secretary says significant funds needed to adapt to climate change impacts', 6 April 2007, <www.unfccc.int/files/press/news-room/press_release_and_advisories/application/pdf/070406_pressrel_english/.pdf> (accessed 22 April 2007).
- 11 Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2001: Impacts, Adaptation and Vulnerability*, Cambridge University Press, Cambridge, 2001, pp 88-89; Frans Berkhout, 'Rationales for adaptation in EU climate change policies', *Climate Policy*, Vol 5, 2005, pp 377-391, p 384.
- 12 IPCC, above n 11.
- 13 Smit and Pilifosova, 2003, cited in Berkhout, above n 11, p 8; and Adger et al 2004, cited in G Withycombe, TF Smith, C Brooke, B Preston, R Goddard, D Abbs and K McInnes, *Managing for Climate Variability in the Sydney Regions - Issues, needs and new solutions for local government*, Australian Greenhouse Office, Canberra, 2007, p 87.
- 14 KJE Walsh et al, 'Using sea level rise projections for urban planning in Australia' *Journal of Coastal Research*, vol 20, no 2, 2004, pp 586-598, p 592 and the references cited therein.
- 15 Above and the references cited therein.
- 16 Above.
- 17 Above.
- 18 Above, p 24.

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- 19 IPCC, above n 11, pp 90-91; SEG, above n 1, pp 86-91.
- 20 SEG, above n 1, p 87.
- 21 Berkhout, above n 11, p 9.
- 22 Above, p 10.
- 23 Above, p 12.
- 24 Above, p 14.
- 25 Above, p 20.
- 26 Above; Walsh et al, above n 14, p 2.
- 27 Australian Greenhouse Office (AGO), *National Climate Change Adaptation Program (NCCAP)*, <www.greenhouse.gov.au/impacts/publications/pubs/nccap.pdf>.
- 28 Above.
- 29 Australian Greenhouse Office (AGO), *Climate Change Impacts & Risk Management: A Guide for Business and Government*, AGO, Canberra, 2006.
- 30 AGO, above n 27, p 6. The COAG National Climate Change Adaptation framework is at <www.coag.gov.au/meetings/130407/docs/national_climate_change_adaptation_framework.pdf>.
- 31 NSW Greenhouse Office, *NSW Greenhouse Plan*, NSW Government, Sydney, 2005, pp 33-34; Queensland Department of Minerals and Natural Resources, *Climate Smart Adaptation: What Does Climate Change Mean for You?*, Government of Queensland, Brisbane, 2005; Government of South Australia, *Tackling Climate Change: Reducing, Adapting, Innovating Draft Greenhouse Strategy*, undated, pp 16-19; Victorian Department of Sustainability and Environment, *Victorian Greenhouse Strategy Action Plan Update*, Government of Victoria, Melbourne, 2005, pp 25-28; Western Australian Greenhouse Taskforce, *Western Australian Greenhouse Strategy*, Government of Western Australia, Perth, 2004, pp 92-99.
- 32 Walsh et al, above n 14, p 30.
- 33 Bruce Thom, 'Beach protection in NSW: New measures to secure the environment and amenity of NSW beaches' *Environmental and Planning Law Journal*, vol 20, 2003, pp 325, 330.
- 34 Above, p 332.
- 35 WBM Oceanics, *Byron Shire Coastline Management Study*, WBM Oceanics, Brisbane, 2002, p IV.
- 36 Walsh et al, above n 14, p 22 and the references cited therein.
- 37 P Bruun, 'Sea level rise as a cause of shore erosion', *Journal of Waterways Harbors Division*, vol 88, 1962, pp 117-130.
- 38 NSW Greenhouse Office, above n 31, p 34.
- 39 Above, pp 18, 46-47.
- 40 NSW Government, above n 5, pp 16, 19.
- 41 Above, pp 20-21; *Environmental Planning and Assessment Act 1979 (NSW)*, s 112 Directive.
- 42 SEPP 71, cl 7 and 8.
- 43 Above, cl 14.
- 44 Above, cl 11.
- 45 *Coastal Protection Act 1979 (NSW)*, s 55B.
- 46 Above, s 55C.
- 47 Above, ss 55k-55M.
- 48 North Coast Regional Environmental Plan 1988 (REP), cl 30.
- 49 Above, cl 32B.
- 50 WBM Oceanics, above n 35.
- 51 Byron Shire Local Environment Plan 1988, zone 7(f2), p 32.
- 52 Above, cl 32.
- 53 Part J2.
- 54 Byron Coastline Management Study 2002.

- 55 Byron Development Control Plan 2002 (DCP) Part J2.1.1.
- 56 *Parkes v Byron Shire Council* [2003] NSWLEC 104, Lloyd J (*Parkes No 1*).
- 57 Above, [17].
- 58 Above, [18].
- 59 *Parkes v Byron Shire Council* [2004] NSWLEC 92 revised – 02/07/2004, Tuor C (*Parkes No 2*).
- 60 Above, [33].
- 61 Above, [5].
- 62 Above, [34].
- 63 Above, [39].
- 64 Above, [46].
- 65 *Van Haandel v Byron Shire Council* [2006] NSWLEC 394, Brown C.
- 66 Above, [23].
- 67 Above, [28].
- 68 Gary Chigwidden, 'Belongil Beach erosion battle heads to court', *Byron Shire News*, 1 March 2007, p 3.
- 69 Byron Coastline Management Study 2003, p vii.
- 70 *Daikyo (North Queensland Pty Ltd) v Cairns City Council* [2003] QPEC 022.
- 71 *Mackay Conservation Group Inc v Mackay City Council* [2005] QPEC 094.
- 72 See also *Nikolaidis v Gosford City Council* (unreported, NSWLEC, 10304 of 1993).
- 73 *Warringah Council v Franks* [1999] NSWLEC 65. Thom refers to similar unsuccessful injunctive proceedings brought by Byron Shire Council, to halt works ordered by police under the *State Emergency and Rescue Management Act 1989* (NSW). *Scott v Byron Shire Council* (unreported, NSWLEC, 10513 of 1996): Thom, above n 33, p 351.
- 74 Christopher Jay, 'Climate Change is now an extreme issue', *Australian Financial Review Insurance and Risk Management Special Report*, 15 March 2007, p 2, quoting Insurance Council of Australia report.
- 75 Although the recent US Supreme Court decision of *Massachusetts v EPA* 549 US (2007), Slip Op, 2 April 2007, may simplify this evidentiary burden.
- 76 *Perre v Apand* (1999) 198 CLR 180; *Sullivan v Moody* (2001) 207 CLR 562; *Graham Barclay Oysters Pty Ltd v Ryan* (2002) 77 ALJR 183.
- 77 *Graham Barclay Oysters Pty Ltd v Ryan* (2002) 77 ALJR 183 at 186 per Gleeson CJ. An understanding the legal exposure of public authorities now requires a reading of both case law and the tort law reforms of 2002-03.
- 78 Zada Lipman and Robert Stokes, 'Shifting Sands: The implications of climate change and a changing coastline for private interests and public authorities in relation to waterfront land' *Environmental and Planning Law Journal*, vol 20, 2003, pp 406-422, p 420.
- 79 Above.
- 80 Cf *Brodie v Singleton Shire Council* (2001) 206 CLR 512.
- 81 *Hicks v Lake Macquarie City Council (No 2)* (1992) 77 LGRA 269.
- 82 Chigwidden, above n 68, p 3.
- 83 *Civil Liability Act 2002* (NSW), s 5B. Every jurisdiction in Australia has incorporated equivalent provisions. See *Civil Liability Act 2003* (Qld); *Wrongs Act 1936* (SA); *Civil Liability Act 2002* (Tas); *Wrongs Act 1958* (Vic); *Civil Liability Act 2002* (WA); *Civil Law Wrongs Act 2002* (ACT); *Personal Injuries (Liability and Damages) Act 2003* (NT).
- 84 *Civil Liability Act 2002* (NSW), s 5B(2).
- 85 Above, s 43(2).
- 86 Above, s 5C.
- 87 Above, s 42.
- 88 The costs of such infrastructure for Collaroy-Narabeen was estimated to be \$46 million in 1997: Lipman and Stokes, above n 78, p 419, citing Collaroy Narabeen Coastline Management Plan 1997.

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- 89 A single high rise apartment block on Main Beach in Gold Coast City, for example, may deliver the council over \$200,000 in rates revenue annually.
- 90 *Civil Liability Act 2002* (NSW), ss 5G(1), 5I.
- 91 *Local Government Act 1993* (NSW), s 733.
- 92 Above, s 733(3).
- 93 Above, s 733(3).