Climate Change and the Law

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Introduction

[1] Climate change is now generally recognised as perhaps the biggest global challenge of modern times, with a number of countries around the world declaring

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climate emergencies.[3] A brief explanation of the reasons for and effects of climate change is contained in Appendix 1, as well as a summary of likely climate change effects in the colloquium jurisdictions

[2] In this paper we start with a discussion of the challenges posed by climate change. We then discuss the international dimension, including treaties relevant to climate change and human rights instruments, and outline some of the responses to climate change in colloquium jurisdictions. After that, we consider some of the challenges for businesses in the face of climate change. The main body of the paper is devoted to a, necessarily selective, survey of climate change litigation to date. We finish with some predictions for the future of climate litigation.[4]

Challenges of climate change

[3] Climate change is an extremely complex and difficult issue. It crosses jurisdictional boundaries, is rapidly worsening and has the potential to cause unprecedented loss and damage. Yet it is difficult for the human mind to process it as an imminent danger. The exacerbating features are threefold.

[4] First, "time is not costless".[5] Simply put, the more time passes without finding a solution, the harder it will become to do so. Moreover, the worse climate change gets, the more expensive it will be to address it. The continued emission of greenhouse gasses "will cause further and long-lasting changes in all components of

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3 Canada is the only colloquium jurisdiction to have done so, on 17 June 2019. Various local governments in New Zealand and Australia have also declared climate emergencies although neither national government has done so yet. Local government declarations show there is ground-up pressure for climate action: for example the Thames-Coromandel local government in New Zealand is being judicially reviewed by a local environment choice for its decision not to declare a climate emergency (CIV-2019-419-000173). See also, for New Zealand business and family man's daily protests calling for a national climate emergency declaration, Paul Gorman "'Taking stock' before second attempt at declaring New Zealand-wide climate emergency" (23 July 2019) Stuff <www.stuff.co.nz>.

4 This paper is intended as a survey of issues related to climate change that have arisen and might arise for the courts. While we make some predictions as to the direction litigation might take and some comments on possible future developments, we are not to be taken as predicting the outcome of future litigation or whether and how the law may develop in New Zealand. That would be dependent on the legislative context, precedent and the arguments in future cases.

5 Richard Lazarus "Super Wicked Problems and Climate Change: Restraining the present to liberate the future" (2009) 94 Cornell L Rev 1153 at 1160.

the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems".[6]

[5] Second, those best placed to tackle climate change generally do not have an immediate incentive to do so and are the least likely to suffer the most severe consequences.[7] Powerful nations such as the United States of America are major sources of greenhouse gas emissions and their economies have immensely benefited as a result. However, it is least developed nations that are likely to be negatively impacted significantly more than richer countries. Such impacts are exacerbated by a lack of ability to adapt to a changing climate.[8] The result is that richer countries "are not only reluctant to embrace restrictions on their own economies but are less susceptible to demands by other [less powerful but more vulnerable] nations to do so".[9] In Appendix 2, we outline the groups most likely to be affected by climate change and discuss the related issue of climate change displacement.

[6] Thirdly, there is no single institution that has the legal jurisdiction and authority aligned with the global scope of the problem.[10] At the domestic level, the democratic and short-term nature of elected parliaments means effectiveness in regulating climate change is – or at least has been thus far – curbed. To make meaningful changes towards reduction in emissions, people (and governments) will inevitably have to make sacrifices.

[7] The German Advisory Council on Global Change has estimated a greenhouse gas emission budget for the next twenty years to ensure a 67 per cent chance of

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6 Intergovernmental Panel on Climate Change *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (IPCC, Geneva, 2014) [IPCC *2014 Synthesis Report*] at [2.1].

7 Lazarus, above n 5, states for example "The major sources of greenhouse gas emissions include many of the world's most powerful nations, such as the Unites States, which are not only reluctant to embrace restrictions on their own economies but are least susceptible to demands by other nations that they do so. In addition, by a perverse irony, they are also the nations least likely to suffer the most from climate change that will unavoidably happen in the nearer term": at 1160.

8 Eric Posner and David Weisbach *Climate Change Justice* (Princeton University Press, New Jersey, 2010) at 21–26; and Lazarus, above n 5, at 1160.

9 Lazarus, above n 5, at 1160.

10 Lazarus, above n 5, at 1160–1161.

limiting the global temperature increase to 2 degrees Celsius.[11] When divided by the world's population, each person's annual emissions budget is roughly 2.7 tonnes until 2050, and one tonne annually thereafter.[12] One tonne of greenhouse gases is equivalent to driving a standard car for six weeks, flying return from New York to San Francisco or powering a standard family home for four weeks.[13]

[8] Former Prime Minister of New Zealand Sir Geoffrey Palmer has emphasised the short-term nature of climate change thinking to date, saying, "[p]olicy makers have discounted the future in favour of the present, not wishing to face up to the real and adverse political consequences that effective action will require".[14] His comments of course apply to all jurisdictions. [15]

International conventions on climate change

[9] The United Nations Framework Convention on Climate Change (UNFCCC) entered into force on 21 March 1994,[16] and has been ratified by 196 countries.[17] The UNFCCC puts the onus on developed countries to lead the way in stabilising greenhouse gas concentration, given developed countries are the source of most past and current greenhouse gas emissions.[18] As less developed countries face a tension

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11 As further discussed in Appendix 2, scientists have found that anything higher than 2 degrees Celsius will result in "risks of drastic disruption to life-supporting systems"; Douglas A Kysar "What Climate Change Can Do About Tort Law" (2011) 41 Environmental Law 1 at 11.

12 Kysar, above n 11, at 11–12.

13 Kysar, above n 11, at 11–12.

14 Geoffrey Palmer "Can Judges Make a Difference: The Scope for Judicial Decisions on Climate Change in New Zealand Domestic Law" (2018) 49 VUWLR 191 at 193.

15 We note suggestions by commentators that governments are even now not taking a long enough viewpoint. For example, the United Kingdom's Climate Change Act (2008) permits flexibilities in carbon budgeting. Critics have said that using historical carbon savings to count against future carbon emissions targets is "gaming the system" and short-term thinking: see Adam Vaughan "Will the UK use a legal loophole to hit government climate targets?" *NewScientist* (online ed, 4 June 2019).

16 United Nations Framework Convention of Climate Change 1771 UNTS 107 (opened for signature 4 June 1992, entered into force 21 March 1994) [UNFCCC].

17 Australia, Canada and Singapore have all ratified the Convention. The Convention applies to Hong Kong by virtue of a notification by China on 8 April 2003, in accordance with art 153 of the Basic Law of Hong Kong. New Zealand, upon ratification, notified that it excluded the application of the treaty to Tokelau. However it retracted that exclusion on 13 November 2017.

18 For example, developed countries were expected to reduce emissions to 1990 levels by 2000 and agreed to provide financial and technical support for action on climate change to developing countries: art 4.

between achieving economic development and reducing the production of greenhouse gases, the UNFCCC's aim is to limit emissions in a way that will still allow economic progress.[19]

[10] The ultimate objective of the UNFCCC is to stabilize greenhouse gas concentrations "at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system."[20] The UNFCCC states that "[s]uch a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."[21]

[11] After a series of summits and agreements, the most important being the Kyoto Protocol in 1997,[22] parties to the UNFCCC reached a landmark agreement in Paris in December 2015 (the Paris Agreement).[23] The central aim of the Paris Agreement is to "strengthen the global response to the threat of climate change" in

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19 Preamble. See also Appendix 2.

20 Article 2.

21 Article 2.

22 Kyoto Protocol to the United Nations Framework Convention on Climate Change 2303 UNTS 162 (opened for signature 16 March 1998, entered into force 16 February 2005). The Protocol set internationally binding emissions targets that countries must meet through national measures (arts 2 and 5), again placing a higher burden on developed countries under the principle of common but differentiated responsibilities: art 10. The Protocol also created a system of international market-based mechanisms to enable countries to meet targets: arts 6, 12 and 17. There are 192 parties to the Protocol. China's 2002 notification that the Protocol would not apply to Hong Kong in accordance with art 153 of the Basic Law of Hong Kong was revoked in 2003. New Zealand ratified the Protocol in 2002 but has declared that its ratification does not extend to the self-governing territory of Tokelau. Singapore ratified the Protocol in 2006. Australia ratified the Kyoto Protocol in 2007, although it has reserved that it is eligible to apply the second sentence of art 3(7) of the Protocol, which enables certain parties, "for whom land-use change and forestry constituted a net source of greenhouse gas emissions in 1990", to take that into account when calculating emission reduction amounts. Canada notified its withdrawal from the Kyoto Protocol under art 27(2) on 15 December 2011 and that took effect one year later. Canada is the only country to have withdrawn from the Protocol.

23 Paris Agreement (opened for signature 16 February 2016, entered into force 4 November 2016). Australia, Canada and Singapore have all ratified the Agreement without reservation or declaration. New Zealand's ratification included reservation of a territorial exclusion in respect of Tokelau. The Agreement extends to Hong Kong under a declaration made by China in ratifying the Agreement. The United States under the Trump administration in June 2017 signalled that it will withdraw from the Agreement but cannot legally give such notice until three years after it entered into the Agreement, with that withdraw becoming effective one year later (art 28). That means that the US cannot give notice of withdrawal until 4 November 2019.

order to keep a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.[24]

[12] The Paris Agreement requires all countries to put forward "nationally determined contributions" (NDCs) to the global response to climate change and to report regularly on their emissions and on their implementation efforts.[25] Each successive NDC is to represent a progression from the previous one and "reflect its highest possible ambition".[26]

[13] Developed countries are to undertake economy-wide reduction targets, while developing countries are to enhance mitigation efforts and to move in time to economy-wide targets.[27] Developed countries have continued obligations, like in the UNFCCC, to assist developing countries in capacity building.[28] The conservation and enhancement of sinks and reservoirs of greenhouse gases, including forests,[29] is also encouraged, as are voluntary cooperation and market-based approaches to enhance mitigation and support sustainable development.[30] The Agreement establishes a global goal on adaptation and provides for the formulation of national adaption plans.[31]

[14] Finally, the Paris Agreement has a robust and transparent accountability system and information submitted by countries undergoes international technical expert review,[32] with a "global stocktake" to be taken in 2023 and every five years thereafter.[33]

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24 Article 2(1). See also, Appendix 1 for a discussion on the effects of climate change if warming increases to 2 degrees Celsius.

25 Articles 4(2), (8), (9) and (13).

26 Article 4(3).

27 Article 4(4).

28 Articles 9 and 11 in particular.

29 Article 5.

30 Article 6.

31 Article 9.

32 Article 13 outlines the accounting system. Article 13(2) provides for flexibility for different countries and art 13(11) provides for independent expert review.

33 Article 14.

[15] Meeting these commitments requires a change in consumer practice and the valuing of transport, food and energy sources to incentivise climate-friendly living. The United Kingdom's Committee on Climate Change has outlined some of the changes needed: banning the sale of petrol and diesel cars by 2035 at the latest, building about 6,000 more offshore wind turbines to quadruple low-carbon electricity supplies, planting 90 million trees per year until 2050, making flying more expensive, reducing consumption of beef, lamb and dairy by one fifth, and turning a fifth of existing farmland into forest or for biomass crop use.[34]

[16] Currently, according to a recent NGO report, Australia's, Canada's and New Zealand's emissions are on track for a "3 degree world". China's and Singapore's are on track for a "<4degree world". There are five countries whose emissions are considered "critically insufficient" (that they would reach a "4 degree world" by the end of the century) – Russia, Saudi Arabia, Turkey, Ukraine and the USA. [35]

Customary International Law

[17] Customary international law is a source of international law.[36] To have the status of customary law, there must be (a) state practice, which must be consistent and general, except in relation to states that persistently object to the development of the custom, and (b) *opinio juris* – the belief that state practice is legally obligatory.[37]

[18] There is emerging discussion about possible customary international law obligations in relation to climate change, which would be enforceable as part of the common law.[38] In particular, some consider that there is an emerging norm of

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34 Emily Gosden and Ben Webster "Britain must plant billions of trees, says Committee on Climate Change" *The Times* (online ed, 2 May 2019).

35 Climate Action Tracker *Climate crisis demands more government action as emissions rise* (June 2019) <https://climateactiontracker.org>. Climate Action Tracker is an NGO of three research organisations conducting independent scientific analysis of countries' carbon emissions as compared to what is needed to reach the 1.5 degree or 2 degree targets from the Paris Agreement.

36 Statute of the International Court of Justice, art 38(1)(b).

37 See generally Malcolm Shaw *International Law* (8th ed, Cambridge University Press, Cambridge, 2017) at 60–68; and James Crawford *Brownlie's Principles of Public International Law* (9th ed, Oxford University Press, Oxford, 2019) at 22–25.

38 Shaw, above n 37, at 106–112 in relation to the United Kingdom; and see at 126–130 for other common law countries.

customary international law requiring countries to conduct climate assessments concerning activities within their jurisdiction to control the risk of excessive greenhouse gas emissions.[39]

[19] Commentators suggest there is general state practice in this respect,[40] distinct from the well-recognised obligation to conduct environmental assessments in a transboundary context.[41] However, commentators question whether the *opinio juris* element has been sufficiently met.[42]

Human Rights Instruments

[20] Various aspects of human security are implicated by climate change. This in turn implicates human rights.[43] The impact of climate change on ecosystems engages the rights to water and sanitation, to health, to life, to food, to an adequate standard of living, to housing, to property, and even to self-determination. The impact of climate change on physical infrastructure and human settlements engages similar rights, with people who live in informal settlements and hazardous areas, as well as people vulnerable because of their age, income, or disability, more affected. People who live in rural areas are also likely to be adversely affected, which has implications for human health, livelihoods, incomes and migration patterns. Climate change will also exacerbate other stressors which threaten human rights, such as political instability, and increase in prices of food, water and energy. Moreover, poverty and political instability undermine the ability of individuals and communities to adapt to climate change.[44]

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39 Benoit Mayer "Climate Assessment as an Emerging Obligation under Customary International Law" (2019) 68 ICLQ 271.

40 At 282–289.

41 At 276–280.

42 At 289–293.

43 See generally United Nations Environment Programme *Climate Change and Human Rights* (December 2015) at 5 [UNEP *Climate Change and Human Rights*], pt I.

44 See also Appendix 2.

[21] Many of these rights are found in international human rights instruments, namely the International Convention on Civil and Political Rights (ICCPR)[45] and the International Convention on Economic, Social and Cultural Rights (ICESCR).[46] The ICCPR provides for the right to self-determination (art 1), the right to life (art 6) and the ICESCR provides for the right to work (art 6), to an adequate standard of living, including adequate food, clothing and housing (art 11), and the right to health (art 12). The ICCPR and ICESR also contain procedural rights, such as the right to seek, receive and impart information,[47] the right to take part in government and the conduct of public affairs,[48] and the right to an effective remedy for human rights violations.[49]

[22] The United Nations Environment Programme considers that, at a minimum, these rights require states to assess and disclose environmental impacts, and effectively communicate those impacts to affected peoples.[50] More specifically, the Programme considers that five types of obligations may be required to respond to these human rights concerns:[51]

(a) adaptation to protect people against the effects of climate change;

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45 International Covenant on Civil and Political Rights 999 UNTS 171 (opened for signature 19 December 1966, entered into force 23 March 1976) [ICCPR]. Australia, Canada and New Zealand have ratified the ICCPR, with New Zealand reserving its ratification regarding the self-governing territory of Tokelau. Hong Kong falls under the ICCPR under the United Kingdom's ratification, with the UK government making reservations as to various articles. Upon resuming the exercise of sovereignty over Hong Kong, China notified the treaty depositary that the ICCPR will apply to Hong Kong. Singapore is neither a signatory or a party to the ICCPR.

46 International Covenant on Economic, Social and Cultural Rights 993 UNTS 3 (opened for signature 19 December 1966, entered into force 3 January 1976) [ICESCR]. Australia, Canada and New Zealand have ratified the ICECSR, with New Zealand reserving its ratification regarding the self-governing territory of Tokelau. The ICECSR applies in Hong Kong pursuant to China's notification on 20 June 1997. When Hong Kong was under the United Kingdom's jurisdiction, the United Kingdom had reserved against the applicability of various articles to Hong Kong for example in relation to trade unions. Those reservations were not continued by China when Hong Kong came back under Chinese rule. Singapore is neither a signatory or a party to the ICECSR.

47 ICCPR, above n 45, art 19.

48 ICCPR, above n 45, art 25.

49 ICCPR, above n 45, art 2(3).

50 UNEP *Climate Change and Human Rights,* above n 43, at 18.

51 UNEP *Climate Change and Human Rights,* above n 43, at 19.

(b) mitigation by way of domestic regulation of greenhouse gas emissions;

(c) participation and cooperation in international negotiations for a global climate agreement;

(d) mitigation of the effects of states' activities on people outside their jurisdiction; and

(e) an obligation to ensure that adaptation and mitigation efforts themselves do not violate human rights.

[23] The right to life and the right to family life are most clearly connected to climate change. As we discuss below, they are also well-litigated as human rights have been the focus of much of European climate litigation (as compared, for example, with the focus on torts in the United States). The leading Dutch case, *Urgenda Foundation v Kingdom of the Netherlands*,[52] considered arts 2 and 8 of the European Convention of Human Rights (ECHR).[53]

[24] It is also worth noting that some decisions under human rights treaties have suggested that there is a specific right to a healthy environment not dependent on the other named rights but deriving from them. In 2018, for example, the Inter-American Court of Human Rights recognised, in an advisory opinion, an "autonomous" right to a healthy environment, and extraterritorial responsibility for environmental damage under the American Convention of Human Rights.[54] In 2017, the Irish High Court held that there was a personal constitutional right to an environment.[55] The High Court considered the right to the environment consistent

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52 *Urgenda Foundation v Kingdom of the Netherlands* (The Hague Court of Appeal, [2018] HAZA C/09/456689, 9 October 2018) [*Urgenda* Hague CA].

53 Below at [44]–[47][48].

54 OC-23/18 *The Environment and Human Rights (Advisory Opinion)* (2017) Inter-Am Ct HR (series A) No 23, available in Spanish at <www.corteidh.or.cr>; official summary issued by the Court available in English at the same website. The Court considered the right "autonomous" as it was distinct from the environmental aspects of the rights to health, life or to personal integrity: see official summary.

55 *Friends of the Irish Environment v Fingal County Council* [2017] IEHC 695. This was an "unenumerated" constitutional right, which can be found under art 40 of the Irish Constitution by the courts without usurping the constitutional role of Parliament. Note that while the Court found such a right to exist, it did not prevail in the actual case as the applicant did not have the right to participate in the extension decision under s 42 of Planning and Development Act 2000 in relation to the Dublin airport extension and, as such, the applicant failed to establish any disproportionate interference with that right.

with the human dignity and the well-being of citizens at large and "an essential condition for the fulfilment of all human rights",[56] including rights to life, to work, and to private property.[57] Constitutional academics in New Zealand, in putting the case for New Zealand adopting a written constitution, also support the inclusion of a specific right to a healthy environment and to environmental protections.[58]

[25] In monist jurisdictions, human rights treaties will be directly enforceable domestically. In dualist jurisdictions that is not the case but they should nevertheless inform executive action[59] and are required to be reported on periodically by states at the international and the regional level.[60]

[26] Finally on this topic, we note that many of the rights covered above will also be reflected in constitutions with Bill of Rights[61] and in non-constitutional Bills of

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56 At [264].

57 At [263].

58 Geoffrey Palmer and Andrew Butler *Towards Democratic Renewal: Ideas for Constitutional Change in New Zealand* (Victoria University Press, Wellington, 2018); see art 26 of their proposed constitution.

59 In relation to New Zealand, see *Helu v Immigration and Protection Tribunal* [2015] NZSC 28, [2016] 1 NZLR 298 at [143]–[145] and see also Alice Osman "Demanding Attention: the Roles of Unincorporated International Instruments on Judicial Reasoning" (2014) 122 NZJPIL 345. Where ambiguous, Australian courts will favour interpretations of statute that accord with Australia's international treaty obligations, including in judicial review of executive action: see *Minister for Immigration & Ethnic Affairs v Teoh* (1995) 183 CLR 273 at 287–288 and *Minister for Immigration and Multicultural Affairs; Ex parte Lam* [2003] HCA 6, (2003) 214 CLR 1 at [100]. Note that in *Tajjour v State of New South Wales* [2014] HCA 35 (2014) 254 CLR 508 Hayne J (the only judge to consider the point) held that the case before the Court was different from *Lam* and that a state legislating "in a manner inconsistent with an unincorporated treaty does not intersect with, let alone interfere with, any aspect of the executive power of the Commonwealth": at [98].

60 For example, the African Commission on Human Rights and Peoples' Rights reviews compliance with the African Charter on Human and Peoples' Rights, the European Court of Human Rights deals with alleged violations of the European Convention on Human Rights, and the Inter-American Commission on Human Rights covers hearing on a range of human rights concerns in the American region. On an international level, parties to the first Optional Protocol to the International Covenant on Civil and Political rights may lay complaints with Human Rights Committee (Australia, Canada and New Zealand are signatories to the first Optional Protocol).

61 For example, Canadian Charter of Rights and Freedoms, pt 1 of the Constitution Act 1982, being sch B to the Canada Act 1982 (UK); and Hong Kong Bill of Rights Ordinance, Cap 383.

Rights[62] and thus, depending on the scope of those Bills of Rights, may be directly enforceable through the courts.

Responses to climate change

[27] All colloquium jurisdictions have action plans to address climate change. All five jurisdictions' actions plan include direct commitments to the Paris climate change conference in setting emissions targets for 2030.[63] Some of the colloquium jurisdictions also have legislation dealing specifically with climate change.[64]

[28] In Australia, for example, the Climate Change Authority Act 2011 established the Climate Change Authority. Its role is to review various climate change policies.[65] We note also the Canada Emission Reduction Incentives Agency Act SC 2005 and the National Environment Agency Act 2002 (SG).[66] The Climate Change Response Act 2002 (NZ) is another piece of bespoke climate change litigation,

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62 For example, New Zealand Bill of Rights Act 1990; Human Rights Act 2004 (ACT); and Victorian Charter of Human Rights and Responsibilities Act 2006 (Vic).

63 See for example, *Hong Kong's Action Plan 2030+* (Environment Bureau, January 2017); *Take Action Today for a Sustainable Future* (Sustainable Singapore, Climate Action, 2018); *Australia's 2030 climate change target* (Australian Government, 2015); *Pan-Canadian Framework on Clean Growth and Climate Change: Canada's Plan to Address Climate Change and Grow the Economy* (Environment and Climate Change Canada, Quebec, 2016); and Ministry for the Environment "The transition to a low-emissions and climate-resilient Aotearoa New Zealand" (16 July 2019) Ministry for the Environment <https://www.mfe.govt.nz>.

64 The possible effect of investment treaties and trade agreements with regard to climate change measures are discussed in Appendix 3.

65 In July 2019 the Authority released a consultation paper on how Australia can meet its commitments under the Paris Agreement: Climate Change Authority *Updating the Authority's Previous Advice on Meeting the Paris Agreement: Consultation Paper* (Commonwealth of Australia, Climate Change Authority, July 2019).

66 The Canada Emission Reduction Incentives Agency Act established the Canada Emission Reduction Incentives Agency the statutory objective of which is to provide incentives for the reduction or removal of greenhouse gases through the acquisition of credits resulting from the reduction or removal of greenhouse gasses; s 8. The National Environment Agency Act established the National Environment Agency. The National Environment Agency's functions and duties are many and include research, investigation, managing and regulating air emissions, regulating disposal facilities and promoting energy efficiency.

designed to enable New Zealand to meet its international climate change obligations (among other things).[67]

[29] Further examples of legislation relevant to climate change include statutes dealing with carbon pricing,[68] energy supply,[69] and consent and planning.[70] Some of this legislation is general environmental legislation, rather than specifically targeted to climate change. For example, in relation to consent and planning, New Zealand's Resource Management Act 1991 is primarily an Act to promote the sustainable management of natural and physical resources. However, it has been relied on to further climate change action.[71]

[30] It is fair to say that all our jurisdictions have faced criticism for not doing enough to limit climate change. In Australia, such criticisms were recently aired by a former Prime Minister Malcolm Turnbull.[72] The Paris Watch Climate Action Report, published by NGO Carbon Care Inno Lab in December 2018, assessed Hong Kong's contribution to the Paris Agreement goals.[73] It found Hong Kong is "far from achieving its responsibility towards the Paris Climate Agreement goals".[74] Specifically, it noted that no dedicated climate authority has been created, resulting

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67 The Act established a legal framework to enable New Zealand to meet its international obligations under the Kyoto Protocol and the UNFCCC. It also established New Zealand's emissions trading scheme under which the Minister of Finance is given the power to manage New Zealand's holdings of units that represent the target allocation for greenhouse gas emissions under the Protocol and enables the Minister to trade those units on the international market. The Act also established a national inventory agency to record and report information relating to greenhouse gas emissions: see "Climate Change Response Act" Ministry for the Environment 2002 (3 July 2018) <www.mfe.govt.nz>.

68 See for example, Australian National Registry of Emissions Units Act 2011 (Cth); Greenhouse Gas Pollution Pricing Act SC 2018 (CAN); and Climate Change Response Act 2002 (NZ).

69 See for example, Canada Foundation for Sustainable Development Technology Act SC 2001; Energy Efficiency and Conservation Act 2000 (NZ); and Energy Market Authority of Singapore Act (Cap 92B, 2002 Rev Ed);

70 See for example, Environmental Impact Assessment Ordinance 1993 (Cap 499) (HK); and Resource Management Act 1991 (NZ).

71 See below, at [81]. Litigation on the relationship between climate change and consent and planning legislation has also begun in Australia, see below at [90].

72 "Liberals can't deal with climate change says Turnbull" *Weekend Australian* 20 July 2019. See for further commentary, "Australia Wilts from Climate Change. Why Can't Its Politicians Act?" *The New York Times* (21 August 2018).

73 Paris Watch *Paris Watch Climate Action Report: Hong Kong's Contribution to the Paris Agreement Goals* (Carbon Care Inno Lab, December 2018). See also "Hong Kong lacking in leadership to deal with climate change" *South China Morning Post* 14 December 2018.

74 At 5.

in a significant gap in climate change governance, and the appropriate share of the carbon budget has not been defined.[75]

[31] In Canada on 2 April 2019, the outgoing Federal Environmental Commissioner warned that Canada was not doing enough to reduce greenhouse gas emissions and said that successive federal governments have failed the reduction targets and Canada was not ready to adapt to the changes.[76] Climate Action Tracker, an independent scientific analysis produced by three research organisations, has rated Singapore's 2030 goal as "highly insufficient".[77]

[32] In New Zealand, we have just seen the introduction of a Bill to set new greenhouse gas emissions reduction targets to net zero by 2050, following a long campaign from non-governmental organisations.[78] The draft Bill has faced criticism for not binding the government and for excluding methane from the zero emission targets set for other greenhouse gases.[79] Another important criticism the New Zealand Bill has faced is the inclusion of a privative clause that would restrict future climate change litigation to declaratory remedies only.[80] Commentators have identified this as possibly being contrary to the principle of non-regression in international environmental law.[81]

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75 At 19–25.

76 "Canada not doing enough to fight climate change, federal environmental commissioner warns" *The Globe and Mail* 2 April 2019.

77 Climate Action Tracker "Singapore: Country Summary" (2019) Climate Action Tracker <https://climateactiontracker.org>. "High insufficient" commitments are defined as those that "fall outside the fair share range and are not at all consistent with holding warming to below 2 degrees Celsius let alone within the Paris Agreement's stronger 1.5 degrees Celsius limit. If all government targets were in this range, warming would reach between 3 degrees Celsius and 4 degrees Celsius". See also for example, "Wealthy Singapore Resits Tough Domestic Climate Action" *Scientific American* 15 October 2015.

78 Climate Change Response (Zero Carbon) Amendment Bill 2019 (136-1).

79 See New Zealand Law Society *Climate Change Response (Zero Carbon) Amendment Bill Submission* (16 July 2019) at [30] and [37]–[42] in particular; Russel Norman "Russel Norman: Toothless Zero Carbon Bill has bark but no bite" (8 May 2019) Greenpeace New Zealand <www.greenpeace.org>; and Kate Gudsell "Climate change plan: 'Setting the bar so low'" (9 May 2019) RNZ <www.rnz.co.nz>.

80 Trevor Daya-Winterbottom "Zero Carbon, climate justice and privative clauses" (2019) 12 BRMB 173 at 173.

81 Global Pact for the Environment 2017, art 17. The United Nations General Assembly has established an open-ended working group to devise a legally binding international instrument, envisaged as sitting alongside ICCPR and ICESCR: *Towards a Global Pact for the Environment* GA Res 72/277 (2018).

[33] We are not to be taken as making any comment as to whether the criticism of climate change responses in colloquium jurisdictions are justified. We note examples of criticism because critics may well seek to air such issues in the courts. The legislation and action plans discussed above may provide (and in some cases already have) provided a focus for such litigation.

Business and climate change

[34] Corporations are significant polluters: the so-called Carbon Majors (100 fossil fuel producers) have produced 52 per cent of global industrial greenhouse gases since the industrial revolution.[82] However, corporations also face significant challenges arising out of climate change such as disrupted supply chains, physical damage to assets, changed market demand, and possible suits for breaching human rights or financial risk management laws.[83] Such challenges could be sudden and catastrophic or gradual onset.

[35] Often supply chains are outsourced to least developed countries which, as we have discussed, will be most affected by climate change due to their equatorial location as well as lack of infrastructure to adapt and mitigate. Risk of losses from physical damage to assets is particularly pertinent for refinery corporations, which tend to be located by the coast,[84] a location facing increased risk from sea level rise and increased intensity and frequency of storms. There could also be disruption to production capacity and increased costs, for instance through diminished water supplies.[85]

[36] Beyond responding to physical effects of climate change, business challenges also include more immediate transition risks such as write-offs, new competitive

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82 Paul Griffin *The Carbon Majors Database: CDP Carbon Majors Report 2017* (Carbon Disclosure Project, United Kingdom, 2017) at 5.

83 Alice Garton "The Legal Perspective: Climate Change's Influence on Future Business Ventures" (Keynote address, European Refining and Technology Conference, Cannes, France, 28 November 2018).

84 Garton, above n 83.

85 Glacial retreat in the Himalayas will impact the water flow in the biggest rivers in Asia, which hundreds of millions of people rely on for fresh water across the Asian continent: "Glaciers are Retreating. Millions Rely on Their Water" *The New York Times* (online ed, 15 January 2019).

pressures, changes in consumer demand for more sustainable products, and the costs of adaptation.[86] Even though some markets will grow, rather than decline, most markets will be disrupted.

[37] Companies that do not (adequately) respond to climate change face legal risk, ranging from the possibility of being sued for breaching human rights or, as climate change becomes a financial issue rather than an ethical one, for breaching directors' duties and corporate disclosure and financial risk management laws. We expand on this strand of litigation in the discussion that follows.

Climate change litigation

[38] Climate change litigation is a burgeoning area. As at May 2019, cases identified as climate change litigation had been filed in 31 countries.[87] What follows in this part of the paper is a necessarily selective discussion of some of these cases with a view to identifying issues that may arise for litigation in this area in the future and to highlight possible developments.

[39] As will be shown, causes of action in these cases vary. Claims have been brought in private and in public law. As a recent United Nations report states, with some notable exceptions, governments are commonly the defendants in climate change cases.[88] In terms of plaintiffs, as at 2017, corporations featured prominently. Governments and individuals are the next most represented, followed by Non-Governmental Organisations (NGOs).[89]

[40] There are a number of ways of categorising climate change litigation. One commentator, for example, describes three broad trends in the litigation in this area, "climate change as a rights based issue; … as a financial issue; and increasing

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86 Garton, above n 83.

87 See "Climate Change Litigation Database" (2019) Sabin Centre for Climate Change Law <www.climatechangecasechart.com>; contrast the 2014 survey in United Nations Environment Programme *The Status of Climate Change Litigation: A Global Review* (May 2017) [UNEP *The Status of Climate Change Litigation*] which showed climate change litigation had been brought in 12 countries.

88 UNEP *The Status of Climate Change Litigation*, above n 87, at 14.

89 At 14.

oversight and enforcement of existing laws".[90] We adopt categories which essentially mirror the categorisation used in the LSE Grantham Research Institute's database on Climate Change and the Environment but with one addition.[91] The Grantham categories are as follows: first, using climate change litigation to hold governments to account for policy and legislative commitments, usually in reducing greenhouse gasses. Second, litigation as a form of climate change regulation, including both direct and indirect regulation. Third, using litigation to protect an individual or group's enjoyment of the environment, or as a way of recompensing for damage or loss suffered. Finally, to enforce good corporate governance, including obtaining disclosure of information relating to climate change. The categories inevitably overlap. Our additional category relates to litigation by indigenous peoples.

[41] We have identified the relationship between the role of litigation and government action, or inaction, on climate change (including commitments, policies and legislation) as the most significant strand of litigation. While there have been some advances in private litigation, it remains a complex area fraught with doctrinal difficulties. Private litigation may contribute to a necessary shift in thinking about emissions and responsibility for emissions, as well as potentially hindering larger emitting corporations. But we see litigation involving governments and statutory interpretation as offering the greatest potential in terms of developments. We expand on this below.

Holding governments to account for climate change commitments and obligations owed to citizens

[42] As governments make legislative and policy commitments to address the issue of climate change (usually through a reduction in greenhouse gasses)[92] actions are being taken to ensure adherence to these commitments. Domestic legislation and international agreements generally provide the measuring stick against which government action is assessed. In addition, since its adoption in 2016, the Paris

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90 Garton, above n 83.

91 "Climate Change Laws of the World" (2019) LSE Grantham Research Institute on Climate Change and the Environment <www.lse.ac.uk> (although simplified).

92 See above at [27]–[33].

Agreement has been described as providing "a novel and unique anchorage for law suits of this sort".[93] Aside from explicit climate change commitments, plaintiffs have also relied on duties and obligations owed to citizens in a broader sense which may be breached by government inaction.

[43] The uniting thread is action taken to try to hold governments to account, whether that be for climate change commitments, or obligations owed in the face of climate change impacts. Jurisdictional hurdles in a number of these cases have been overcome. The causes of action employed in doing so has been varied.[94]

[44] The ground-breaking case in this area was *Urgenda Foundation v Kingdom of the Netherlands.*[95] The Urgenda Foundation, a citizens' platform involved in developing measures to prevent climate change, issued proceedings against the Dutch Government, acting for itself and 900 Dutch citizens. As the Hague Court of Appeal noted, *Urgenda* essentially sought orders that the Government "achieve a level of reduction of greenhouse gas emissions by end-2020 that [was] more ambitious than envisioned by the State in its policy".[96] Various lines of argument were raised, premised on the claim that the State would be acting unlawfully if it failed to reduce the annual greenhouse gas emissions by at least 25 per cent compared to 1990, by the end of 2020. It was argued that to fail to do so would be to act contrary to the duty of care owed by the State towards *Urgenda* and Dutch society.

[45] The Hague District Court found for the plaintiffs, deciding that the State owed a duty of care to *Urgenda* and that the current greenhouse gas emissions

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93 UNEP *The Status of Climate Change Litigation*, above n 87, at 17.

94 There is some cross-over between cases in this category and cases seeking protection from, or compensation for, loss or damage from climate change effects. This part of the paper focuses on how the action or inaction by governments in relation to climate change interacts with duties.

95 *Urgenda* Hague CA, above n 52. For discussion as to whether the *Urgenda* reasoning would be successful in Australia, Canada or New Zealand, see respectively Tim Baxter, "Urgenda-style climate litigation has promise in Australia" [2017] AER 70; Michael Slattery "Pathways from Paris: Does *Urgenda* Lead to Canada? (2017) 30(3) JELP 241; and Darnell Hanson "Would the Urgenda case fly in New Zealand" (1 December 2018) Deconstructing Paris <www.paristext2015.com>.

96 At [1]. The State did not want to commit to more than 20 per cent reduction relative to 1990 by 2020, as agreed at EU level.

targets breached that duty.[97] That decision was subsequently upheld in the Hague Court of Appeal although on a different basis.[98] The Court of Appeal based its decision on the State's legal duty to ensure the protection of the right to life and the right to private life and family life, as found in arts 2 and 8 of the ECHR.

[46] In terms of art 2, the Court said the right to life includes "environmental-related situations that affect or threaten to affect the right to life"[99] and that art 8 could also apply in "environment-related situations" if an act or omission adversely affects the home and/or private life of the citizen and if that adverse effect has reached a certain minimum level of severity.[100] The Court also held that both arts 2 and 8 have positive elements – requiring the state to take concrete action to prevent future infringements. A future breach of these interests existed where there was a danger of the interest being affected by an act, activity or natural event. "In short", the Court said the State's positive obligations under the ECHR apply to:[101]

> all activities, public and non-public, which could endanger the rights protected in these articles, and certainly in the face of industrial activities which by their very nature are dangerous. If the government knows that there is a real and imminent threat, the State must take precautionary measures to prevent infringement as far as possible.

[47] The Court then addressed the climate change concerns by reference to this approach. In reaching the view the challenged targets were inconsistent with arts 2 and 8, the Court did not see two of the aspects generally seen as problematic for climate change litigation as insurmountable. First, the Court rejected the State's argument that the emissions were minimal and this was a global problem. The Court acknowledged the State could not solve the problem on its own so one emission

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97 *Urgenda Foundation v Kingdom of the Netherlands* (The Hague District Court, [2015] HAZA C/09/456689, 24 June 2015) [*Urgenda* Hague DC], relying on the Dutch Civil Code, art 6: 162 definition of "tortious act"; and art 21 of the Constitution.

98 *Urgenda* Hague CA, above n 52. See also the discussion in Saul Holt and Chris McGrath "Climate Change: Is the Common Law Up to the Task?" (2018) 24 AULR 10 at 26.

99 At [40].

100 At [40].

101 At [43]. A similar approach was adopted in Pakistan in *Leghari v Federation of Pakistan* 92015 WP No 25501/201 relying on rights in the Constitution; see also UNEP *The Status of Climate Change Litigation*, above n 87, at 15–16.

change was not a panacea but the Court did not see that as releasing the State from its obligations.[102]

[48] Next, the State's defence based on the lack of a causal link was also rejected. Causation was seen as having a more limited role. First, because this was a claim for an order not for damages so causality played a "limited" role.[103] It was sufficient that there was a "real risk of the danger" for which the measures were necessary. Secondly, if the State's argument was accepted, there would be no "effective legal remedy" for this complex global problem.[104]

[49] Finally, the Court also rejected the State's argument based on the trias politica (separation of powers) and on the constitutional role of the courts. That was because the courts were obliged to apply those provisions with "direct effect of treaties to which the Netherlands is party" which included arts 2 and 8.[105] The judgment of the District Court was accordingly upheld. The Court's reasoning in *Urgenda* employed the urgency and importance of climate change in navigating common hurdles such as *de minimis* arguments relating to causation.

[50] The Supreme Court of the Netherlands has heard an appeal by the government from the Court of Appeal decision. A judgment has not yet been issued.[106]

[51] Since *Urgenda*, similar decisions have begun to emerge in other jurisdictions. New Zealand's leading case, *Thomson v Minister for Climate Change Issues,* was brought by way of judicial review challenging the Government's responses to climate change and, in particular, two greenhouse gas emissions targets.[107] The

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102 At [61]–[62].

103 At [64].

104 At [64].

105 At [69].

106 "Climate Case Explained" Urgenda (2019) <www.urgenda.nl>.

107 *Thomson v Minister for Climate Change Issues* [2017] NZHC 733, [2018] 2 NZLR 160. *Pembina Institute for Appropriate Development v Attorney-General of Canada* (2008) 80 Admin LR (4th) 74, [2008] FC 302 is another illustration of judicial review. This was a claim brought by Ecojustice and other non-profit organisations relating to an oil sands mine. One of the arguments was a failure to consider a mandatory relevant consideration relating to climate change (greenhouse gas emissions).

greenhouse gas emissions targets in issue in that case were set under a National-led government in office from 2008 to 2017. That Government had campaigned on the basis New Zealand should meet its fair share of emission reductions but should not set out to be a world leader.[108]

[52] The plaintiff, a law student, pleaded four causes of action. The first concerned whether the relevant Minister was required to review the 2050 target for the reduction of greenhouse gasses under domestic legislation, the Climate Change Response Act 2002, in light of the Fifth Assessment Report (the AR5) of Intergovernmental Panel on Climate Change (the IPCC).[109] The second cause of action alleged that in deciding on New Zealand's Nationally Determined Contribution (NDC) under the Paris Agreement, the Government failed to take into account relevant factors, including matters such as the costs of dealing with the adverse effects of climate change and that the scientific evidence showed the inadequacies of the responses to climate change.[110] The third cause of action averred that the NDC decision was unreasonable and irrational. The final cause of action was for mandamus in relation to the NDC decision.

[53] The first cause of action was overtaken by events after the hearing and consequently rendered moot. Since the case was heard there was a change of government in New Zealand and the new Government announced an intended new 2050 target. The Judge nonetheless considered the cause of action and construed the relevant provisions of the domestic legislation. The Act required the Minister to set the target after consultation. The target set was consistent with the IPCC Fourth Assessment IPCC report (AR4)[111] but Mallon J concluded that a new IPCC report (AR5) required the relevant Minister to review the target set under the Act. In other words, the IPCC report was a relevant mandatory consideration. Because this aspect of the case was moot, the Judge made no order directing a review of the target or a declaration.[112]

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108 See for example, John Key "50 by 50: New Zealand's Climate Change Target" (Speech to Northern Regional Conference, Whangarei, 13 May 2007).

109 At [73].

110 At [99].

111 At [97].

112 The latter would be "of historic interest only": at [98].

[54] On the second and third causes of action relating to the 2030 target communicated under the Paris Agreement, the key point to be taken from the case is that the Judge found this aspect was justiciable. The question of justiciability arose from the fact the 2030 target was not set under the Climate Change Response Act or under any other domestic legislation. Rather, it was a target "communicated to the Convention Secretariat pursuant to New Zealand's international obligations under the Paris Agreement".[113] In concluding the Court could review the NDC decision, Mallon J first rejected the government's arguments relating to the source of the power. The government had relied on the fact the international obligations in issue were not incorporated into domestic law as the basis for the submission compliance with the obligations was accordingly a political matter. The Judge did not see that as determinative.[114] No reasons were given for that conclusion.[115]

[55] Second, the Court addressed the government arguments the subject-matter was not justiciable including because it was the area of government, and not for the courts to set such policy. Target setting involved decisions of socio-economic and financial policy, requiring the balancing of many factors. That meant it was not susceptible to a legal yardstick, and that the assessment was appropriately made by those elected by the community. But the Judge rejected the argument that climate change was a no go area for the courts, notwithstanding that Governments' obligations arose under international agreements, notwithstanding that the problem is a global one and a country's actions cannot prevent harm to its country's environment and its people, and notwithstanding the complexity of the science. In doing so, Mallon J considered decisions on the justiciability of government responses to climate change in other jurisdictions, referring to *Massachusetts v Environmental Protection Agency*,[116] *Juliana v United States*,[117] *Friends of the Earth v Canada*,[118] *Client Earth v Secretary of State*[119] and *Urgenda*.[120]

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113 *Thomson*, above n 107, at [101].

114 At [103].

115 At [103].

116 *Massachusetts v Environmental Protection Agency* 549 US 497 (2007), 127 S Ct 1438 (2007).

117 *Juliana v United States* 217 F Supp 3d 1224 (DC Or, 10 November 2016).

118 *Friends of the Earth v Canada* [2008] 3 FC 1183, [2009] 23 FCR 2001 – judicial review under the Kyoto Protocol Implementation Act SC 2007

[56] While acknowledging these cases were different from the present one, Mallon J considered they illustrated that "it may be appropriate for domestic courts to play a role in government decision making" concerning climate change policy.[121] The Judge noted the courts did not treat climate change as a non-justiciable area "whether because the state had entered into international obligations, or because the problem is a global one …, or because of the complexity of the science".[122] Rather, the courts have "recognised the significance of the issue for the planet".[123] Against this background the Judge said:[124]

> The various domestic courts have held they have a proper role to play in Government decision making on this topic, while emphasising that there are constitutional limits in how far that role may extend. The IPCC reports provide a factual basis on which decisions can be made. Remedies are fashioned to ensure appropriate action is taken while leaving the policy choices about the content of that action to the appropriate state body.

[57] Another relevant point for present purposes is the observation that justiciability issues depend on the ground of review rather than the subject-matter. Mallon J considered the subject-matter (here, climate change) "may make a review ground more difficult to establish, but it should not rule out any review by the Court".[125] The importance of the matter for everyone was such as to warrant "some scrutiny of the public power in addition to accountability through Parliament and the General Elections".[126]

[58] Nevertheless, when it came to consider the target set by the Government, the Judge said that while a differently constituted government might have set the targets differently, that did not mean the targets set were outside the proper bounds of the Minister's power even if the targets set were an insufficient response to the dangerous climate change risk. It weighed with her that the Minister was making

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119 *Client Earth v Secretary of State* [2015] UKSC 28, [2015] 4 All ER 724 – judicial review of alleged non-compliance with EU directive as to nitrogen dioxide air quality.

120 *Urgenda* Hague CA, above n 52.

121 *Thomson*, above n 107, at [134].

122 At [133].

123 At [133].

124 At [133].

125 At [134].

126 At [134].

decisions as to the share of the burden of carbon reduction New Zealand will bear. And that the Minister was weighing that cost against economic considerations. The Judge accordingly found there was no reviewable error made in relation to the NDC decision. It was not necessary then to consider the fourth cause of action.

[59] *Thomson* is an important case for New Zealand climate change litigation jurisprudence. Although the plaintiff was ultimately unsuccessful, like *Urgenda*, it demonstrates the willingness of the High Court to adjudicate on climate change issues, influenced by the growing body of climate change litigation throughout the world. Mallon J determined that climate change issues were justiciable and she also suggested that in the taxonomy of public law, these cases may merit an earnest level of scrutiny.[127] The scope of the boundaries between courts and the executive and legislative branches of government was touched on, but will no doubt be the subject of future discussion. As will Mallon J's observation the absence of incorporation of the relevant obligation into domestic law was not determinative. This aspect may also have a flow on effect on statutory interpretation, as will be discussed below.

[60] Another strand of this type of litigation has emerged in the United States of America. Actions have been brought under the public trust doctrine, alleging that a fiduciary duty exists requiring the State to protect the trust property against damage or destruction. The trust property in natural resource cases "consists of a set of resources important enough to the people to warrant public trust protection".[128]

[61] *Juliana v United States of America,* is perhaps the most famous of these cases.[129] In *Juliana*, environmental activists (aged between 8 and 19 years of age) brought an action for declaratory and injunctive relief against the United States, the President and various executive agencies. They alleged that greenhouse gas emissions were causing climate change and asserted violations of both substantive due process and the defendants' obligations to hold natural resources in public trust.

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127 At [134].

128 *Juliana*, above n 117, at [60]–[61]. Brian Preston "Mapping Climate Change Litigation" (2018) 92 ALJ 774 at 777 notes that the public trust doctrine has its genesis in Roman law, "specifically in the property concept of *res communis*".

129 *Juliana*, above n 117.

[62] The District Court of Oregon dismissed the defendants' application to summarily dismiss the action for lack of subject-matter jurisdiction and failure to state a claim. In doing so, the Court concluded first that the claim was justiciable. That was because, "at its heart" the Court was being asked to determine whether the defendants had breached the plaintiffs' constitutional rights.[130] While there might be issues in terms of any appropriate remedy, that was a matter for the future.

[63] Second, the Court said the plaintiffs had done enough to demonstrate standing. That required consideration of a number of factors. The first of these factors is whether the plaintiffs alleged injuries comprising "harm to their personal, economic and aesthetic interests" which were "concrete and particularised".[131] The Court gave a number of examples to illustrate why that limb was satisfied including:[132]

> … Lead plaintiff … alleges algae blooms harm the water she drinks, and low water levels caused by drought kill the wild salmon she eats. … [Another] Plaintiff … alleges increased wildfires and extreme flooding jeopardize his personal safety. … [and another] Plaintiff … alleges record-setting temperatures harm the health of the hazelnut orchard on his family farm, an important source of both revenue and food ….

[64] The plaintiffs had also shown they met the associated limb of the standing test, namely, imminence. That required demonstrating injuries that were "ongoing or likely to recur".[133] On this aspect the Court noted, for example, the allegation of current and future harm from "ocean acidification and rising sea levels" and of damage to freshwater resources "now and in the future" absent immediate action to reduce CO_2 emissions.[134]

[65] The next aspect of standing was causation. That required consideration of whether the link between the defendants' action and the harm to the plaintiffs was "more than attenuated".[135] The plaintiffs relied in this respect on the contribution made by fossil fuels to the United States' CO_2 emissions (94 per cent). Second, the

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130 At [17].
131 At [27]–[29].
132 At [26].
133 At [30]–[32].
134 At [30]–[32].
135 At [33]–[34].

plaintiffs relied on what they described as the failure of the defendants to take action available to them. For example, to set emission standards in various sectors. These two aspects were found to be sufficient at the interlocutory stage to show a causal link.

[66] The final aspect of standing involved looking at the connection between the alleged injury and the relief sought. It was enough for this inquiry to show "that the requested remedy would 'slow or reduce' the harm".[136] Again, the Court found this test was met where the plaintiffs sought an order the defendants "prepare and implement an enforceable national remedial plan to phase out fossil fuel emissions and draw down excess atmospheric CO_2".[137]

[67] Next the Court rejected the argument the plaintiffs' due process claims had not adequately alleged infringement of a fundamental right. Key to the Court's conclusion on this point was the finding that "the right to a climate system capable of sustaining human life" was "fundamental to a free and ordered society".[138]

[68] Finally, the Court accepted the plaintiffs had an argument the defendants breached their duties as trustees by "failing to protect the atmosphere, water, seas, seashores, and wildlife".[139] There were various aspects to the argument on this issue which reflect specifics of the United States law relating to the public trust doctrine. Relevantly, however, the Court saw this claim as "of a different order from the typical environment case".[140] That was because the claim is that the defendants' responses "have so profoundly damaged our home planet that they threaten plaintiffs' constitutional rights to life and liberty".[141] The procedural history of this case is complex and a trial has not yet taken place.[142]

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136 At [36]–[37].

137 At [36]–[37].

138 At [48].

139 At [62].

140 At [66].

141 At [66]. In rejecting a subsequent stay application as premature, the United States Supreme Court noted the breadth of the claim was "striking" and that "the justiciability of those claims presents substantial grounds for difference of opinion".

142 For discussion on the procedural history see "Juliana v United States" Our Children's Trust <www.ourchildrenstrust.org>.

[69] There are also numerous examples of reliance on the Paris Agreement. Much of this case law comes from Europe. To illustrate this type of litigation reference can be made to the Swiss case of *Union of Swiss Senior Women for Climate Protection v Swiss Federal Council*.[143] The key arguments largely mirror those made in *Urgenda*. However, the petitioners argued that the Paris Agreement as defining anew the objective of preventing "dangerous disruption of the climate system" via the imposition of warming thresholds.[144] The basis of the claim was that the Swiss Government had failed to uphold climate change obligations by not steering Switzerland onto an emissions reduction trajectory consistent with the goal of keeping global temperatures below 2 degrees Celsius.[145] The petition was dismissed on standing-related grounds.[146]

[70] The argument made by the appellants was, broadly, that the impact of summer heat waves resulting from climate change was greater on women over 75 years of age. In addition, one appellant suffered from cardiovascular illness and two others from asthma which made the adverse health effects worse. The Federal Administrative Court noted first that under the relevant Swiss procedural legislation, *actio popularis* (lawsuits brought by a third party in the public interest) were not permissible. Accordingly, the appellants had to show they were "affected differently compared to the general public and are therefore particularly affected".[147] The Court however took the view that the impacts of climate change were of a general nature given factors such as temperature increases would apply nationally. That was so even if the effects on individuals were not equal. The matter has been appealed to the Swiss Supreme Court.

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143 *Union of Swiss Senior Women for Climate Protection v Swiss Federal Council and Others* No A-2992/2017, 27 November 2018.

144 See UNEP *The Status of Climate Change Litigation*, above n 87, at 17.

145 The relevant Swiss legislation required a reduction in greenhouse gas emissions by 20 per cent compared to 1990.

146 See "Union of Swiss Senior Women for Climate Protection v Swiss Federal Council and Others" (2019) Sabin Centre for Climate Change Law <www.climatechangecasechart.com>.

147 *Union of Swiss Senior Women for Climate Protection* , above n 143, at [7.2] and see [7.4.1].

[71] Other cases relying on the Paris Agreement have been brought in Austria,[148] Sweden[149] and Norway. An example of the latter is provided by *Greenpeace Nordic Association v Norway Ministry of Petroleum and Energy*.[150] The Norwegian Ministry of Energy issued oil and gas licenses for deep-sea extraction. Two environmental NGOs sought a declaration that this violated the Norwegian constitution. They also argued the Paris Agreement was relevant to the interpretation of the Constitution. The plaintiffs were unsuccessful. The case turned on the interpretation of the Constitution which includes a provision protecting "the right to an environment that is conducive to health". Under that provision, the state authorities have a duty to "take measures" to implement the principles. The Court concluded the measures taken were appropriate. For present purposes, we note also the observation that "whether enough is being done in climate policy generally" is outside the Court's purview.[151]

[72] Litigation of this nature is also emerging in other, although not all, colloquium jurisdictions. In Canada, lines of argument advanced, but not yet finally determined, include whether the Government violated the fundamental rights of citizens aged 35 and under by failing to set a greenhouse gas emission reduction target and plan to avoid climate change impacts,[152] and whether regulations and legislation undoing Ontario's cap and trade program illegally failed to comply with

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148 *In re Vienna-Schwechat Airport Expansion* [2017] W109 2000179-1/291E. The petitioners successfully argued the expansion of the Vienna airport would be inconsistent with Austria's domestic climate protection law and the mitigation commitments under the Paris Agreement.

149 The petition in *PUSH Sweden v Government of Sweden* also relied, amongst other things, on Sweden's international agreements in relation to climate change. The case related to the sale of coal-fired power plants in which the Swedish Government had ownership interests. The claim was dismissed because the plaintiffs had not been injured by the governmental decisions at issue: see "PUSH Sweden, Nature and Youth Sweden and Others v Government of Sweden" (2019) Sabin Centre for Climate Change Law <www.climatechangecasechart.com>.

150 *Greenpeace Nordic Association v Norway Ministry of Petroleum and Energy* DC Oslo 16–166674TVI-OTR/06, 4 January 2018 .

151 At 28.

152 "ENvironnement JEUnesse v Canada" (2019) LSE Grantham Research Institute on Climate Change and the Environment <www.lse.ac.uk>. On 11 July 2019, the Superior Court of Québec dismissed the motion to institute a class action, finding that there was insufficient justification for the age limit for the class. The claimant has said they will appeal the decision.

requirements for public consultation.[153] An example of decisions of this type that have been made in Canada is found in *Friends of the Earth v The Governor in Council* which involved a dismissal of an action brought by a not-for-profit alleging that the Canadian government had breached its duties under the Kyoto Protocol Implementation Act 2007.[154] The Court dismissed the action on justiciability grounds, holding that the statutory scheme excludes judicial review "over issues of substantive Kyoto compliance". [155]

[73] Litigation in this area is not without its doctrinal challenges. The ability of citizens to hold their governments to account will inevitably differ according to jurisdiction. Factors such as the status and content of a Constitution, duties and obligations recognised as owing to citizens and the role and power of the court will define the extent and effectiveness of this type of litigation. More common hurdles will also have to be overcome such as causation, standing and proximity. However, the cases to date indicate the potential for further developments.

Indigenous litigation

[74] Many indigenous cultures have a special relationship with the land and promote stewardship of the environment for future generations as a cultural practice. This is recognised in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).[156] Article 25 provides that indigenous peoples have the "right to maintain and strengthen their distinctive spiritual relationship" with their land and other resources and to "uphold their responsibilities to future generations in this

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153 "Greenpeace Canada v Minister of the Environment, Conservation, and Parks; Lieutenant Governor in Council" (2019) LSE Grantham Research Institute on Climate Change and the Environment <www.lse.ac.uk>. This lawsuit prompted change as the Ontario government decided to consult the public on the Bill shortly after the lawsuit was filed. The case was heard in April 2019 but judgment has not yet been delivered.

154 *Friends of the Earth v The Governor in Council et al* [2008] FC 1183, [2009] FCA 297. The applicant alleged that the Minister of the Environment and Governor in Council failed to comply with their dues as they failed to; prepare an initial Climate Change Plan, publish regulations, prepare a statement setting out greenhouse gas emissions targets and to amend or repeal regulations necessary to ensure that Canada met its obligations under the Kyoto Protocol.

155 At [44].

156 United Nations Declaration on the Rights of Indigenous Peoples A/Res/61/295 (2007).

regard".[157] While the UNDRIP is not a treaty, it has been referred to in a number of cases around the world.[158]

[75] In Māori culture, this special relationship between people and the environment is called kaitiakitanga. Kaitiakitanga is an incident of authority and emphasises the eternal individual and community responsibility to nurture and care for treasured species and the environment in which they live and to which they are related.[159] Māori relationships with the environment are expressed by reference to kinship, often ancestral kinship. Descent from the environment is a core Māori understanding.[160] It extends to preserving the environment sustainably for future generations.[161] The Waitangi Tribunal, for example has observed "Māori saw themselves as users of the land rather than its owners. While their use must equate with ownership for the purposes of English law, they saw themselves as not owning the land but being owned by it. … As users … they were required to propitiate the earth's protective duties".[162]

[76] Indigenous populations in both Australia and New Zealand have taken action related to climate change.[163] In May 2019, eight indigenous residents of the Torres Strait Islands in Australia announced they were bringing a human rights challenge against the Australian Government to the United National Human Rights Committee, under the ICCPR.[164] The claim alleges that the Government has failed to take adequate climate change actions and thus has failed fundamental human rights

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157 See also arts 26 and 29.

158 See Clive Baldwin and Cynthia Morel "Using the United Nations Declaration on the Rights of Indigenous Peoples in Litigation" in Stephen Allen and Alexandra Xanthaki (eds) *Reflections on the UN Declaration of Indigenous Peoples* (Hart Publishing, Oxford, 2011) 121.

159 Waitangi Tribunal *Ko Aotearoa Tenei* (vol 1, Wai 262, 2011) at 116 and 194. Te Ao Māori (the Māori worldview) holds that Māori have whakapapa (genealogical) connections to the natural environment: New Zealand Law Commission "Māori Custom and Values in New Zealand Law" (NZLC SP9, 2001).

160 Wai 262, above n 159, at 105.

161 Similar relationships exist in Canada and Australia. See for example Laure Kane "Indigenous guardians raise the alarm on impact on climate change in Canada" (14 March 2019) The Globe and Mail <www.theglobeandmail.com>; and below at [77].

162 Waitangi Tribunal *Muriwhenua Land Report* (Wai 45, 1997) at 23.

163 For a discussion on potential strategies for challenging Canadian climate change policy involving constitutional rights and Aboriginal peoples, see Andrew Stobo Sniderman and Adam Shedletzky "Aboriginal Peoples and Legal Challenges To Canadian Climate Change Policy" (2014) 4(2) Western Journal of Legal Studies 1.

164 Lord Carnwath "Human Rights and the Environment" (The Institute of International and European Affairs, Dublin, 20 June 2019).

obligations to Torres Strait Islander people. One of the complainants has said in a statement:[165]

> When erosion happens, and the lands get taken away by the seas, it's like a piece of us that gets taken with it – a piece of our heart, a piece of our body. That's why it has an effect on us. Not only the islands but us, as people.
>
> We have a sacred site here, which we are connected to spiritually. And disconnecting people from the land, and from the spirits of the land, is devastating

[77] In New Zealand, a claim has been filed in the Waitangi Tribunal[166] on behalf of a District Māori Council alleging that the Government has breached its obligations to Māori by failing to implement policies that will address climate change.[167] The claim states that the government has obligations to "actively protect Māori kaitiaki[168] relationships with the environment".[169]

[78] Also of potential relevance to litigation in this area in New Zealand is legislation conferring legal personhood on Te Urewera land[170] and on Te Awa Tupua (the Whanganui River).[171] These Acts were passed to give effect to Treaty of Waitangi settlements between the Government and iwi.[172] Under the legislation Te Urewera and Te Awa Tupua each are vested with "all the rights, powers, duties

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165 Katharine Murphy "Torres Strait Islanders take climate change complaint to the United Nations" (12 May 2019) The Guardian <www.theguardian.com>.

166 The Waitangi Tribunal is a standing commission of inquiry established by s 4 of the Treaty of Waitangi Act 1975. The tribunal makes recommendations on claims brought by Māori relating to legislation, policies, actions or omissions of the Crown that are alleged to breach the promises made in the Treaty of Waitangi: "Waitangi Tribunal" <www.waitangitribunal.govt.nz>. The Treaty of Waitangi is an agreement signed in 1840 between the British Crown and a large number of Māori chiefs: Treaty of Waitangi Act, sch 1.

167 Waitangi Tribunal *Memorandum of Counsel for Mataatua District Māori Council in Support or Urgency Application* Wai 2607 (filed July 2017).

168 Custodian or guardian: see "kaitiaki" Māori Dictionary (2019) <www.maoridictionary.co.nz>.

169 At [54]. Further, in July 2019 an iwi leader (leader of a tribe or kinship group) announced he is filing proceedings in the High Court over the governments inaction on climate change in his personal capacity, advancing the interests shared by all Māori: "Iwi leader to sue Govt over climate change" (16 July 2019) Scoop Politics <www.scoop.co.nz>.

170 Te Urewera Act 2014, s 11.

171 Te Awa Tupua Act 2017, ss 12 and 14.

172 Extended kinship group, tribe, nation or people: see "iwi" Māori Dictionary (2019) <www.maoridictionary.co.nz>. Historical claims are made by Māori against the Crown for breaches of the Treaty of Waitangi. A Treaty of Waitangi settlement aims to resolve these claims and provide some redress. Three kinds of redress are given to claimants; an historical account of the breaches and Crown acknowledgement, cultural redress, and commercial and financial redress.

and liabilities of a legal person".[173] Te Urewera is represented by the Board which exercises the rights, powers and duties given to the mountain ranges under s 11 of the Act. The Whanganui River is represented by two Guardians[174] which, among other things, are required to act in the best interests of the river and according to the kawa[175] of the river.[176]

[79] This legislation recognises the special relationship between Māori and natural resources. While the special relationship is also recognised in other legislation,[177] there is a marked difference between representation, already accorded to the environment through various statutory environmental advisory mechanisms, and legal personhood, which enables the environmental feature itself to bring proceedings. The implications in New Zealand of granting legal personhood status to the environment remain to be seen.[178]

Litigation as regulation

[80] We place in this category cases in which greenhouse gas emissions and climate change more generally are routinely considered in planning and environment decisions.

[81] In New Zealand a line of jurisprudence has emerged focussing on whether, and to what extent, climate change considerations are mandatory in decision making under the Resource Management Act. That Act governs the granting of consents for various environmental activities and its stated purpose is "to promote the sustainable management of natural and physical resources".[179] As we expand on below, much of this litigation has focussed on upstream or indirect contributors to emissions.

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173 Te Urewera Act, s 11; and Te Awa Tupua Act, s 14.
174 Section 18.
175 The "intrinsic values that represent the essence of [the river]": s 13.
176 Section 19(2).
177 The Resource Management Act 1991 also recognises this relationship, providing that all persons exercising functions and powers under the Act shall have "particular regard" to kaitiakitanga and the ethic of stewardship: s 7(a) and (aa).
178 For a discussion of possible implications see Helen Atkins and Nichole Buxeda "Te Awa Tupua (Whanganui River Claims Settlement) Act 2017 – an analysis" (2017) BRMB 32 at 34.
179 Resource Management Act, s 5.

[82] The most recent and significant case in this litigation stream is *West Coast ENT Inc v Buller Coal Limited.*[180] West Coast ENT and Royal Forest and Bird Protection Society sought a declaration that those deciding the resource consent applications for a coal mine were required to consider the impact of coal mining on climate change. The appellant wished to argue that "climate change effects associated with the burning of coal are material to the assessment of, and tell against, these applications".[181] The coal was to be exported to China and India and it was the effects of the burning of the coal there on which the appellant relied. The defendant's act, the subject of the claim, was not the emission of carbon. It was rather an act that caused a chain of events that resulted in the emission of carbon when the coal was burnt overseas. The issue was whether this argument could be maintained.

[83] Against the specific domestic statutory framework and the scope of national regulation, a majority of the Supreme Court held that the decision makers did not need to consider these particular climate implications.[182] The relevant legislation provided that climate change impacts were not to be considered by local authorities when addressing applications for discharge consents. That was to be regulated at the national level through emissions schemes. While the application for consent to a coal mine was not an application for discharge, the Court held that the scheme of the Act required the same approach. Allowing the issue of climate change to come in higher up the chain of events, in this case, when consenting to mining which would eventually (in a but for sense) lead to emissions was to subvert the scheme of the

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180 *West Coast ENT Inc v Buller Coal Limited* [2013] NZSC 87, [2014] 1 NZLR 32 and see also: *Greenpeace New Zealand Inc v Genesis Power* [2008] NZSC 112, [2009] 1 NZLR 730. For a critique of *West Coast ENT* see Catherine Irons "Commentary on *West Coast ENT Inc v Buller Coal Ltd*: Broadening an Ethic of Care to Recognise Responsibility for Climate Change" in Elisabeth McDonald and others (eds) *Feminist Judgments of Aotearoa New Zealand Te Rino: A Two-Stranded Rope* (Hart Publishing, Oxford, 2017) 389 at 393; Estair van Wagner "*West Coast ENT Inc v Buller Coal Ltd* [2013] NZSC 87" in Elisabeth McDonald and others (eds) *Feminist Judgments of Aotearoa New Zealand Te Rino: A Two-Stranded Rope* (Hart Publishing, Oxford, 2017) 398; and Nathan Ross, "Climate change and the Resource Management Act 1991: A Critique of *West Coast ENT Inc v Buller Coal Ltd* (2015) 46 VUWLR 1111.

181 At [95].

182 Upholding Environment Court and High Court decisions: *Re Buller Coal Ltd* [2012] NZEnvC 80, [2012] NZRMA 401; and *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd* [2012] NZHC 2156, [2012] NZRMA 552.

legislation. The majority of the Supreme Court held that the scheme clearly envisaged that the regulation of emissions was to be done at the national level, and it was a matter of necessary implication that this extended to upstream consents.

[84] The majority also noted that the effects on which the appellant wished to rely were the "direct consequences of burning coal" rather than mining it. Hence there would "always have been scope for the argument" the climate change impacts were too remote.[183]

[85] In a dissenting judgment, Chief Justice Elias preferred to give a narrow application to the prohibition on the consideration of climate change impacts in consent applications.[184] She also found consideration of the effect of the end use of the coal was not excluded stating, among other things, that the upstream effects were not "too remote".[185]

[86] *Buller Coal* is illustrative of claims focussing on activities which indirectly result in, or facilitate the discharge of, greenhouse gasses and how these apply to statutory interpretation. As one commentator notes, most greenhouse gas emissions "do not occur at the extraction stage but further downstream when the fuels are used for energy production".[186] Generally speaking, the further away the chain the defendants action sits, in comparison to the harmful impacts, the more difficult it will be to establish causation. This aspect of *Buller Coal* provides a prime example.[187]

[87] The cause of climate change is the cumulative emission of greenhouse gasses by all countries and by multifarious entities.[188] However, projects such as those in *Buller Coal* are conventionally assessed in an independent, self-contained manner.

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183 At [117]. *West Coast ENT* has subsequently been applied in *P & E Ltd v Canterbury Regional Council* [2015] NZEnvC 106.

184 At [3]–[4].

185 At [87].

186 Jacqueline Peel "Issues in Climate Change Litigation" (2001) 1 Carbon and Climate L Rev 15 at 22.

187 As will be discussed below at [109], such causative issues may not arise in situations where certain emissions, or the impacts of emissions, can be attributed to a particular company or group.

188 IPCC *2014 Synthesis Report*, above n 6, at [1]–[1.4].

In the context of litigation relating to consents for such projects, there is a risk that the cumulative effects are overlooked. Elias CJ's dissent in *Buller Coal* touches on this. Elias CJ relied on *Environmental Defence Society Inc v Taranaki Regional Council*[189] in which the Environment Court held that the specific contribution to climate change could not be deemed *de minimis* due to the cumulative nature of the problem.[190] The Court stated climate change was the "very situation" that the Resource Management Act — which states "any cumulative effect" must be considered — is intended to cover. Elias CJ endorsed this interpretation.[191]

[88] A scientific basis for overcoming causation arguments of the type discussed above is the carbon budget.[192] The carbon budget was developed from scientific developments in recognising that it is the cumulative emission of greenhouse gasses that have created the current climate change problem.[193] The carbon budget is now widely adopted and has been said to provide a "convenient tool for framing climate change litigation to establish a causal link and counterarguments that an individual project's emissions are de [minimis] or 'vanishingly small'".[194] Taking another look at *Buller Coal* provides a good illustration. Using the carbon budget enables an informed estimate of the amount of carbon pollution from the two mines in question in that case to be quantified, and it is not an insignificant amount.[195]

[89] As an attempt to use the lengthy causative chain to the applicants' advantage, reference can be made to a 2006 case heard by the Australian Federal Court.[196] The

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189 *Environmental Defence Society Inc v Taranaki Regional Council* EnvC Auckland A184/2002, 6 September 2002.

190 At [24].

191 *West Coast ENT Inc,* above n 180, at [90]–[91].

192 The Carbon Budget is defined by the Intergovernmental Panel on Climate Change as the "estimated amount of carbon dioxide the world can emit while still having a likely (67 per cent) chance of limiting global temperature rise to 2 degrees Celsius above pre-industrial levels, the international recognised limit beyond which warming poses dangerous risks to the earth system": Natalie Jones "The Application of Global Carbon Budget Principles to *Buller Coal:* A critique" (2015) BRMB 18 at 19. See also above at [7] and *Global Carbon Budget* (2018) at <www.globalcarbonproject.org>.

193 Holt and McGrath, above n 98, at 13.

194 Holt and McGrath, above n 98, at 14.

195 Jones, above n 192, at 20.

196 *Wildlife Preservation Society of Queensland Proserpine/Whitsunday Branch Inc v Minister for the Environment and Heritage* (2006) 232 ALR 510. See also Peel, above n 186, at 22.

case involved the federal environmental impact assessment legislation. Environmental assessments under that legislation are only required if there is a likelihood of a significant impact on "matters of national environmental significance". Climate change considerations are expressly excluded. The plaintiffs therefore argued that burning the coal from the mines would emit greenhouse gasses, contributing to global warming. Global warming will lead to changes in ocean temperatures which will adversely affect areas protected under the legislation in question (specifically the Great Barrier Reef). The application was dismissed as the Judge was not satisfied there was a sufficient connection between the burning of coal and the impact on a protected matter.[197]

[90] Litigation focusing on the impact of climate change in planning consents can also be seen in Australia.[198] Early seminal cases in this jurisdiction include *Re Australian Conservation Foundation v Latrobe City Council* (*Hazelwood*)[199] and *Gray v Minister for Planning* (*Anvill Hill*).[200] In *Hazelwood*, the Victorian Civil and Administrative Tribunal held that a planning panel considering amendment to a planning scheme dealing with matters that would facilitate the operation of a large coal-fired power station should consider the "indirect" effects of the amendment in

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197 At [72]. Dowsett J said "am far from satisfied that the burning of coal at some unidentified place in the world, the production of greenhouse gases from such combustion, its contribution towards global warming and the impact of global warming upon a protected matter, can be so described. The applicant's concern is the possibility that at some unspecified future time, protected matters in Australia will be adversely and significantly affected by climate change of unidentified magnitude, such climate change having been caused by levels of greenhouse gases (derived from all sources) in the atmosphere. There has been no suggestion that the mining, transportation or burning of coal from either proposed mine would directly affect any such protected matter, nor was there any attempt to identify the extent (if any) to which emissions from such mining, transportation and burning might aggravate the greenhouse gas problem. The applicant's case is really based upon the assertion that greenhouse gas emission is bad, and that the Australian government should do whatever it can to stop it including, one assumes, banning new coal mines in Australia."

198 See also the discussion in Hari M Osofsky and Jacqueline Peel "The role of litigation in multilevel climate change governance: Possibilities for a lower carbon future?" (2013) EPLJ 303 at 315–316. Similar litigation has also emerged in Canada, although to a lesser extent. See for example *Citizens of Riverdale Hospital v Bridgepoint* [2007] OJ 2527 in which a challenge to the municipal board's decision approving the demolition of a hospital because, among other reasons, it had failed to adequately consider greenhouse gas emissions, was dismissed.

199 *Re Australian Conservation Foundation v Latrobe City Council* [2004] VCAT 2029, [2004] 140 LGERA 100 [*Hazelwood*].

200 *Gray v Minister for Planning* [2006] NSWLEC 720, [2006] 152 LGERA 258 [*Anvill Hill*].

terms of its climate change consequences. Subsequently, the Tribunal held that the panel hearing submissions on the power station failed to comply with the statutory requirements as it failed to consider "submissions to the effect that the continuation of the … Power Station may have adverse environmental effects by reason of the generation of greenhouse gases."[201] That conclusion turned on application of the requirement in the relevant domestic legislation that the planning panel consider relevant submissions.

[91] In *Anvill Hill*, it was held that indirect greenhouse gas emissions resulting from the burning of extracted coal were a relevant factor in the environmental assessment of a new mine for thermal coal. More specifically, the Court held that projects that contribute greenhouse gas emissions (or have the potential to do so) required a proper consideration of climate change impacts under the relevant statutory scheme.[202] In determining whether there was a sufficient causative link between the impact of the mining and the emission of greenhouse gases to require assessment of the emissions contribution of the coal mine, the Court concluded it was not critical that the impact from coal burning would be experienced globally and in a way that could not be "accurately measured".[203]

[92] *Minister for Planning v Walker* took a slightly different route, albeit still acknowledging the potential relevance of climate change in the decision making relating to development projects.[204] The case turned on the interpretation of requirements in the relevant planning legislation relating to the assessment of the "public interest". In overturning the decision of the New South Wales Land and Environment Court, the New South Wales Court of Appeal accepted there was an obligation to consider the public interest. But the Court considered the requirement

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201 At [49].

202 At [137]; and see "Gray v Minister for Planning" (2019) Sabin Centre for Climate Change Law <www.climatechangecasechart.com>.

203 At [98].

204 *Minister for Planning v Walker* [2008] NSWCA 244, [2008] 161 LGERA 423.

to do so was at a "very high level of generality".[205] However, Hodgson JA suggested:[206]

> the principles of [ecologically sustainable development] are likely to come to be seen as so plainly an element of the public interest, in relation to most if not all decisions, that failure to consider them will become strong evidence of failure to consider the public interest and/or to act *bona fide* in the exercise of powers granted to the Minister, and thus become capable of avoiding decisions.

[93] More recently, the Land and Environment Court of New South Wales in *Gloucester Resources Limited v Minister for Planning*[207] rejected an application for consent for a new open cut mine on a number of grounds, including the mine's impact on climate change.[208] In describing the proposed mine as being in the "wrong place at the wrong time" the Court said:[209]

> … the [greenhouse gas] emissions of the coal mine and its coal product will increase global total concentrations at a time when what is now urgently needed, in order to meet generally agreed climate targets, is a rapid and deep decrease in [the] emissions. These dire consequences should be avoided.

[94] Courts have also interpreted statutes to require steps to be taken to regulate sources of greenhouse gas emissions.[210] A prominent example is *Massachusetts v Environmental Protection Agency*.[211] A group of States, local governments and private organisations alleged that the Environmental Protection Agency (the EPA) had not complied with the Clean Air Act in the regulation of greenhouse gases from new motor vehicles. Under the Act, the EPA could prescribe standards for the emission of any air pollutant.

[95] The EPA's approach was that its regulatory power related to domestic ground level pollution rather than climate change. The EPA also said there was a need for

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205 At [41].

206 At [56]. Hodgson JA said that if the principles of ecologically sustainable development were mandatory considerations, the evidence would enable the conclusion they were not considered.

207 *Gloucester Resources Limited v Minister for Planning* [2019] NSWLEC 7.

208 In this context the Court made reference to the Paris Agreement.

209 At [699].

210 See the discussion in Osofsky and Peel, above n 198, at 321.

211 *Massachusetts*, above n 116.

further research on the link between emissions and climate change and was concerned not to step in where the administration had policies in this area.

[96] A majority of the Supreme Court held that Massachusetts had standing albeit the harm was widespread and the risks "widely shared". Given the "sweeping" definition of air pollutant, the EPA could regulate greenhouse gas emissions from new motor vehicles if it determines such emissions contribute to climate change. It can only avoid taking regulatory action in this sphere if satisfied that greenhouse gas emissions do not contribute to climate change.[212] The relationship between climate change and statutory interpretation will be an important area for development. A government's primary means of implementing climate change adaption and mitigation measures is through domestic legislation. Courts can play a meaningful role in enhancing the effectiveness of such legislation.

[97] In the United Kingdom, it has been suggested that the Climate Change Act 2008 (UK) itself should be considered a constitutional statute according it special legal status.[213] The argument is based on a three point criteria drawn from *Thoburn v Sunderland City Council*[214] and subsequent commentary that determines whether an Act is to be considered an "ordinary" or "constitutional" statute.[215] On this analysis, a constitutional statute is one that fits within one of the following categories. First, a statute that conditions "the legal relationship between citizen and state in some general, overarching manner",[216] second a statute that enlarges or constricts "the scope of what we would now regard as fundamental constitutional rights"[217] and third, a statute that "establish[es] institutions of the state and confer[s] appropriate functions, powers and responsibilities on them".[218] Notably, the authors opine that the Climate Change Act easily falls within the first category as it stretches "rigorous, long-term legally binding emissions reduction thresholds" that engage the state and

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212 Or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do.

213 See Thomas L Muinzer "Is the Climate Change Act 2008 a Constitutional Statute?" (2018) 24(4) EPL 733.

214 *Thoburn v Sunderland City Council* [2003] QB 151.

215 Muinzer, above n 213, at 739.

216 At 741. See also *Thoburn,* above n 214, at 186.

217 At 741. See also *Thoburn,* above n 214, at 186.

218 At 741.

citizen, and the relation between them, extensively.[219] It is further suggested that aspects of the Climate Change Act may also meet the second criteria due to "the gravity of the problem, the pervasive levels of public and political concern, and the severity of the projected impact of unchecked anthropogenic climate change".[220]

[98] While discourse in the United Kingdom describing legislation as 'ordinary' or 'constitutional' is growing, the legal outcomes of such categorisation are not yet settled. For example, there are differing views as to whether constitutional statutes should be interpreted differently from ordinary statutes but it has been argued that constitutional statutes should be interpreted in a more robust manner on issues of enforceability and remedies.[221]

[99] The use of international treaties in statutory interpretation must also be considered. New Zealand courts apply a presumption to the interpretation of statutes that Parliament did not intend to legislate contrary to New Zealand's international obligations.[222] We anticipate that international treaties in the climate change area will increasingly be used in this way in litigation and it may be that courts will, as they respond to the magnitude of the issue, seek to strengthen the presumption. Less clear is the status that courts will accord to New Zealand's undertakings outside of treaties, such as in the Paris Agreement.

[100] However, even if climate change considerations are to be salient (or at least relevant) in interpreting statutes, there are still practical barriers. In other words, a court will still have to be satisfied that the facts before them give rise to climate change concerns. It is here that causation and proximity issues may linger.

Protection/loss and damage

[101] Litigation seeking protection from, or compensation for, loss or damage due to climate change has been brought in both public and private causes of action;

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219 At 743.

220 Muinzer, above n 213, at 743.

221 At 750.

222 Ross Carter *Burrows and Carter Statute Law in New Zealand* (5th ed, LexisNexis, Wellington, 2015) at 512–517.

against both governments and private companies. We briefly focus here on private law claims to illustrate differing approaches and shared hurdles. It is in this category that we see the use of tort law beginning to emerge most significantly. The United States makes up the bulk of tortious actions.[223] Actions have been brought in nuisance,[224] negligence[225] and trespass.[226] Thus far, plaintiffs have had real difficulties in establishing that particular emitters have proximately caused them particular injuries or will cause them particular injuries. We have selected cases to briefly illustrate how arguments are currently being run, and the strategies employed.[227]

[102] The United Nations report on climate change litigation identified *Connecticut v American Electric Power*[228] and *Kivalina v Exxon Mobil*[229] as the leading cases from the United States in this area.[230] In both cases the plaintiffs grounded their claims in public nuisance. In *Connecticut*, the plaintiffs (various states, a municipality and three environmental NGOs) sought an order against five private electric power companies to cap emissions. The companies were responsible for emission of around 10 per cent of all carbon dioxide emissions.[231] The plaintiffs sued on their own behalf to protect public lands.

[103] In *Kivalina* the plaintiffs (the city of Kivalina) sought damages against various energy producing companies to compensate for the destruction of the coastal

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223 Preston "Mapping Climate Change Litigation", above n 128, at 774. In New Zealand we have not seen any climate change cases based on tort law.

224 At 774.

225 At 776.

226 At 777.

227 There is also suggestions of a "second wave" of "private strategic climate change litigation", learning from the failures of the first wave: Geetanjali Ganguly, Joana Setzer and Veerle Heyraert "If at First You Don't Succeed: Suing Corporations for Climate Change" (2018) 38(4) OJLS 841 at 845.

228 *Connecticut v American Electric Power* 564 US (2011).

229 *Native Village of Kivalina v ExxonMobil* 696 F 3d 849 (9th Cir 2012); see also "Native Village of Kivalina v ExxonMobil Corp" (2019) Sabin Centre for Climate Change Law <www.climatechangecasechart.com>.

230 UNEP *The Status of Climate Change Litigation*, above n 87, at 20.

231 See also the discussion in Brian Preston "Climate Change Litigation (Part 1)" (2011) 1 Carbon and Climate L Rev 3 at 4.

city of Kivalina, Alaska. The plaintiffs argued the destruction of the city is being caused by activities of the industry that are resulting in global warming.

[104] Both actions were unsuccessful. In *Connecticut*, the Supreme Court upheld the lower courts' finding there was standing but the claim was dismissed on the basis "the Clean Air Act … and the actions it authorizes [by the EPA] displace any federal common law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired power plants".[232] In *Kivalina*, the Federal Court had held that there was no jurisdiction as the question of how best to address climate change was a political question. Also, the plaintiffs could not demonstrate injury caused by the companies. The ninth circuit upheld the dismissal on the basis the Clean Air Act displaced federal common law.[233]

[105] In 2017 California brought actions in public nuisance against five of the largest oil and gas producers. The nuisance was global-warming induced sea level rise including that outside of the United States following increased carbon dioxide in the atmosphere due to fossil fuels. The suits were dismissed in June 2018 the Court noting it would "stay its hand in favour of solutions by the legislative and executive branches".[234]

[106] A similar complaint was brought in 2018 by New York City against the five largest fossil fuel producers, raising causes of action in public nuisance, private nuisance and trespass. In relation to trespass it was argued that fossil fuel producers' conduct was substantially certain to result in invasion of property owned by the City, without permission of right of entry, by way of increased heat, sea level rise and flooding.[235] In terms of nuisance, the plaintiff premised the arguments on the fact that the defendants:[236]

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232 Connecticut, above n 228, at 10.

233 *Native Village of Kivalina*, above n 229.

234 *People of State of California v BP PLS* (ND Cal, C-17-06011 WHA and C-17-06012 WHA, 25 June 2018) (Order Granting Motion to Dismiss Amended Complaints) at 16.

235 *City of New York v PB PLC* (SDNY, 1:18-cv-00182, Complaint filed 9 January 2018) [*City of New York* Complaint]; see also "City of New York v BP plc" (2019) Sabin Centre for Climate Change Law <www.climatechangecasechart.com>.

236 *City of New York* Complaint, above n 235, at [116].

> … production, marketing and sale of massive quantities of fossil fuels, and the promotion of pervasive use of these fossil fuels, have caused, created and assisted in the creation of, maintained and/or contributed to the current and threatened climate change impacts on the City … including harm to the safety, health and welfare of City residents and the City's property.

[107] The Federal Court dismissed New York City's lawsuit against the fossil fuel companies. As part of its reasoning, the court said litigating action for injuries from greenhouse gas emissions in federal court would "severely infringe" upon matters "within the purview of the political branches".[237] The City of New York gave a notice of appeal in July of last year.[238]

[108] Actions in negligence have been brought by state and local governments in the United States against producers of fossil fuels. In the case of *In re Katrina Canal Breaches,* the plaintiff sought damages for the effects of Hurricane Katrina against the Mississippi River Gulf Outlet, claiming that the effect of the hurricane was made worse by earlier dredging.[239] In *County of Santa Cruz v Chevron Corp*, Santa Cruz county alleged that the defendants breached their "duty to use due care in developing, designing, testing, inspecting and distributing their fossil fuel products".[240]

[109] The difficulties of tort law are starkly apparent. In fact, climate change has been described as the "paradigmatic anti-tort" due to its "diffuse and disparate" origin, its "lagged and latticed" effect; "a collective action problem so pervasive and

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237 *City of New York v BP plc et al* 325 Fd Supp 3d (SD NY, 19 July 2018) at [10]–[12].

238 "City of New York v BP plc" (2019) Sabin Centre for Climate Change Law <www.climatechangecasechart.com>.

239 *In re Katrina Canal Breaches Litigation* 696 F3d 436, 441 (5th Cir 2012). This decision dealt with the scope of State immunity under domestic legislation. See also: *Comer v Murphy Oil USA* 585 F.3d 855 (5th Cir. 2009) also alleging additional impact caused by Hurricane Katrina this time because of the effects of greenhouse gas emissions.

240 The case has not yet been decided. It has been shifted multiple times and has been consolidated with another case: "County of Santa Cruz v Chevron Corp" (2019) Sabin Centre for Climate Change Law <www.climatechangecasechart.com>. See also *Rhode Island v Chevron Corp,* a claim against 21 energy companies for climate change impacts based on, amongst other matters, public nuisance, trespass and impairment of public trust resources. The case was remanded to state court, as the defendants failed to prove that the case belonged in federal court. A judgment has not been issued in this case: "Rhode Island v Chevron Corp" (2019) Sabin Centre for Climate Change Law <www.climatechangecasechart.com>.

so complicated as to render at once both all of us and none of us responsible".[241] That being said, some headway is evidently being made. Developments in climate science and research, particularly attribution science, will bolster private law claims. Courts may be more willing to hold corporations responsible if emissions can be scientifically linked to actions.[242] Private law claims will continue to grow in number and scope, although these claims may not form the core of climate change litigation in future.

Cross-border cases against corporations

[110] One of the most significant developments in the sphere of climate change litigation against corporations is a private law claim seeking compensation for climate change related loss in the case of *Lliuya v RWE*, a case brought by a Peruvian farmer against Germany's largest electricity producer.[243] This case is important because it recognises the possibility that a private company could be held responsible in its own courts for the effects of its greenhouse gas emissions offshore. The plaintiff's hometown, Huaraz, Peru, is threatened by glacial melt flooding the nearby Lake Palcacocha. The plaintiff seeks declaratory judgment and £14, 250, which is 0.47 per cent of the estimated mitigation cost, relying on the Institute of Climate Responsibility's estimation that RWE has contributed 0.47 per cent of all greenhouse gas emissions since the industrial age. While the case was dismissed by the District Court of Essen, the Higher Regional Court in November 2017 considered the case admissible.[244] Judgment has not yet been delivered and the Court is currently selecting experts to take evidence on-site in Peru.[245]

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241 Kysar, above n 11, at 4.

242 A promising area of scientific development is quantifying business' historical emissions. Researchers are now able to identify and measure the contributions of discrete groups of potential defendants and recognise whether contributions are significant. Attribution science, whereby specific climate change related events can be attributed to particular emitters, is also developing. See Ganguly, Setzer and Heyvaert, above n 227, at 852–853.

243 See "Lliuya v RWE" (2018) LSE Grantham Research Institute on Climate Change and the Environment <www.lse.ac.uk>.

244 "Lliuya v RWE", above n 243; and "RWE lawsuit (re climate change)", above n 243.

245 "Saul versus RWE" (8 May 2019) German Watch <www.germanwatch.org/en/huaraz>.

Corporate Governance and litigation

[111] Directors have a duty to consider the "best interests" of the company in all of the colloquium jurisdictions .[246] It remains to be seen how climate change impacts that duty. As we discuss below, there have already been cases in Australia and the United Kingdom relying on corporate governance and company law to hold companies to account for their climate impacts and actions.

[112] The scope of the duty to act in the "best interests" of the company depends on the model of corporate governance preferred. The Anglo-American model of corporate governance revolves around shareholder primacy, meaning the board of directors' aim is to enhance value for shareholders.[247] The shareholder primacy model is based on the fact that shareholders own the company even though, in Australia and New Zealand at least, directors are responsible for the management of a company.[248]

[113] The main competing theory in the common law world is the stakeholder model, whereby the wider interests of those with some stake in the company (including society as a whole) should be taken into account by the directors,

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246 For "best interests" provisions in colloquium jurisdictions, see Canada Business Corporations Act RSC 1985 c C-44, s 122(1)(a), Companies Act 1993 (NZ), s 131; and Corporations Act 2001 (Cth), s 181(1). The Companies Act (Cap 50, Rev Ed 2006) (SG) does not contain a provision equivalent to the duty to act in the company's "best interests" like New Zealand, Australia and Canada. However, Singaporean law does require directors to consider the best interests of the company in certain circumstances. The fiduciary nature of a director is recognised in the statute and at common law, see *Raffles Town Club Pte Ltd v Lim Eng Hock Peter* [2012] SGCA 62. The fiduciary duty in Hong Kong is derived from case law and remains uncodified: see *Poon Ka Man Jason v Cheng Wai Tao* (2016) 19 HKCFAR 144. The Hong Kong Companies Ordinance, s 465 requires directors to exercise reasonable care, skill and diligence. This differs from case law in that it sets minimum objective standards, a new baseline of competence.

247 See generally Jean Jacques du Plessis "Shareholder Primacy and other Stakeholder Interests" (2016) 34 C&SLJ 238; and Philip Ireland "Shareholder Primacy and the Distribution of Wealth" (2005) 68 The Modern Law Rev 49.

248 New Zealand: Companies Act 1993, s 128 (cf pt 7 of the Companies Act 1993 which prescribes the liability, powers and rights of shareholders); see also Susan Watson and Lynne Taylor (eds) *Corporate Law in New Zealand* (Thomson Reuters, 2018) at [15.2.2]. Australia: Corporations Act (Cth), s 198A; *Percival v Wright* (1902) 2 Ch 421; and *Australian Securities and Investments Commission v Cassimatis (No 8)* [2016] FCA 1023 at [467] per Edelman J.

alongside the interests of shareholders.[249] One justification for the stakeholder model is that businesses require a social licence to operate, which means that companies must give back to the community that allows them to operate and which often does not charge them the full cost of doing business.[250]

[114] A third model, arguably mandated by both New Zealand and Australian companies legislation, is an entity primacy approach under which the directors act as the guardian and representative of the company itself, rather than acting for the owners of the entity. This allows a focus both on shareholders and on wider stakeholders as long as it favours the interests of the company in the long run.[251]

[115] The United Kingdom has an approach titled "enlightened shareholder value", most similar to the entity primacy model.[252] Section 172 of the Companies Act 2006 provides that directors must consider the impact of the company's operations on the community and the environment as part of directors' duties to promote the success of the company.[253] Matters that directors are obliged to consider also include long-term consequences of their decisions and the desirability of maintaining a reputation for high standards of business conduct, both of which could enhance environmental responsibility.[254]

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249 See generally Liliana Eraković and others "Board of Directors and Stakeholders: Building Bridges of Understanding" (2017) 23 NZBLQ 202. See also Watson and Taylor, above n 248, at 54–56.

250 See Australian Institute of Company Directors and KPMG *Maintaining the social licence to operate*: *Survey* (2018); and Sally Patten "Social licence: why some companies still don't get it, and how it will cost them" (1 October 2018) *Financial Review* <www.afr.com>.

251 This was the approach taken by the Supreme Court in Canada *BCE Inc v 1976 Debentureholders* [2008] SCC 69, [2008] 3 SCR 560 at [40]. As to the origins of Canadian company law, see Robert Dickerson, John Howard and Leon Getz *Proposals for a New Business Corporation Law for Canada* (Ottawa, July 1971), in particular at [241]. Such an approach was also present in New Zealand company law: New Zealand Law Commission *Company Law* (NZLC PP5, 1987) at [206]; and New Zealand Law Commission *Company Law: Reform and Restatement* (NZLC R9, 1989) at [192]–[194]. See also Jean J du Plessis "Directors' duty to act in the best interests of the corporation: 'Hard cases make bad law'" (2019) 34 Aust J Corp Law 3; and "Corporate leaders scrap shareholder-first ideology" (20 August 2019) *BBC* <www.bbc.co.uk>.

252 Although some commentators consider that even though the UK recognises other stakeholders, shareholders remain the dominant stakeholders: du Plessis, above n 247, at 239.

253 Companies Act 2006 (UK), s 172(1)(d).

254 Richard Alexander "BP: Protection of the environment is now to be taken seriously in company law" (2010) 31 Comp Law 271.

[116] Section 172 has been relied on in a judicial review challenge of the Government's investment in the Royal Bank of Scotland. In *R (on the application of People & Planet) v HM Treasury* the Court of Queen's Bench did not accept that there had been a misdirection of law and rejected the claimant's arguments that HM Treasury was required to impose its own climate change policy on the Bank, contrary to the judgment of the Bank's board of directors under s 172.[255] The Court emphasised that s 172 also requires directors to act fairly as between shareholders: the Government's more intensive climate change policy would have likely sacrificed profits and opened the Bank up to suit from minority shareholders.[256] This case illustrates the difficulty in challenging the exercise of discretion, and it follows, of enforcing s 172.[257]

[117] Despite New Zealand not having an analogous provision to s 172 in the United Kingdom legislation, academics have argued that, taken together, annual reporting obligations[258] and the directors' duties of care[259] may mean that directors could breach their duty of care by failing to consider and respond to environmental risks that later harm the company.[260] The same arguments could apply in other colloquium jurisdictions. Climate change is no longer simply an ethical issue. As a material financial risk,[261] directors are accountable under care and diligence duties to take account of the financial consequences of climate change and this applies whatever model of corporate governance is subscribed to. Further, the "business

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255 *R (on the application of People & Planet) v HM Treasury* [2009] EWHC 3020 (Admin) at [34].

256 At [34].

257 Stephen Copp "S 172 of the Companies Act 2006 fails people and planet?" (2010) 31 Comp Law 406; Elaine Lynch "Section 172: A ground-breaking reform of directors' duties, or the emperor's new clothes?" (2012) 33 Comp Law 196; and Nick Grant "Mandating Corporate Environmental Responsibility by Creating a New Directors' Duty" (2015) 17 Env L Rev 252 at 262.

258 Companies Act 2001, s 211.

259 Companies Act 2001, s 137.

260 Karen Bubna-Litic "Corporate Social Responsibility: Using Climate Change to Illustrate the Intersection between Corporate Law and Environmental Law" (2007) EPLJ 253 at 267.

261 See Sarah Barker and Kurt Winter "Temperatures rise in the boardroom: climate litigation in the commercial arena" (June 2017) Australian Environment Review 62 at 63. This position is reinforced by the Paris Agreement 2015 and Recommendations of the G20's Financial Stability Board Taskforce on Climate Related Disclosures. See also Productivity Commission *Transitioning to a low-emissions future* (New Zealand Government, August, 2019).

judgement rule" would not protect directors where the legal risk stems from inadequate information or lack of inquiry.[262]

[118] Listing rules are also increasingly dealing with environmental risks. Most of these are still voluntary but there is increasing pressure to make sustainability mandatory.[263] Of the colloquium jurisdictions, only Singapore has entirely mandatory sustainability reporting requirements, on a "comply or explain" basis.[264] The content of annual sustainability reports must include the choice of, and reasons for selecting material factors to report on, the issuer's practices, policies and performance in relation to those factors, targets for the forthcoming year and reasons for selecting the sustainability reporting framework chosen.[265]

[119] Hong Kong has recommended (voluntary) disclosure matters as well as "comply or explain" provisions in relation to environmental, social and governance reporting.[266] The key performance indicators in relation to the environment on which boards must report under the Hong Kong Listing Rules are "emissions", "use of resource" and "the environment and natural resources".[267]

[120] New Zealand's revised (2017) NZX corporate governance code promotes annual non-financial disclosure, including about material exposure to environmental risks.[268] NZX's Environmental, Social and Governance Guidance Note measures sustainability and the ethical impact of an investment in a particular business and

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262 Sarah Barker and Kurt Winter "Temperatures rise in the boardroom: climate litigation in the commercial arena" (June 2017) Australian Environment Review 62 at 62.

263 See for example Céline Bak *Leveraging Sustainable Finance Leadership in Canada: Opportunities to align financial policies to support clean growth and a sustainable Canadian economy* (International Institute for Sustainable Development, 2019) which calls for Canada to have mandatory transparency around climate change risks to business.

264 The Singapore SGX-ST *Listing Rules* (2018), rr 711A and 711B. See also SGX-ST *Listing Rules: Practice Note 7.6 – Sustainability Reporting Guide* (Singapore Exchange, 2016).

265 SGX-ST *Listing Rules: Practice Note 7.6 – Sustainability Reporting Guide* (Singapore Exchange, 2016) at [4].

266 HKEx *Listing Rules* (2018); and HKEx *Listing Rules* (2017), appendices 14, 16 and 27.

267 HKEx *Listing Rules* (2017), appendix 27 Environment, Social and Governance Reporting Guide at 4–7.

268 NZX *Corporate Governance Code* (2017), recommendation 4.3.

recommends reporting on biodiversity, climate change, pollution and water resources and water use.[269]

[121] Australia's Corporate Governance Principles recommend listed companies make disclosures as to environmental risks and how they intend to manage those risks, and to make disclosures as required by the Financial Stability Board's Task Force on Climate-related Financial Disclosures.[270]

[122] Canada's stock exchange listing rules do not currently recommend climate disclosures. The Canadian Securities Administrators (CSA) have recently reviewed the disclosure of risks and financial impacts associated with climate change. That review found that most users consulted were dissatisfied with the state of climate change disclosure and that most users thought that all industries should provide disclosure regarding their governance and oversight of climate change-related risks.[271] The CSA has indicated it intends to develop new guidance for disclosure.

[123] Commentators have observed that in the United States, the United Kingdom and Australia there is an emerging trend of cases seeking to enforce disclosure obligations on companies relating to climate change information (such as business risks associated with climate change).[272] Such claims are being brought "by regulators, by environmental advocacy groups, and increasingly, by shareholders claiming for compensation for associated financial losses".[273] Indeed, one commentator notes "the argument that energy-intensive companies have a legal responsibility to disclose the impact of climate change is gradually maturing into a self-standing ground for litigation".[274]

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269 NZX *Environmental, Social and Governance: Guidance Note* (December 2017), at 5.

270 ASX Corporate Governance Council *Corporate Governance Principles and Recommendations* (4th ed, February 2019), rec 7.4. Recommendation 7.4 also details climate change risks, for example identifying physical risks as well as those related to a transitioning to a low-carbon economic including legal risk and reputation risk.

271 "Canadian Securities Regulators Report on Climate Change-Related Disclosure Project" (5 April 2018) Canadian Securities Administrators <www.securities-administrators.ca>.

272 See Jacqueline Peel, Hari Osofsky and Anita Foerster "A "Next Generation" of Climate Change Litigation? an Australian Perspective" (2018) Onati Socio-Legal Series at 15; Preston, above n 128, at 781; and Ganguly, Setzer and Heyvaert, above n 227, at 858.

273 Peel, Osofsky and Foerster, above n 272, at 15.

274 Ganguly, Setzer and Heyvaert, above n 227, at 858.

[124] In *Australasian Centre for Corporate Responsibility s*hareholders sued the Commonwealth Bank of Australia for failing to give notice of two of the three resolutions the shareholders wished to move at the annual general meeting.[275] The two resolutions sought to have the directors to disclose information pertaining to the greenhouse gas emissions of the company.[276] The claim was dismissed and an appeal applying existing company law authorities[277] was unsuccessful.[278] The same shareholders then issued fresh proceedings, alleging that the Bank's 2016 report failed to disclose climate-related business risks.[279] The claim was withdrawn after such information was included in the 2017 report.[280] There have also been cases brought by the Australian Competition and Consumer Commission against companies which were found to have (and fined for having) misled and deceived consumers about the environmental benefits of their products.[281]

[125] The oil company Shell is facing suit from NGO Friends of the Earth in the Netherlands under Dutch due diligence laws for failing to align its emission targets with the Paris Agreement.[282] Shell's current business model plans to reduce its net carbon footprint by only 50 per cent (rather than to zero, as is deemed necessary under the Paris Agreement) by 2050. Shell's internal documents have long acknowledged the danger of climate change, even anticipating the risk of suit regarding climate change exacerbated storms in 1998. These documents are critical to the case, particularly given Shell has publicly downplayed the risks of climate change and even funded climate change denial groups.[283]

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275 *Australasian Centre for Corporate Responsibility v Commonwealth Bank of Australia* (2016) 248 FCR 280. See discussion in Preston "Mapping Climate Change Litigation", above n 128, at 781.

276 *Australasian Centre for Corporate Responsibility,* above n 275, at 283.

277 To the effect that the shareholders in general meeting cannot speak or act for the company except as authorised by the constitution or statute.

278 *Australasian Centre for Corporate Responsibility*, above n 275, at [52].

279 *Abrahams v Commonwealth Bank of Australia* (FCA, VID879/2017, Concise Statement filed 8 August 2017).

280 Mark Clarke and others "Climate change litigation: A new class of action" (13 November 2018) White & Case <www.whitecase.com>.

281 Clarke and others, above n 280.

282 "Milieudefensie et al v Royal Dutch Shell plc" (5 April 2019) Sabin Centre for Climate Change Law <www.climatecasechart.com>.

283 Dana Drugmand "Shell Faces Lawsuit in the Netherlands, a New Legal Front in the Climate Debate" *Climate Liability News* (online ed, 12 February 2019).

[126] Another example is the US Securities and Exchange Commission's investigation of oil company Exxon/Mobil and its auditors PricewaterhouseCoopers into whether the company committed securities fraud by filing annual reports that misleadingly overstated the value of reserve assets, which had not been revalued after a collapse in oil price.[284] That same act ended up before the United States' courts in *Ramirez v Exxon Mobil Corp*, in which plaintiffs alleged that Exxon's statements were misleading in that, among other things, they did not disclose Exxon's internal reports that recognised the environmental risks caused by climate change or that due to climate risks Exxon would not be able to extract existing hydrocarbon reserves it claimed to have.[285] The most recent case in this litigation is a decision by the Texas Federal Court rejecting Exxon's request to reconsider an interlocutory appeal of the decision to allow the case to proceed.[286]

[127] In a more significant and substantive development, the District Court in Poznań, Poland, has recently ruled that the decision by a Polish energy company to participate in a joint venture for the construction of a power plant in north-eastern Poland was legally invalid. The plaintiff was one of the company's shareholders, environmental group ClientEarth, who argued that the construction of the coal-fired plant would harm the company's economic interests and pose an "indefensible" financial risk to investors in the face of rising carbon and falling renewables energy prices.[287]

Concluding thoughts

[128] The science relating to climate change and the risks it poses is clear. The issues raised sit on a very broad canvas; everyone is a carbon polluter and everyone is potentially affected by climate change. The effects, however, are not likely to be evenly distributed throughout the world. Those factors and the impact on future generations suggest the need for a global response.

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284 Barker and Winter, above n 262, at 65–66.

285 *Ramirez v Exxon Mobil Corp* Case No 3:16-cv-3111 (submissions to the District Court, Northern District of Texas), available at "Ramirez v Exxon Mobil Corp" Sabin Centre for Climate Change Law <www.climatecasechart.com>.

286 "Ramirez v Exxon Mobil Corp" Sabin Centre for Climate Change Law, above n 286.

287 ClientEarth "Court win in world-first climate risk case puts future of Ostrołęka C coal plant in question" (media release, 1 August 2019).

[129] There are decisions to be made about each country's share in the response and in many countries, the democratic process has been slow to respond to the challenge. This is a difficult issue for legislatures around the world.

[130] The indication from the many and varied cases around the world is that this democratic reality has made the courts a natural place of resort.

[131] We anticipate that recourse to the courts in the sorts of areas we have discussed will increase. To date, claims relying on private law doctrines have faced difficulty as parties have struggled to show a sufficient interest in the subject matter of the claim, or to show the relevant causal link between the action complained of and harm or loss they have suffered. The problems of climate change do not easily conform to existing forms of action.

[132] It might be that private law will develop to meet some of the challenges confronting climate change litigation: adjusting traditional concepts of standing where the wrong affects the whole of society[288] and where impacts of climate change are intergenerational and will impact young generations more significantly.[289] For example, the implications of the conferment of legal personhood on aspects of the environment are yet to be worked through by the courts.[290]

[133] In terms of causation, existing frameworks may constrain the successful litigation of these novel and complex claims. However, looking at issues from different angles may mean that such hurdles become less significant. In *Anvill Hill*, for example, the Court concluded that it was not critical that the impact from coal burning would be experienced globally, rather the impacts were assessed at the state level, overcoming de minimis arguments.[291] Climate change science and the increased ability to model possible effects will also be salient.[292]

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288 In *Union of Swiss Senior Women for Climate Protection*, above n 143, the Court held the appellants could not show they were particularly affected because the impacts of climate change were of a general nature, even if the effects on individuals were not equal.

289 As discussed in *Juliana,* above n 117.

290 See above at [78]–[79].

291 *Anvill Hill,* above n 200.

292 See above at [109].

[134] Despite these possible developments, we anticipate, in light of the difficulties with private law concepts, that parties will increasingly resort to public law remedies; holding governments and local authorities to commitments in domestic legislation interpreted in light of international treaties and agreements. We also anticipate an increasing focus on corporate governance issues and attempts to hold businesses to account for their emissions.

[135] All of these developments give rise to issues for the justice system.

[136] It is apparent from the discussion of the litigation that the courts are constrained by several things. The common law proceeds incrementally while climate change issues require a rapid response. Time is not costless. And just as fundamentally, cases will present with the kinds of issues that courts have typically regarded as non-justiciable. It may be therefore that the demand for climate justice will be a demand the courts struggle to satisfy. That may, in turn, present a challenge to the legitimacy of the judiciary in the sense of the perception there are unmet legal needs.

[137] The cases discussed also suggest the issue of climate change has the potential to continue to test the boundary between the three branches of government: the legislature, the executive and the judiciary. This is an area of high policy; where the need for a speedy response is balanced in policy terms with preserving economic stability and legitimate policy choices as to how reduction targets may best be met. And overlaid on all of this are countries' national and international obligations. Finding the proper role for the courts in climate change litigation will be a continuing challenge.

Appendix 1: Effects of Climate Change

Current effects and predictions

[138] Climate change is associated with global warming, which can be explained in simple terms as follows. Light from the sun passes through the atmosphere and is absorbed by the Earth's surface. Greenhouse gases, mainly carbon dioxide and methane, collect in the atmosphere, trapping heat near the surface, raising the Earth's temperature and affecting the climate system. This is a natural process but, since industrialisation, human activities have increased the production of greenhouse gases and these remain in the atmosphere for long periods.

[139] The effects of climate change we have already started to experience include:

(a) higher temperatures in many regions;[293] Hong Kong and Singapore are particularly affected, due to their high urban concentration, which retains heat and lacks natural carbon sinks

(b) increased rainfall in some regions;

(c) sea level rise;[294]

(d) ocean acidification;[295] ocean acidification also degrades coral reefs, which diminishes protection from storms

(e) glacial retreat;[296] the Arctic is warming around four times the rate of global warming and the mean surface temperature in the Arctic has risen 2.3 degrees Celsius since 1948

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293 In Hong Kong, the number of "hot nights" and "very hot days" has increased from 1–2 days annually in 1900 to 20 days annually in 2000: Hong Kong Observatory, Government of the Hong Kong Special Administrative Region *Hong Kong in a Warming World* (2nd ed, 2015) at 13.

294 Two small uninhabited islands in Kiribati, Tebua Tarawa and Abanuea, disappeared in the 1990s due to sea level rise: Alex Kirby "Islands disappear under rising seas" *BBC News* (online ed, 14 June 1999).

295 Harriet Farquhar "'Migration with Dignity': Towards a New Zealand Response to Climate Change Displacement in the Pacific" (2015) 46 VUWLR 29 at 39. For example, the Great Barrier Reef in Australia has seen coral bleaching due ocean acidification: "Climate change: Marine Environment (2016)" Australia State of the Environment <www.soe.environment.gov.au>.

(f) sea ice melt;[297]

(g) wildfires and heatwaves; heatwaves have caused more loss of life than any other natural hazard in Australia over the past 100 years[298]

(h) drought;[299]

(i) increases in extreme weather events such as cyclones and other storms;

(j) threats to biodiversity, ecosystems and marine environments;[300] and

(k) threats to food security.[301]

[140] The UN's recent global assessment of biodiversity, the first done in 15 years, found overwhelming evidence that human activities are behind nature's "unprecedented" decline. The Chair of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) described the "ominous" future facing our planet. We have caused a sixth wave of mass extinction, with up to one million species at risk of becoming extinct in the next few decades.

[141] The Intergovernmental Panel on Climate Change's 2019 Special Report on Global Warming says (with a high degree of statistical confidence) that human

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296 See earlier discussion of the *Lliuya v RWE* case between a Peruvian farmer whose hometown is threatened by glacial melt flooding in a nearby lake and Germany's largest electricity producer: at [110].

297 Government of Canada *Canada's Changing Climate Report: Executive Summary* (2019) at [4.2].

298 Australian Government, Department of the Environment and Energy "Climate change impacts in Australia" (2015) <www.environment.gov.au>.

299 John Schwartz "More Floods and More Droughts: Climate Change Delivers Both" *The New York Times* (online ed, 12 December 2018).

300 For example an Australian rodent has been made extinct by climate change: Ben Guarino and Lindsey Bever "Climate change officially claims its first mammal: the Bramble Cay melomys is declared extinct" *Washington Post* (online ed, 20 February 2019). Many of New Zealand's endemic and endangered animals will be particularly bad at adapting to climate change given their highly specialised nature and warming temperatures mean that more pests will be able to survive in New Zealand's environment than before: see "Impacts on native biodiversity" Department of Conservation <www.doc.govt.nz>; and National Institute of Water and Atmospheric Research *Auckland Region climate change projections and impacts* (March 2019).

301 See Rodomiro Oritz *Plant Genetic Engineering, Climate Change and Food Security* (CGIAR Research Program on Climate Change Agriculture and Food Security, CCAFS Working Paper 72, 2014); UNEP *Climate Change and Human Rights*, above n 43; and Food and Agriculture Organization *How to Feed the World in 2050* (2009).

activities have caused approximately 1.0 degrees Celsius of global warming above pre-industrial levels and that global warming is likely to reach 1.5 degrees Celsius between 2030 and 2052 if it continues to increase at the current rate. The report outlines increased dangers if warming rises to 2 degrees Celsius, including increases in:

> mean temperature in most land and ocean regions (high confidence), hot extremes in most inhabited regions (high confidence), heavy precipitation in several regions (medium confidence), and the probability of drought and precipitation deficits in some regions (medium confidence).

[142] Other effects, such as sea level rise, loss of biodiversity and ecosystems, ocean acidification, threats to fisheries and climate change related risks to health, food security and fresh water supply are all projected to be lower with a rise of 1.5 degrees Celsius compared to 2 degrees Celsius.[302]

[143] Climate change effects are all interrelated: a slower rate of sea level rise would enable greater opportunities for adaptation in the human and ecological systems of small islands, low-lying coastal areas and deltas (medium confidence).

Specific climate risks facing colloquium jurisdictions

[144] Singapore and Hong Kong face particular risk as small island jurisdictions. Hong Kong has already faced sea level rise of 17cm in the average mean sea level of Victoria Harbour from 1955–2015.[303] Singapore also faces significant sea level risks, with most of the country only 15 metres above the current mean sea level, and a third of the country less than five metres above that level.[304] Both jurisdictions also face urban heat problems which increases the risk of heat stress for humans,

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302 See also Intergovernmental Panel on Climate Change *Climate Change and Land, and IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* (August, 2019). On this report, see Jamie Morton "What the UN's latest big climate report means for NZ" (8 August 2019) NZ Herald <www.nzherald.co.nz>; and Ben Webster "Eat less meat to save the Earth, urges UN" (8 August 2019) The Times <www.thetimes.co.uk>.

303 Hong Kong Observatory, Government of the Hong Kong Special Administrative Region, above n 293, at 14.

304 National Climate Change Secretariat, Singapore "Impact of Climate Change on Singapore" (20 February 2018) <www.nccs.gov.sg>.

particularly those already vulnerable from existing health issues, and the increases the need for air conditioning, which creates a financial burden on energy sources.[305]

[145] Many of Australia's climate related problems are also centred around water – sea level rise, flooding, ocean acidification, increased algae blooms and more tropical cyclones in the north. Oceans around Australia have warmed by around 1 degree Celsius since 1910.[306] Australia also faces significant drought and wildfire risks, which threaten agriculture and livestock productivity, and have been shown to decrease mental health particularly in rural communities.[307]

[146] Canada's climate related problems relate to precipitation: it faces reduced snowfall and more rainfall. Snow is melting earlier, producing higher winter water flows in rivers and increasing the risk of urban flooding, and the loss of glacier ice is producing lower summer flows in rivers and streams.[308] It is projected that Canada's western glaciers will lose 74 to 96 per cent of their volume by 2100.[309] Melting polar ice leads to ice floes drifting into navigation routes,[310] oceans becoming less salty (which reduces their ability to absorb greenhouse gases),[311] and damage to coastal infrastructure as a result of larger storm surges and larger waves.[312]

[147] New Zealand's climate-related risks include longer and hotter summers, increased frequency of ex-tropical cyclones in the north, increased winter rainfall, glacial melt, increased growth of algae in rivers, and increased spread of vector-borne diseases and number of pests.[313]

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305 "Impact of Climate Change on Singapore", above n 304; and *Hong Kong in a Warming World*, above n 293, at 12 and 16.

306 Bureau of Meteorology *State of the Climate 2018* (Australian Government, 2018) at 2.

307 Australian Government, Department of the Environment and Energy "Climate change impacts in Australia" (2015) <www.environment.gov.au>; and *State of the Climate 2018*, above n 306.

308 Government of Canada *Canada's Changing Climate Report: Executive Summary* (2019), at [6.2]–[6.5].

309 *Canada's Changing Climate Report: Executive Summary*, above n 308, at [5.4]–[5.6].

310 At [5.3].

311 At [7.3].

312 At [7.5]

313 Ministry for the Environment "Likely climate change impacts in New Zealand" (2018) <www.mfe.govt.nz>.

Appendix 2: Groups specially affected

Youth

[148] Younger generations face the greatest consequences of climate breakdown. It is the younger generations who will deal with the potentially catastrophic effects of climate change, as such effects will continue to worsen; with global temperatures expected to increase at least 1 degree Celsius over the next ten to thirty years.

[149] Today's children are starting to demand action. One example of this was the global climate strike day of 15 March 2019. This protest stemmed from weekly marches led by 16-year-old Swedish Greta Thunberg from August 2018. She has since been nominated by some Norwegian Members of Parliament for a Nobel Prize, and has spoken at the UN Climate Talks (Poland, December 2018), at the World Economic Forum (Davis, January 2019) and in the European Parliament (Brussels, April 2019).[314] It is estimated that on 15 March more than 1 million students protested government inaction on climate change, with 2,000 protests in 125 countries.[315] The strike has been controversial, particularly in the UK, but has also received broad support.[316] Head of Amnesty International, Kumi Naidoo supported the strike, saying "[c]hildren are often told they are 'tomorrow's leaders'. But if they wait until 'tomorrow' there not be a future in which to lead".[317]

[150] Another way these intergenerational concerns have manifested are in the use of children as claimants in litigation, which both makes sense from a justice point of

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314 Damian Carrington "Greta Thunberg nominated for Nobel Peace Prize for climate activism" *BBC News* (online ed, 14 March 2019).

315 Jessica Glenza and others "Climate strikes held around the world – as it happened" *The Guardian* (online ed, 15 March 2019).

316 A spokesperson from Downing Street in relation to the February 2019 school strikes called them "a waste of time"; other political leaders support the strikes for example Claire Perry MP, Minister for Business, Energy and Industrial Strategy, said "I'm incredibly proud of the young people in the UK who are highly educated about this issue and feel very strongly – quite rightly – that we do need to take action, because it's their generation that will bear the consequences": see Rosemary Bennett "Climate protest pupils are arrested for halting traffic" *The Times* (online ed, London, 15 February 2019).

317 As quoted in Carrington, above n 314.

view and is an increasingly used technique for standing in litigation.[318] However, as noted by Chief Judge of the Land and Environment Court of New South Wales, Brian Preston, environmental law usually hinders distributive justice by failing to mandate intergenerational equity.[319]

Poverty

[151] The poor are both disproportionately affected by climate change, largely because their livelihoods are often highly dependent on natural resources, and they are least able to adapt to it.[320] A 2019 report of the United Nations Special Rapporteur on climate change and extreme poverty found that climate change will exacerbate poverty and inequality and threatens to undo the previous fifty years of progress in development and poverty reduction.[321] The International Bank for Reconstruction and Development has found that poor people and poor nations are more vulnerable to climate-related shocks. Climate change has lowered agricultural production generally and affected subsistence living; as well as increased the price of food, a problem as poor people spend a higher proportion of their money on food.[322] A greater proportion of poorer people live in at-risk areas, for example flood prone areas, due to land scarcity in urban areas and maximising agricultural or trade potential in rural areas.[323]

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318 See for example as in *Juliana v United States* 217 F Supp 3d 1224 (DC Or, 10 November 2016).

319 Hon Justice Brian Preston SC "The effectiveness of the law in providing access to environmental justice: an introduction" in Paul Martin et al (eds) *The Search for Environmental Justice* (Edward Elgar, Cheltenham, 2015) 23 at 27.

320 United Nations Development Programme *Overview of linkages between gender and climate change: Gender and Climate Change, Asia and the Pacific – Policy brief* (2012) at 2. On adaptation, see also Stephane Hallegatte et al *Shock Waves: Managing the Impacts of Climate Change on Poverty* (International Bank for Reconstruction and Development, 2016) at 11 [IBRD *Shock Waves*: *Managing the Impacts of Climate Change on Poverty*].

321 *Climate change and poverty: Report of the Special Rapporteur on extreme poverty and human rights* UN Doc A/HRC/41/39 (25 June 2009) at [11]–[13].

322 IBRD *Shock Waves*: *Managing the Impacts of Climate Change on Poverty*, above n 320, at 4–5. The Global Facility for Disaster Reduction and Recovery, managed by the World Bank, emphasised that crop yield losses by 2030 could make food prices in Sub-Saharan Africa on average 12 per cent higher, acutely straining poor households and leading to malnutrition and a 23 per cent increase in severe stunting: "Managing the Impacts of Climate Change on Poverty" (November 2015) Global Facility for Disaster Reduction and Recovery <www.gfdrr.org>.

323 IBRD *Shock Waves*: *Managing the Impacts of Climate Change on Poverty*, above n 320, at 6–9.

[152] Without "short-run, rapid, inclusive and climate-informed development", climate change will force an additional 100 million people into extreme poverty (living on less than USD $2 per day) by 2030.[324]

Indigenous peoples

[153] Indigenous people are also likely to be disproportionately affected by climate change, especially as colonisation has often dispossessed them of a large portion of their land and economic base of resources. As a result, many indigenous people can be in poverty, but they are also often still reliant on primary resources, which will be adversely affected by climate change.[325]

Women

[154] Another inequity is that women are disproportionately affected by climate change. First, women comprise 70 per cent of the global population who live on less than $1 per day and, as noted above, the poorest people are the most vulnerable to climate change. Further, United Nations figures indicate that 80 per cent of people displaced by climate change are women.[326] Secondly, women are less likely to survive than men when disasters do strike. This has been explained by women being less likely to know how to swim (due to social constraints) and more likely to rescue children and other relatives before themselves.[327] The third reason is that women are less well-positioned to manage the risks or mitigate the consequences of those events either because they are not involved in political and household decision-making processes that affect their lives[328] or because of gender-based barriers to access land, financial services, social capital and technology to respond to food insecurity.[329]

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324 IBRD *Shock Waves*: *Managing the Impacts of Climate Change on Poverty*, above n 320, at 2 and 12–22.

325 See also above at [74]–[79].

326 United Nations Development Programme *Gender and Climate Change: Overview of linkages between gender and climate change* (2016) at 5 [UNDP *Gender and Climate Change*].

327 UNDP *Gender and Climate Change,* above n 326, at 4–5.

328 UNDP *Gender and Climate Change,* above n 326, at 4–5.

329 World Bank *World Development Report 2012: Gender Equality and Development* (Washington DC, World Bank Group, 2011).

Least developed countries

[155] Least developed countries are particularly vulnerable to the effects of climate change for a number of reasons.[330] One of the reasons is geographical; many least developed countries are situated in parts of the world expected to be severely impacted by climate change.[331] Additionally, least developed countries rely heavily on economic sectors that are climate dependant, such as agriculture, for local livelihood and economic output and income.[332] As these countries have lower levels of development, they are less resilient and have a lower capacity to adapt to the effects of climate change.[333]

[156] We note, given the particular interest to the colloquium jurisdictions, the effects in the Pacific and Southeast Asia. In Southeast Asia, some regions are likely to experience intense rainfall, flood and storm risks whereas others are likely to experience sparser rainfall and prolonged droughts.[334] Changes in rainfall are of great significance as a large number of the population depend on rain-fed agriculture.[335] Bangladesh has been recognised as one of the most vulnerable countries, with a large number of people being internally displaced as a result, predicted.[336]

[157] In the Pacific small island nations are at particular risk from the effects of climate change due to their low lying position,[337] exposure to increased storms

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330 Developing countries generally are expected to suffer at least 75 per cent of the costs of climate change despite generating just 10 per cent of emissions. United Nations Human Rights Office of the High Commissioner "UN expert condemns failure to address impact of climate change on poverty" (25 June 2019) <www.ihchr.org>.

331 Mattias Bruckner *Climate Change Vulnerability and the Identification of Least Developed Countries* (United Nations, Department of Economic and Social Affairs, June 2012) at 1.

332 Bruckner, above n 331, at 1.

333 At 1.

334 Armin Rosencranz and Others "Climate Change Adaption, Policies, and Measures in India" (2010) 22 Geo Int Envtl L R 575 at 575.

335 Rosencranz "Climate Change Adaption, Policies, and Measures in India", above n 334, at 575.

336 Mostafa Mahmud Naser "Climate Change and Migration: Law and Policy Perspectives in Bangladesh" (2014) Asian JLS 35 at 35–36.

337 Two of the most at-risk countries are Tuvalu and Kiribati, with all land in these countries lower than two metres. See Simon Nazer "The Last Islanders: Rising Sea Levels in Papua New Guinea" UNICEF (22 March 2017) <www.blogs.unicef.org>; and John Connell "Last Days in the Carteret Islands? Climate Change, Livelihoods and Migration on Coral Atolls" (2016) 57 Asia Pacific Viewpoint 3.

coming off oceans, reliance on fishing and agriculture, and reliance on now endangered vibrant ocean areas and coral reefs for tourism.[338]

[158] There is a possibility of the territory of whole nations in the Pacific (and elsewhere) disappearing because of sea level rises (a particular risk for small island states). A future legal question will arise as to whether and how statehood is maintained if an entire population is forced to relocate to another state's territory.[339] One of the requirements of gaining statehood is having a defined territory.[340] Much of the commentary argues that these countries would not, however, lose their statehood despite having no territory, often making a distinction between gaining statehood existing statehood.[341]

Displaced peoples

[159] In 2016, over 24 million people were newly displaced by natural disasters, which was three times more than the number of people displaced by conflict.[342] This includes natural disasters unrelated to climate change, such as earthquakes and tsunamis, as well as what are thought to be related disasters, such as increasingly frequent and severe storms, floods and droughts. Internationally, there is the view

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338 See generally Susan Glazebrook "The Refugee Convention in the 21st Century" (2018) 49 VUWLR 477 at 492–493; Susan Glazebrook "Protecting the Vulnerable in the Twenty-First Century: an International Perspective" (Shirley Smith Lecture, Wellington Branch of the New Zealand Law Society, 17 September 2014) available at <www.courtsofnz.govt.govt.nz>; and Farquhar, above n 295.

339 A further issue is what would happen to the large and resourceful exclusive economic zones of many of the small island states: see Kya Raina Lal "Legal Measures to Address the Impacts of Climate Change-induced Sea Level Rise on Pacific Statehood, Sovereignty and Exclusive Economic Zones" (2017) 23 AULR 235.

340 Montevideo Convention on the Rights and Duties of States (entered into force 26 December 1934), art 1.

341 See for example Abhimanyu George Jain "The 21st Century Atlantis: The International Law of Statehood and Climate Change-Induced Loss of Territory" (2014) 50 Stanford J Intl L 1; Catherine Blanchard "Evolution or Revolution: Evaluating the Territorial State-Based Regime of International Law in the Context of the Physical Disappearance of Territory due to Climate Change and Sea Level Rise" (2015) 53 Can YB Int'l L 66; Alberto Costi and Nathan Jon Ross "The Ongoing Legal Status of Low-Lying States in the Climate-Changed Future" in Petra Butler and Caroline Morris (eds) *Small States in a Legal World* (Springer, Wellington, 2015) 101–138; and Rosemary G Rayfuse and Emily Crawford "Climate Change, Sovereignty and Statehood" in Rayfuse and Scott (eds) *International Law in the Era of Climate Change* (EE, Australia, 2012).

342 Internal Displacement Monitoring Centre *Global Report on Internal Displacement* (May 2017) at 10.

that adaptation and mitigation efforts should be concentrated on removing the need for migration for climate change reasons.[343] It is said that relocating communities (even internally within a country) "should be a last resort when all other adaptation means have failed".[344]

[160] Islanders across the Pacific have expressed the same sentiment, emphasising their cultural ties to the land as a central part of their identity.[345] In a poem spoken at the UN Climate Change Conference of Parties 2017, Marshall Islander Kathy Jetnil-Kijiner said:[346]

> tell them we are afraid
> …
> but most importantly tell them
> we don't want to leave
> we've never wanted to leave
> and that we
> are nothing without our islands.

[161] Despite these views, some displacement seems likely and some may seek (or be obliged to seek)[347] to relocate to other countries rather than internally within their own countries. The concept of climate refugees does not, however, fit well under existing international asylum and refugee law. First, the Refugee Convention has enumerated grounds for protection.[348] Another legal hurdle is that "persecution" under the Convention, which requires serious harm and the failure of state

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343 Exceptionally, note calls from political leaders in the Maldives for territory in Australia: Ben Doherty "Climate Change Castaways Consider Move to Australia" *Sydney Morning Herald* (online ed, Sydney, 7 January 2012).

344 Megan Rowling "Vulnerable nations urged to craft climate migration policy" *Thomson Reuters* (online ed, 12 December 2014). See also the practical commentary and discussion of human rights implications arising from understandings of relocation versus evacuation versus resettlement: Jane McAdam and Elizabeth Ferris "Planned Relocations in the Context of Climate Change: Unpacking the Legal and Conceptual Issues" [2015] CJICL 137; see also Farquhar "Migration with Dignity", above n 295, at 43–46.

345 Nansen Initiative on Disaster-Induced Cross-Border Displacement *Human Mobility, Natural Disasters and Climate Change in the Pacific* (May 2013) at 10–11.

346 Kathy Jetnil-Kijiner "Poem: Tell Them" (13 April 2011) <www.jkijiner.wordpress.com>.

347 Obliged because their countries are unable to cope.

348 Convention Relating to the Status of Refugees 189 UNTS 150 (opened for signature 22 April 1954) [Refugee Convention], art 1(3): the grounds for refugee status are race, religion, nationality and membership of a particular social group or political opinion.

protection, does not readily cover the effects of climate change, given that climate change lacks identifiable and immediate human agency.[349] Another issue is that the people displaced are likely to first be displaced within their own countries. Internal displacement is not covered by the Refugee Convention.[350] Further, it is communities, rather than individuals, who are displaced. Finally, there are issues as to whether (or rather, when) climate change meets thresholds of imminence.[351]

[162] New Zealand is one of the few jurisdictions to have heard cases on the applicability of the Refugee Convention to environmental migrants.[352] In *Teitiota v Chief Executive of Ministry of Business, Innovation and Employment*, Mr Teitiota, from Kiribati, applied as an overstayer in New Zealand for refugee or special immigration protected status. The Immigration Tribunal, High Court and Court of Appeal all rejected arguments that he was a refugee under the Convention. The Supreme Court dismissed an application for leave to appeal against the Court of Appeal decision. The Supreme Court left the door slightly open: it said that its decision and the lower courts' decisions did not mean that environmental degradation resulting from climate change or other natural disasters could never create a pathway into Refugee Convention or protected person jurisdiction.[353]

[163] Turning to other initiatives in the international sphere, the UNFCCC and the International Organisation for Migration (the United Nations Migration Agency) have created a Task Force on Displacement. In a recent report, that Task Force noted increasingly global policy awareness of human mobility and displacement in the

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349 See Farquhar "Migration with Dignity", above n 295, at 33. See also Glazebrook "The Refugee Convention in the 21st Century", above n 338, at 481, citing Andreas Zimmerman and Claudia Mahler "Article 1A, para 2 1951 Convention" in Andreas Zimmerman (ed) *The 1951 Convention Relating to the Status of Refugees and its 1967 Protocol: A Commentary* (Oxford University Press, New York, 2011) 281 at 345, and *Islam v Secretary of State for the Home Department* [1999] 2 AC 629 (HL) at 653 (per Lord Hoffmann).

350 Glazebrook "The Refugee Convention in the 21st Century", above n 338, at 487.

351 Farquhar "Migration with Dignity", above n 295, at 37.

352 *Teitiota v Chief Executive of Ministry of Business, Innovation and Employment* [2013] NZHC 3125, [2014] NZAR 162; *Teitiota v Chief Executive of Ministry of Business, Innovation and Employment* [2014] NZCA 173, [2014] NZAR 688; and *Teitiota v Chief Executive of Ministry of Business, Innovation and Employment* [2015] NZSC 107. See also *TRR v Refugee and Protection Officer* [2016] NZHC 233.

353 *Teitiota v Ministry of Business, Innovation and Employment* [2015] NZSC 107 at [13].

context of climate change, particularly since the Paris Agreement in 2015.[354] The Task Force did concede that international law lacks any "hard law" specialised provisions enforceable by people displaced by climate change.[355]

[164] In December 2018, two new United Nations instruments have been affirmed: the Global Compact on Safe, Orderly and Regular Migration[356] and the Global Compact on Refugees.[357] Both Compacts recognise climate change as a factor driving voluntary and forced migration.[358] While the Compacts have been heralded as rethinking the problem and addressing the root causes of movement of people, neither is legally binding and neither creates new international customary law.[359]

[165] There have also been some global governance proposals. One of those is "The Nansen Initiative", which aims at addressing the protection gap for forced cross-border displacement in the context of environmental pressure by designing a toolbox for disaster displacement, with the goal of developing intergovernmental consensus.[360]

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354 International Organization for Migration *Mapping Human Mobility (Migration, Displacement and Planned Relocation) and Climate Change in International Processes, Policies and Legal Frameworks: Task Force on Displacement* (Task Force on Displacement, Activity II.2, August 2018) [IOM Task Force on Displacement] at 7–8.

355 IOM Task Force on Displacement, above n 354, at 10.

356 Global Compact for Safe, Orderly and Regular Migration (opened for signature 19 December 2018) [Migration Compact].

357 See *New York Declaration for Refugees and Migrants* GA Res 71/1 (2016); and United Nations High Commissioner for Refugees *Part II Global Compact on Refugees* UN Doc A/73/12 (13 September 2018) [Refugee Compact].

358 Objective 2 of the Migration Compact is to minimise the adverse and structural factors that compel people to leave their country of origin, and the Compact provides that "states are to invest in … resilience and disaster risk reduction, climate change mitigation and adaptation": at [18]. The Refugee Compact has the goal of predictable and equitable burden- and responsibility-sharing among all UN member states, centred on the principle of non-refoulement. The Refugee Convention too recognises that climate, environmental degradation and natural disasters increasingly interact with drivers of refugee movements: at [8].

359 Ülkü Sezgi Sözen "Back to Square One or a New Blueprint has been Found for the 'Refugee' Definition?" (5 March 2019) EJIL: Talk? Blog of the European Journal of International Law <www.ejiltalk.org>.

360 The Nansen Initiative "Towards a Protection Agenda for People Displaced Across Borders in the Context of Disasters and the Effects of Climate Change" <www.nanseninitiative.org>.

Appendix 3: Investment, trade and climate change

[166] International investment treaties could also be relevant to climate change. These seek to protect and promote foreign investment by lowering the political and financial risks. Typically, countries are bound under international investment treaties to treat investors from the other contracting country no less favourably than they treat their own investors or investors from any other countries. States would also typically be required to pay compensation for expropriation. These standards, which are key elements of international investment law, are commonly known as 'national treatment', 'most favoured nation treatment' and 'expropriation'.[361] Investment treaties will contain a dispute resolution clause, typically for investor-state arbitration.

[167] Foreign investment, particularly in developing countries, is important both for adaptation and mitigation of climate change, as it enhances the global spread of climate change technology and expertise.[362] However, it is conceivable that investors unfavourably impacted by a country's environmental laws could seek to enforce their investment rights, which in turn could have a chilling effect on countries regulating in the public interest to address climate change.[363] For example, treating a domestic investor using renewable energy more favourably than a foreign investor using non-renewable energy could potentially breach national treatment obligations.[364] Another hypothetical is that a government taking an investor's coastal

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361 See Fiona Marshall, International Institute for Sustainable Development "Investment, ICSID and Climate Change: Turning Obstacles into Opportunities" (The Global Institutional Architecture and the Financial Crisis – An Opportunity for Sustainable Development, Berlin, Germany, 15 September 2009); and Bradly Condon "Climate Change and International Investment Agreements" (2015) 14 Chinese JIL 305 at 306.

362 Condon "Climate Change and International Investment Agreements", above n 361, at 307.

363 Condon "Climate Change and International Investment Agreements", above n 361, at [73]. See more generally Judith Levine, Senior Legal Counsel for the Permanent Court of Arbitration "Adopting and Adapting Arbitration for Climate-Related Disputes" in *Dispute Resolution and Climate Change: The Paris Agreement and Beyond* (International Chamber of Commerce, Paris, 2017); and David Rivkin, Sophie Lamb and Nicola Leslie "The Future of Investor-State Dispute Settlement in the Energy Sector: Engaging with Climate Change, Human Rights and the Rule of Law" (2015) 8 Journal of World Energy Law & Bus 130.

364 Marshall "Investment, ICSID and Climate Change: Turning Obstacles into Opportunities", above n 361, at [2.1].

land to build a coastal buffer zone against sea level rise, without adequate compensation, might breach expropriation obligations.[365]

[168] Arguments can be made that states implementing necessary regulation to deal with climate change would not be in breach of investment treaties. General scope clauses in treaties limit the application of the treaty to measures "relating to" foreign investment.[366] Therefore government environmental regulation that does not "relate to" foreign investment may fall outside the substantive obligations of the investment treaty. For example, in *Methanex Corp v United States,* the arbitral tribunal held the term "relating to" under art 1101(1) of the North Atlantic Free Trade Agreement requires a "legally significant connection" between a measure and an investor or investment.[367] Consequently, California's ban of methanol as a gasoline additive imposed for environmental reasons was considered an environmental measure excluded from the scope of the treaty.[368] However, as Condon argues, the utility of general scope provisions excluding climate change regulation depends on the wording and context of the provision.[369]

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365 Marshall "Investment, ICSID and Climate Change: Turning Obstacles into Opportunities", above n 361, at [2.1].

366 General exception clauses are becoming increasingly common; these clauses usually address the nexus between government action and investment, for example "relating to", or contain an exhaustive list of permissible policy objectives: see Levent Sabanogullari "The Merits and Limitations of General Exception Clauses in Contemporary Investment Treaty Practice" (21 May 2015) International Institute for Sustainable Development – Investment Treaty News <www.iisd.org>.

367 *Methanex Corp v United States* (Preliminary Award on Jurisdiction and Admissibility, 2002) at [139]. Article 1101(1) provides that the treaty applies to "measures adopted or maintained by a Party relating to: (a) investors of another Party; (b) investments of investors of another Party in the territory of the Party; and (c) with respect to Articles 1106 and 1114, all investments in the territory of the Party".

368 See discussion in Condon "Climate Change and International Investment Agreements", above n 361, at [15]–[20].

369 Condon "Climate Change and International Investment Agreements", above n 361, at 317. Some treaties contain other general exclusions whereby governments implementing public policy measures are not considered in breach of the treaty. The general public policy exception in the North Atlantic Free Trade Agreement, at issue in *Methanex,* extends to law enforcement, social security, public education and health but does not extend to the environment (except perhaps to the extent that climate change now causes public health issues such as by increasing transmission of vector-borne diseases).

[169] Another possible method of achieving regulatory autonomy is under environmental exceptions in the investment treaty itself. For example, the Comprehensive Economic and Trade Agreement between the European Union and Canada (more commonly known as CETA) explicitly gives parties' rights to "set its environmental priorities, to establish its levels of environmental protection, and to adopt or modify its laws and policies accordingly and in a manner consistent with the multilateral environmental agreements to which it is party and with this Agreement".[370]

[170] Even though the majority of investment treaties do not have explicit environmental exceptions, state practice is consistent with the view that investment treaties do not negate the right to regulate climate change.[371] Although international arbitral law has no system of precedence, there is a pattern that the scope of "most favoured nation" or "national treatment provisions" are interpreted to preserve states' autonomy to regulate climate change, even where the treaty does not contain a general exception for environmental measures.[372]

[171] The relationship between trade agreements and climate change also warrants brief discussion. Historically, there has existed a fundamental tension between expanding trade and meeting climate change obligations. Universal tariff reduction has, in the past, seen an increase in carbon-intensive products over environmental ones.[373] The tension is apparent, for example, in the introduction of new trade rules in the European Union. In March 2019 the European Commission set new trade rules on the use of imported palm oil for biodiesel.[374] The new rules were aimed at curbing deforestation associated with the production of palm oil, and in turn, to slow climate change; they are directly connected to the EU's renewable energy goals. In response, the Council of Palm Oil Producing Countries (whose members produce

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370 CETA Canada-EU (provisionally entered into force 21 September 2017), art 24.3

371 Condon "Climate Change and International Investment Agreements", above n 361, at [40]. We note that investor-state arbitration over environmental disputes is not always by the state against the investor: see for example *Allard (Canada) v Barbados (Award)* PCA 2012-06, 27 June 2016.

372 Condon "Climate Change and International Investment Agreements", above n 361, at [48].

373 The Economist Intelligence Unit *Climate Change and Trade Agreements: Friends or Foes* (The Economist, 2019) at 5.

374 Ben Lilliston "When climate goals and trade rules collide" (8 April 2019) Institute for Agriculture & Trade Policy < https://www.iatp.org>.

approximately 90 per cent of global supply) has announced that it will challenge the rules "through bilateral consultations and at the World Trade Organisation".[375]

[172] There remains, however, the potential for "trade-climate synergies".[376] Bilateral, regional or WTO trade agreements could help, rather than hinder, climate change progress. A report by the Economist Intelligence Unit identified seven opportunities for boosting climate-friendly trade. These are the approval of non-discriminatory renewable energy subsidies, international cooperation on climate change goals, the removal of tariff barriers on environmental goods and services, the removal of tariff and non-tariff barriers on environmental goods and services, explicit limits on fossil fuel subsidies, border adjustment carbon taxes and green procurement.[377] While it is recognised that to date the relationship between climate change concerns and trade has been largely ignored, primarily due to the fact that much of global trade is "locked" into already existing trade agreements, the Unit says that there should in future be strong trade agreements conducive to climate change mitigation.[378]

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375 Lilliston, above n 374
376 The Economist Intelligence Unit, above n 373, at 5.
377 The Economist Intelligence Unit, above n 373, at 5.
378 At 5.