CLIMATE OF EXCEPTION: WHAT MIGHT A 'CLIMATE EMERGENCY' MEAN IN LAW?

Bruce Lindsay*

'There had never been a death more foretold'
— Gabriel García Marquez, *Chronicle of a Death Foretold*

Human-induced climate change is an issue of unparalleled scale and gravity. There are calls for rapid, dramatic action on this issue, including declaration of a 'climate emergency'.[1] While this term has been used as a political call to action, the phrase has an obvious legal tenor. It invokes a particular category of state conduct — the 'state of emergency'. What this article is concerned to do is to explore how a 'climate emergency' might assume a legal character and whether 'climate emergency' laws could sustain constitutional legitimacy in the Australian context. At present 'mainstream' political opinion in Australia, as represented by either the Labor or Coalition Parties, clearly does not favour such a course of action. Yet legal analysis of the concept is not intended as entirely speculative. If a 'climate emergency' — or policies intended to pursue comparably rapid social and economic change — is to be posed seriously, the term needs to be subject to critical analysis. This article hopes to contribute to that task.

CLIMATE CHANGE

As a consequence of human action ('anthropogenic interference in the climate system'), the natural cycle and variability of the Earth's climate, as it has evolved at least throughout the period of human existence, is being significantly modified. Significant natural variations have occurred previously in the Earth's climate system, including during the course of human occupation. The most recent large-scale change was the ice age that peaked at around 18 000 years ago and ended (with the present interglacial) around 10 000 years BP. Smaller variations have occurred since. Climate change in the industrial period (post–1750) is something altogether different and momentous.

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1 David Spratt and Philip Sutton, *Climate Code Red: The Case for Emergency Action* (2008); 'UN Chief Makes Antarctica Visit', *BBC News* (London, UK), 10 November 2007, <http://news.bbc.co.uk/2/hi/science/nature/7088435.stm> at 3 September 2009. UN Secretary-General Ban Ki Moon publicly put the climate change crisis in the same terms: 'This is an emergency and for emergency situations we need emergency action'.

Relevant human actions lie in emission of carbon-based 'greenhouse' gases ('GHGs') since industrialisation, as well as actions such as widespread land-use changes (eg land-clearing). The most important of these GHGs is carbon dioxide ('CO2'), especially from the burning of fossil fuels such as coal and oil.[2] Human actions in the last 200 years have therefore affected the balance of atmospheric GHGs by emitting otherwise naturally 'sequestered' carbon into the atmosphere, as well as reducing or impairing natural carbon 'sinks', especially in oceans and forests. Measured in terms of carbon dioxide equivalence ('CO2-e'), levels of atmospheric carbon have risen from approximately 280 parts per million ('ppm') in the pre-industrial era to around 380 ppm in 2005, well above what would have been expected to occur by natural processes.[3]

Increased atmospheric CO2-e concentrations leads to 'global warming', by which is meant changes in the 'energy balance of the climate system' leading to increased average global temperatures (with regional variation). In turn, climate change has led to, and will continue to lead to, adverse and catastrophic changes in ecological systems, including sea level rise, melting of Arctic ice, melting of other icesheets and permafrost, increase in ocean temperatures and acidity, greater regional propensity to drought, flooding or other extreme natural events, and decreased productivity (including CO2 absorption) of natural carbon 'sinks'. The Intergovernmental Panel on Climate Change's ('IPCC') projected estimates for increase in global temperatures over the 21st century range between 1.8ºC and 4.0ºC above pre-industrial levels, with 0.6ºC already built into the warming trend because of inertia within the climate system.

Official policy reviews of climate change in the UK[4] and in Australia[5] have broadly argued for stabilisation of GHGs at around 2-3°C, or approximately 450–550 ppm CO2-e, although conceding that at these levels impacts will be 'severe'[6] and 'could lead to damaging climate change'.[7] The position adopted by the Australian government, in respect of medium-term targets to 2020, was a GHG concentration target of 'around 450 ppm' and 5–15 per cent reductions from 2000 levels,[8] with the higher target being adopted if a comparable international agreement can be reached.[9]

Spratt and Sutton have criticised these official positions as a 'new business as usual',[10] a project accepting the broad premises of climate change and a subsequent need for action but limiting the extent of the problem and the required response.[11] By

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2 Intergovernmental Panel on Climate Change ('IPCC'), 'Summary for Policymakers' in Susan Solomon et al (eds), *Climate Change 2007: The Physical Science Basis – Contribution Of Working Group I To The Fourth Assessment Report To The Intergovernmental Panel On Climate Change* (2007) 1, 2.

3 Ibid.

4 Lord Nicholas Stern, *The Economics of Climate Change* (2006).

5 Ross Garnaut, *The Garnaut Climate Change Review: Final Report* (2008).

6 Stern, above n 4, xvi.

7 Garnaut, above n 5, 75.

8 Carbon Pollution Reduction Scheme Bill 2009 (Cth) s 3(4).

9 Australian Government, *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future: White Paper* (2008) 4–1.

10 Spratt and Sutton, above n 1, ch 20.

11 Ibid 179–80:

> The message is that we can proceed without inconvenience; that is the lifestyle face of the new 'business as usual' — an attempt to deal with the immediate pressures of

contrast, their response is typical of the call for an entirely new approach, a much more rapid and uncompromising 'decarbonisation'. From the scientific perspective, such an 'emergency critique' argues that official or orthodox analyses have misread, dismissed or understated basic (climate) system behaviours. Subsequently, the latter models minimise or disregard the tendency of change to occur as dramatic, critical or catastrophic shifts in the climate system, as distinct from orderly, progressive changes. This critique is important in consideration of *thresholds* of 'dangerous anthropogenic interference'[12] in the climate system. James Hansen,[13] for instance, has argued that 'tipping points' are likely to occur well below the 2°C level. An important body of scientific opinion supports this position.[14] The 'safe' limit to climatic warming, Hansen argues, is 'at most, about 1°C greater than the year 2000 global temperature',[15] or around 1.8°C above pre-industrial levels. Other opinion has put this limit at 1.5°C, or around 350ppm CO2-e.[16] Recent scientific efforts have aimed to systematically reconceptualise norms applying to human-ecological behaviours, including climate systems, in terms of 'planetary boundaries', within which can be considered 'a safe operating space'.[17] Such 'boundaries' are intended to be 'set at a "safe" distance from a dangerous level … or from [a natural] threshold'.[18] In respect of this analysis, the 'safe' zone has already been surpassed and humanity is well within the zone of 'dangerous anthropogenic interference'.

The potentially catastrophic mechanism is the inexorable tendency of the climate system, once critical thresholds have been reached or surpassed, to produce 'positive feedback' relationships, leading to reinforcement, acceleration and/or amplification of changes, which then become irreversible. 'Abrupt' climate change,[19] proceeding in this manner, is inevitably complex, multifaceted and subject to specific and predictive uncertainties.[20] It has been noted that these tendencies may already be underway.[21]

> the sustainability crisis in a way that minimizes the changes in business models and power relations, at the expense of really solving the problems.

12 See, eg, James Hansen, 'Defusing The Global Warming Time Bomb' (2004) 290 *Scientific American* 69, 72–3:

> The goal of the United Nations Framework Convention on Climate Change, produced in Rio De Janeiro in 1989, is to stabilize atmospheric composition to 'prevent dangerous anthropogenic interference with the climate system' and to achieve that goal in ways that do not disrupt the global economy. Defining the level of warming that constitutes 'dangerous anthropogenic interference' is thus a crucial but difficult part of the problem.

13 See James Hansen, 'A Slippery Slope: How Much Global Warming Constitutes "Dangerous Anthropogenic Interference"? An Editorial Essay' (2005) 68 *Climatic Change* 269.

14 See, eg, International Scientific Congress, *Climate Change: Global Risks, Challenges And Decisions – Synthesis Report* (2009) 12–16; Richard Alley et al, 'Abrupt Climate Change' (2003) 299 *Science* 2005.

15 James Hansen, 'Tipping Point: Perspective of a Climatologist' in Eva Fearn (ed), *State of the Wild 2008–2009: A Global Portrait of Wildlife, Wildlands and Oceans* (2009) 6, 13.

16 Johan Rockstrom et al, 'Planetary Boundaries: Exploring the Safe Operating Space for Humanity' (2009) 14 *Ecology and Society* 32, 41.

17 Ibid.

18 Ibid 34.

19 Alley et al, above n 14.

20 Ibid.

Symptoms of climate system 'tipping points' include sea level rise, rapid melting of Arctic summer sea ice (which occurred in the summer of 2007), collapse of the Greenland and/or West Antarctic icesheets, rapid glacial retreat, thawing of Arctic permafrost, mass extinctions (biodiversity crises), and ocean acidification.[22]

Sea level rise is commonly viewed as a key symptom of climate change.[23] The IPPC's 2007 report predicted sea level rise in the order of 0.18–0.59m by 2100.[24] This assessment is particularly controversial.[25] The IPCC position is premised essentially on the effects of thermal expansion of the oceans as they warm; consideration of major, catastrophic ruptures such as rapid melting of the Greenland icecap (symptomatic of 'abrupt' change) are not incorporated into the IPCC models. The 'critique' position is not only that such ruptures ought to be incorporated into scientific models, but that empirical observations tend to support a 'quickening pace' of warming and instability beyond what the IPCC has reported.[26] The notion of rapid, nonlinear climate change is reinforced by paleoclimatic research, that is, emerging knowledge of climatic shifts in earlier periods in the Earth's history.[27]

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21 Spratt and Sutton, above n 1, 4; Hansen, 'Tipping Point', above n 15, 9; Rockstrom et al, above n 16, 54: 'Our preliminary analysis indicates we have already transgressed three boundaries (climate change, the rate of biodiversity loss, and the rate of interference with the nitrogen cycle).' The situation in the Arctic is viewed as a signal development, as reflectivity of the Arctic sea ice ('albedo effect') is an important mechanism of stability in global (and regional) temperature. Disintegration of the Artic sea ice represents a critical moment in system instability, or 'runaway' climate change.

22 For a more comprehensive overview of 'policy-relevant potential tipping elements', see Will Steffen, *Climate Change 2009: Faster Change and More Serious Risks* (2009) 44.

23 Hansen notes the two major catastrophic sources of instability are sea level rise and mass species extinction, the latter occurring especially as climate zones and isotherms shift faster than ecosystems can naturally evolve or species migrate. See, eg, James Hansen, *In Defence of Kingsnorth Six – Testimony for criminal trial in Kent, United Kingdom* (2008) <http://www.columbia.edu/~jeh1/mailings/2008/20080910_Kingsnorth.pdf> at 14 July 2009.

24 IPCC, above n 2, 13.

25 See, eg, Michael Oppenheimer et al, 'The Limits Of Consensus' (2007) 317 *Science* 1505; Susan Solomon et al, 'A Closer Look At The IPCC Report' (2008) 319 *Science* 409.

26 See International Scientific Congress, above n 14, 8–9:

> Since the last IPCC report, updated trends in surface ocean temperatures and heat content have been published. These revised estimates show … that the ocean has warmed significantly in recent years. Current estimates indicate that ocean warming is about 50% greater than has been previously reported by the IPCC. The new estimates help to better explain the trend in sea level that has been observed in recent decades as most of the sea-level rise observed until recently has been the result of thermal expansion of seawater. The rate of sea-level rise has increased in the period from 1993 to the present… largely due to growing contributions of ice-loss from Greenland … and Antarctica …

Steffen, above n 22, (research post-Fourth Assessment Report of IPCC confirms climate change at upper end of IPCC projections and reinforces likelihood of long-term positive feedback processes).

27 See, eg, Thomas Stocker, 'Climate Change: The Seesaw Effect' (1998) 282 *Science* 61; F S Hu et al, 'Abrupt Changes In North American Climate During Early Holocene Times' (1999) 400 *Nature* 437; Peter Clark et al, 'The Role Of The Thermohaline Circulation In Abrupt Climate Change' (2002) 415 *Nature* 863.

Acknowledgement of instability in the climate system leads to the conclusion that there is limited time and room for action. In particular, the capacity of the climate system to 'safely' accommodate 2-3ºC warming, or atmospheric CO2-e levels of 450-550ppm appears at best reckless. A zone of climate 'safety' requires avoidance of key events precipitating positive feedbacks. Given that this threshold has probably already been passed, the underpinning argument of those arguing for a 'climate emergency' is that we are already in the perilous zone and that the imperative is to retreat from it. Not only must measures be taken to halt the warming process, it is necessary to establish a *cooling* process.

THE 'CLIMATE EMERGENCY' PROGRAM: TOWARD A 'SAFE OPERATING SPACE'?

In the context of this 'climate emergency' analysis, proposals for medium- to long-term 'peak' and reduction strategies may well be inadequate to the task of stabilisation of emissions outside of the zone of 'dangerous anthropogenic interference'. They do not establish controls on carbon emissions capable of providing reasonable or strong capacity to avoid 'tipping points' in climatic energy balance. Broadly speaking, the above analysis assumes the 'safe operating space' at around 1.5°C warming or 350 ppm of atmospheric carbon concentration. The December 2009 *Copenhagen Accord* of the Conference of the Parties to the *Framework Convention on Climate Change* ('*Framework Convention*') produced a non-binding agreement on the need to keep global temperature increases 'below 2 degrees Celsius'.[28] Yet even the capacity of states to contain warming to within 2ºC appears unlikely to be met based on current emissions abatement targets and the longer-term rates subsequently required to meet the 2ºC limit.[29] As McIntosh has argued, 'the likelihood of warming being kept within the 2ºC limit appears to be diminutive'[30] and there is an 'element of unreality about the positioning of developed countries [including Australia]'.[31] He further alludes to the 2ºC limit being unachievable, under present circumstances, without 'dramatic change in the global political environment'[32] or 'major political and economic upheaval and/or the rapid development and deployment of low cost zero or negative emission energy technologies.'[33]

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28 *United Nations Framework Convention on Climate Change*, opened for signature 4 June 1992, 1771 UNTS 107, 31 ILM 849 (1992) (entered into force 21 March 1994) ('*Framework Convention*'); UNFCCC, *Copenhagen Accord,* [1]–[2] UN Doc FCCC/CP/2009/11/Add.1 (2009) ('*Accord*'). The *Accord* established no binding commitments either in relation to the 2ºC limit or quantitative reduction in carbon emissions.

29 Andrew Macintosh, 'Keeping Warming Within the 2ºC limit after Copenhagen' (Working Paper Series 2009/1, ANU Centre for Climate Law and Policy, 2009) 20-21. In respect of various carbon budget scenarios, Macintosh posits that 'a more realistic approximation of the cumulative CO2 emissions for the 21st century… consistent with the 2ºC limit [is a] minimum required abatement rate post-2030 [of] 4.16%/yr.' He notes actual abatement rates among developed countries are unlikely to be in excess of approximately 2 per cent/yr at present.

30 Ibid 23.

31 Ibid 23.

32 Ibid 21.

33 Ibid 23. If 'tipping points' (carbon cycle feedbacks) are at the higher end of predictions then it may be that the only way to limit warming below 2ºC post–2020 may be 'to pursue a

If the need for 'rapid, deep and sustained' cuts to emissions is assumed, and if such a program for present purposes is limited to the Australian contribution to global action, what measures are to be considered as adequate to this systemic problem, and further what is the relationship of such a policy program to the wider legal question of an 'emergency' approach? Departure from the so-called 'business as usual' equates to departure from certain extant economic and social norms. These may include major changes in patterns of economic investment, dismantling and/or realignment of industries, major shifts in transport, domestic and other social behaviours, and changes to land-use patterns, bearing in mind the largest national sources of GHG emissions (stationary energy, transport and agriculture).[34]

The central policy mechanism of the present federal Labor government in respect of climate change, and specifically controls on carbon emissions, is the establishment of an 'emissions trading scheme' ('ETS'), that is, establishment of tradable property rights in emissions permits combined with overall targets on emissions. Legislation establishing the Carbon Pollution Reduction Scheme ('CPRS')[35] has been put forward by the federal Labor government (although now deferred). This proposed legislation would adopt a 450 ppm threshold,[36] and therefore does not purport to achieve stabilisation of emissions within the 'safe operating space' noted above.

Yet the issue here is perhaps less whether the present ETS scheme conforms to any 'safe operating space' paradigm (which it does not) than whether an ETS policy model per se (or rather an ETS as a central plank, combined with other, complementary measures) can be adapted to the much more dramatic targets and conditions associated with the 'climate emergency' critique and/or the 'safe operating space'. The answer to that question is uncertain. The use of market mechanisms and 'propertisation' of emissions has been criticised as containing structural shortcomings, such as complexity, inequity, enforcement difficulties, inflexibility in 'cap-setting', and heavy subsidisation to polluters.[37] Notwithstanding these points, the attempt to

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radical decarbonisation strategy that is well beyond that currently being contemplated': at 22.

34 See Australian Government, *Australia's National Greenhouse Accounts: National Inventory Report 2007*, vol 1, 2 (2007) <http://www.climatechange.gov.au/~/media/publications/greenhouse-acctg/national-inventory-report-vol-1-part-a.ashx> at 29 March 2010.

35 The legislation comprises a 'package' of 11 bills: Carbon Pollution Reduction Scheme Bill 2010 ('CPRS Bill 2010'); Carbon Pollution Reduction Scheme (Consequential Amendments) Bill 2010; Carbon Pollution Reduction Scheme (Charges — General) Bill 2010; Carbon Pollution Reduction Scheme (Charges — Excise) Bill 2010; Carbon Pollution Reduction Scheme (Charges — Customs) Bill 2010; Customs Tariff Amendment (Carbon Pollution Reduction Scheme) Bill 2010; Excise Tariff Amendment (Carbon Pollution Reduction Scheme) Bill 2010; Carbon Pollution Reduction Scheme (CPRS Fuel Credits) (Consequential Amendments) Bill 2010; Carbon Pollution Reduction Scheme (CPRS Fuel Credits) Bill 2010; Carbon Pollution Reduction Scheme Amendment (Household Assistance) Bill 2010; Australian Climate Change Regulatory Authority Bill 2010.

36 CPRS Bill 2010 s 3(4).

37 See, eg, Michael Power, 'Emissions Trading in Australia: Markets, Law and Justice Under The CPRS' (2010) 27 *Environment and Planning Law Journal* 131; Chris McGrath, 'Australia's Draft Climate Laws' (2009) 26 *Environment and Planning Law Journal* 267; Richard Denniss, 'Fixing The Floor In The ETS: The Role Of Energy Efficiency In Reducing Australia's Emissions', (Research Paper 59, The Australia Institute, 2008); Richard Denniss, *Making Life Easier for Emitters* (2009) Inside Story <http://inside.org.au/making-life-easier-for-

combine an ETS, as part of a platform of measures, with the ambition of reducing atmospheric carbon concentrations (or rather having Australia engage in such a project) to 350 ppm has been proposed by the Australian Greens. Explicitly in response to the CPRS, the Greens produced a Safe Climate Bill in 2009,[38] incorporating an ETS 'as one element among many in an effort to transform the way we use and produce energy in particular.'[39] The Greens' program is broadly sympathetic to, and consistent with, the targets and analyses in the 'climate emergency' approach,[40] and even if they view an ETS as an effective emissions rationing mechanism they insist on its combination with a range of other, more direct measures. Academic criticism of the CPRS model is also tempered with the view that an ETS, while inadequate in its present incarnation, may be a worthwhile response with 'careful design, clever complementary regulation, and sheer political courage.'[41]

Spratt and Sutton assert that an ETS is a fatally compromised instrument, largely intended to reinforce the status quo. In *Climate Emergency* and elsewhere,[42] they embrace the alternative of a form of direct rationing of carbon emissions as a central plank of the 'emergency' response. The model for a form of carbon rationing was put

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emitters/> at 29 March 2010; Danny Ellerman and Paul Joskow, 'The European Union's Emissions Trading Scheme In Perspective' (Pew Centre On Global Climate Change, 2008) 24–44; Brian Walters and Matthew Baird, *Advice to Senator Bob Brown and Senator Christine Milne in Relation to Certain Aspects of the Carbon Pollution Reduction Scheme* <http://greensmps.org.au/webfm_send/315> at 29 March 2010.

38 The Greens' package includes 12 pieces of legislation and was presented as 'exposure drafts': <www.safeclimatebill.org.au> at 29 March 2010.

39 Australian Greens, 'The Safe Climate Bills', <http://greensmps.org.au/the-safe-climate-bills> at 30 July 2010.

40 See, eg, ibid:

> The clear scientific evidence is that, in order to deliver a safe climate, we must bring greenhouse pollution in the atmosphere back down to 350 ppm or lower. No one alive today may be around to see this goal achieved, but its eventual achievement is nonetheless entirely in the hands of today's decision-makers since further delay risks triggering positive feedbacks that will take global warming out of humanity's hands. Eventually achieving 350 ppm means global emissions must peak within years and start coming down as swiftly as possible. A fair contribution to this global challenge from a rich, high-polluting country like Australia means we must transform into a net zero carbon economy within the coming decades, cutting our emissions to at least 40% below 1990 levels by 2020.

Commonwealth, *Parliamentary Debates*, Senate, 24 November 2009, 8682 (Senator Christine Milne):

> As I rise to speak today, the earth, its people and its ecosystems are facing a planetary emergency driven by global warming and the Rudd government has demonstrated not only that is it not up to the task of addressing a global emergency but also that it has deliberately, willingly and knowingly turned its back on this generation, future generations and in particular all of those people in developing countries who are already suffering from climate change.

41 Power, above n 37, 162; see also McGrath, above n 37, 291.

42 See David Spratt, 'Carbon Taxes or a Carbon Ration?' (2007) 23 *Dissent* 32.

forward by the Tyndall Centre for Climate Change Research, using 'domestic tradeable quotas' or allocations of emissions.[43]

A comprehensive program advocating a central role for carbon 'rationing' is articulated by the academic and commentator George Monbiot.[44] Monbiot's proposals for radical 'decarbonisation' — with a view to reducing carbon emissions by 90 per cent by 2030 across the 'rich countries'[45] — encompass an economy-wide mechanism of change (rationing) with sectoral prescriptions in energy efficiency, energy supply, transport and aviation. He does not deny that his program would be a significant departure from the status quo, compelling major changes in policy and economic and social behaviour. In addition to a form of carbon rationing (Monbiot refers to the Tyndall Centre model), he proposes restructuring of energy systems toward a diversity of supply sources (especially gas and renewables) and delivery systems (centralised and 'micro-generation'), combined with greater energy efficiencies.[46] In respect of transport, his most radical ventures would include effective 'capping and rationing' of road space[47] (and curtailment of private vehicles), and the abandonment of mass aviation.[48] Therefore, where Monbiot foresees profound departure from current norms in social and economic practice, it is in regards to certain economic and social 'freedoms' generally associated with mass-consumer conditions in the developed countries, including abundant fossil fuel based energy, car-based private transport and mass aviation. Although such a transformative program is developed in a primarily UK context, Monbiot's broad themes are generally transferable to Australian circumstances, although perhaps understated for Australian conditions.[49]

MEANS TO THE 'SAFE OPERATING SPACE': EMERGENCY GOVERNMENT?

Implicit in most of the scientific and academic opinion noted is the need for exceptional action on climate change, which is to say governmental and public action outside of prevailing norms, especially economic and socio-ecological norms. The gulf,

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43 Richard Starkey and Kevin Anderson, 'Domestic Tradable Quotas: A Policy Instrument For Reducing Greenhouse Gas Emissions From Energy Use' (Technical Report No 39, Tyndall Centre For Climate Change Research, 2005).

44 George Monbiot, *Heat: How To Stop the Planet Burning* (2007).

45 Equating to a 94 per cent reduction for Australia: ibid 16. The 90 per cent figure represents a presumed allocation of a carbon emissions budget of 0.33 tonnes per person globally.

46 For sympathetic approaches in the Australian context, see, eg, Friends of the Earth, *A Green New Deal For Victoria – An Integrated Response To The Triple Crunch Of Recession, Climate Change, And Peak Oil* (2009) <http://greennewdeal.wordpress.com/the-final-version/> at 27 August 2009; Beyond Zero Emissions, *Zero Carbon Australia 2020: Stationary Energy Sector Report – Executive Summary* (2010) <http://media.beyondzeroemissions.org/preview-exec-sum14.pdf> at 7 April 2010.

47 Monbiot, above n 44, 153.

48 Ibid 182: 'There is, in other words, no technofix. The growth in aviation and the need to address climate change cannot be reconciled… a 90 per cent cut in emissions requires not only that growth [in aviation] stops, but that most of the planes which are flying today are grounded.'

49 Given, for instance, higher per capita carbon emissions rates for Australia and relatively high reliance on coal-fired electricity supply and generation of export revenues from export of coal.

for instance, between likely and required emissions reduction trajectories identified by Macintosh leads to the inference that a dramatic, indeed radical, shift in approach will be needed to contain warming within 2ºC by 2100. As noted, that target may be too conservative to stabilise emissions within the climatic 'safe operating space.' The issue of achieving stabilisation is not solely a matter of policy prescriptions or content. If extraordinary approaches are required, this fact also bears on the form or mode of government by which such changes are to be (or might be) achieved. The presumed facts and the language of 'emergency' implies the use of emergency government, or the 'state of emergency', as a *formal and juridical means* of confronting the crisis. It is no coincidence that Spratt and Sutton and others[50] make reference to the use of emergency — specifically, wartime — state powers as a means to achieving the normative and behavioural change. The failure to consider the legal dimension of the programs they are proposing (or to consider it satisfactorily) is, in fact, a gap in their analyses and prescriptions. Several obvious questions arise: what precisely do we understand by 'emergency laws', or the 'state of emergency'? How might such modes of government be applied to the (socio) ecological crisis of climate change, and in particular to the exceptional policy and practical changes arguably consistent with a 'safe operating space' (at least as far as Australia's contribution to this project is concerned)? If such modes and courses of action are applicable, can they be accommodated within the existing (Australian) legal system?

Theories of emergency government

'Emergency' may be 'an elastic concept',[51] but in Australia it is given no express constitutional form. The Italian philosopher Giorgio Agamben noted, in respect of the emergency state, 'there is still no theory of the state of exception in public law and jurists and theorists of public law seem to regard the problem more as a *quaestio facti* than as a genuine juridical problem.'[52] Responding especially to the writings of the Nazi jurist Carl Schmitt, Agamben has sought to meet this theoretical challenge. At this theoretical level, the concept of the 'state of emergency' is generally founded upon the dichotomy of (legal) norm and exception, and the 'ambiguous zone'[53] between them: 'It is the no man's land between public law and political fact, and between the juridical order and life'.[54] A good deal of the theoretical analysis of emergency rule concerns itself with the legal problem as to whether or to what extent emergency (being the 'state of exception') can be, or ought to be, 'inside' or 'outside' of the legal order. The general poles of this debate may be identified with Schmitt, on the one hand, and Dicey, on the other hand,[55] where Schmitt asserts[56] that emergency rule is such that it

50 See, eg, Lester Brown, *Plan B 2.0: Rescuing A Planet Under Stress And A Civilization In Trouble* (2006) ch 13.

51 H P Lee, *Emergency Powers* (1984) 4. Lee generally classifies emergency powers into wartime and peacetime circumstances, with wartime emergencies representing 'the gravest emergency in the life of the nation': at 5.

52 Giorgio Agamben, *State of Exception* (Kevin Attell trans, 2005 ed) 1 [trans of: *Stato di Eccezione*].

53 Ibid 2.

54 Ibid 1.

55 For consideration of this contrast, see David Dyzenhaus, '*Schmitt v Dicey*: Are States of Emergency Inside or Outside the Legal Order?' (2006) 27 *Cardozo Law Review* 2005.

56 Carl Schmitt, *Political Theology: Four Chapters on the Concept of Sovereignty* (George Schwab trans, 2005) [trans of: *Politische Theologie: vier Kapitel zur Lehre von der Souveranitat*]. For

cannot be reduced to, or controlled by, legal rules and norms (and therefore the state of emergency lies outside of law), and the Diceyan analysis of the Westminster constitution is that even in exceptional circumstances the rule of law remains in place.[57] The continuity of legality in relation to emergency powers has generally become typical of the organisation and operation of emergency powers in advanced capitalist states. Dyzenhaus has referred to this as the 'compulsion of legality': 'the compulsion to justify all acts of state as having a legal warrant: the authority of law.'[58] He argues that two distinct 'cycles of legality' can be adopted. In one;

> the institutions of legal order cooperate in devising controls on public actors which ensure that their decisions comply with the principle of legality, understood as a substantive conception of the rule of law. In the other cycle, the content of legality is understood in an ever more formal or empty manner, resulting in the mere appearance or even … the pretence of legality.[59]

That is, greater or lesser controls on the 'state of exception' can be imposed.

Yet, it has been recently argued that the norm/exception dichotomy is problematic, too limiting and unnecessarily formalistic in the definition of emergency government. It establishes too great an emphasis on resolving the 'boundary' question (between norm and exception) and, in respect of attempts to impose legality on exceptional powers, on formal, judicial controls. Nomi Claire Lazar has argued[60] that the issue of emergency is connected to the inherent tension between liberty and order in liberal democracy, that emergency or 'crisis' government is an indissoluble part of the legal and constitutional landscape, and that the preferable (and safest) approach is to construct emergency institutions adhering, at least generally, to desired norms rather then solely relying on positive rules to control and enable limits. Rather than a dichotomous situation, emergency is for Lazar, a continuum of legal, political and moral conditions between the 'principles of justice and principles of order, and between formal and informal constraints on power.'[61] The norm/exception

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Schmitt, resolution of the problem of 'ambiguity' (as Agamben puts it) between norm (law) and exception (necessity) lies in the sphere of political action, and in particular with the conduct of sovereign power. As Schmitt famously remarked (at 5): 'Sovereign is he who decides on the exception.' The question as to what body or person wields sovereign power in such circumstances may be a constitutional question, either expressly determined (where constitutional provision for the government of emergency powers exists) or implicitly determined (as in those circumstances, such as under prerogative power of the Westminster constitution, where a form of presumed, 'reserve' power operates), or elements of both.

57 See A V Dicey, *Introduction to the Study of the Law of the Constitution* (8th ed, 1982 [1915]) ch 8, Note X. See also John Ferejohn and Pasquale Pasquino, 'The Law of the Exception: A Typology of Emergency Powers' (2004) 2 *International Journal of Constitutional Law* 210, 210.

58 David Dyzenhaus, 'Cycles Of Legality In Emergency Times' (2007) 18 *Public Law Review* 165, 167.

59 Ibid 168; see also David Dyzenhaus, 'Humpty Dumpty Rules or the Rule of Law: Legal Theory and the Adjudication of National Security' (2003) 28 *Australian Journal of Legal Philosophy* 1, 28: 'The very fact that the exception is brought within the law makes it susceptible to the rule of law — it gives to judges, *minded to do so*, the opportunity to impose the values of the rule of law on the administration.'

60 Nomi Claire Lazar, *States of Emergency in Liberal Democracies* (2009).

61 Ibid 5. She continues: 'Normal and emergency values are continuous. Normal and exceptional institutions have important elements of continuity also.'

relationship is not dissolved but 'decentred',[62] and emergency is perhaps better understood as a 'family of concepts', of which the 'key characteristics or "symptoms" of emergencies are urgency and scale.'[63] Insofar as emergency rule must consider formal and informal power, or political and moral forces as well as legal authority, it is better understood in terms of a 'topographical principle': the spaces and forms of emergency (and ordinary) government may be delineated on a singular plane or continuum, and 'barriers and channels (disincentives and incentives) of whatever kind are at least as important as borders (formal legal boundaries) in increasing the safety of emergency powers.'[64] Although critical of Agamben,[65] Lazar's theory of an essentially continuous relationship between emergency and ordinary modes of government is not dissimilar to Agamben's notion that the 'state of exception' is an essential feature of government.[66] Agamben's additional and influential contribution to the debate on the state of emergency is to articulate and theorise the 'state of exception' as a legal and constitutional condition conceptually distinct from either an 'interior' or 'exterior' relation to law.[67] For Agamben, the space of emergency rule is effectively a suspension of law, an 'emptiness and standstill of the law'[68] but which 'has a decisive strategic relevance for the juridical order and must not be allowed to slip away at any cost.'[69] The state of exception is an essential part of the fabric of the state.

The strategic character of emergency government

If, as Agamben and Lazar insist, emergency is about more than whether law formally operates or not in the 'state of exception', there is the subsequent question as to how the 'exception' relates to the ordinary state of affairs. From an empirical perspective, from the early part of the twentieth century emergency government has been a regular feature (and recourse) of government in 'advanced capitalist states.' Legislative arrangements have evolved to accommodate the 'permanency' of emergency powers.[70]

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62 Ibid 5.

63 Ibid 7.

64 Ibid 137; see also Nomi Claire Lazar, 'A Topography of Emergency Power' in Victor Ramraj (ed), *Emergencies and the Limits of Legality* (2008) 156; Mark Tushnet, 'The Political Constitution of Emergency Powers: Some Conceptual Issues' in Victor Ramraj (ed), *Emergencies and the Limits of Legality* (2008) 145.

65 Lazar, above n 60, 3, where she describes (or dismisses) Agamben's work as 'fundamentally Schmittian'.

66 See Agamben, above n 52, 23:

> The simple topographical opposition (inside/outside) implicit in these theories seems insufficient to account for the phenomenon it should explain … In truth, the state of exception is neither external nor internal to the juridical order, and the problem of defining it concerns precisely a threshold, or a zone of indifference, where inside and outside do not exclude each other but rather blur with each other. The suspension of the norm does not mean its abolition, and the zone of anomie that it establishes is not (or at least claims not to be) unrelated to the juridical order.

67 Ibid 48: Agamben considers the 'state of exception' best equated with the 'more obscure, genealogical paradigm in roman law' of the *iustitium*: that condition established by the Senate following its declaration of an emergency situation.

68 Ibid 48.

69 Ibid 51.

70 Compare, eg, Kim Lane Scheppele's rather ironically titled 'Small Emergencies' (2006) 40 *Georgia Law Review* 835, 835–6:

Lazar's general position is that emergency powers are not only unavoidable, but may be valuable.[71] Under the liberal dichotomy of freedom/justice and order, emergency powers have a role to play, and they must, in any case, always operate in a normative order, even if that order is not exclusively constituted of *legal* norms but also governed by wider political and socio-cultural norms.[72] Both emergency rule and the rule of law are, in practice, partial and not absolute. Yet Agamben's analysis is preferable, as it goes beyond the premise that emergency government is, ultimately, necessary and a corollary of order in the liberal state. The implicit critique of the liberal state in Agamben is that emergency government is inherent to it because it is a *strategic* condition of the state (and hence contingent) rather than immanent.[73] The normative framework of the state in this context, whether referring to 'ordinary' or emergency modes of government, might be said to be consistent with, and conditioned by, the general *project* of state power. This is to recognise that public power generally is purposive (serving interests, goals, social and economic forces, and particular political projects) and that emergency government is similarly conditioned.[74]

> Small emergencies are problems that are deemed worthy of exceptional solutions, but are simultaneously deemed too minor to warrant a full-fledged reassessment of constitutional structures and constitutional aspirations. The very idea that emergencies could be minor … suggests that they are not to be seen as fundamentally disruptive of the overall order of things … But small emergencies have been a standard feature of American constitutional life for so long that they have actually overtaken the constitutional dream of normal governance. Most Americans, however — including most constitutional theorists — are still dreaming.

See also Roger Roots, 'Government by Permanent Emergency: The Forgotten History of the New Deal Constitution' (2000) 33 *Suffolk University Law Review* 259; Frank Church, 'Ending Emergency Government' (1977) 63 *American Bar Association Journal* 197, 198: the 1972 Special Committee on National Emergencies and Delegated Emergency Powers established by the US Congress found '470 special statutes that could be invoked by the president at any time during a declared national emergency.'

71 See, eg, Lazar, above n 60, 5:

> Emergency powers are justified — when they are justified — because they embody principles that already function under normal circumstances. Order is a value also, and it animates the day-to-day life of the state alongside liberal values … Rights are derogated for the sake of order every day.

72 Ibid 136: 'Emergency powers take on the moral character of the end they serve.' See also Nomi Claire Lazar, 'Must Exceptionalism Prove the Rule? An Angle on Emergency Government in the History of Political Thought' (2006) 34 *Politics and Society* 245, 268 in which Lazar proposes a general program of 'principles for safety' governing emergency rule within the norms of the liberal-democratic state.

73 See, eg, Agamben, above n 52, 31: 'Far from being a response to a normative lacuna, the state of exception appears as the opening of a fictitious lacuna in the order for the purposes of safeguarding the existence of the norm and its applicability to the normal situation.' That is to say, the exception (declaration of emergency) is purposive and orientated toward a norm or governmental project of some description. He is critical, in addition, to the equation of the state of exception with the principle of 'necessity', as an attempt to ground exceptional powers on 'pure factuality'. He points out (at 29) that there is always a 'subjective' (ie political) dimension in the assertion of a 'state of necessity', one which relies if nothing else on a (political and strategic) decision.

74 On this broader theoretical question of the relationship between emergency modes of government, their political content, and climate change, see Adam Bandt, 'Had We But

This strategic conception of the state of emergency renders more explicable the wide range of variability in scale, intensity, urgency and form in the operation of emergency measures or emergency government. Such measures are deployed to given ends, including, at the extreme, to martial law or revolution. Much more limited instances of emergency government obviously exist, such as response to localised natural disasters, and there are a broad range of other manifestations in between. The forms and permutations of emergency government represent adapted, contingent, strategic and, at times, political and/or partisan responses to circumstances of crisis. It is surely possible to delineate and classify emergency arrangements, such as the distinction between military and non-military emergencies, or between humanitarian (eg natural disaster), economic and military contingencies. In each case, the analysis may be instructive and useful but best read having regard to the capacity of the legal and political landscape to shift and sources of emergency to evolve, especially over the long term. Forms of emergency evolve as crisis evolves. This is essentially to reinforce the point that emergency government is best understood by way of a 'topographic' principle of analysis, although perhaps with some emphases on the question of form as much as scale and urgency in the institution of the emergency system. In the course of the twentieth century, wartime or 'national security' type emergency scenarios came to encompass pre- and post-hostility conditions, as well as the direct conduct of war.[75] New conditions of civil strife in the latter part of the last century have produced an obscurity between war and insurrection,[76] and between civil and economic emergencies.[77] Natural and humanitarian disasters may invoke emergency powers and appear increasingly to possess a military, or militarised, dimension.[78] Although

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World Enough and Time (Reconsidering "Emergency")' (2009) 31 *Australian Feminist Law Journal* 15. He remarks (at 30) on the capacity for emergency to assume the space of an *alternative* political project: 'The climate emergency has placed back on the agenda something that the rise of neoliberalism had threatened to erase: the prospect of imagining that society can be ordered differently.' Significantly, Bandt points (at 32) to the vision of the 'new creative and active subject of the climate emergency' at the heart of any normative rupture with 'business as usual'.

75 In relation to the High Court's treatment of emergency powers across this entire 'cycle' of wartime emergency, see Lee, above n 51, 26–36.

76 Hence the emergence, for example, in the second half of the twentieth century of urban guerrilla (or 'terrorist') movements of various descriptions in Western countries, such as the IRA, ETA, the Red Army Faction or the Red Brigades. In *Thomas v Mowbray* (2007) 233 CLR 307, a majority of the High Court has effectively subsumed this model of military (or militarised) conflict into a sphere of action for which the Commonwealth can legislate under the defence power (s 51 (vi)) of the *Commonwealth Constitution*. Notably, it was held (Kirby J dissenting) that the Commonwealth could validly legislate with respect to 'the public, or sections of the public' rather than merely 'bodies politic': Gleeson CJ at 324, Gummow and Crennan JJ at 362, and Hayne J at 457–458.

77 Lee notes, for instance, the close relationship between strikes and industrial unrest through the 1970s and the promulgation (and/or use) of emergency legislation in key ('essential') industrial sectors, especially as means of breaking strikes: Lee, above n 51, 187–95.

78 For example, on the Hurricane Katrina disaster in New Orleans, see Kathleen Tierney and Christine Bevc, 'Disaster as War: Militarism and the Social Construction of Disaster in New Orleans' in David Brunsma, David Overfelt, and J Steven Picou (eds) *The Sociology of Katrina: Perspectives on a Modern Catastrophe* (2007) 35; DeMond Miller, Matthew Pavelchak, Randolph Burnside, Jason Rivera, 'Responding to Natural Disasters: An Increased Military

having origins in wartime emergency,[79] the 'economic state of emergency' has been 'increasingly separated from any evidence of military conflict or armed rebellion'.[80] Economic emergency is a particular species of the 'state of exception'. They have again risen to prominence in the wake of the 'global financial crisis' and consequent national economic crises. For example, US 'bailout' arrangements were structured expressly as emergency measures.[81]

Searching for the legal principles of a 'state of climate emergency'

To a degree, then, the notion of a 'climate emergency', expressly or implicitly contained in the views of climate change writers noted above, refers to a new *form* of declared emergency, or at least development and/or revision of the models of the state of emergency as they have evolved hitherto. This is not to diminish the crucial role of the political,[82] or indeed policy,[83] content of the emergency, but perhaps, rather, to put it to one side for present purposes. There are comparisons between the climate emergency and economic emergencies. Additionally, the analogy has been drawn between circumstances of wartime transformation and mobilisation of the economy and what is necessary and may be achieved in the face of climate change. The object of the emergency in the latter circumstances is not military preparation but rapid de-carbonisation aimed at the 'safe operating space', especially as applied to the economies of developed states.

The war analogy may be a useful one in the (Australian) constitutional context — at least insofar as it is possible to place both wartime emergency and a prospective climate emergency within the scope of *purposive* heads of legislative power provided to the federal Parliament by the *Commonwealth Constitution*. In the military situation, the key framework of constitutional authority is obviously the 'defence power' of the Commonwealth, provided for under s 51(vi) of the *Constitution*. Even at times of imminent military peril, such as the height of the Second World War, constitutional limits apply, although they have proved sufficiently malleable or flexible to accommodate exceptional measures, including rapid mobilisation under highly centralised executive control.[84] Judicial consideration of the defence power has been a

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Response and its Impact on Public Policy Administration' in Jack Pinkowski (ed), *Disaster Management Handbook* (2008) 401.

79 For example, Roosevelt's immediate responses to the Great Depression were made pursuant to the US *Trading With The Enemy Act*, 12 USC § 95a (1917), and it has been argued the actions were unconstitutional: see Roger Roots, 'Government By Permanent Emergency: The Forgotten History Of The New Deal Constitution' (2000) 33 *Suffolk University Law Review* 259.

80 William Scheuerman, 'The Economic State of Emergency' (2000) 21 *Cardozo Law Review* 1869, 1878.

81 *Emergency Economic Stabilization Act 2008* Pub L No 110–343.

82 As in, eg, Bandt, above n 74.

83 For example, Monbiot, above n 44; Spratt and Sutton, above n 1; Australian Greens, above n 39.

84 The *National Security Act 1939* (Cth) conferred exceptionally wide discretion on the executive, as its purpose was to provide the means to confront a 'total war' and, at times, the imminent threat of invasion. See, eg, B Sugerman and W J Dignam, 'The Defence Power And Total War' (1943) 17 *Australian Law Journal* 207, 210–11:

> Two broad circumstances stand in the forefront of any discussion of the scope of the defence power under the conditions of modern warfare. ... The first is the necessity

key site in development of the jurisprudence of 'purposive' powers enumerated under section 51. The power is, as famously held, 'elastic' in nature,[85] subject to 'exigencies of the time,'[86] and to the factual distinction between war and peacetime.[87]

Yet analogy to wartime powers ought not to be overplayed in the search for legal principles upon which to found a climate emergency. Although there may be 'national security' dimensions to the climate change crisis,[88] what is focused upon in rapid decarbonisation programs is essentially disjuncture from existing *socioeconomic* norms, which may be departure from norms of the industrial production cycle (eg coal-fired power) or the consumer cycle (eg private car use or mass aviation) but equally may be 'the prospect of unleashing the productive labour of humanity'[89] to found new norms, models and projects. The wartime comparison may be attractive as a metaphor of disjuncture, but of little use in relation to the content of norms or legal principles counter-posed to the industrial and economic status quo.

Rather, in any declaration of a climate change emergency, prevailing principles will proceed from the ecological nature of the crisis, that is, the context in which socioeconomic norms and paradigms are ultimately embedded within ecological limits, systems and conditions. The ecological crisis may be construed as a crisis in the reproduction of underpinning biogeophysical systems and on a relatively long-term time-scale. Indeed, in contrast to the timeframes of most emergencies, climate change might be understood as a 'catastrophe in slow motion',[90] with a highly (although not exclusively) prospective character. The primary and preferable means to confront and/or resolve the crisis remain, at least for the present, pre-emptive or anticipatory, rather than reactive or defensive, measures.

A 'PRECAUTIONARY' EMERGENCY?

Climate change is an inherently global or internationalist problem, and initiatives to tackle it have emanated from international bodies and actions, notably the UN and

> for unified control… The second is the need for a marshalling of the entire resources of the nation… And in so far as this marshalling is effected by legislative means, the legislation will of necessity extend into virtually every field of the social, economic and industrial life of the community.

85 *Stenhouse v Coleman* (1944) 69 CLR 457, 471–2 (Dixon J); see generally Tony Blackshield and George Williams, *Australian Constitutional Law and Theory: Commentary and Materials* (5th ed 2010) 827.

86 *Australian Communist Party v Commonwealth* (1951) 83 CLR 1, 195 ('*Communist Party Case*') (Dixon J); see also, at 199, the notion that the power possesses 'a fixed meaning within a changing application, as a fixed concept with a changing content.'

87 See Hayne J's summation of Dixon J's dicta in the *Communist Party Case* in *Thomas v Mowbray* (2007) 233 CLR 307, 455–6.

88 See, eg, German Advisory Council on Global Change *World In Transition: Climate Change As A Security Risk: Summary For Policy-Makers* (2007) <http://www.wbgu.de/wbgu_jg2007_kurz_engl.html > at 31 July 2010; Chris Abbott, *An Uncertain Future: Law Enforcement, National Security and Climate Change* (2008), <http://www.oxfordresearchgroup.org.uk/publications/briefing_papers/uncertain_future_law_enforcement_national_security_and_climate_change> at 31 July 2010.

89 Bandt, above n 74, 30.

90 See R T Pierrehumbert, 'Climate Change: A Catastrophe in Slow Motion' (2006) 6 *Chicago Journal of International Law* 573.

non-governmental (especially scientific) communities.[91] As considered below, from an Australian perspective this character of the 'emergency' necessarily invokes action with respect to the Commonwealth's powers to legislate for external affairs.

International climate change law centres on the *Framework Convention*, the foundational instrument of international climate law. It was established as a joint initiative of the UN Environment Programme and the World Meteorological Organisation in 1989, supported by a UN General Assembly Resolution,[92] and its work led to negotiation and adoption of the *Framework Convention* in 1990.

The 'ultimate objective' of the *Framework Convention* is 'to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.'[93] Additionally, the *Framework Convention* contains the imperative that parties apply the precautionary principle to climate policy.[94]

The precautionary principle may be viewed as a central animating principle as to means of achieving the defining objective of the *Framework Convention*, that is, 'stabilization' of emissions at a level avoiding 'dangerous anthropogenic interference'. The precautionary principle need not be the sole principle on which emergency measures might be based. There are other inter-related and powerful concepts also informing this principle and climate change action: notably, concepts of 'inter-generational equity'[95] and geopolitical equity between developed and developing states. The emergency could perhaps equally be termed a 'fiduciary'[96] or 'equitable' emergency, having regard to adapted principles of fairness across developed/developing state and generational relations. These equitable principles are important to the *Framework Convention*, and considerations of the justice of action were central to the arguments and fate of the Copenhagen negotiations of the *Framework Convention* Conference of Parties in 2009. Indeed, the position of some states at Copenhagen most vulnerable to, and least responsible for, climate change amounted to a call for emergency action.[97]

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91 Compare *Greenpeace Australia Ltd v Redbank Power Company Pty Ltd and Singleton Council* (1994) 86 LGERA 143, 146: 'Due to the intrinsically global nature of the problems associated with the human enhanced greenhouse effect, an international instrument was created in an attempt to co-ordinate a response.'

92 *Protection of Global Climate for Present and Future generations of Mankind*, GA Res 53, UN GAOR, 43rd sess, 70th plen mtg, UN Doc A/RES/43/53 (1988).

93 *Framework Convention*, opened for signature 4 June 1992, 1771 UNTS 107, art 2 (entered into force 21 March 1994).

94 Ibid art 3(3).

95 On the concept, see, eg, Edith Brown Weiss, 'The Planetary Trust: Conservation and Intergenerational Equity' (1984) 11 *Ecological Law Quarterly* 495; Lynda Collins, 'Revisiting the Doctrine of Intergenerational Equity in Global Environmental Governance' (2007) 30 *Dalhousie Law Journal* 79; and its relationship with climate change, eg, James Wood, 'Intergenerational Equity and Climate Change' (1996) 8 *Georgetown International Environmental Law Review* 293.

96 See Weiss, above n 95.

97 See Alliance of Small Island States, *Declaration on Climate Change 2009* (2009) [6] <http://www.sidsnet.org/aosis/documents/AOSIS%20Summit%20Declaration%20Sept%2021%20FINAL.pdf> at 14 May 2010.

The precautionary principle may, however, be useful in giving legal form to a declaration of climate emergency for two reasons. First, it is orientated specifically to action and includes a specific calculus of action: anticipation and/or prevention of harm notwithstanding an absence, deficit or ambivalence of knowledge. In this respect, it is — by analogy again and with regard to different purposes — not entirely dissimilar to pre-emptive or anticipatory action regarding 'national security' contingencies. Second, the precautionary principle does possess relatively developed, relevant legal content.

The precautionary principle

Origins of the precautionary principle lie in German environment law (the *Vorsorgeprinzip*, or 'foresight principle'). In international law precaution has been adopted as an approach to pollution in trans-boundary contexts and extended to issues such as GMOs and electromagnetic radiation.[98] In respect of risk and uncertainty operating in natural and other systems, it embodies a 'rejection of the assumptions inherent in the traditional "assimilative capacity approach"'.[99] The principle rejects the notion that scientific knowledge can invariably predict the scope and level of harm to systems and, as such, harm can necessarily be accommodated or prevented by subsequent human action. At Principle 15, the *Rio Declaration on Environment and Development* ('*Rio Declaration*') states:

> In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.[100]

A range of planning and environmental legislation in Australia requires the precautionary principle to be considered in decision-making.[101] Typically, in Australian law, the principle operates as one consideration among a number, in which case the decision-maker may not be 'obliged to accord pre-eminence to the precautionary principle.'[102] It may be required that the force and effect of the precautionary principle is qualified by an economic imperative (ie 'cost-effectiveness'). It has been argued that the precautionary principle should be given a greater primacy in decision-making.[103]

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98 See generally Paul Harremoes et al, *The Precautionary Principle In The 20th Century: Late Lessons From Early Warnings (*2002).

99 Owen McIntyre and Thomas Mosedale, 'The Precautionary Principle as a Norm of Customary International Law' (1997) 9 *Journal of Environmental Law* 221, 221–222.

100 *Rio Declaration on Environment and Development*, UN Doc A/CONF.151/26 (1992).

101 For example, *Environment Protection and Biodiversity Conservation Act 1999* (Cth) s 3A; *Environment Protection Act 1970* (Vic) s 1C; *Protection of the Environment Administration Act 1991* (NSW) s 6(2).

102 *Lawyers for Forests Inc v Minister for the Environment, Heritage and the Arts* [2009] FCA 330, [36].

103 See, eg, James Cameron and Juli Abouchar, 'The Precautionary Principle: A Fundamental Principle of Law and Policy for the Protection of the Global Environment' (1991) 14 *Boston College International and Comparative Law Review* 1.

It has been noted that the precautionary principle is 'plagued with uncertainties'.[104] The precise status of the precautionary principle in international law is not settled, and the internal content of the model may vary.[105] By the 1990s, it was being argued that the precautionary principle had assumed the status of a customary norm of international law. MacIntyre and Mosedale assert that '[i]ts inclusion in the *Rio Declaration* is significant as it could be argued to mark the elevation of the principle to the status of a core principle of international environmental law-making.'[106] Mead has affirmed that analysis.[107] In so far as the principle was the subject of state practice and evidence of *opinio juris* prior to the *Rio Declaration*, its status as customary international law may be older than the *Rio Declaration*.[108] This issue of legal force and effect remains the subject of debate. The technical question as to precise legal character may well be unnecessary or unhelpful. Peel concludes that 'the concept is in danger of becoming bogged down in a legal quagmire or endless debate over its interpretation as a principle or as an approach. A textual analysis reveals little difference [between them]…'[109] Ambiguity and flexibility at the margins of content is likely to be advantageous and necessary in application of the mechanism to practical problems.[110]

In *Telstra Corporation Limited v Hornsby Shire Council*, Preston CJ in the NSW Land and Environment Court comprehensively reviewed the principle.[111] His Honour found, first, two thresholds of jurisdictional fact ('condition precedent') apply: the threat of serious or irreversible damage, and scientific uncertainty. Second, once these thresholds are met the evidentiary burden as to the threat is reversed and the 'decision-

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104 Stephanie Joan Mead, 'The Precautionary Principle: A Discussion of the Principle's Meaning and Status in an Attempt to Further Define and Understand the Principle' (2004) 8 *New Zealand Journal of Environmental Law* 137, 142.

105 See generally Jacqueline Peel, 'Precaution — A Matter of Principle, Approach or Process?' (2004) 5 *Melbourne Journal Of International Law* 483; Mead, above n 104; James E Hickey Jr and Vern R Walker, 'Refining The Precautionary Principle In International Environmental Law' (1994–1995) 14 *Virginia Environmental Law Journal* 423; McIntyre and Mosedale, above n 99; Felicity Nagorcka, 'Saying What You Mean and Meaning What You Say: Precaution, Science and the Importance of Language' (2003) 20 *Environment and Planning Law Journal* 211; see also *Telstra Corporation Limited v Hornsby Shire Council* (2006) 67 NSWLR 256, 269:

> However, there has not yet been, in the decisions of this Court, a detailed explanation of the precautionary principle or the procedure for application of it. Hence, it is necessary to refer to other sources of information on the precautionary principle, including judicial decisions of other jurisdictions and the academic literature on the precautionary principle. Drawing on these sources, the following guidance can be offered on the concept of the precautionary principle and its application.

106 McIntyre and Mosedale, above n 100, 230.

107 Mead, above n 104, 158–68.

108 Cameron and Abouchar, above n 103.

109 Peel, above n 105, 500; see also Mead, above n 104, 165:

> Some academics argue that determining whether the precautionary principle is a rule of customary international law … has become a moot point due to the strong acceptance of principle 15 of the Rio Declaration which has been universally applied, without even considering if it constitutes a rule of law or not.

110 Peel, above n 105, 500: 'The harsh reality of decision-making under conditions of scientific uncertainty is that judgements as to which risk regulatory approach was the right one can only be made in hindsight.'

111 (2006) 67 NSWLR 256, 268–280 [125]–[183].

maker must assume that the threat of serious or irreversible environmental damage is no longer uncertain but is a reality.'[112] Third, the principle obliges preventative action. Fourth, the principle does not imply a total absence of risk, and precaution may operate by degrees, taking into account 'the combined effect of the degree of seriousness and irreversibility of the threat and the degree of uncertainty.'[113] Generally, 'the magnitude of environmental damage is … inversely proportionate to the likelihood of the risk in order for precaution to be triggered.'[114] Fifth, as an extension of calculations as to risk, precautionary action is governed by a proportionality of response: 'the concept of proportionality … should not go beyond what is appropriate and necessary in order to achieve the objectives in question.'[115] Further, in respect of the threat of serious or irreversible damage, it is merely the risk that is sufficient to activate the principle, although the standard precludes the 'threat of negligible environmental damage'[116] and 'speculation about mere possibilities of harm and causation, without any rational basis in sound scientific data.'[117] The criteria of 'seriousness' and 'irreversibility' are not mutually inclusive.[118]

The 'safe climate' and the precautionary principle

The precautionary principle has been applied in review of administrative decisions in which climate change is a factor. In applying the principle as a pre-eminent consideration of legislative and regulatory action, would there be an imperative for emergency action? Consider first of all the threshold issues. Even on the basis of the IPCC *Fourth Assessment Report* ('*FAR*'), it has been held in judicial consideration of climate change (and relevant cases) that it 'presents a risk to the survival of the human race and other species. Consequently, it is a deadly serious issue. It has been increasingly under public scrutiny for some years. No doubt that is because of global scientific support for the existence and risks of climate change and its anthropogenic causes.'[119] At the 2009 Copenhagen Climate Congress, there emerged international scientific opinion consistent with the 'emergency' analysis.[120]

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112 Ibid 273 [150].
113 Ibid 276 [161].
114 Ibid 272 [146].
115 Ibid 277 [166].
116 Ibid 271 [138].
117 Hickey and Walker, above n 105, 448.
118 *Western Water v Rozen* [2008] VSC 382.
119 *Walker v Minister for Planning* (2007) LGERA 124, 191 [161].
120 Climate Change, *Synthesis Report* (2009) Climate Change Congress — University of Copenhagen 36 <http://climatecongress.ku.dk/pdf/synthesisreport/> at 30 July 2010 (emphasis added):

> Climate change is fundamentally different from the environmental problems humanity has dealt with until now. The risks, scale and uncertainties associated with climate change are enormous and there is a significant probability of a devastating outcome at a global scale ... The scientific evidence strongly suggests there is an upper limit for the concentration of greenhouse gases in the atmosphere, or a 'climate change boundary', within which humanity should operate to reduce the risks of catastrophic outcomes. *Although the precise position is not yet known, current evidence indicates that humanity is fast approaching or may even have exceeded the boundary. Thus, the need for rapid and drastic reductions in the emissions of greenhouse gases is urgent if serious climate impacts are to be avoided*

There is a general consensus among scientific opinion that 'anthropogenic interference in the climate system' is occurring and its impacts, if left unchecked, will be 'serious or irreversible.'[121] Where the 'emergency critique' tends to go further than the IPCC assessment is to insist on nonlinear, potentially catastrophic effects of 'interference', placing greater weight and certainty on 'tipping points' or 'boundary' thresholds and thereby on the criterion of 'irreversibility'. That is to say, the 'emergency' analysis insists not only on the criterion of seriousness or 'gravity'[122] but cumulatively (rather than alternatively) on a high degree of likelihood and a high degree of magnitude of irreversibility of damage arising from 'anthropogenic interference.'[123] Further, on the basis of the IPCC Report, scientific uncertainty is actually minimised, given the high degree of likelihood that adverse 'anthropogenic interference' is occurring.[124] Where there is greater scope for uncertainty, and consequently a greater role for the precautionary principle, is where the theses of nonlinear catastrophic change are considered. For instance, the precautionary principle would suggest that IPCC reticence with respect to 'ice sheet flow',[125] and abstention on issues of positive feedback and critical events, ought to be discounted for presumptions of catastrophic 'boundary' thresholds and 'current evidence' that those boundaries are 'fast approaching' or have been exceeded. In respect of growing support for the latter theoretical and empirical positions, they attain the status of at least 'reasonable scientific plausibility'.[126] On the basis of the uncertainty criterion, the latter approach is additionally warranted given that the magnitude of potential damage (unprecedented in scale, scope and effect) presupposes a yet lower threshold of certainty. The likelihood of catastrophic climate change is sufficient to compel action of the precautionary kind. Beyond the 'conditions precedent' threshold, the principle holds that, in respect of climate change, the evidentiary burden for abstention from emergency action falls upon those who would argue that such means of achieving rapid and sustained 'decarbonisation' of social and economic activity are incorrect or unnecessary.

The principle, then, holds that a response must be proportionate to the threat. In the framework of the 'climate emergency' analysis, proportionality therefore needs to be risk-weighted against a much lower threshold of atmospheric carbon concentration than is provided for in either official policy (eg *Carbon Pollution Reduction Scheme Bill 2009* (Cth)) or official advice (eg Stern or Garnaut Reports). The difference in atmospheric concentration targets, 'dangerous' thresholds, and warming scenarios between 'orthodox' and 'emergency' opinion lends itself to distinct levels of proportionate (precautionary) response: what has been termed the 'new business as

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121 Generally, see IP CC, *Climate Change 2007: Synthesis Report* (2007) 48–54.

122 *Walker v Minister for Planning* (2007) LGERA 124, 192 [166].

123 On evidence of irreversibility, see Susan Solomon et al, 'Irreversible Climate Change due to Carbon Dioxide Emissions' (2009) 106 *Proceedings of the National Academy of Sciences* 1704, 1704.

124 The certainty is calculated by the IPCC at least 90%: see IPCC, *Synthesis Report*, above n 121, 5: 'There is *very high confidence* that the net effect of human activities since 1750 has been one of warming.' Also IPCC, *Guidance Notes for Lead Authors of the IPCC Fourth Assessment Report on Addressing Uncertainties* (2005) 3, Table 3.

125 IPCC, 'Summary for Policymakers', above n 2, 14.

126 Nicholas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (2002) 160.

usual', on the one hand, and emergency action, on the other hand. Such generalised models of response are perhaps all that can be articulated in the limited space available.[127] The calculation of proportionately in respect of action will be based on strategic and political, as well as strictly economic (eg cost-benefit) analysis.[128]

Constitutional accommodation and the external affairs power

Any 'climate emergency' measures in the Australian context would presume legislative and executive action, aimed at giving effect to international objectives to avoid 'dangerous' climate change and keep warming under two degrees. For example, under the Greens' Safe Climate Bill (the legal architecture of which is modelled on the Government's CPRS Bill 2010), there is legislative provision for a long-term emissions reductions target[129] as well as requirement for annual controls on emissions by regulation.[130] In the 'emergency' scenario both legal mechanisms would presumably be used for significant and rapid emissions cuts.[131] A further question is therefore pertinent: would emergency laws intended to achieve these ends, where they are likely to be disruptive of the status quo,[132] be constitutionally valid? The competence of the Commonwealth Parliament to legislate for 'external affairs' under s 51(xxix) of the *Commonwealth Constitution* would surely be central to resolution of the question. I will confine my remarks to that head of power.

National measures enacting a 'climate emergency' would primarily be enacted under the competence conferred by s 51(xxix). It is arguable that international matters

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127 Compare, eg, Dixon J's generalised delineation of 'war-footing' and the 'period of ostensible peace' in his characterisation of the limits of the defence power: *Communist Party Case* (1951) 83 CLR 1, 195–202. It is recognised that legislative and administrative response to emergency conditions invariably requires more nuanced approach, taking into account the precise ebb and flow of events and necessity. Compare, for instance, the actual circumstances of wartime mobilisation at the height of the Pacific War emergency in 1942, where 'total war' control by government was achieved in remarkably short time and led to an 'inevitably, indeed desirable' 'overcommitment' of resources to the war effort: Butlin and Shedvin, *War Economy 1942–1945* (1977) ch 1, 11–12.

128 Compare *Telstra Corporation Limited v Hornsby Shire Council* (2006) 67 NSWLR 256, 278 [176] (Preston CJ): 'One solution suggested is to combine economic and non-economic measures by way of multi-criteria analysis.' In any case, note Gavin Schmidt and David Archer, 'Too Much of a Bad Thing' (2009) 458 *Nature* 1117, 1118:

> Dangerous change, even loosely defined, is going to be hard to avoid. Unless emissions begin to decline very soon, severe disruption to the climate system will entail expensive adaptation measures and may eventually require cleaning up the mess by actively removing CO2 from the atmosphere. Like an oil spill or groundwater contamination, it will probably be cheaper in the long run to avoid making the mess in the first place.

129 Safe Climate (Emissions Trading Scheme) Bill 2009 (Cth) s 3; Carbon Pollution Reduction Scheme Bill 2009 (Cth) s 3.

130 Safe Climate (Emissions Trading Scheme) Bill 2009 (Cth) ss 16–18; Carbon Pollution Reduction Scheme Bill 2009 (Cth) ss 13–15.

131 As noted above, the Greens' long-term (2020) target is ostensibly aimed at an overall, global GHG concentration target (350 ppm CO2-e) consistent with the 'emergency' analysis.

132 For example, in respect of an emissions trading scheme, annual targets that suddenly and disruptively raise costs and significantly undermine profitability on 'carbon-intensive' industries, either at primary source (eg coal-fired energy production) or in 'downstream' use (eg, manufacturing, road transport).

including the *Framework Convention*,[133] the international legal status of the precautionary principle, and even international scientific opinion, suffice to bring the climate change issue within the scope of that head of power.

The fact that external affairs may arise as a source of emergency action in pursuit of ecological objectives flows from the major role environmental issues have played in the High Court's expansion of the external affairs power since the 1980s. As Peel and Godden argue: 'Supplemented by other broad constitutional powers, such as the corporations power, the Commonwealth is only just shy of achieving a plenary environmental power.'[134] There is now a series of important cases[135] underpinning a wide ambit for legitimate action under the external affairs power: '… there are various aspects to the Commonwealth's power over external affairs and that when these are combined s 51(xxix) is now truly one of the most extensive legislative powers available to the Commonwealth.'[136] The scope of the Commonwealth's legislative competence has expanded as the subject matter and field of international relations has expanded.[137]

There remains uncertainty about the precise limits of the Commonwealth's competence with respect to external affairs. This uncertainty arises in part because of the spectrum of status and effect of international legal norms and standards.[138] It is

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133 Notwithstanding that the *Framework Convention* itself contains only limited binding commitments on state Parties, mainly in respect of reporting, research and scientific action. On the 'framework' nature of the agreement, see Daniel Bodansky, 'The United Nations Framework Convention on Climate Change: A Commentary' (1993) 18 *Yale Journal of International Law* 451, 493–6. Bodansky notes that the status of the art 2 objective ('stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system') is 'unclear', and that the qualification 'ultimate' may be intended to produce something short of a binding commitment: at 499–500.

134 Jacqueline Peel and Lee Godden, 'Australian Environmental Management: A "Dams" Story' (2005) 28 *University of New South Wales Law Journal* 668, 675.

135 Commencing with *Koowarta v Bjelke-Petersen* (1982) 153 CLR 168; and proceeding through *Commonwealth v Tasmania* (1983) 158 CLR 1 ('*Tasmanian Dam Case*') and including *Richardson v Forestry Commission* (1988) 164 CLR 261, *Polyukhovich v Commonwealth* (1991) 172 CLR 501, and *Victoria v Commonwealth* (1995) 187 CLR 416 ('*Industrial Relations Act Case*').

136 Donald R Rothwell, 'The High Court and the External Affairs Power: A Consideration of its Outer and Inner Limits' (1993) 15 *Adelaide Law Review* 209, 237.

137 *Tasmanian Dam Case* (1983) 158 CLR 1, 127 (Mason J):

> Accordingly it conforms to established principle to say that s 51(xxix) was framed as an enduring power in broad and general terms enabling the Parliament to legislate with respect to all aspects of Australia's participation in international affairs and of its relationship with other countries in a changing and developing world and in circumstances and situations that could not be easily foreseen in 1900.

Industrial Relations Act Case (1995) 187 CLR 416, 483 (Brennan CJ, Toohey J, Gaudron J, McHugh J, and Gummow J): 'The treaties which were part of the subject matter of foreign relations in 1900, and the treaties that have since been made, embrace an ever-expanding range of topics.'

138 Rothwell, above n 136, 237:

> Matters which are of international concern, or relate to an international obligation, may also form the basis of an 'external affair'. However, with no majority of the Court having ever relied [to 1993] upon these grounds to uphold a Commonwealth law some uncertainty still exists as to the true extent of these bases. Much the same

clear that 'external affairs' incorporates treaty obligations and other sources of 'hard' international law. Competence is not confined to action in conformity with legal obligation.[139] The test emerging from *Koowarta v Bjelke-Peterson* was whether a matter was of 'international concern.'[140] In so far as Commonwealth action seeks to give effect to international participation and relationships, focus is less on the status of norms or standards (eg obligations) to be adopted — which would 'import an arbitrary limitation into the exercise of the [external affairs] power'[141] — than on the subject matter of the norms, measures or agreements to which a law purports to give effect. 'Proportionality' of legal measures designed to give effect to those objectives in other words refers to 'appropriate and adapted' means of 'achieving what is said to provide [a law] with the character of a law with respect to external affairs …'[142] Operation of the purposive character of the external affairs power is to all intents and purposes the same as for the defence power.[143] Despite limits as to the obligatory character of the *Framework Convention*, including defining objectives and means in arts 2 and 3, the Convention itself, even without further obligations, is a basis of 'external affairs'. The 'within 2°C' condition contained within the *Copenhagen Accord* represents perhaps some refinement of the Article 2 'stabilization' objective.

The interpretational problem of 'dangerous' climate change: constitutional facts

Whether or not emergency powers are a valid exercise of Commonwealth power in response to climate change (and in particular as a response in mitigation of the causes of climate change) is a question of proportionality, or 'appropriate and adapted' means of confronting the crisis. In turn, proportionality depends on the characterisation of the object and purposes for which the power is being exercised, as it is expressed in international agreements or norms and the subject matter therein. That process of characterisation of subject matter will, in the context of climate change and in particular in the application of the precautionary principle, include significant questions of fact and/or scientific opinion. 'Constitutional fact' doctrine will play a role in the determination of whether emergency laws are constitutionally acceptable means in Australia for dealing with the climate change crisis.

The *Framework Convention* represents the main source of international law and subject matter of 'external affairs' in respect of climate change. Applying the precautionary principle, the key object of the Convention is prevention of 'dangerous anthropogenic interference with the climate system'. The precautionary 'threat of serious or irreversible damage' is applied in this context. The key factual question, that might reasonably and proportionately attract an emergency response, is contained

comment can be made in regard to reliance upon customary international law, general principles of international law, and matters which have been the subject of international recommendations.

139 See generally, Leslie Zines, *The High Court and the Constitution* (5th ed, 2008) 393–403. In particular, Professor Zines argues, at 399: 'It seems clear, therefore, that a law which on its face deals with relations between Australia and other governments is a law with respect to external affairs and it is irrelevant that there are no treaty or customary rules that the law implements.'

140 (1982) 153 CLR 168, 217 (Stephen J).

141 *Tasmanian Dam Case* (1983) 158 CLR 1, 130 (Mason J).

142 Ibid 260 (Deane J).

143 Ibid 232 (Brennan J).

within the precise gravity, scope, modelling, and urgency of that 'threat'. Much turns on the meaning and conception of '*dangerous*,' or in other words, the characterisation of the threat of 'dangerous' climate system interference will determine whether extraordinary measures might attract the reach of the external affairs power.

Scientific opinion as to the meaning of 'dangerous anthropogenic interference with the climate system', as I have noted above, tends toward two generalised poles: an orthodox position in which 'dangerous' interference comprises a GHG concentration of around 450 ppm CO2-e and/or 2ºC atmospheric warming (with, at best, a policy of abstention on the question of nonlinear models of change), and what might be argued to be the 'emergency' position, inferred in notions of nonlinear and catastrophic thresholds and a 'safe' climate zone of around 350 ppm CO2-e. On the latter body of opinion, we have already entered the zone of 'dangerous interference'. In the former case, emergency measures arguably would be perceived as unnecessary because there is time, capacity and will only to implement a relatively gradual transition, incorporating a global 'plateau' and gradual decline in emissions; in the latter case, necessity, imperative and leadership require a different approach. The question as to which general model of fact is correct (as, for example, would the distinction of war and peace in respect of validity of extraordinary measures under the defence power) will determine, to a considerable degree, the character, nature and meaning of 'dangerous' interference in the climate system and hence the proportionality or disproportionality of 'emergency' laws. The validity of 'climate emergency' laws will depend, if constitutionally challenged,[144] on an ascertainment that the second body of facts and scientific opinion is the correct approach.

As Professor Zines has written: 'There will be times … when it will be constitutionally necessary for the [High] Court to determine for itself the existence of a particular fact or the proper interpretation of a treaty provision.'[145] This task arises because it has become settled law, at least since the *Communist Party Case*, that the High Court is the ultimate 'arbiter' of the Constitution, notwithstanding circumstances where constitutional validity of impugned laws turn on questions of fact. The question really is how the Court approaches the 'constitutional fact' finding process, and, specifically, how it would do so in applying the precautionary principle. It is not then a straightforward task, nor one guided by a clear body of rules and principles.[146] In these circumstances, the Court will not be required to act as an ordinary trier of fact as between parties. Constitutional fact ascertainment is a specific, 'peculiar' issue concerning 'information which the Court should have in order to judge properly of the

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144 Validity of legislation or executive action will be presumed, unless challenged and found without a constitutional basis: see *Stenhouse v Coleman* (1944) 69 CLR 457, 466 (Starke J), 'Every legislative Act, regulation or order must find some warrant in the Constitution, though the presumption is in favor of validity.'

145 Zines, above n 139, 394.

146 See Susan Kenny, 'Constitutional Fact Ascertainment' (1990) 1 *Public Law Review* 134, 162:

> Unlike the [United States] Supreme Court, the High Court has, for most of its history, proved reluctant to acknowledge the relevance of facts in constitutional adjudications and even now, has not developed a coherent body of practicable principles to control 'constitutional fact' ascertainment.

Zines, above n 139, 656–7: 'Because the presentation of social and economic material in the High Court is something of an unusual event, the procedures that are sometimes adopted are highly unsatisfactory'.

validity of this or that statute or of this or that application by the Executive Government of State or Commonwealth of some power or authority it asserts.'[147] The Court may inform itself by judicial notice of facts.[148] In *Thomas v Mowbray*, Callinan J found the process of the Court so informing itself to be 'wide',[149] going beyond merely issues of judicial notice, having regard to material that is 'reliable, valid, relevant and useful … to the interpretation and application of the Constitution.'[150] As a minimum the procedures should afford fairness to parties involved in the litigation.[151] It may be further that the sources relied on must be 'public or authoritative'.[152] It appears likely that those sources may be official, parliamentary, curial, or, as a matter of judicial notice, 'general public knowledge'[153] — that is, the subject of 'political assessment',[154] curial proofs or judicial notice. It may be any combination of them.

Technical uncertainty in constitutional fact-finding means that reaching definitive conclusions on the validity of 'precautionary' emergency powers is a difficult task. Certain factors might be weighed up. Weighing against validity is the present fact that *Framework Convention* measures have been further elaborated by international instrument (the *Kyoto Protocol*), arguably without regard for any recourse to emergency measures, and, indeed, with a seeming presumption of manageable 'threat' and 'danger' at least consistent with a 'business as usual' approach. The 'overall' -5 per cent reduction in GHG emissions by 2012 required by the *Kyoto Protocol*, and even the vague 'below 2 degrees' target of the *Copenhagen Accord*, represent no real departure from, and are generally consistent with, the quantitative standard of 'dangerous' interference at around 450ppm CO2-e. This position is recited into the presently stalled climate change bills.[155] It is generally founded on the authoritative opinion of the IPCC. Yet, one would presume that enactment of 'climate emergency' legislation would present significantly different sets of 'political assessments' (both by officials and Parliament) and judicially noticeable 'public and authoritative' knowledge. Indeed, there is capacity for the facts to change 'on the ground' and for scientific opinion to shift toward the case for more drastic action.[156] There are now opinions and recommendations of scientific bodies that 'dangerous' interference accords with the 'emergency' paradigm.[157] The legislation would tend to benefit from the presumption

147 *Breen v Sneddon* (1961) 106 CLR 406, 411 (Dixon CJ).
148 *Stenhouse v Coleman* (1944) 69 CLR 457, 469 (Dixon J).
149 *Thomas v Mowbray* (2007) 233 CLR 307, 516–517 (Heydon J); *Gerhardy v Brown* (1984) 159 CLR 70.
150 *Thomas v Mowbray* (2007) 233 CLR 307, 482 (Callinan J).
151 Ibid 481 (Callinan J). Heydon J adds that the parties ought not only to be given notice of adverse findings (to which they may respond) but also notice 'of why the finding should be made': at 513.
152 See *Gerhardy v Brown* (1984) 159 CLR 70, 142 (Brennan J).
153 *Stenhouse v Coleman* (1944) 69 CLR 457, 469 (Dixon J).
154 Compare *Gerhardy v Brown* (1984) 159 CLR 70, 138 (Brennan J).
155 Although little probative force will be given to recitals: *Communist Party Case* (1951) 83 CLR 1, 263 (Fullagar J).
156 See, eg, Keith Johnson, *Climate Debate: IPCC Head Pachauri Joins the 350 Club* (2009) Wall Street Journal <http://blogs.wsj.com/environmentalcapital/2009/08/25/climate-debate-ipcc-head-pachauri-joins-the-350-club/> at 31 August 2009.
157 For example, International Scientific Congress, above n 14, 18–21, 36: '… the need for rapid and drastic reductions in the emissions of greenhouse gases is urgent if serious climate impacts are to be avoided.' It is worth reading this point in the context of Murphy J's

of its validity.[158] Ultimately, however, given the global nature of the issue, much may depend on the state and disposition of international opinion, especially as reflected in international agreements or other instruments, whether as treaty terms, resolutions or recommendations, or whether in the form of international law or scientific advice. In the absence of clear rules as to 'active, independent inquiry'[159] into constitutional fact-finding, 'political' momentum may play a key role. Validity of 'precautionary' emergency measures may depend significantly on an actual or emerging consensus as to a *heightened* character of 'dangerous anthropogenic interference in the climate system'.

CONCLUSIONS

There has been ample warning of the exceptional nature of the risks associated with anthropogenic climate change for an extended period of time. Governmental policy, especially in the developed world, and industrial practices have tended in practice to disregard or minimise these risks. There was no doubt a time when concerted preventative action on climate change could have avoided any necessity for emergency measures. A growing body of scientific opinion implies or directly suggests that that time has passed, or is fast retreating. There is evidence that humanity has proceeded beyond the 'safe operating zone' in respect of atmospheric concentrations of GHG emissions.

This paper has sought primarily to deal with the question of *means* to achieving that 'safe' climate zone, presuming that analyses of a nonlinear crisis in the climate system are correct and that 'emergency' policy measures are necessary and appropriate. 'Emergency' programs in this sense refer generally to those proposing serious and significant breaks with existing economic and/or social norms and conditions. This paper has sought to consider the meaning and viability of *legal* means in adoption of 'emergency' measures in response to climate change, and applicability of the legal condition of the 'state of emergency' to climate policy. This question is considered in the Australian legal context, notwithstanding that the political appetite for drastic or radical measures in this country to reduce emissions has, other than in minority quarters, actually receded rather than advanced.

Employment of emergency laws by governments is not in fact especially peculiar. 'Climate emergency' laws would arguably represent an evolution in the model of emergency powers, as well as an evolution in governmental strategy in combating climate change. It is not ostensibly a military, economic or humanitarian emergency. It is a preponderant socio-ecological crisis. To that end, in the Commonwealth context and with regard to relevant international law, exceptional and novel climate change measures might validly be exercised in the sphere of 'external affairs'. The purposive character of the exercise of powers in that governmental sphere accommodates, in principle at least, an 'elasticity' in the valid use of the power, a factor that, as in

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statement in the *Tasmanian Dam Case* (1983) 158 CLR 1, 171: '… it is not necessary that the subject be one of concern demonstrated by the other nation States generally. For example, concern expressed by the world's scientific community or a significant part of it over action or inaction in Australia might be enough to bring a matter within Australian external affairs.'

158 See also *Tasmanian Dam Case* (1983) 158 CLR 1, 161–8 (Murphy J).

159 Kenny, above n 146, 165.

questions of defence, allows for 'proportionate', or 'appropriate and adapted', responses by the Commonwealth to the circumstances of the crisis. I have posed that 'emergency' responses to climate change might be conceived in terms of a 'precautionary' approach. A relevant and adapted body of legal principles operates in respect of the precautionary approach to ecological or environmental questions. This particular calculus of precaution affirms, in consideration of the model of nonlinear (amplifying) destabilisation of the climate system, that 'emergency' measures are warranted. Yet, this supposes determination of the key factual question as to what body of scientific opinion — generally according with this nonlinear, 'catastrophist' model of climate system behaviour, or 'gradualist' and orderly models of system behaviour and change — is correct. From the legal perspective — above all, from the constitutional perspective — this question of fact and the method(s) of determining the question would have profound ramifications for the validity of emergency climate change programs. Were such programs (or key parts of them) challenged as unconstitutional, validity as to their 'proportionality' to objectives, purposes or matters on the international plane (eg *Framework Convention* articles) would turn on proof to the Court's satisfaction that one or the other bodies of scientific opinion are correct. If at present the *Fourth Assessment Report* of the IPCC were taken as definitive of this factual question, there is every chance that 'exceptional' governmental measures to tackle climate change would be held to be invalid: at best, the IPCC in this Report abstained on dealing with the factual question of 'runaway' climate change and positive feedback mechanisms in climate system behaviour. Yet, the science and hence the known factual basis of 'anthropogenic interference in the climate system' is quickly evolving. These circumstances may ultimately change political and policy approaches to climate change. They may also, in the face of governmental (including parliamentary) resolve to exercise a broad-based 'climate emergency', realise a legal instability, where a law declared invalid might become valid as the facts (upon which validity depends) change.[160] If such a political resolve then emerges, the question of constitutional validity of a 'climate emergency' declaration may depend on uncertain and 'highly unsatisfactory'[161] means of 'constitutional fact-finding' in the country's highest court.

160 Zines, above n 139, 650: 'To accept that rules of law can depend on facts is to invite a degree of instability. It must follow that a law declared valid can cease to be so when the material facts change.'

161 Ibid 656.