IN THE HIGH COURT OF NEW ZEALAND
WELLINGTON REGISTRY

I TE KŌTI MATUA O AOTEAROA
TE WHANGANUI-Ā-TARA ROHE

CIV 2015-485-919
[2017] NZHC 733

UNDER	the Judicature Amendment Act 1972 and Part 30 of the High Court Rules
IN THE MATTER OF	decisions made under the Climate Change Response Act 2002 and public decisions made in relation to the United Nations Framework Convention on Climate Change
BETWEEN	SARAH THOMSON Plaintiff
AND	THE MINISTER FOR CLIMATE CHANGE ISSUES Defendant

Hearing: 26-28 June 2017

Appearances: D Salmon, M Heard, S Humphrey for the Plaintiff
P Gunn, K Laurenson, K Stone for the Defendant

Judgment: 2 November 2017

JUDGMENT OF MALLON J

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Introduction

[1] This is a judicial review proceeding concerning the Government's response to climate change. It is brought by the plaintiff who is a law student concerned at that response and the consequences of its alleged inadequacy on future generations.

[2] It is common ground that climate change presents significant risks and that serious and prompt global action is required if dangerous consequences for the planet and its inhabitants are to be prevented.

[3] For example, Professor Hansen, who is a leading expert in climate change and who has filed affidavit evidence for the plaintiff, says:

> We will not preserve a habitable climate system unless developed nations act without further delay, both to phase out their own emissions and to aid the balance of nations in the development of their own carbon free energy sources.

[4] Similarly, the Hon Timothy Groser, the Minister for Climate Change Issues over the relevant period, who has filed an affidavit on behalf the defendant, says:

> Tackling climate change is crucial if we are to avoid harm to people, the environment and the economy. As Minister, I accepted the global scientific

> consensus on climate change as set out in the [AR5]. It is not in doubt that climate change is a global issue that needs to be addressed seriously and promptly by all states if global warming is to be kept at less than 2ºC. An increase of more than 2ºC would be dangerous.

[5] Judicial review is concerned with the lawful exercise of statutory or public powers. It provides a constitutional check on public power exercised by the Executive branch of government, but it has limits reflecting the separation of powers between the Courts and the Executive. There is a difference in view between the parties in this case about whether the Government's response to climate change, as challenged in this proceeding, is amenable to review by the Court and if so, on what basis.

[6] This judicial review challenges two decisions made by the Minister for Climate Change Issues. Each concerns a target for reducing harmful greenhouse gas emissions. One of those, the 2050 target, was set under domestic legislation. It is accepted this is amenable to review but the parties differ on whether the Minister breached that legislation by not reviewing the target following updated international scientific consensus about climate change.

[7] The other decision concerns the setting of a 2030 target pursuant to an international agreement (the Paris Agreement). The defendant considers this decision falls to be determined in international rather than domestic fora. The defendant further considers the 2030 target is a policy decision which involves balancing competing considerations and is outside the Court's proper role. The plaintiff considers the decisions are amenable to review on traditional judicial review grounds.

Climate change

[8] The defendant accepts the following matters (including those detailed in the footnotes) pleaded by the plaintiff:

(a) Human activities have been substantially increasing atmospheric concentrations of greenhouse gases, including CO_2 (carbon dioxide), CH_4 (methane) and N_2O (nitrous oxide). The accumulation in the

atmosphere of greenhouse gases released as a result of human activity increases the natural greenhouse gas effect which causes the warming of the planet. Climate change will result on average in an additional warming of the Earth's surface and atmosphere. This will adversely affect natural ecosystems and humankind.

(b) Evidence of the warming of the climate system is unequivocal and, since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere[1] and ocean[2] have warmed, the amount of snow and ice has diminished,[3] sea levels have risen,[4] and the concentrations of greenhouse gases have increased.[5] It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century.

(c) Global warming will have many severe impacts, often mediated through water. The damage resulting from the effects of climate change will accelerate as the world gets warmer. Damage as a result of climate change is already being observed. The impacts of climate change are not evenly distributed, and risks are generally greater for disadvantaged people and communities in countries at all levels of development.

(d) The largest share of historical global greenhouse gas emissions originated in developed countries. On average, developing countries currently and historically have had lower per capita emissions than

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1 Each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since reliable records began in 1850. In the Northern Hemisphere 1983 to 2012 was likely the warmest 30 year period in the 1,400 years prior to 2012.

2 Ocean warming dominates the increase in energy stored in the climate system, accounting for more than 90 per cent of the energy accumulated between 1971 and 2010. It is virtually certain that the upper ocean (0-700 m) warmed from 1971 to 2010, and it likely warmed between 1870 and 1971.

3 Over the last two decades the Greenland and Antarctic ice sheets have been losing mass, glaciers have continued to shrink almost worldwide, and Arctic sea ice and Northern Hemisphere spring snow cover have continued to decrease in extent.

4 The rate of sea level rise since the mid-19th century has been larger than the mean rate during the previous two millennia. Over the period 1901 to 2010, the global mean sea level rose by 0.19 m.

5 Total anthropogenic greenhouse gas emissions were the highest in human history from 2000 to 2010 and reached 49 ($\pm$4.5) Gigatonnes of CO_2 ($GtCO_2$) equivalent (that is, CO_2 and the equivalent in other greenhouse gases) per year in 2010.

developed countries. New Zealand is a high per capita emitter on some metrics when compared to other developed countries, but the respondent considers it is a low per capita emitter on others.

(e) Emissions have been, and continue to be, driven by economic growth. Without additional efforts to reduce greenhouse gas emissions beyond those in place today, emissions growth is expected to persist driven by growth in global population and economic activities. Unless curtailed, the share of global emissions originating in developing countries will grow to meet their social and development needs. Stabilisation of greenhouse gas concentrations in the atmosphere is, however, feasible and can be consistent with continued growth.

(f) The risk of serious, irreversible impacts from climate change increases strongly as concentrations of greenhouse gases in the atmosphere rise. Limiting climate change and avoiding its dangerous consequences, including serious damage to the human environment in the future, requires substantial and sustained reductions of greenhouse gas emissions. A failure to reduce global greenhouse gas emissions is also likely to have significant adverse economic impacts. Delay in mitigating climate change may result in higher mitigation costs and fewer mitigation options.

(g) The global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response. Effective mitigation will not be achieved if individual states advance their own interests independently.

(h) Steps required to understand and address climate change will be environmentally, socially and economically most effective if they are based on relevant scientific, technical and economic considerations and continually re-evaluated in the light of new findings in these areas.

[9] The above matters are set out in the fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC). The IPCC is a scientific body established in 1988 under the auspices of the United Nations and the World Meteorological Organisation.[6] The IPCC assesses and publishes reports on the latest information about climate change.[7] The AR5 was published in stages between September 2013 and November 2014.[8]

[10] The AR5 is the most comprehensive assessment of scientific knowledge on climate change since its predecessor, the AR4, which was published in 2007. Professor Frame, a Professor of Climate Change at Victoria University,[9] who has filed an affidavit for the defendant, describes the IPCC portrayal of the scientific scale of the climate change problem as "the best available synthesis of the literature and forms a sound body of evidence".[10] Professor Renwick[11] and Professor Hansen,[12] the climate change experts who have filed affidavits for the plaintiff, agree, although they say it represents a "conservative" consensus of the relevant scientific community.

[11] The AR5 contains the following details about the emissions levels that will have dangerous and irreversible consequences for the earth and its inhabitants and the global mitigation efforts required to avert this (the defendant accepts these matters):

(a) Dangerous anthropogenic interference with the climate system will inevitably occur if the global temperature rises by 2ºC or more above

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6 The IPCC has 195 members including New Zealand.

7 These are generally divided into three working groups: Working Group I covers existing scientific knowledge about the climate system and climate change; Working Group II covers the consequences of climate change for the environment, economy and society; and Working Group III covers possible strategies in response to these changes.

8 The Working Group I report was published on 28 September 2013; the Working Group II report was published on 30 March 2014; the Working Group III report was published on 13 April 2014; and the AR5 Synthesis Report was published on 2 November 2014.

9 Professor Frame is a Lead Author on Working Group I.

10 Affidavit of Professor Frame (14 April 2016) at [34].

11 Professor Renwick is also a Professor at Victoria University and a Lead Author for the AR5 and the AR4.

12 Professor Hansen is an Adjunct Professor at Columbia University. He holds degrees in physics, maths and astronomy and a PhD in physics and has focussed on the Earth's climate since the mid-1970s. He was formerly a director of the Earth Institute's programme on Climate Science Awareness and Solutions and a Director of the NASA Goddard Institute for Space Studies.

pre-industrial levels. It is also possible that dangerous anthropogenic interference with the climate system will result from a lower global temperature rise. In baseline scenarios (that is, in scenarios without additional mitigation), the global mean surface temperature will increase by between 3.7ºC and 4.8ºC by 2100 compared with pre-industrial levels.

(b) Mitigation scenarios in which it is likely that the temperature change caused by anthropogenic greenhouse gas emissions can be kept to less than 2ºC relative to pre-industrial levels have atmospheric CO_2 equivalent concentrations in 2100 of about 450 parts per million (ppm). These scenarios are characterised by 40 to 70 per cent global anthropogenic greenhouse gas emissions reductions by 2050 compared with 2010, and emissions levels near or below zero (CO_2 removal from the atmosphere) in 2100.

(c) The cumulative emissions that are consistent with staying under the 2ºC target are assessed at different levels of probability (33 per cent, 50 per cent, and 66 per cent).[13] To have a 66 per cent probability of limiting global warming to less than 2ºC (since the period 1861-1880) there is a total emissions budget of 1000 GtC. To have at least a 50 per cent chance of limiting global warming to less than 2ºC, the total emissions budget is 1210 GtC. To have at least a 33 per cent chance, the total emissions budget is 1570 GtC.

(d) These budgets reduce to 790 GtC (66 per cent probability), 820 GtC (50 per cent probability), and 900 GtC (33 per cent probability) when taking into account non-CO_2 forcings.

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[13] Limiting the warming caused by anthropogenic CO_2 emissions alone with a probability of 33 per cent, 50 per cent, and 66 per cent (or lesser) to less than 2ºC since the period 1861-1880 will require cumulative CO_2 emissions from all anthropogenic sources to stay between 0 and about 1570 Gigatonnes of carbon (GtC) (5760 $GtCO_2$), 0 and about 1210 GtC (4440 $GtCO_2$), and 0 and about 1000 GtC (3670 $GtCO_2$) since that period, respectively. These upper amounts are reduced to about 900 GtC (3300 $GtCO_2$), 820 GtC (3010 $GtCO_2$), and 790 GtC (2900 $GtCO_2$) respectively when accounting for non-CO_2 forcings as in RCP2.6 (this is the lowest measure of emissions at the end of the 21st century considered in AR5 which is likely to correlate to a temperature increase of 0.3ºC-1.7ºC).

(e) By 2011 515 GtC had already been emitted.[14] At current rates of emissions, on the 820 GtC (50 per cent probability) basis, the remaining 305 GtC will likely have been emitted by 2035.

(f) There are multiple mitigation pathways that are likely to limit warming to below 2ºC relative to pre-industrial levels. Mitigation pathways consistent with limiting warming to below 2ºC are characterised by substantial global emission reductions over the next few decades and near zero emissions of CO_2 and other long-lived greenhouse gases by the end of the century.

(g) Delaying global aggregate mitigation efforts beyond those in place today through until 2030 will likely substantially increase the difficulty of transitioning to low longer-term emissions levels and narrow the options for maintaining temperature change below 2ºC relative to pre-industrial levels, if that can be achieved at all. Global mitigation actions will require substantially higher rates of emissions reductions from 2030 to 2050; a much more rapid scale-up of low-carbon energy over this period; a larger reliance on carbon dioxide removal in the long term; and higher transitional and long-term economic impacts.

[12] Professor Renwick sets out some of the likely negative impacts of climate change on humans as discussed in the AR5. These include undermining food

[14] That is, 1890 $GtCO_2$ with a 90 per cent uncertainly interval of 1630-2150 $GtCO_2$.

security,[15] increasing ill-health particularly in developing countries with low income,[16] and increasing the displacement of people.[17]

[13] Professor Frame provides further commentary on the target of limiting warming to no more than 2ºC above pre-industrial levels. He describes this target as a proxy for the ultimate objective of "[stabilizing] greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".[18] The IPCC does not state that 2ºC is the "safe-dangerous" threshold. Rather, the key risks become more acute with additional warming above 2ºC.

[14] The AR5 also discusses the close to linear relationship between cumulative CO_2 emissions and projected global temperature rise. There is also a discussion about potential "tipping points" when abrupt or non-linear changes occur. There is little consensus about the likelihood of these.

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15 Due to projected climate change by the mid-21st century and beyond, global marine species redistribution and marine biodiversity reduction in sensitive regions will challenge the sustained provision of fisheries productivity and other ecosystem services (high confidence). For wheat, rice and maize in tropical and temperate regions, climate change without adaptation is projected to negatively impact production for local temperature increases of 2ºC or more above late 20th century levels, although individual locations may benefit (medium confidence). Global temperature increases of 4ºC or more above late 20th century levels, combined with increasing food demand, would pose large risks to food security globally (high confidence). Climate change is projected to reduce renewable surface water and groundwater resources in most dry subtropical regions (robust evidence, high agreement), intensifying competition for water among sectors (limited evidence, medium agreement).

16 Throughout the 21st century, climate change is expected to lead to increases in ill-health in many regions and especially in developing countries with low income, as compared to a baseline without climate change (high confidence). By 2100 for RCP8.5 (a measure of emissions at the end of the 21st century that is likely to correlate to a temperature of 2.6-4.8ºC), the combination of high temperature and humidity in some areas for parts of the year is expected to compromise common human activities, including growing food and working outdoors (high confidence). In urban areas climate change is projected to increase risks for people, assets, economies and ecosystems, including risks from heat stress, storms and extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, water scarcity, sea level rise and storm surges (very high confidence). These risks are amplified for those lacking essential infrastructure and services or living in exposed areas.

17 Climate change is projected to increase displacement of people (medium evidence, high agreement). Populations that lack the resources for planned migration experience higher exposure to extreme weather events, particularly in developing countries with low income. Climate change can indirectly increase risks of violent conflicts by amplifying the drivers of these conflicts such as poverty and economic shocks (medium confidence).

18 Affidavit of Professor Frame (14 April 2016) at [27].

[15] One of the areas of uncertainty concerns the extent to which ice sheet loss will contribute to sea level rise. Professor Renwick, for example, comments:[19]

> Sustained mass loss by ice sheets would cause larger sea level rise, and some part of the mass loss might be irreversible. There is high confidence that sustained warming greater than some threshold would lead to the near-complete loss of the Greenland ice sheet over a millennium or more, causing a global mean sea level rise of up to 7m. Current estimates indicate that the threshold is greater than about 1ºC (low confidence) but less than about 4ºC (medium confidence) global mean warming with respect to pre-industrial. Abrupt and irreversible ice loss from a potential instability of marine-based sectors of the Antarctic ice sheet in response to climate forcing is possible, but current evidence and understanding is insufficient to make a quantitative assessment.

[16] Professor Hansen also provides details about this and concludes:[20]

> … humanity faces "near certainty of eventual sea level rise of at least … 5-9m if fossil fuel emissions continue on a business-as-usual course". … Much of the US eastern seaboard, as well as low-lying areas of Europe, the Indian sub-continent, and the Far East, would then be submerged. Parts of Wellington, Christchurch and other New Zealand coastal communities may be exceptionally vulnerable.

[17] Professor Frame notes that the long-term contribution of melting ice sheets to sea-level rise is a live area of scientific debate. He says this debate does not change the "first order scientific picture of the problem".[21] He comments that if sea-level rise is a greater threat than is currently thought it would not significantly affect the relationship between cumulative CO_2 and global mean surface warming and therefore would have little bearing on what is required "to meet the current CO_2 warming target."[22] He also says:[23]

> Neither does this dispute change the first order political dimensions of the problem. The discovery that sea-level rise was a greater threat than we currently think may (perhaps) affect the incentives to mitigate for low-lying areas and countries, but it is unlikely to change the overall pattern of incentives the countries face.

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19 Affidavit of Professor James Renwick (9 November 2015) at [16](1).
20 Affidavit of Professor Hansen (13 November 2015) at [17].
21 Affidavit of Professor Frame (14 April 2016) at [19].
22 At [19].
23 At [20].

[18] Professor Frame says that Governments which base their expectations on the IPCC reports are "acting in accordance with the bulk of evidence".[24] The New Zealand Government has approved the AR5. For the purposes of this proceeding it is appropriate to proceed on the basis of the AR5, as the plaintiff accepts, while recognising that there are respected scientific experts who regard it as conservative. Because of this it is not necessary that I consider an affidavit provided by Professor Hansen shortly before the hearing which provides details of recent research.[25]

The international framework

The Convention

[19] The United Nations Framework Convention on Climate Change (the Convention) was the first international agreement to represent a collective response to climate change. [26] It has been signed by 197 countries. New Zealand signed the Convention on 4 June 1992 and ratified it on 16 September 1993. It came into force on 21 March 1994.

[20] The preamble to the Convention:

(a) noted that the largest share of historical and current global emissions are from developed countries and developing countries share of global emissions will grow to meet their social and development needs;

(b) acknowledged the need for the widest possible cooperation by all countries, "in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions";

(c) recognised that steps to address climate change will be most effective if they are based on "relevant scientific, technical and economic

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24 Affidavit of Professor Hansen (13 November 2015) at [17].

25 The defendant objected to its admissibility on the basis it had not had the opportunity to respond to it, the research at this stage is unpublished, and it is not reasonable, nor practicable, to expect the Government to review and amend its decisions in response to every new scientific paper.

26 Adopted at New York on 9 May 1992.

considerations and continually re-evaluated in the light of new findings in these areas"; and

(d) recognised that "low lying and other small island countries", amongst others, are "particularly vulnerable to the adverse effects of climate change".

[21] The Convention's ultimate objective is as follows:[27]

> The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such 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.

[22] To achieve this objective and to implement the provisions of the Convention sets out guiding principles as follows:

> **Article 3**
> **Principles**
>
> In their actions to achieve the objective of the Convention and to implement its provisions, the Parties shall be guided, inter alia, by the following:
>
> 1. The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.
>
> 2. The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.
>
> 3. The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-

[27] Article 2.

effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.

4. The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.

5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

[23] Article 4 sets out the Parties' commitments under the Convention. This includes the following:

1. All parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:

   (a) Develop, periodically update, publish and make available … national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases …;

   (b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions …;

   (c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practises and processes that control, reduce or prevent … emissions … in all relevant sectors …;

   …

[24] The Convention also sets out commitments that apply specifically to developed countries (which includes New Zealand). These require each developed country to:

(a) adopt national policies and take measures to mitigate climate change by limiting emissions and enhancing emissions sinks and reservoirs, and these policies and measures are to "demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention …";[28]

(b) communicate periodically detailed information on its policies and measures, its resulting projected emissions by sources and removal by sinks "with the aim of returning individually or jointly to their 1990 levels" of emissions;[29]

(c) periodically review its own policies and practices which encourage activities that lead to greater levels of emissions;[30]

(d) provide financial resources to developing countries to meet their costs in complying with the Convention;[31]

(e) assist developing countries that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaption to those adverse effects;[32]

(f) assist with environmentally sound technology transfer;[33] and

(g) give "full consideration" to the actions necessary "to meet the specific needs and concerns of developing [countries] arising from the adverse effects of climate change and/or the impact of the implementation of response measures", especially the needs of, amongst others, small island countries and countries with low-lying coastal areas.[34]

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28 Article 4(2)(a).
29 Article 4(2)(b).
30 Article 4(2)(e).
31 Article 4(3).
32 Article 4(4).
33 Article 4 (5).
34 Article 4(8).

[25] The Convention established a Conference of the Parties (COP).[35] All parties to the Convention are represented at the COP. The COP is the supreme decision making body of the Convention.[36] Its purpose is to review the implementation of the Convention. The COP meets every year unless the parties decide otherwise. Parties are required to report to the COP their national inventory and a description of the steps being taken or envisaged by the party to implement the Convention.[37] Developed countries are to include a detailed description of their policies and measures.[38]

The Kyoto Protocol

[26] The Kyoto Protocol[39] was adopted at the third meeting of the COP (COP 3) at Kyoto on 11 December 1997. It was entered into "in pursuit of the ultimate objective of the Convention".[40] Of the 197 parties to the Convention, 192 signed the Protocol. New Zealand signed the Protocol on 22 May 1990 and ratified it on 19 December 2002. It came into force on 16 February 2005.

[27] The Kyoto Protocol tasks the IPCC with, among other things, setting methodologies for estimating the amount of emissions and removals for each country.[41]

[28] Developed countries are to set internationally binding emissions reduction targets, which they are to meet primarily through national measures, for certain commitment periods. The target emissions reductions were set from a base year (for most parties, 1990). The first commitment period was 2008-2012. For this period New Zealand's target was to return to 1990 emissions levels. New Zealand met this commitment through a combination of domestic emissions reductions, carbon removal by forests and international carbon trading.

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35 Article 7.
36 Article 7(2).
37 Article 12.
38 Article 12.
39 Kyoto Protocol to the Convention.
40 Preamble to the Kyoto Protocol.
41 Article 5(2).

[29] The supreme decision making body of the Kyoto Protocol is the COP serving as the Meeting of the Parties to the Kyoto Protocol (CMP). The CMP takes place at the same Convention session as the COP. At COP 18 (CMP 8) in Doha (November 2012), the CMP agreed on an amendment to the Kyoto Protocol to establish targets for the second period from 2013-2020. New Zealand did not ratify this amendment immediately.[42] Since 2010 New Zealand already had a conditional target of 10-20 per cent below 1990 levels by 2020 in place.[43] After COP 18 New Zealand set a non-conditional target of 5 per cent below 1990 levels by 2020 under the Convention.[44] Kay Harrison, the Director of Climate Change at the Ministry for the Environment, says New Zealand is on track to meet this target.

[30] Most developed countries met their target for the first commitment period. There was, however, criticism that the Kyoto Protocol was not an effective framework to combat global emissions. This was because it was not a global response. It excluded developing countries and not all developed countries participated. The countries with targets under the second commitment period made up only 11 per cent of global emissions. Dr Frame's evidence is that this was because the Kyoto Protocol prioritised stringency (through internationally binding commitments) over participation, whereas the broadest participation is necessary in order to be effective.

The path to Paris

[31] The Paris Agreement was adopted on 12 December 2015. It is intended to be a global response to climate change. The steps leading to the Paris Agreement were:

(a) COP 15 Copenhagen (December 2009): the Copenhagen Accord provided for non-binding explicit emissions pledges to be made by all major economies. The key aspects of the Accord were an aspirational limit of keeping global temperatures to below 2ºC above pre-industrial levels; a process for countries to submit their specific

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42 On 30 November 2015 New Zealand accepted this amendment to the Kyoto Protocol.

43 The conditional target was set on 31 January 2010 when New Zealand indicated it would like to be associated with the Copenhagen Accord.

44 The unconditional target was adopted when Minister Groser advised this to the Convention on 29 August 2013. Cabinet agreed to this target on 16 August 2013.

mitigation pledges by January 2010; broad terms for reporting and verifying countries' actions; and a collective commitment from developed countries to help developing countries to reduce emissions.

(b) COP 16 Cancun (November 2010): the Parties, amongst other things, committed to a maximum temperature rise of 2ºC above pre-industrial levels, and to review the adequacy of this target and consider lowering it to 1.5ºC in the future.[45]

(c) COP 17 Durban (December 2011): the Parties agreed to negotiate a global agreement applicable to all countries post-2020.

(d) COP 18 (CMP 8) Doha (November 2012): the Kyoto Protocol amendment to establish targets for the second commitment period (2013-2020) was adopted.

(e) COP 19 Warsaw (November 2013): in anticipation of securing a global climate change agreement, the Parties agreed to communicate their intended nationally determined contributions (INDCs). The Parties recognised that some countries are in a position to do more than others, and anticipated that further action would be required by all, with ambition ramping up over time. New requirements for monitoring, reporting and verification under the Convention, signalled in the Copenhagen Accord, were finalised.

(f) COP 20 Lima (December 2014): ground rules on how countries could submit their INDCs for the intended new agreement in the first quarter of 2015 were agreed.

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[45] The AR5 records that estimated global emissions levels in 2020 based on the pledges made by Parties in Cancun are not consistent with cost-effective mitigation trajectories that are at least as likely as not to limit warming to below 2ºC relative to pre-industrial levels.

The Paris Agreement

[32] At COP 21 in Paris (December 2015) the parties to the Convention adopted a new post-2020 agreement (the Paris Agreement).[46] New Zealand signed the Agreement on 22 April 2016 and ratified it on 4 October 2016.[47] It came into force on 4 November 2016.

[33] The preamble of the Paris Agreement states:

> *In pursuit* of the objective of the Convention, and being guided by its principles, including the principle of equity and common but differentiated responsibilities and respective capabilities, in the light of different national circumstances,
>
> *Recognizing* the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge,
>
> *Also recognizing* the specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, as provided for in the Convention,
>
> *Taking full account* of the specific needs and special situations of the least developed countries with regard to funding and transfer of technology,
>
> *Recognizing* that Parties may be affected not only by climate change, but also by the impacts of the measures taken in response to it,
>
> *Emphasizing* the intrinsic relationship that climate change actions, responses and impacts have with equitable access to sustainable development and eradication of poverty,
>
> *Recognizing* the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change,
>
> *Taking into account* the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities,

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46 Adopted on 12 December 2015.

47 On 6 April 2016 Cabinet approved the text of the Paris Agreement, considered a draft National Interest Analysis (NIA) and noted key obligations under the Agreement. New Zealand wanted to sign the Agreement at this point because: the NDCs sat separately to the international obligations which gave the government comfort that it would be able to ratify the Agreement in due course; the majority of countries (including China, the United States, Australia, other G20 countries and other Pacific Island countries) were expected to sign in New York; the UN Secretary General was calling on all 196 parties to the Convention (at the time, now 197 parties) to do so; signing would maintain our standard internationally by joining the critical mass of signatories; and New Zealand wanted to ensure political momentum was sustained.

Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity,

Recognizing the importance of the conservation and enhancement, as appropriate, of sinks and reservoirs of the greenhouse gases referred to in the Convention,

Noting the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth, and noting the importance for some of the concept of "climate justice", when taking action to address climate change,

Affirming the importance of education, training, public awareness, public participation, public access to information and cooperation at all levels on the matters addressed in this Agreement,

Recognizing the importance of the engagements of all levels of government and various actors, in accordance with respective national legislations of Parties, in addressing climate change,

Also recognizing that sustainable lifestyles and sustainable patterns of consumption and production, with developed country Parties taking the lead, play an important role in addressing climate change,

[34] The objective of the Paris Agreement is to enhance the implementation of the Convention. Article 2 states:

1. This Agreement, in enhancing the implementation of the Convention including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

    (a) Holding the increase in the global average temperature well below 2ºC above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5ºC above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;

    (b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and

    (c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

> 2. This Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

[35] The Paris Agreement reaffirms the goal of keeping average global warming below 2ºC above pre-industrial levels, and pursuing efforts to limit warming to 1.5ºC. It requires each country to put forward their own Nationally Determined Contribution (NDC) and to pursue "domestic mitigation measures, with the aim of achieving the objectives of such contributions".[48] Countries may choose to cooperate with one another, including by using internationally transferred mitigation outcomes towards their NDCs.[49]

[36] A country's NDC is to be updated every five years.[50] Each successive NDC is to represent a progression and is to be the country's "highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances".[51] Developed countries "should continue to take the lead by undertaking economy-wide absolute emission targets".[52]

[37] The Paris Agreement also requires all parties to report regularly on their emissions and efforts, and undergo international expert review and multilateral consideration. There are also provisions concerning financial assistance to developing countries, technology transfer and development and education and training. It also includes mechanisms which will guide the development of future targets.

[38] The understanding is that global efforts together will keep warming below the 2ºC level. However contributions are to be nationally determined. There is no requirement for countries to adopt a target that if adopted by all would achieve this goal. Nor is there a requirement that any country adopt the target level of any other country. Nor is a country's NDC binding at international law. The Paris Agreement

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48 Article 4(2).
49 Article 6.
50 Article 4(9).
51 Article 4(3). See also, art 4(11) providing that a country "may at any time adjust its existing [NDC] with a view to enhancing its level of ambition" and art 3 which provides for parties to "undertake and communicate ambitious efforts".
52 Article 4(4).

is therefore more flexible than the Kyoto Protocol. This greater flexibility enabled greater agreement. There are now 197 countries that have agreed to the Paris Agreement.

[39] New Zealand's NDC applies from 2021. The NDC sets a 2030 target and covers the period 2021-2030. Other obligations (e.g. reporting) are expected to take effect from 2020.

Further developments in international negotiation

[40] Negotiations did not end with the Paris Agreement. Details of the Agreement and how it will operate still need to be elaborated. In 2018 there will be a facilitative dialogue amongst the Parties to assess collective, rather than individual, progress towards the long term temperature goal set out in art 2. Additionally, a special IPCC report will be issued on the feasibility of limiting the global temperature increase to 1.5ºC. Parties will be invited to consider the outcomes of this dialogue as they prepare to communicate or update their NDCs by 2020.

[41] In 2020, Parties whose contributions run to 2025 will table their contributions for 2026-2030, and parties with 2030 contributions will review their existing contributions. At that point New Zealand will have the choice to restate its NDC or present a new one.

[42] The durability and ultimate effectiveness of the Agreement is intended to be achieved by five yearly global stocktakes. At these stocktakes collective progress towards the Agreement's goals is assessed based on whether the mitigation, adaption and finance undertakings which have been made have been implemented. Parties are expected to take into consideration the outcomes of the stocktakes when reviewing their NDCs. The first global stocktake is scheduled for 2023.

New Zealand domestic legislation

[43] The purpose of the Climate Change Response Act 2002 is to:[53]

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[53] Section 3.

(a) enable New Zealand to meet its obligations under the Convention, the Kyoto Protocol and any binding amendments to them (Purpose one);

(b) provide for a greenhouse emissions trading scheme (ETS) in New Zealand to support and encourage global efforts to reduce greenhouse gas emissions (Purpose two); and

(c) provide for levies on greenhouse gases from motor vehicles and other goods to support and encourage global efforts to reduce greenhouse gas emissions (Purpose three).

[44] The Act has undergone a number of amendments since it was first enacted. Purpose one was included from the outset. As first enacted, the Act contained provisions for the setting up of a registry to ensure New Zealand could comply with its target and accurately report under the Kyoto Protocol. Some of these provisions did not come into force until 19 November 2007.[54] Purpose two was added as part of amendments made on 26 September 2008.[55] These amendments introduced the New Zealand ETS in Part 4.[56] They also introduced Part 6 which concerns the setting of targets. Purpose three was added as part of amendments made on 1 January 2013.[57] These amendments added Part 7 which enabled the imposition of a levy on motor vehicles and other goods.

[45] For present purposes Part 6, which concerns targets, is of most relevance. Initially (that is as at 26 September 2008) the power to set targets was set out in s 224 which provides:

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54 Climate Change Response Commencement Order 2007, s2. The parts that came into force in 2007 were Part 2, subpart 1 (setting out the Minister of Finance's powers to carry out trading activities if necessary to ensure compliance powers) and subpart 2 (providing a registry to track units). The sections that were in force between 2002 and 2007 provided for an inventory agency to enable reporting, and included a compliance section relating to collecting information to estimate emissions and removals of greenhouse gases.

55 Climate Change Response (Emissions Trading) Amendment Act 2008.

56 Ms Harrison describes the ETS as New Zealand's "primary response to global climate change" in her affidavit dated 14 April 2016 at [38]. It puts a price on greenhouse emissions in order to provide a financial incentive to reduce them. It also incentivises investment in energy efficiency and the planting of trees. Under the scheme units are traded. One unit is equivalent to one tonne of CO_2 equivalent emissions. Certain sectors are required to acquire and surrender units to account for their emissions.

57 Climate Change Response (Emissions Trading and Other Matters) Amendment Act 2012.

224 Gazetting of targets

(1) The Minister must set a target.

(2) The Minister responsible for the administration of the Act may set a target, or amend or revoke an existing target, at any time.

(2A) Before the Minister sets, amends, or revokes a target, the Minister must consult, or be satisfied that the chief executive has consulted, persons (or their representatives) that appear to the Minister or the chief executive likely to have an interest in the target.

(3) As soon as practicable after setting, amending, or revoking a target under this section, the Minister must—

(a) publicly notify the target or revocation of the target in the Gazette; and

(b) make the target or revocation of the target publicly accessible via the Internet site of the department of the chief executive.

(4) To avoid doubt, a Gazette notice under this section is neither a legislative instrument nor a disallowable instrument for the purposes of the Legislation Act 2012 and does not have to be presented to the House of Representatives under section 41 of that Act.

(5) To avoid doubt, any number of targets may be set using the process under this section.

[46] A second provision, s 225, which also enabled the setting of targets, was introduced on 8 December 2009.[58] The consultation requirement in s 224(2A) was also added at this time.[59] Section 225 provides:

225 Regulations relating to targets

(1) The Governor-General may, by Order in Council made on the recommendation of the Minister, make regulations setting a target.

(2) Before recommending the making of an Order in Council under subsection (1), the Minister must consult, or be satisfied that the chief executive has consulted, persons (or their representatives) that appear to the Minister or the chief executive likely to have an interest in the order.

(3) The Minister—

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58 Climate change Response (Moderated Emissions Trading) Amendment Act 2009. A minor change was also made to s 225 in 2011. It is not relevant for present purposes.

59 Minor stylistic amendments were also made to s 224 in 2011 and 2013. These are not of any consequence for present purposes.

(a) must review the target following publication of any Intergovernmental Panel on Climate Change Assessment Report or report of a successor agency; and

(b) may at any time recommend to the Governor-General the setting of a target, or amendment or revocation of a target, having regard to the following matters:

(i) any Intergovernmental Panel on Climate Change Assessment Report or report of a successor agency:

(ii) any other matters the Minister considers relevant.

(4) To avoid doubt, any number of targets may be set using the process under this section.

[47] The 2050 target was set under s 224.

New Zealand's targets in more detail

[48] Since ratifying the Convention, in addition to the first commitment period under the Kyoto Protocol (2008-2012), New Zealand has committed to a number of targets as follows:

Name	Target	Date of adoption	Instrument
2050 target	50 per cent reduction in greenhouse gas emissions by 2050 (using 1990 as a baseline year) (**50 by 50**)	Gazetted in the 31 March 2011 New Zealand Gazette.	Climate Change Response Act 2002, s 224.
2020 target	5 per cent reduction in greenhouse gas emissions by 2020 (using 1990 as a baseline year) (**5 by 20**) [Replacing the conditional 2020 target of 10 to 20 per cent below 1990 levels made on 31 January 2010]	On 29 August 2013 Mr Groser sent a letter to the UNFCCC advising New Zealand had adopted this target.	Target intended to cover the second commitment period under the Kyoto Protocol (from 2013-2020).
2030 target	30 per cent reduction in greenhouse gas emissions by 2030 (using 2005 as a baseline year) (**30 by 30**)	On 7 July 2015 this target was tabled with the UNFCCC as New Zealand's INDC. On 4 October 2016 this target was tabled with the UNFCCC as New Zealand's NDC.	Communicated as part of the Paris Agreement.

The 2050 target

[49] The affidavit evidence provides little detail about the background to the 2050 target. The AR4, the IPCC report published in 2007, the year prior to the 2008

amendments to the Climate Change Response Act, refers to the year 2050 in a number of places and used 2050 in its calculations on stabilisation scenarios.[60] At this time a 2050 target seems to have been part of international discussions. For instance at COP 13 Bali (2007) the United States and Australia referred to global reductions by 2050 and the statement by the Executive Secretary stated emissions needed to decrease by 50 per cent by 2050.[61]

[50] As noted, the 2050 target was made pursuant to s 224 of the Climate Change Response Act. The 26 September 2008 amendments which introduced this section were made in the lead up to the 2008 General Election. At this time the Labour led Government and the National party opposition had differing views about the appropriate target. The then Prime Minister, the Rt Hon Helen Clark, had earlier announced an aspirational goal of becoming carbon neutral. Targets relating to the electricity sector (90 per cent renewable by 2025) and transport sector (50 per cent reduction in emissions by 2040) amongst other things had been announced.[62] At the second reading of the amendment Bill,[63] Dr Smith, a National Member of Parliament said:[64]

> National has outlined six principal areas where we think this bill is deficient. First, it is not balanced. The bill reflects the idealistic, carbon-neutral mantra of the Prime Minister. *The bill should reflect National's more modest goal of a 50 percent reduction in emissions by 2050, which would be in line with the goals of our major trading partners*. The Government needs to be honest: if New Zealand is to be a world leader in reducing emissions, and is going to be carbon neutral under an emissions trading scheme, it will mean world-leading costs for consumers. I do not think that is something New Zealanders will bear.

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60 It was recognised at COP 13 in Bali that AR4 requires global emissions of greenhouse gases to peak within five to 10 years (at 2007) and be reduced to very low levels (below half of 2000 levels by 2050) *Draft Decision/CP13* COP 13 Bali, FCCC/CP/2007/CRP.1 (13 December 2007).

61 *Report of the Conference of the Parties on its thirteenth session held in Bali from 3 to 5 December 2007: Part One Proceedings* FCCC/CP/2007/6 (14 March 2008).

62 David Parker, Minister for Climate Change Issues at the time, "A New Zealand Emissions Trading Scheme" (Banquet Hall, Parliament Buildings, Wellington, 20 September 2007); David Parker "Carbon Neutral Electricity by 2025" (Carbon Neutral Electricity in New Zealand Symposium, 21 February 2008); and David Parker "Energy Strategy Delivers Sustainable Energy System" (Launch of NZ Energy Strategy, Grand Hall, Parliament Buildings, Wellington, 11 October 2007).

63 Climate Change Response (Emissions Trading) Amendment Bill (187-2).

64 (28 August 2008) 349 NZPD 18079. See also at 18095-96 per the Hon Chris Tremain (National Party MP). At the final reading the legislation was passed with Labour (49), NZ First (7), Green (6), and Progressive (1) voting in its favour and National (47), the Māori Party (4), United Future (2) and Act (2) voting against it.

[51] Following the General Election on 8 November 2008, a National led Government was formed. It remained the Government when the 2050, 2020 and 2030 targets were set.

[52] Work on the 2050 target began in 2009. Public consultation took place between 29 January 2011 and 28 February 2011. The purpose of the 2050 target can be found in the Minister's Position Paper dated January 2011, provided to the public as part of the consultation process, which is referred to in an affidavit from Ms Harrison.[65] This paper states:

> The Government is committed to implementing an economically sound and environmentally effective climate change policy. A part of this will be a credible long-term emissions reduction target. To provide certainty for business over the long-term direction of climate change policy, the Government proposes to notify in the New Zealand Gazette a long-term emissions reduction target for New Zealand.
>
> …
>
> A 50 per cent reduction … is a realistic time-bound target for New Zealand. This gives taxpayers, business, industries and farmers clear, long-term certainty about where domestic climate change policy is headed so that they can plan and invest accordingly.

[53] This paper included a comparison of New Zealand's proposed 2050 target with that of other developed countries as follows:

Country	**Percentage of world emissions: 2007**	**Emissions change: 1990-2007**	**2050 target (adjusted to 1990 base year for ease of comparison, approximate only)**
New Zealand	0.2%	↑ 22.1%	Reduce greenhouse gases by 50% below 1990 levels.
Australia	1.4%	↑ 30.0%	Reduce emissions to 50% below 1990 levels.
Canada	1.9%	↑ 26.2%	A reduction of about 50-65% on 1990 levels.
EU-27	13.0%	↓ 9.3%	Considering reducing emissions to 80% below 1990 levels by 2050.
Japan	3.5%	↑ 8.2%	Reduce emissions to 55-80% below 1990 levels.
USA	18.3%	↑ 16.8%	Reduce emissions to about 80% below 1990 levels.

[65] Affidavit of Kay Harrison (14 April 2016) at [41]. Ms Harrison has been involved in climate change for the Ministry since January 2009, apart from a period in 2012 and 2013.

[54] Ms Harrison also explained in her affidavit that following the submission process and two briefing papers to the then Minister for Climate Change Issues, the Hon Nick Smith, the 2050 target was issued in the 31 March 2011 Gazette.

The 2020 target

[55] The next target related to the second commitment period under the Kyoto Protocol (2013-2020). Following the Copenhagen Accord, on 31 January 2010 New Zealand tabled a conditional target of 10-20 per cent below 1990 by 2020.[66] This target was conditional on an effective global agreement being reached. By 2013 this had not eventuated. New Zealand therefore considered an unconditional target pending international consensus on a new agreement to apply to all Parties. In August 2013 a Cabinet paper sought Cabinet approval of an unconditional target of five per cent below 1990 by 2020. Cabinet agreed to this. On 29 August 2013, Mr Groser notified this target under the Convention.

The 2030 target

[56] As countries were working towards reaching consensus at Paris, they were asked to announce a national target to reduce greenhouse gas emissions after 2020 (their INDC).[67] Countries were free to choose the baseline year from which they would measure emissions reductions. Those whose emissions peaked around 1990, for example the European Union and Belarus, tended to choose 1990.[68] Countries whose emissions peaked later, such as the United States, Canada, Australia, and Japan, tended to choose 2005. New Zealand also chose 2005.[69]

[57] As Mr Groser says in his affidavit, setting New Zealand's INDC was a "substantial policy process" which took place in 2014 and 2015 during which he

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66 It appears from the Minister's Position Paper concerning the 2050 target that this was first announced in August 2009.

67 Parties were invited to table their INDC for 2020 by 2015 at COP 19 in Warsaw in December 2013.

68 Professor Frame notes that circumstances in the late 1980s and early 1990 (such as the reunification of Germany, the switch in the United Kingdom from coal to gas and the gradual decline in production from North Sea hydrocarbons) has meant that EU countries achieved large reductions in emissions prior to the establishment of climate change policy.

69 Affidavit of Professor Frame (14 April 2016) at [49] and [50]. Professor Frame at [51] goes on to say that there is nothing special about choosing any particular year. The climate system responds to cumulative emissions across centennial timelines.

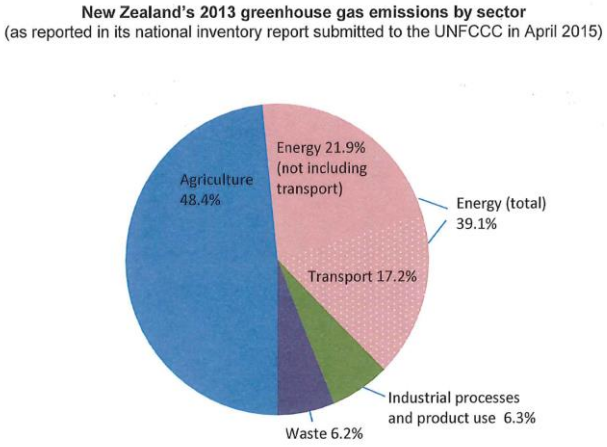
received "numerous briefings on that process and advice on the possible form and level of the INDC".[70] The evidence bears this out. The table below sets out the process:

6 November 2014	Mr Groser received a Ministry memo attaching papers which elaborated on and analysed options for New Zealand's contribution under the new climate change agreement (originally presented 15 September 2014).
19 November 2014	Mr Groser received a Ministry briefing note setting out options for target form.
December 2014	COP 20 held in Lima. Parties agreed on ground rules for how countries could submit their INDCs for the new global agreement.
December 2014 – January 2014	Mr Groser met with Ministry officials and discussed pathways to tabling New Zealand's INDC.
12 March 2015	Mr Groser received a Ministry briefing note seeking his decision on hui and public meetings to be held as part of the public consultation on the INDC.
25 March 2015	Mr Groser received a Ministry briefing note with various papers (including a draft discussion document) on the INDC in advance of his discussions with his Cabinet colleagues.
30 March 2015	Cabinet Strategy Committee meeting. Recommendation made to reduce greenhouse gas emissions by 10 per cent below 1990 levels by 2030.
7 April 2015	Mr Groser received a Ministry briefing note seeking approval to publicly consult on New Zealand's INDC and attaching draft discussion document.
9 April 2015	Cabinet Business Committee paper seeking agreement on consultation for New Zealand's post-2020 climate change contribution.
13 April 2015	Cabinet Business Committee Meeting. Mr Groser was invited to give further consideration to the consultation paper and submit a revised paper.
4 May 2015	Cabinet agreed to Mr Groser finalising the discussion document and undertaking public consultation on New Zealand's INDC.
7 May – 3 June 2015	The Ministry for the Environment conducted public consultation on New Zealand's INDC. Around 1,700 people attended the 15 public meetings and hui. 17,000 submissions were received.
15 June 2015	Mr Groser received a Ministry briefing note advising an appropriate target would be in the range of reducing greenhouse gas emissions by 29 to 37 per cent from 2005 levels (equivalent to 19 to 20 per cent from 1990 levels) by 2030.
17 June 2015	Mr Groser provided a paper to the Cabinet Economic Growth and Infrastructure Committee (CEGI Committee) attaching the draft INDC.
24 June 2015	CEGI Committee considered the proposed target of reducing greenhouse gas emissions by 29 per cent from 2005 levels (equivalent to 10 per cent from 1990 levels) by 2030 and agreed to table a draft INDC
6 July 2015	Cabinet approved a slightly higher target of 30 per cent below 2005 levels by 2030 as New Zealand's INDC.
7 July 2015	Mr Groser approved and publicly announced New Zealand's INDC (reduction in emissions by 30 per cent from 2005 by 2030). New Zealand tabled its INDC under the Convention.
12 December 2015	COP 21 held in Paris. Parties agree to adopt the Paris Agreement.
5 April 2016	Paper presented by the Minister (Hon Paula Bennett) to the CEGI Committee setting out the key aspects of the Paris Agreement and seeking approval for its signature.
6 April 2016	Cabinet approved the text of the Pairs Agreement, considered the draft NIA and noted the key obligations under the Agreement.
22 April 2016	Ms Bennett signed the Paris Agreement on behalf of New Zealand. She also endorsed a high level statement on promoting the early entry into force of the Paris Agreement.
July 2016	Paper presented by Ms Bennett to the CEGI Committee considering ratification of the Paris Agreement.
11 July 2016	Cabinet Business Committee directed officials to begin work to enable New Zealand to ratify the Paris Agreement by the end of 2016.
10 August 2016	Paper presented by Ms Bennett to the CEGI Committee seeking approval to begin the Parliamentary Treaty Examination Process for the Paris Agreement.
17 August 2016	Paris Agreement referred to the Foreign Affairs, Defence and Trade Committee.
October 2016	Cabinet agreed that New Zealand would adopt its INDC as its NDC (30 per cent below 1990 levels by 2030). It also agreed to present the Paris Agreement and NIA to the House of Representatives for examination.

[70] Affidavit of Timothy Groser (14 April 2016) at [31].

4 October 2016	New Zealand communicates its instrument for ratification and NDC target to the UN.

[58] Mr Groser explains the background to deciding upon New Zealand's INDC. New Zealand's greenhouse gas emissions as at 2013 were as follows:



[59] Mr Groser says this particular emissions profile means the relative cost of abating emissions is high. He gives two reasons for this:

(a) First, in contrast with many other countries, by 1990 New Zealand's energy generation was largely renewable. This means that one of the cheaper and easier ways to reduce emissions was not available to New Zealand.

(b) Secondly, half of our greenhouse gas emissions are from livestock.[71] From a New Zealand perspective Mr Groser considered it was important to set emissions targets that did not undermine a significant sector of the economy and which allowed New Zealand to maintain efficient food production.

[60] Mr Groser says:[72]

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71 New Zealand emitted 17.2 tonnes of CO_2 equivalent per person in 2012. If the figures are for emissions of CO_2 only, New Zealand emits 8.3 tonnes per person per annum. Our per person emissions of all greenhouse gases are higher than those to the United Kingdom at 9.2 tonnes per person but lower than Australia and the United States (24.0 and 20.4 tonnes per person, respectively).

72 Minister Groser goes on to explain specific aspects of the process and matters considered. These are discussed in relation to the plaintiff's second and third causes of action below.

> 32. In recommending an INDC to Cabinet, I considered a range of factors. It was important that in order to play our part internationally, our INDC be fair and ambitious and was seen as such domestically and internationally. It was also important that the costs, financial and otherwise, of meeting the reduction could be managed and the target would assist New Zealand in the transition to a low emissions world that we will have to engage in, including by sending appropriate signals to the various sectors of our domestic economy. These principles flowed explicitly from the mandate we received from successive General Elections where we made it clear that if New Zealanders supported us in the ballot box we would not elevate climate change as the sole driver of policy, but one important factor to be taken into account in a balanced approach to both economic and environmental objectives. This is the plain meaning of the phrase 'doing our fair share' and it was my responsibility as a Minster to convert a high level but very clear political statement of intent to the New Zealand electorate in our Manifestos into operational terms.
>
> 33. It was also necessary for the INDC to represent a progression from the earlier target of five percent below 1990 levels as required by the [Convention].

[61] A review of the briefing papers referred to in the above table, confirms that the key objectives were to set a target that was domestically and internationally credible, appropriately managed costs and impacts to society, and guided New Zealand over the long-term in a global transition to a low-emissions world. The briefing papers also referred to the need for New Zealand to do its fair share, the need for developed countries to show progression on their current targets and that all countries will be called upon to make greater emissions over time.

[62] The briefing papers considered three forms which the New Zealand target might take: a whole economy target; a target for non-agricultural emissions with an intensity based approach for agriculture; or a target applying just to long lived gases and stabilisation of short-lived gases. Economic modelling on the costs associated with each of these approaches was undertaken. Economic modelling was also undertaken on the costs associated with a range of economy wide targets. For example, the Minister's paper to the CEGI Committee dated 17 June 2015 included the following comparison:

Target reduction on 1990 by 2030	Target reduction on 2005 by 2030	Annual cost (reduction in RGNDI in 2027)[73]
Current RGNDI		$220b
Projected 2027 RGNDI (business as usual)		$299b
-5%	-25%	$3.5b (1.18%)
-10%	-29%	$3.7b (1.23%)
-15%	-33%	$3.9b (1.32%)
-20%	-37%	$4.1b (1.37%)
-40%	-53%	$5.0b (1.66%)

[63] At the end of the process Mr Groser recommended to Cabinet a target of 10 per cent below 1990 levels by 2030 which equates to 29 per cent below 2005 levels by 2030. The Minister's paper to the CEGI Committee dated 17 June 2015:

(a) Set out the background to the INDC. This began with the statement that "[t]ackling climate change is crucial to avoid economic costs and harm to people and the environment".

(b) Discussed the reasons why an economy wide target was preferable. This included that it would help maintain pressure on the agricultural sector to invest in agricultural emissions reduction research and help keep New Zealand at the forefront of this work.

(c) Compared other countries INDCs and noted New Zealand's challenges in reducing emissions meant that it could justify making relatively smaller emissions reductions than other developed countries.[74]

(d) Discussed the estimated costs of delivering the targets and provided the table set out above from the briefing paper.

(e) Summarised the submissions received during consultation. This included that there was a "strong call for an ambitious target and leadership from the Government", with the most common target

[73] RCNDI is Real Gross National Disposable Income which is a measure of the size of the economy based on GDP but which gives better accounts for the cost of purchasing international units.

[74] A rough indication was that a New Zealand target of +10 per cent above 1990 levels would cost about the same as the EU target of -40 per cent on 1990 by 2030. A target costing the same as the US' target (of -26 per cent to -28 per cent on 2005 by 2025) would be roughly a New Zealand target or +5 per cent to -10 per cent on 1990 levels.

suggested by stakeholders being 40 per cent below 1990 levels or a zero carbon target by 2050. It also included that there was a "strong concern" the estimated costs were "overly conservative and excluded possible benefits of acting and the costs of inaction."

(f) Noted that the Ministry of Foreign Affairs and Trade (MFAT) strongly supported the proposal, the Ministry for Primary Industries supported the proposal, and Treasury did not support it.

[64] As to the target level, the paper said:

> 57. The extra cost of marginally deeper targets (e.g. -10% vs -5%) is relatively small.[FN] On the other hand, New Zealand's costs are still at the high-end of those faced by developed countries.
>
> 58. Strong calls were received for an ambitious target from a large number of submitters during consultation. The response from business and agriculture stakeholders was more mixed. Some business stakeholders suggested an ambitious target; others including Business New Zealand suggested a more cautious approach to ensure the target is realistic and achievable and manages costs.
>
> 59. Calls for a highly ambitious target need to be balanced against the real economic costs which a target imposes across the population, regardless of their stance on climate change and I believe my recommended target achieves this.
>
> 60. The target level I propose … signals a steady long-term trajectory to the economy.
>
> 61. I recommend expressing the target as a reduction relative to 2005 levels. This makes the target more clearly comparable with others (the US and Canada) and reduces the apparent disparity between New Zealand's target and the EU's.
>
> FN This is firstly because of the substantial growth in New Zealand's emissions since 1990, which means the bulk of effort is to bring emissions back to 1990 levels. In addition, within the modelling setup used, around half the cost is borne regardless of New Zealand's target level. This cost arises from the projected slowdown in economic growth due to a global carbon price ...

[65] Cabinet, at a meeting on 6 July 2015, decided on the slightly higher target of 30 per cent from 2005 levels (equating to 11 per cent from 1990 levels). In accordance with Cabinet's decision Mr Groser announced this as New Zealand's INDC on 7 July 2015. This was provisional pending ratification of the upcoming

Paris Agreement. The INDC was tabled under the Convention the same day. This set out our national circumstances, New Zealand's commitment to doing its fair share and matters demonstrating its ambition.

[66] The process following Paris is discussed in an affidavit from Joanne Tyndall, Acting New Zealand Climate Change Ambassador employed by MFAT.[75] Cabinet approved the Paris Agreement on 6 April 2016, after considering a paper from the Minister to the CEGI Committee dated 5 April 2016 which set out the key aspects of the agreement. This included that its purpose was to hold the global average temperature increase well below 2ºC, to pursue efforts to limit the temperature to 1.5ºC and that developed countries were expected to take the lead. At this time the Minister expected ratification of the Paris Agreement to occur by the end of 2018 at the latest. Cabinet considered this time was necessary because there were uncertainties to be resolved around the accounting rules for emissions and removals by forests and other land uses, and for carbon markets.

[67] However by the time of the signing ceremony in New York on 22 April 2016, it became clear there was political momentum towards early ratification. On 4 October 2016 New Zealand ratified the Paris Agreement recognising this would show its commitment to climate change, provide greater certainty that New Zealand could protect its interests in negotiations on important Paris Agreement matters, and further our internationally communicated intentions to promote the early entry into force of the Paris Agreement.

[68] Alongside ratifying the Paris Agreement, New Zealand needed to finalise and communicate its NDC. Ms Tyndall explains that the INDC had been set after the extensive process discussed above. Absent any compelling new development the expectation was always that the INDC would become New Zealand's NDC. As, however, New Zealand's INDC was tabled on an explicitly provisional basis, Cabinet had to consider whether it was comfortable confirming the INDC as its NDC. The Hon Paula Bennett, the then Minister for Climate Change Issues, set out in a paper to the CEGI Committee why she was comfortable in doing so.

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[75] Ms Tyndall was not involved in the process of ratifying the Paris Agreement but was involved in preparing the INDC and is familiar with the ratification process.

[69] Ms Tyndall says New Zealand's approach was consistent with the Paris Agreement (which explicitly creates the assumption that each country's INDC will become its NDC unless the country notifies otherwise when it deposits the instrument of ratification). She also says this is consistent with the approach of other countries. She is not aware of any country, out of the 147 countries that had ratified the Agreement at the time of her affidavit, that have submitted an NDC which is different from their INDC.[76]

How does New Zealand intend to meet its target

[70] New Zealand's INDC, which is now its NDC, states:

(a) The ETS is New Zealand's primary mechanism to meet international emissions reduction commitments.

(b) New Zealand has committed $45 million to the Global Research Alliance on Agricultural Greenhouse Gases out to June 2019 and a further $48.5 million through the New Zealand Agricultural Greenhouse Gas Research Centre for research into technology to reduce agricultural greenhouse gas emissions and maintaining support for this research will remain a priority.

(c) Approximately 80 per cent of New Zealand's electricity came from renewable sources in 2014 and New Zealand's target is to increase this to 90 per cent by 2025.

(d) New Zealand transportation is well placed to take advantage of these renewable sources.

(e) Transformation of the transport and agriculture sectors will take longer than the INDC period (2021-2030). New Zealand's long-term emissions pathway anticipates accelerated emissions reductions post-2030 once agricultural mitigation technology becomes more widely used and uptake of low-emission transport technology increases.

[76] The Agreement has now been ratified by 169 parties.

(f) The limited domestic abatement potential available requires New Zealand to make use of global carbon markets.

[71] Ms Bennett's July 2016 paper to the CEGI Committee proposing Cabinet ratify the Paris Agreement noted:

(a) New Zealand needs to fully commit to the 2030 target and can do this by reducing its greenhouse gases, planting more trees to absorb emissions and buying emissions reductions from international carbon markets.

(b) There are "choices" to be made of a "range of ways" that New Zealand can meet its target. She proposed a work stream to:

> … help determine how to reduce greenhouse gas emissions in New Zealand ("bend the curve") and be resilient to the effects of climate change while growing our economy. The work will highlight the choices and trade-offs needed to be made by New Zealanders, and will feed into the development of a government climate change plan.

(c) The global carbon market is important for New Zealand to meet its 2030 target cost effectively. New Zealand potentially could meet as much as 80 per cent of its target through buying emissions reductions overseas.

(d) The domestic climate change policy underway includes reviewing the ETS (including removing an effective 50 per cent discount for some sectors), encouraging the uptake of electric vehicles and researching ways to reduce biological emissions from agriculture.

(e) Other government initiatives include investing in public transport (including urban cycleways), developing new energy targets, refreshing the New Zealand Energy Efficiency and Conservation Strategy and encouraging energy efficiency.

(f) At the Paris conference, the Rt Hon John Key, the Prime Minister at the time, announced New Zealand would provide up to NZ$200 million for climate-related support over four years, most of which would benefit the Pacific.

The 2017 General Election

[72] Since the hearing of this judicial review the General Election 2017 has taken place. Climate change policies featured in the election campaigns. The new Government, a coalition of Labour and New Zealand First with the support of the Greens, has announced an intended new 2050 target (zero carbon by 2050).[77] It has also announced intended changes to the ETS.

First cause of action

Introduction

[73] This cause of action concerns whether the Minister must review the 2050 target following the release of the AR5. As the new Government has announced an intended new 2050 target, this cause of action has been overtaken by subsequent events. I will nevertheless consider the cause of action because I heard full argument on it and it may have some utility going forward (noting that neither party to this proceeding has filed a memorandum proposing any other course presumably reflecting that potential utility).

[74] The plaintiff put forward two alternative submissions as to why she says the Minister must review this target following the release of the AR5. The first submission is that s 225 of the Climate Change Response Act expressly requires such a review. The second submission is that the Minister was required to exercise her discretion under ss 224 or 225 of that Act on administrative law grounds.

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[77] The Zero Carbon Act was a Green Party election priority: "Climate Protection Plan: For a Better Future" Green Party <www.greens.org.nz>. The Rt Hon Jacinda Ardern has said following the election that climate change will be a priority for her government, including a Zero Carbon Act: "Live: Labour-led government to make climate change a priority" (20 October 2017) Stuff.co.nz <stuff.co.nz>; "NZ First, Green Party, Labour Coalition Deals Revealed" (24 October 2017) Stuff.co.nz <stuff.co.nz>; and "Jacinda Ardern commits New Zealand to zero carbon by 2050" (20 October 2010) Climate Home News <www.climatechangenews.com>.

Does s 225 require a review?

[75] Whether s 225 requires the Minister to review the 2050 target following the release of the AR5 is a matter of statutory interpretation. The plaintiff submits s 225(3)(a), which expressly requires the Minister to review "the target" following an IPCC report, applies to a target set under either ss 224 or 225. The defendant submits s 225(3)(a) applies only to a target set under s 225. As the 2050 target was set under s 224, the defendant says she was not required to review the target following the AR5.

[76] In support of her position, the plaintiff says the two sections must be read together. The Minister must set a target under s 224(1), which she may either gazette under s 224(3), or recommend to the Governor-General that it be set by Regulation under s 225(1). However set, the target must be reviewed under s 225(3)(a) following the publication of an IPCC report. The plaintiff says if that is not the case, there is an arbitrary distinction between a gazetted target and one set by regulation. It should be presumed Parliament intended the Minister would review the targets on the release of IPCC reports regardless of how the target is set.

[77] The plaintiff says this interpretation is consistent with the purpose of the Act which is to enable New Zealand to meet is international obligations under the Convention and the Protocol.[78] The plaintiff refers to New Zealand's commitment under the Convention to "take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions"[79] and the acknowledgement in the preamble that this should be done on the best available evidence. The plaintiff also refers to New Zealand's commitment under the Paris Agreement which recognises the need for action on the basis of the best available scientific knowledge. Sections 224 and 225 should be interpreted consistently with these international obligations.

[78] I accept that ss 224 and 225 are linked in that it is only s 224 which mandates the setting of a target. If the only target set was by regulation under s 225 that would meet the requirement under s 224(1) that there be a target. However, I consider this

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78 Section 3
79 Article 4(f).

link does not support reading s 225(3)(a) as applying to a target gazetted under s 224. This is because, after requiring that there be a target under s 224(1), the two sections provide two distinct processes for setting targets.

[79] The two distinct processes are apparent from the concluding subsection of each section. Section 224(5) provides that any number of targets "may be set using the process under this section". Similarly, s 225(4) provides that any number of targets "may be set using the process under this section". The s 224 process requires consultation, and public notice in the gazette and on the department's website.[80] The target may be amended or revoked at any time.[81] The s 225 process requires consultation with the persons likely to have an interest in the target and a recommendation by the Minister for the Governor-General to set a regulation.[82] Under this process the Minister must review the target following the publication of any IPCC report and may recommend to the Governor-General setting, amending or revoking a target having regard to an IPCC report or any other matter the Minister considers relevant.[83]

[80] I consider the legislative history fits with this interpretation. When s 225 was introduced, s 224 already included a power to set, amend or revoke a target at any time.[84] No specific requirement was included for when the power under s 224 must be exercised or what must be taken into account if it is. In contrast, s 225 specifically set out when a target under this section must be reviewed and what the Minister must take into account when recommending to the Governor-General the setting, amending or revoking of the target. Section 225 was introduced at the same time as s 224 was amended to include a consultation requirement. Amending s 224 at this time indicates Parliament had in mind what amendments should be made to s 224 when enacting s 225. Parliament considered both processes should involve consultation but only the s 225 process needed the express requirement for a review following an IPCC.

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80 Section 224(2A) and (3).
81 Section 224(2).
82 Section 225(1) and (2).
83 Section 225(3).
84 Section 225 was inserted as from 8 December 2009 by the Climate Change Response (Moderated Emissions Trading) Amendment Act 2009, s 84.

[81] The reason for this is evident from the explanatory note to the Bill which introduced s 225. That stated:[85]

> It is proposed that a regulation making power for setting targets be introduced. The regulation making power would also require the target to be reviewed following the release of future Intergovernmental Panel on Climate Change Assessment Reports. The regulation making power would have the same legal effect as a target under the existing gazette mechanism but has the benefit of having a perceived higher status than a target set under the existing mechanism. Furthermore, a regulation making power would provide flexibility to amend the target in response to future IPCC assessment reports.

[82] Parliament considered a target contained in a regulation would have a perceived higher status (that is, legal force). It was therefore necessary to make it clear that such a target was not set for all time regardless of the circumstances. Rather the appropriateness of a target set by regulation was to be reviewed each time an IPCC report was published. By requiring the review of a target set by regulation which might otherwise be thought, by its status as a regulation, to have some permanency Parliament was making it clear that it intends to and will be able to comply with its international obligations. As discussed further below these obligations require responsiveness to the challenges of addressing climate change and the pressing global need to do so.

[83] In my view, therefore, an obligation to review the 2050 target, set under s 224, does not arise pursuant to s 225(3)(a). The next question is whether it arises under s 224.

Is the Minister required to exercise her discretionary power under s 224?

[84] Section 224(1) required the Minister to set a target. The Minister complied with this requirement by setting the 2050 target. The Minister elected to set this target by gazette. In addition the Minister was permitted to set, amend or revoke a target "at any time". This gave the Minister the power to review the 2050 target at any time.

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85 Climate Change Response (Moderated Emissions Trading) Amendment Bill 2009 (85-1).

[85] The plaintiff submits the Minister acted unlawfully by failing to exercise this power following the AR5. She submits that when a decision-maker has exercised a statutory power intended to have long term effect on a certain factual basis, and that factual basis is later materially qualified or superseded, a refusal to review and remake the decision is unlawful. The plaintiff submits the AR5 was such a significant change in circumstances that the Minister's failure to review the 2050 target was unlawful.

[86] The defendant submits the Minister was not required under s 224 to review the 2050 target following the AR5. The power in s 224(2) is discretionary and its exercise requires the weighing up of numerous social, economic, political and scientific considerations. The defendant submits this does not sit easily with a judicial review contending unlawfulness. Additionally, the AR5 represents only one component of the target setting process, does not prescribe a particular goal and builds upon the previous report (the AR4). Her position is that, while the AR5 is a relevant discretionary consideration in deciding whether to review the 2050 target, its publication did not require her to do so.

[87] The defendant further says there has not been a failure to review New Zealand's emissions reduction policy following the release of the AR5. She submits the substantial policy process the Government undertook in formulating the INDC constitutes such a review. The AR5 was released prior to the Minister and officials actively considering New Zealand's INDC (that is, an intended target following the Paris Agreement). The affidavit evidence confirms this.[86] This did not however involve a review of the 2050 target in particular. Mr Groser says he was not advised by officials nor did he understand that the 2050 target needed to be reviewed following the release of AR5. He further says:

> The incumbent Minister may wish to gazette a new target under s 224 once New Zealand's INDC has been finalised and becomes a NDC. That will be a matter for her and Government/Cabinet.

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[86] Mr Groser was the Minister for Climate Change when the second and third volumes of the AR5 were released. He says that at this time he and officials were considering New Zealand's INDC. He says he was therefore turning his mind to New Zealand's emissions reduction targets following the release of the AR5. This is confirmed by the chronology set out above.

[88] A statutory discretionary power is to be exercised in accordance with its purpose.[87] It is also to be interpreted consistently with New Zealand's international obligations where that interpretation is available.[88] The purpose of the Act is to enable New Zealand to meet its international obligations under the Convention and the Protocol. Further, the Paris Agreement has been entered into in "pursuit of" the Convention's objective and guided by its principles.[89] As a matter of statutory interpretation, s 224(2) can and therefore must be interpreted consistently with New Zealand's international obligations under these instruments. I consider s 224(2) is also to be interpreted consistently with matters that New Zealand has recognised and accepted in these instruments, as these aid in interpreting our obligations. The question is therefore whether our agreement to these instruments required the Minister to exercise her power under s 224(2) to review the 2050 target following the AR5.

[89] As set out above, the Convention includes the following:

(a) A recognition that steps to address climate change will be most effective if they are "based on relevant scientific, technical and

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87 Philip A Joseph *Constitutional and Administrative Law in New Zealand* (4th ed, Brookers, Wellington, 2014) at 951: "Much of judicial review reduces to statutory interpretation, as most public powers are statutory. Where the criteria governing the exercise of discretions are not exhaustive, or where none is specified, relevant considerations must be construed from the subject-matter, scope and objects of the Act, 'as ascertained from the whole of its provisions'."

88 See, for example, the discussion in Ross Carter (ed) *Burrows and Carter Statute Law in New Zealand* (5th ed, Lexis Nexis, Wellington, 2015) at 512-519 and Joseph above n 87 at 924-926.

89 Malcolm N Shaw *International Law* (7th ed, Cambridge University Press, Cambridge, 2014) at 66, discusses the variety of names under which international obligations may be entered into: "Treaties are known by a variety of differing names, ranging from Conventions, International Agreements, Pacts, General Acts, Charters, through to Statutes, Declarations and Covenants. All these terms refer to a similar transaction, the creation of written agreements whereby the states participating bind themselves legally to act in a particular way or to set up particular relations between themselves. A series of conditions and arrangements are laid out which the parties oblige themselves to carry out." And further at 654-655: "The term 'treaty' itself is the one most commonly used in the context of international agreements but there are a variety of names which can be, and sometimes are, used to express the same concept, such as protocol, act, charter, covenant, pact and concordat. They each refer to the same basic activity and the use of one term rather than another often signals little more than a desire for variety of expression. A treaty is defined, for the purposes of the Convention, in article 2 as: an international agreement concluded between states in written form and governed by international law, whether embodied in a single instrument or two or more related instruments and whatever its particular designation."

economic considerations" and are "continually re-evaluated in the light of new findings in these areas".[90]

(b) An ultimate objective is to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" and "[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".[91]

(c) Guiding principles to achieving the ultimate objective which include that parties to the Convention should take "precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects".[92]

(d) Commitments to "regularly update national … programmes containing measures to mitigate climate change"[93] and to "periodically review its own policies and practices which encourage activities that lead to greater levels of anthropogenic emissions".[94]

[90] As also set out above, the Paris Agreement includes:

(a) A recognition that "the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge".[95]

(b) A recognition of the "importance of the engagements of all levels of government and various actors, in accordance with respective national legislations of Parties, in addressing climate change".[96]

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90 Preamble to the Convention.
91 Article 2.
92 Article 3(3).
93 Article 4(1)(b).
94 Article 4(2)(e)(ii).
95 Preamble.

(c) An aim to strengthen the global response to the threat of climate change including by "[h]olding the increase in the global average temperature to well below 2ºC above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5ºC above pre-industrial levels".[97]

[91] These provisions do not expressly require that New Zealand review any target it has set under its domestic legislation when an IPCC report is published. However collectively they do underline the pressing need for global action, that global action requires all Parties individually to take appropriate steps to meet the necessary collective action, and that Parties should do so in light of relevant scientific information and update their individual measures in light of such information.

[92] New Zealand's 2050 target is its only target under the Climate Change Response Act. It was intended to provide long-term certainty for taxpayers, business, industries and farmers. That is a relevant consideration when considering whether it is appropriate to alter the target. However long term certainty needs to be balanced against other relevant considerations.

[93] Other relevant considerations include whether the 2050 target requires revision in light of the best available scientific information. Consistent with this, Dr Smith's press release proposing the 2050 target stated as follows (emphasis added):

> This long-term emissions reduction target cannot be set in stone *and will need to be regularly reviewed taking into account the latest scientific advice on climate change*, progress made by other nations, and progress made in the development of new technologies that would enable New Zealand to reduce emissions.

[94] In my view, what is express under s 225(3)(a), is implicit in s 224(2). The IPCC reports provide the most up to date scientific consensus on climate change. New Zealand accepts this. To give effect to the Act and what New Zealand has accepted, recognised and committed to under the international instruments, and in light of the threat that climate change presents to humankind and the environment, I

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96 Preamble.
97 Article 2(1)(a).

consider the publishing of a new IPCC report requires the Minister to consider whether a target set under s 224 should be reviewed. That is, it is a mandatory relevant consideration in whether an existing target should be reviewed under s 224(2). The Minister must therefore consider whether information in an IPCC report materially alters the information against which an existing target was set. If it does, a review of the target must be undertaken. That review may or may not lead to a decision to amend an existing target or to set additional targets, depending on the outcome of the review process undertaken.

[95] The 2050 target was set over six years ago. At that time the last IPCC report was the AR4 which was issued in 2007. The AR5 has superseded the AR4 as the most up to date scientific consensus on climate change. It is clear from the evidence that the Minister did not consider whether the 2050 target needed to be reviewed in light of the AR5. At that time the Minister was considering an appropriate target for its INDC and NDC in light of the AR5 but a potential review of the 2050 target was not part of that consideration.

[96] This raises the question of whether there was any material change from the AR4 to the AR5 which affects the 2050 target. The plaintiff's submissions did not squarely address this. It is, however, touched on in Professor Renwick's affidavit. He says the lowest warming range considered in AR4 was to limit global warming to 2-2.4ºC. This would require emissions reductions of 50-85 per cent relative to 1990 levels by 2050. The AR5 says that global emissions reductions of 40-70 per cent below 2010 levels by 2050 (which corresponds to 35-55 per cent below 1990 levels) are required to limit warming to below 2ºC.

[97] Therefore New Zealand's 2050 target was consistent with the AR4. And, as Professor Frame notes, it is also consistent with the AR5 and at the more ambitious end of the range. This counts against any remedy requiring the Minister to consider whether the 2050 target ought to be reviewed in light of the AR5. But for the change in Government, however, this may not have been decisive. That is because the Minister did not in fact consider whether to adjust the 2050 target and there may be other matters in the AR5 that would cause the Minister to consider a more ambitious 2050 target. It therefore might have been appropriate to seek further submissions on

this topic to reach a concluded view on whether it would have been appropriate to direct the Minister to review the 2050 target in light of the AR5.

[98] However I need not consider that further in light of the recently elected Government's announced intentions to change this target. This means it is neither necessary nor appropriate to make any order directing a review of this target. Nor is it necessary that I make a declaration. Such a declaration would now be of historic interest only. This judgment is a sufficient record of the Court's view on this cause of action.

Second cause of action: NDC decision (failure to take into account relevant considerations)

The pleading

[99] This cause of action concerns the 2030 target communicated under the Paris Agreement. The plaintiff contends the defendant failed to take into account the following relevant considerations in making the NDC decision:

(a) The costs of dealing with adverse effects of climate change in a "business as usual" situation.

(b) The adverse effects of climate change on New Zealand citizens living in the dependent territory of Tokelau and other developing countries to the Convention which are especially vulnerable to the effects of climate change.

(c) The scientific consensus showing the combined INDC's of Parties to the Paris Agreement fall short of the extent and speed of reductions needed to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

[100] The plaintiff seeks a declaration that the NDC decision was unlawful, and orders quashing the NDC decision and directing that the decision be remade.

Justiciability

[101] This cause of action and the remaining ones concern the 2030 target. It is not a target set under the Climate Change Response Act or any other domestic legislation. It is a target communicated to the Convention Secretariat pursuant to New Zealand's international obligations under the Paris Agreement. The Court's jurisdiction to review the NDC decision which sets this target arises from the common law, pursuant to which the exercise of a public power by the executive having important public consequences is potentially amendable to review by the courts.[98]

[102] An issue arises, however, as to whether the Court can appropriately review the decision.[99] The defendant says it cannot. The defendant's submission about this involves two slightly different points:

(a) First, the defendant submits the Government's decision setting the 2030 target is not amenable to review because it was set pursuant to an international obligation that has not been incorporated into domestic law[100] and that therefore its compliance with that obligation is a political matter which is not reviewable.[101]

(b) Secondly, the defendant submits the 2030 target decision involves questions of socio-economic and financial policy, requiring the balancing of many factors. This means it is not susceptible of determination by any legal yardstick[102] and the assessment of the

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98 *McGechan on Procedure* (looseleaf ed, Thomson Reuters) at [JR Intro.01] citing *Royal Australian College of Surgeons v Phipps* [1999] 3 NZLR 1 (CA) at 11-12; and *Wilson v White* [2005] 1 NZLR 189 (CA) for example.

99 Academic articles debate and discuss what is meant by "justiciability" and whether it has ongoing utility. See, for example, Chris Finn "The Justiciability of Administrative Decisions: A Redundant Concept?" (2002) 30 FLRev 239; BV Harris "Judicial Review, Justiciability and the Prerogative of Mercy" (2003) 62 CLJ 631; David Mullan "Judicial Review of the Executive – Principled Exasperation" (2010) 8 NZJPIL: 145; and Rayner Thwaites "The Changing Landscape of Non-Justiciability" [2016] NZ Law Review 31. See also Paul Daly *A Theory of Deference in Administrative Law: Basis, Application and Scope* (Cambridge University Press, Cambridge, 2012).

100 Referring to *Auckland City Council v Auckland Electric Power Board* HC Auckland CP26/93, 16 August 1993 and *Te Waka Hi Ika o Te Arawa v Treaty of Waitangi Fisheries Commission* HC Auckland CP395/93, 17 June 2003.

101 Relying on *Clark v Governor-General* HC Wellington CIV-2004-485-1902, 2 February 2006.

102 Referring to *Curtis v Minister of Defence* [2002] 2 NZLR 744 (CA).

> relevant factors is one that is appropriately made by those elected by the community.[103]

[103] In so far as the first point is about the source of the power exercised, it is not determinative that the international obligation has not been incorporated into domestic legislation. The second point is about the appropriateness and ability of the Court to review the decision. It reflects the constitutional concern that the courts perform the functions which are properly within their domain. It also recognises the practical point that the courts are not equipped to balance competing policy factors, and are unlikely to have sufficient information about them to do so in the context of a legal dispute, absent certain legal criteria against which they can be determined.

[104] The plaintiff submits the courts have moved away from treating entire subject areas as "no-go" areas.[104] She submits the proper approach is to consider justiciability in relation to the particular issue before the Court.[105] She says the Government's 2030 target is the exercise of a public power that is reviewable on the traditional grounds of failure to take into account relevant considerations and unreasonableness.

[105] The justiciability of Government action or inaction on climate change has been considered in other jurisdictions. I first review the decisions from these jurisdictions before considering the issue in the New Zealand context. The earliest of these is *Massachusetts v Environmental Protection Agency* a decision of the

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103 Relying on *Wellington City Council v Woolworths New Zealand Ltd* [1996] 2 NZLR 537 (CA) and *New Zealand Public Service Association Inc v Hamilton City Council* [1997] 1 NZLR 30 (HC).

104 The existence of "no go" areas was the view in *Council of Civil Service Unions v Minister for the Civil Services* [1985] AC 375 at 418 per Lord Roskill: "I do not think that that right of challenge can be unqualified. It must, I think, depend on the subject matter of the prerogative power which is exercised. Many examples were given during the argument of prerogative powers which as at present advised I do not think could properly be made the subject of judicial review. Prerogative powers such as those relating to the making of treaties, the defence of the realm, the prerogative of mercy, the grant of honours, the dissolution of Parliament and the appointment of ministers as well as others are not, I think, susceptible to judicial review because their nature and subject matter is such as not to be amenable to the judicial process. The courts are not the place wherein to determine whether a treaty should be concluded or the armed forces disposed in a particular manner or Parliament dissolved on one date rather than another."

105 Hanna Wilbert "Administrative Law" [2016] NZ L Rev 571 citing Harris above n 99 and Daly above n 99 at ch 7.

Supreme Court of United States delivered on 2 April 2007.[106] A group of States, local government and private organisations sought review of a decision of the Environmental Protection Agency. The Agency had declined to regulate greenhouse gases from new motor vehicles under the Clean Air Act.

[106] The regulatory power under that Act arose if "the emission of any air pollutant from any class or classes of new motor vehicles … in [the regulator's] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare".[107] The Agency considered this power was about domestic ground level pollution and not climate change; further, a causal link between greenhouse gases and the increase in global surface air temperatures was not unequivocally established; and further, regulation would be an inefficient and piecemeal approach to addressing climate change when the United States' President had laid out a comprehensive approach to climate change.[108]

[107] Justiciability was partly dealt with as a question of standing. The group was required to show it suffered injury that was fairly traceable to the Agency's failure to promulgate new motor vehicle greenhouse gas emissions standards, and its injury would likely be redressed by the issuance of such standards. The Agency submitted this could not be shown because new motor vehicles emissions contributed too insignificantly to the group's injuries.

[108] A majority of the Supreme Court[109] considered the group did have standing. Massachusetts, one of the relevant states, was already affected by global warming in that rising sea levels had already begun to swallow its coastal land. As such the Agency's refusal to regulate emissions from motor vehicles presented an actual and imminent risk of harm to Massachusetts. The majority considered that small incremental steps to address an issue are important. In any event, the United States transportation sector "emits an enormous quantity of carbon dioxide" making it the third-largest emitter (after the European Union and China) on the basis of this sector

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106 *Massachusetts v Environmental Protection Agency* 549 US 497 (2007), 127 S CT 1438 (2007). This was released between reports one and two of AR4.

107 At 1471-72.

108 At 1441.

109 Stevens, Kennedy, Souter, Ginsburg and Breyer JJ.

alone.[110] Regulating motor-vehicle emissions by itself would not reverse global warming but was a step towards slowing or reducing it.

[109] The minority disagreed.[111] The minority considered the group could not trace their alleged injuries to the fractional amount of global emissions that might have been limited by standards set by the Agency. Any decrease in domestic emissions from this would be "overwhelmed many times over by emissions increases elsewhere in the world".[112] Massachusetts' loss of land would not be redressed by this.

[110] Justiciability considerations also arose on the merits of the Agency's decision. The majority decision acknowledged the Agency has a broad discretion to choose how best to marshal its limited resources and personnel. However refusals to regulate rules were "susceptible to judicial review, though such review is 'extremely limited' and 'highly deferential'."[113] In the majority's view emissions were "air pollutants" under the Act. This meant that under the terms of the Act the Agency could only refuse to regulate if it had concluded that the greenhouse gases did not contribute to climate change or if it provided a reasonable explanation as to why it could or would not exercise its discretion under the Act. The majority held the Agency had not done so. The majority therefore directed the Agency to reconsider its decision.

[111] The minority considered the plaintiffs had failed to show the Agency was wrong in its view that the Act was not concerned with climate change emissions. The minority also considered the Agency had given a reasonable explanation for why it would decline to set standards to address such emissions. Scalia J, who gave the minority opinion on this aspect of the case, concluded:[114]

> The Court's alarm over global warming may or may not be justified, but it ought not distort the outcome of this litigation. This is a straightforward administrative-law case, in which Congress has passed a malleable statute giving broad discretion, not to us but to an executive agency. No matter how important the underlying policy issues at stake, this Court has no business

110 At 1457-1458.
111 Roberts, Scalia, Thomas and Alito JJ.
112 At 1469 per Roberts J.
113 At 1459 per Stevens J.
114 At 1478 per Scalia J.

> substituting its own desired outcome for the reasoned judgment of the responsible agency.

[112] More recently, in 2016 the Oregon District Court, in *Juliana v United States*, refused to dismiss a claim that challenged government inaction on climate change.[115] The claim was brought by a group of young individuals, Dr James Hansen[116] as a guardian for "future generations", and associations of "activists". It was brought as a constitutional challenge (an infringement of life and liberty) and for violation of a public trust doctrine (by denying future generations of essential natural resources).

[113] The plaintiffs alleged the United States and various government officials and agencies had known for decades that CO_2 pollution has been causing catastrophic climate change and had failed to take necessary action to curtail fossil fuel emissions. They sought immediate action to restore energy balance and implementation of a plan to put the nation on a trajectory (that if adhered to by other major emitters) would reduce atmospheric CO_2 concentration to no more than 350 ppm by 2100.

[114] The claim was said to be novel and justiciability issues were raised by the Government and others opposing the claim. In response the Court stated:[117]

> [10] … As a result, I give special consideration to the argument that granting plaintiffs' requested relief would usurp the Executive Branch's foreign relations authority. Climate change policy has global implications and so is sometimes the subject of international agreements. But unlike the decisions to go to war, take action to keep a particular foreign leader in power, or give aid to another country, climate change policy is not *inherently*, or even primarily, a foreign policy decision. ... *See Baker* 369 U.S. at 211 ("[I]t is error to suppose that every case or controversy which touches foreign relations lies beyond judicial cognizance.") ...
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> [11] … First, intervenors contend the Court cannot set a permissible emissions level without making *ad hoc* policy determinations about how to weigh competing economic and environmental concerns. But plaintiffs do not ask this Court to pinpoint the "best" emissions level; they ask this Court to determine what emissions level would be sufficient to redress their injuries. That question can be answered without any consideration of competing interests … The science may well be complex, but logistical difficulties are immaterial to the political question analysis. *See Alperin*, 410

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115 *Juliana v United States* No 6:15-CV-1517-TC (DC Or, 8 April 2016), upheld on review in *Juliana v United States* 217 F Supp 3d 1224 (DC Or, 10 November 2016).

116 Who it appears may be the same Dr Hansen who is an expert in the present case.

117 *Juliana* (10 November 2016) above n 115.

> F.3d at 552, 555 ("[T]he crux of th[e political question] injury is … not whether the case is unmanageable in the sense of being large, complicated or otherwise difficult to tackle from a logistical standpoint," but rather whether "a legal framework exists by which courts can evaluate … claims in a reasoned manner.").
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> …
>
> [13] Finally, defendants and intervenors contend that plaintiffs' failure to identify violations of precise statutory or regulatory provisions leaves this court without any legal standard by which to judge plaintiffs' claims. … Every day, federal courts apply the legal standards governing due process claims to new sets of facts. The facts in this case, though novel, are amenable to those well-established standards. …
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> …
>
> [15] Although the United States has made international commitments regarding climate change, granting the relief requested here would be fully consistent with those commitments. There is no contradiction between promising other nations the United States will reduce CO_2 emissions and a judicial order directing the United States to go beyond its international commitments to more aggressively reduce CO_2 emissions.

[115] The Court concluded the case did not involve a non-justiciable political question. It did not need to "step outside the core role of the judiciary to decide [the] case".[118] As a constitutional challenge this case was squarely within the role of the Court. However the Court recognised that, if the plaintiffs prevailed on the merits, "great care" would be required in crafting a remedy. The separation of powers doctrine might permit the Court to direct the defendants to ameliorate the plaintiffs' injuries, but limit its ability to specify precisely how to do so.[119] In its concluding comments, the Court emphasised the role of the courts given the importance of the issues at stake.[120]

[116] Concerns about inadequate Government response to climate change have also come before the courts in Canada. This was in 2008 and at a time when some parties to the Kyoto Protocol were concerned about its stringency and lack of sufficient participation. In *Friends of the Earth v Canada* the applicant (a not for profit

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118 At [17].

119 At [18]-[19].

120 At 1262. This decision is currently under appeal to the Ninth Circuit Court of Appeal. The substantive trial in the Oregon District Court is yet to be heard pending determination of the appeal. See Maria L Banda and Scott Fulton "Litigating Climate Change in National Courts: Recent Trends and Developments in Global Climate Law" (2017) 47 Env L Rep 10121 at 10126 and "Details of Proceedings" (12 September 2017) Our Children's Trust <www.ourchildrenstrust.org>.

organisation concerned with protecting the national and global environment) sought judicial review of a climate change plan.[121] The plan was prepared by the Minister pursuant to Canadian legislation, the Kyoto Protocol Implementation Act (the KPIA). The KPIA was introduced as a private member's bill. It was not supported by the government which had earlier stated that it would not comply with the Kyoto Protocol targets.[122]

[117] Section 5 of the KPIA required the Minister to prepare a climate change plan that included "a description of the measures to be taken to ensure that Canada meets its obligations under Article 3, paragraph 1 of the Kyoto Protocol". Section 7 provided that the Governor in Council "shall ensure that Canada fully meets its obligations under Article 3, paragraph 1 of the Kyoto Protocol by making, amending or repealing the necessary regulations". Section 8 provided for consultation before making a regulation under the KPIA. Section 9(1)(a) provided that the Minister "shall" prepare a statement setting out the greenhouse gas emissions expected to result from each regulation "made to ensure that Canada fully meets its obligations under Article 3, paragraph 1 of the Kyoto Protocol".

[118] The climate change plan prepared pursuant to the KPIA acknowledged the responsibilities imposed by the KPIA on the Minister but considered some of these to be discretionary. The plan made it clear that Canada had no present intention of meeting its Kyoto Protocol commitments. It set out the challenges for Canada in meeting its Kyoto Protocol commitments in the timeframe required and set a target that was 34 per cent higher than Canada's Kyoto target for the 2008 to 2012 period.

[119] Friends of the Earth alleged the Minister had breached ss 5, 7, 8 and 9 of the KPIA. The Minister had expressly acknowledged non-compliance with the Kyoto Protocol and it had not carried out the regulatory action contemplated by ss 7, 8 and 9. The respondents contended that the matter was not amendable to review and their accountability for failure to fulfil Canada's Kyoto Protocol obligations was the ballot box not the courtroom.

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121 *Friends of the Earth v Canada* [2009] 3 FCR 201.

122 This meant that KPIA did not authorise expenditure of public funds to achieve its objectives (a money bill can only be introduced into Parliament by the Government).

[120] The Federal Court considered justiciability was a matter of statutory interpretation. The use of "shall" indicated the Minister was required to prepare a plan. However that plan was "to ensure" Kyoto Protocol compliance and then set out a series of measures which were "policy laden". These included requirements that the plan provide for a "just transition" for workers affected by greenhouse gas emissions and an "equitable distribution" of reduction levels among the sectors of the economy that contribute to emissions. The Court concluded that, while the failure to prepare a plan may well be justiciable, an evaluation of its content was not.[123]

[121] Climate change issues have also come before the Supreme Court in the United Kingdom in *ClientEarth v Secretary of State*.[124] An application was brought by ClientEarth, a non-governmental organisation interested in the protection of the environment. It sought judicial review of draft nitrogen dioxide air quality plans on the basis they did not comply with the requirements of European Union law (the Directive).[125]

[122] The Directive set nitrogen dioxide limits for each member state that could be emitted by a particular zone by 1 January 2010. There was provision for the member state to seek permission from the European Commission to extend this time limit to 1 January 2015. Where the limit values were exceeded, a further provision required the state to set measures so that the period the limit was exceeded "can be kept as short as possible".[126]

[123] The United Kingdom was divided into 43 zones. Forty of these were in breach of their limits in 2010. The Secretary of State expected 23 of these zones to achieve their limits by 2015, 16 by 2020, and one (Greater London) to be achieved by 2025. Applications for extensions to 1 January 2015 for a number of these zones

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123 At [33] and [34].

124 *R (on the application of ClientEarth) v Secretary of State for the Environment, Food and Rural Affairs* [2015] UKSC 28 [*ClientEarth (second SC decision)*]. See also the previous Supreme Court decision in *R (on the application of ClientEarth) v Secretary of State for the Environment, Food and Rural Affairs* [2013] UKSC 25 [*ClientEarth (first SC decision)*] and the European Union Court of Justice decision Case C-404/3 *ClientEarth v Secretary of State for the Environment, Food and Rural Affairs* [2014] All ER (D) 210 (Nov).

125 Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe [2008] OJ L 152/1.

126 Article 23(1).

were made (and extensions were received for some of them), but not for those where compliance by 1 January 2015 was not anticipated. The Secretary of State accepted it had not complied with the 1 January 2015 timeframe but asserted it was not possible due to circumstances outside its control.

[124] ClientEarth sought declarations that the plans did not comply with the Directive and orders requiring the Secretary of State to revise its air quality plan to conform with this law. In the lower courts this relief was declined. At first instance this was in part because the orders sought raised "serious political and economic questions which are not for this court".[127] It was also considered that a declaration would serve no purpose.[128] When the matter first reached the Supreme Court it disagreed that a declaration would serve no purpose. It noted it was the responsibility of domestic courts to provide an effective remedy for the admitted breach of the 2010 limits. A declaration should be made.[129]

[125] The Supreme Court considered the correct interpretation of the provisions in the Directive (concerning extensions and the periods for exceeding limits being kept as short as possible) raised difficult issues. It referred questions about these provisions to the European Union Court of Justice.[130] Following the decision from that Court, the matter came back before the Supreme Court for a second time. By this time the United Kingdom's compliance had deteriorated: only five zones would be compliant by 2015, 15 zones by 2020, 38 zones by 2025, 40 zones by 2030 and three would not be compliant by 2030. The matter of the appropriate relief was complicated by an approaching General Election:[131]

> [31] In normal circumstances, where a responsible public authority is in admitted breach of a legal obligation, but is willing to take appropriate steps to comply, the court may think it right to accept a suitable undertaking, rather than impose a mandatory order. However, Miss Smith candidly accepts that this course is not open to her, given the restrictions imposed on Government business during the current election period. The court can also take notice of the fact that formation of a new Government following the

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127 *R (on the application of ClientEarth) v Secretary of State for the Environment, Food and Rural Affairs* [2011] EWHC 3623 (Admin) at [15].

128 At [15]-[16]. This was upheld in the Court of Appeal: *R (on the application of ClientEarth) v Secretary of State for Environment, Food and Rural Affairs* [2012] EWCA Civ 897 at [22].

129 *Client Earth (first SC decision)* above n 124 at [37].

130 At [38]-[39].

131 *ClientEarth (second SC decision)* above n 124.

> election may take a little time. The new Government, whatever its political complexion, should be left in no doubt as to the need for immediate action to address this issue. The only realistic way to achieve this is a mandatory order requiring new plans complying with art 23(1) to be prepared within a defined timetable.

[126] The Court concluded it was appropriate to make an order requiring the Secretary of State to prepare compliant air quality plans to be delivered to the European Commission within a definite and realistic timeframe. The Secretary of State's proposed timeframe of 31 December 2015 was regarded as reasonable, but it was also appropriate also to reserve leave to apply to vary the timetable. The Court made an order in those terms.[132]

[127] Lastly, I consider a 2016 case from the Netherlands. In *Urgenda Foundation v The Netherlands*, a citizens' group, made up of various sectors of society, brought a claim challenging the measures taken by the State to mitigate its CO_2 emissions as being insufficient.[133] The group contended the State had breached a duty of care owed to it in setting its 2020 target and therefore had acted unlawfully.

[128] In considering this claim the Court reviewed the international, European and domestic framework. It also reviewed the IPCC reports, particularly the AR4 and AR5. The Court noted the status of these reports under the Convention and the scientific consensus which they represented, and considered (with the Parties' agreement) it was appropriate to consider the reports' findings as "facts" on which the claim was to be assessed.[134]

[129] The Court noted the following matters from the reports:

(a) Anthropogenic greenhouse gas emissions are causing climate change. A highly hazardous situation for man and the environment will occur with a temperature rise over 2ºC compared to the pre-industrial level. It is therefore necessary to stabilize the concentration of greenhouse

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132 At [35].

133 *Urgenda Foundation v The Netherlands (Ministry of Infrastructure and the Environment)* Hague DC C/09/456689/HA 2A 13-1396 (Chamber for Commercial Affairs, 24 June 2015).

134 At [4.12].

gases in the atmosphere, which requires a reduction of the current anthropogenic greenhouse gas emissions.[135]

(b) The IPCC reports have described different scenarios which offer an insight into the consequences of a certain emission level for the environment and into the costs of achieving a certain emission level. In AR4, the IPCC established that in order to achieve the 2ºC target the greenhouse gas concentrations in the atmosphere have to be stabilized at 450 ppm in the long term (requiring global emissions to peak by 2025 and reduce by 50 per cent by 2050) (the 450 scenario). The AR4 considered the 450 scenario had a 50 per cent chance of achieving the climate target. In AR5 the IPCC more favourably estimated the chance that the climate target will be reached under the 450 scenario as over 66 per cent.[136]

(c) In AR4 the IPCC also considered that in order to prevent the concentration of emissions from exceeding 450 ppm, global emissions of CO_2 and equivalents must be substantially reduced. In order to achieve a concentration level of 450 ppm the total emissions of Annex I countries (which included the Netherlands and the EU) will have to be reduced by 20 to 40 per cent by 2020 compared to 1990 levels. In 2050, the total emissions of these countries will need to have been reduced by 80 to 95 per cent compared to 1990 levels.[137]

(d) From 2007 to 2009, the Netherlands policy was to achieve a 30 per cent reduction by 2020 compared to 1990 levels (that is, a target that was higher than the EU's 20 per cent target). This later decreased and, in these proceedings, the expected policy was now 14 to 17 per cent in 2020 compared to 1990.[138]

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135 At [4.18]

136 At [4.19]-[4.21].

137 At [4.23].

138 At [4.26]. This was comprised of a minimum reduction target of 16 per cent by 2020 (compared to 2005) for the non-ETS sectors and 21 per cent by 2020 (compared to 2005) for the ETS sectors.

(e) AR4 stated that the total emissions of Annex I countries will need to have been reduced by 80 to 95 per cent compared to 1990 levels by 2050.[139] In AR5 the IPCC established that emissions must be reduced by 40 to 70 per cent by 2050 compared to 2010 levels to realise the 450 scenario.[140] The EU and the Netherlands have committed to a 40 per cent reduction target by 2030, and to an 80 per cent reduction by 2050. This brings the reduction target in line with the IPCC's proposed reduction target for a 450 scenario for 2050.[141]

[130] Given these matters, the Court concluded the Dutch 2020 reduction target was below the standard deemed necessary by climate science and the international climate policy.[142] The Court noted that it is currently very probable that within several decades dangerous climate change will occur with irreversible consequences for man and the environment. The State acknowledged the serious problem and that it was necessary to avert this threat by mitigating greenhouse gas emissions. The dispute therefore did not concern the need to mitigate, but rather the pace, or the level, at which the State needs to start reducing greenhouse gas emissions.[143]

[131] The Court held the State owed a duty of care to the plaintiffs in setting its 2020 target. It summarised its conclusion as follows:

> 4.83. Due to the severity of the consequences of climate change and the great risk of hazardous climate change occurring – without mitigating measures – the court concludes that the State has a duty of care to take mitigation measures. The circumstance that the Dutch contribution to the present global greenhouse gas emissions is currently small does not affect this. Now that at least the 450 scenario is required to prevent hazardous climate change, the Netherlands must take reduction measures in support of this scenario.
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> 4.84. It is an established fact that with the current emission reduction policy of 20% at most in an EU context (about 17% in the Netherlands) for the year 2020, the State does not meet the standard which according to the latest scientific knowledge and in the international climate policy is required for Annex I countries to meet the 2ºC target.

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139 At [4.23].
140 At [4.27].
141 At [4.29].
142 At [4.31].
143 At [4.32].

> 4.85. Urgenda is correct in arguing that the postponement of mitigation efforts, as currently supported by the State (less strict reduction between the present day and 2030 and a significant reduction as of 2030), will cause a cumulation effect, which will result in higher levels of CO_2 in the atmosphere in comparison to a more even procentual or linear decrease of emissions starting today. A higher reduction target for 2020 (40%, 30% or 25%) will cause lower total, cumulated greenhouse gas emissions across a longer period of time in comparison with the target of less than 20% chosen by the State. The court agrees with Urgenda that by choosing this reduction path, even though it is also aimed at realising the 2ºC target, will in fact make significant contributions to the risk of hazardous climate change and can therefore not be deemed as a sufficient and acceptable alternative to the scientifically proven and acknowledged higher reduction path of 25-40% in 2020.
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> 4.86. This would only be different if the reduction target of 25-40% was so disproportionately burdensome for the Netherlands (economically) or for the State (due to its limited financial means) that this target should be deviated from to prevent a great potential danger. However, the State did not argue that this is the case. On the contrary: the State also argues that a higher reduction target is one of the possibilities. This leads the court to the conclusion … that the State … fails to fulfil its duty of care and therefore acts unlawfully. ...

[132] The Court acknowledged it should not "enter the political domain with the associated considerations and choices" and its role was the application of the law.[144] It also acknowledge that "[g]reat restraint or even abstinence is required when it concerns policy-related considerations of ranging interests which impact the structure or organisation of society".[145] However in this case the State would retain full freedom to determine how to comply with the court's order. That order required the State to limit the volume of Dutch greenhouse gas emissions to meet a reduction of at least 25 per cent by the end of 2020 compared to the 1990 level.[146]

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144 At [4.95].

145 At [4.95].

146 In 2015 the Dutch Government indicated its intention to file an appeal against the way in which the Court defined the duty of care in respect of its citizens. However, it would be begin implementing the ruling immediately as this was not the reason for the appeal: "Cabinet begins implementation of Urgenda ruling but will file appeal" (1 September 2015) Government of the Netherlands <www.government.nl>. The current status of this appeal is unclear.

[133] Of course each of these cases is different from the present case.[147] However these cases illustrate that it may be appropriate for domestic courts to play a role in Government decision making about climate change policy. Indeed the claims have all succeeded to some extent, with the exception of *Friends of the Earth v Canada* which is one of the earliest cases and was decided in the context of the Kyoto Protocol difficulties. The courts have not considered the entire subject matter is a "no go" area, whether because the state had entered into international obligations, or because the problem is a global one and one country's efforts alone cannot prevent harm to that country's people and their environment, or because the Government's response involves the weighing of social, economic and political factors, or because of the complexity of the science. The courts have recognised the significance of the issue for the planet and its inhabitants and that those within the court's jurisdiction are necessarily amongst all who are affected by inadequate efforts to respond to climate change. 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.

[134] This approach is consistent with the view that justiciability concerns depend on the ground for review rather that its subject matter. The subject matter may make a review ground more difficult to establish, but it should not rule out any review by the Court.[148] The importance of the matter for all and each of us warrants some scrutiny of the public power in addition to accountability through Parliament and the General Elections. If a ground of review requires the Court to weigh public policies that are more appropriately weighed by those elected by the community it may be necessary for the Court to defer to the elected officials on constitutional grounds, and

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147 *Massachusetts*, above n 106, was a judicial review of inaction under a domestic statute; *Juliana*, above n 115, was a novel constitutional challenge (for the infringement of life and liberty) and violation of a public trust claim; *Friends of the Earth*, above n 121, was a claim under a domestic statute; *ClientEarth*, above n 124, was a claim for breach of European Union Law; and *Urgenda*, above n 133, was a tort claim arising in a jurisdiction which has differences in its civil and constitutional law from New Zealand. As to the latter, the defendant refers to Matthew Soar "Would the Urgenda case fly in New Zealand?" (1 October 2015) Deconstructing Paris: Analysing the COP 21 Draft Text <www.paristext2015.com> in support of these differences.

148 See for example *Finn* above n 99.

because the Court may not be well placed to undertake that weighing.[149] I proceed to consider the particular grounds advanced in light of these considerations.

Business as usual

[135] In setting the INDC the Minister obtained extensive economic modelling of the costs of reducing emissions from Infometrics Ltd, Landcare Research and the New Zealand Institute of Economic Research.[150] That economic modelling used a "business as usual" scenario. That is, it simulated a future in which no action on climate change is taken against which alternate possible futures are compared. It also assumed the economy would continue to grow at its current rate.

[136] Ms Harrison explained the reason for this in her affidavit. She says this approach to modelling was taken because, if New Zealand did nothing and the world did nothing, the cost would be exactly the same as if New Zealand made significant effort and the rest of the world did nothing. Ms Harrison also says, while New Zealand can be confident that the costs of climate change will be significant, the actual social, cultural and environmental impacts are "extremely uncertain and not able to be quantified or projected with any level of confidence".

[137] The plaintiff contends the Minister was required to incorporate in its modelling the costs to New Zealand of dealing with dangerous climate change when making the INDC and NDC decisions. She says the information to incorporate those costs was available to the Minister from the work of multiple national governments and the Convention Secretariat. She says it was necessary for the Minister to incorporate these costs because the Convention requires developed countries to take the lead. Similarly the Paris Agreement requires Parties to put forward their fair and ambitious contributions to limiting climate change and repeats the need for developed countries to take the lead.

[138] I am not convinced by Ms Harrison's evidence that the costs of dealing with dangerous levels of emissions should not be modelled because of the difficulty and uncertainty in doing so. Economists are skilled at assessing cost parameters

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149 *Wellington City Council v Woolworths New Zealand Ltd (No 2)* [1996] 2 NZLR 537 (CA) at 546.

150 NZIER provided quality assurance of the modelling undertaken by Infometrics and Landcare.

incorporating uncertainties. The consultation responses included submissions that the modelling should take account of the costs of dealing with dangerous climate change. Additionally a report of the Foreign Affairs, Defence and Trade Committee on the International treaty examination of the Paris Agreement commented adversely on the economic modelling which had been undertaken as follows:

> The economic modelling has been undertaken within a narrow range of assumptions. Notably it assumes that agriculture sits outside of the ETS. This is a political decision and we consider that robust economic modelling should have considered scenarios whereby agriculture was included.
>
> Furthermore, the report assumed only modest targets to actually reduce domestic emissions and relied heavily on international carbon markets. We note that the availability of these credits will be subject to international transparency rules being developed. We also have concerns about the projected costs of planning to purchase large volumes of international credits with no real forecast of the expected unit price.

[139] That said, I do not accept the economic modelling on which the Minister's INDC and NDC decisions were based involved a failure to take into account a mandatory relevant consideration. For one thing, the Minister was alerted to concerns about the modelling from some quarters and therefore presumably took them into account, but this did not cause the Minister to form any different view about how to carry out the modelling. Moreover, neither the Convention nor the Paris Agreement stipulate any specific criteria or process for how a country is to set its INDC and NDC, nor how it is to assess the costs of the measures it intends to take. The Paris Agreement seeks a contribution from a country that represents its "highest possible ambition" and developing countries should continue "taking the lead by undertaking economy-wide absolute emission targets" but it leaves these matters to be nationally determined.[151]

[140] Moreover, the economic modelling was only one input into the NDC decision. The dangerous consequences of climate change are in a sense already part of or inherent in the decision. The reason why New Zealand is a party to the Convention, the Kyoto Protocol and the Paris Agreement is because it accepts the dangerous consequences of inaction. Its targets are predicated on that fact. New Zealand also accepts that it must play a leadership role, although its own efforts at

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151 Article 4.

reducing emissions will make no difference if other countries do not play their part. The business as usual modelling, carried out by the experts that were engaged, simply recognised this reality.

[141] There may have been better ways for the Minister to assess the costs of action and inaction. If there are, the new Minister may pursue those options. However I am not able to say that the INDC and NDC were outside the proper bounds of the Minister's power because of the manner in which the economic modelling was undertaken.

Tokelau and developing countries

[142] Tokelau is one of the places in the world most vulnerable to the impacts of climate change. It is made up of three atolls that sit between three and five metres above sea-level. Climate change risks sea-level rises that will completely inundate the atolls posing a direct threat to Tokelau's existence.

[143] The Tokelau Act 1948 declares Tokelau to form part of New Zealand.[152] The Act gives the General Fono the power to make such rules as it thinks necessary for the peace, order and good government of Tokelau.[153] However any such rule is of no effect, to the extent that it is inconsistent with any New Zealand Act of Parliament that is in force in Tokelau, any Regulation made by the Governor-General applying to Tokelau,[154] or any international obligation of Tokelau.[155] New Zealand statute law is not applicable unless it expressly states so.[156] Generally English common law applies in Tokelau except to the extent that it is excluded by any other enactment or is inapplicable.[157]

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152 Section 3.

153 The General Fono is a national assembly made up of elected representatives from each atoll. It meets three times a year. "Tokelau Government: Political System" Government of Tokelau <www.tokelau.org.nz>.

154 Under s 4 the Governor-General can make any regulations she thinks necessary for the peace, order and good governance of Tokelau. No regulation can be made that is repugnant to any New Zealand Act of Parliament in force in Tokelau.

155 Section 3B.

156 Section 6.

157 Section 4B.

[144] In international law Tokelau's status is as a non-self-governing territory of New Zealand.[158] It does not have its own separate international legal personality.[159] Unless a different intention is established, a treaty is binding upon each party in respect of its entire territory.[160] Accordingly New Zealand can enter into binding treaty obligations on behalf of Tokelau.

[145] The Convention requires countries to give "full consideration" to "[t]he specific needs and special circumstances of developing [countries]"[161] especially the needs of "small island countries and countries with low-lying coastal areas".[162] Given this obligation, the plaintiff submits the Minister was required to take into account the circumstances of Tokelau, and developing countries more generally, when developing the NDC. She submits this should have led the Minister to pursue efforts to limit the temperature increase to 1.5ºC, consistent with the purpose of the Paris Agreement, when deciding on New Zealand's NDC. She submits there is no evidence the Minister did so.

[146] The plaintiff submits this is reinforced by s 20 of the New Zealand Bill of Rights Act 1990 (NZBORA) under which an "ethnic … minority" has the right not to be denied "in community with other members of that minority, to enjoy the culture … of that minority". She submits this required the Minister to base the target on an assessment of what the world needed to do to limit the temperature increase to 1.5ºC and to make its NDC consistent with that.

[147] The defendant submits the decision on the 2030 target had regard to the adverse effects of climate change on New Zealand citizens as a whole, which

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158 Tokelau has been on the United Nations' list of Non-Self-Governing Territories since 1946, following the declaration of the intention by New Zealand to transmit information on the Tokelau Island: General Assembly Resolution 66(I) (14 December 1946). See also for recent confirmation of Tokelau's status *Resolution adopted by the General Assembly on 6 December 2016: Question of Tokelau* 71/107, A/Res/71/107 (2016) and *Tokelau: Working Paper by the Secretariat* A/AC.109/2017/14 (2017).

159 See generally Tokelau Act 1948 (NZ) and Ministry of Foreign Affairs and Trade "Tokelau" <www.mfat.govt.nz>.

160 Tokelau is typically subject to major treaties to which New Zealand is a party by virtue of the 1988 *Declaration of New Zealand to the United Nations Secretary General* UNGA LE 22 and New Zealand's communication on 10 April 2002 (United Nations "Multilateral Treaties Deposited with the Secretary-General: Historical Information" <www.treaties.un.org>. See also *Laws of New Zealand* International Law (online ed) at [58].

161 Article 3.

162 Article 4.

included the adverse effects of climate change on Tokelauans although this was not a mandatory relevant consideration. The defendant also submits the application of NZBORA was not pleaded, it is not part of Tokelauan law and it does not in any event assist the position advanced.

[148] I agree the NZBORA argument was not pleaded. Nor did I receive full submissions from either party about its application to Tokelau. I also agree with the defendant that the NZBORA argument does not really add to the plaintiff's argument, which is that New Zealand's NDC should have been made on the basis of a 1.5ºC goal if the impact on Tokelauans had been considered, and the Convention and Tokelau's status as part of New Zealand required this.

[149] Turning to the evidence, I have not been referred to anything in the various documents leading to the INDC and NDC decisions that the impact on Tokelauans was factored into what New Zealand's contribution should be. I do not accept the defendant's submission that because the NDC took into account the adverse effects of climate change of New Zealand as a whole, this meant the specific circumstances of Tokelau were considered.

[150] The evidence from Ms Tyndall is that New Zealand consulted with Tokelau about ratifying the Paris Agreement. She refers to the report of the Foreign Affairs, Defence and Trade Committee on the International treaty examination of the Paris Agreement. This refers to MFAT consulting with Tokelau's climate change advisors about its inclusion in New Zealand's ratification process, and preparing a consultation document for Tokelau to consider. It also states:

> We strongly encourage MFAT to continue to engage with Tokelau as to whether New Zealand ratification will extend to Tokelau. Tokelau, like many Pacific Islands, stands to be substantially impacted by the effects of climate change and it is critical that its views are given an international voice.

[151] Tokelau advised that it did wish to be included in ratifying the Paris Agreement. This was announced at CMA 1.[163] Ms Tyndall says New Zealand's report on reductions of greenhouse emissions will therefore extend to Tokelau. In

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[163] The supreme decision making body of the Paris Agreement is the COP serving as the meeting of the parties to the Paris Agreement (CMA): Paris Agreement, art 16.

addition to this, she says the New Zealand Government is currently determining how the extension to Tokelau will be implemented. She also says New Zealand is considering an adaption goal for Tokelau which it will communicate separately from New Zealand's NDC.[164] Additionally I note the financial assistance for Pacific Islanders which Mr Key, the then Prime Minister, announced at Paris.[165]

[152] It is therefore clear that New Zealand had Tokelau in mind when deciding whether to ratify the Paris Agreement and it intends to assist Tokelau and other developing Pacific Island countries to meet their climate change costs and to adapt to the adverse effects of climate change. The plaintiff's point is, however, a different one. In essence she says New Zealand should have considered its NDC against a target of 1.5ºC rather than a target of below 2ºC because of the severe consequences for Tokelauans of climate change. In other words the submission is that New Zealand's NDC was less ambitious than it might have been because Tokelauans were not considered.

[153] Ms Tyndall notes that in the negotiations leading to the Paris Agreement many small island states argued the goal should be to hold the increase in the global average temperature to 1.5ºC. She says this was ultimately reflected in the Paris Agreement. I accept the Minister made the NDC decision understanding that the aim was to hold the increase in global temperatures to well below 2ºC while pursuing efforts to limit the temperature increase to 1.5ºC. In other words, the NDC decision was made in light of the correct temperature objectives which recognised the temperature goal advocated by Pacific Island countries.

[154] In the international arena New Zealand has the opportunity to factor the impacts on Tokelauans into its NDC, if and to the extent to which it considers it appropriate to do so. As set out earlier, under the Paris Agreement a country's NDC must be updated every five years and each NDC is to represent a progression. Next year a special IPCC report is envisaged reporting on the feasibility of limiting the global temperature increase to 1.5ºC above pre-industrial levels and parties will be invited to consider this as they prepare to update their NDC by 2020.

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164 As required by art 4(4) of the Convention.
165 As required by art 4(3) of the Convention.

[155] Lastly I note Mr Groser's view that New Zealand's INDC:

> Represents a fair and ambitious target, is an appropriate response to the serious problem of climate change, complies with our international obligations, appropriately reflects our national circumstances and reasonably balances the various scientific social cultural and economic factors that were at play.

[156] As discussed earlier New Zealand had to decide whether to confirm its INDC as its NDC earlier than it had anticipated because of the international momentum to ratify the Paris Agreement. This meant New Zealand did not have certainty about the accounting and international carbon market access rules that would apply. At this stage New Zealand was consulting with Tokelau about whether it wished to be included in the Paris Agreement. In light of the uncertainties about how New Zealand might meet its INDC, there is nothing to suggest that the Minster would have considered it appropriate to communicate an even more ambitious NDC than it did because of Tokelauan considerations. It was and is separately considering how to assist Tokelau.

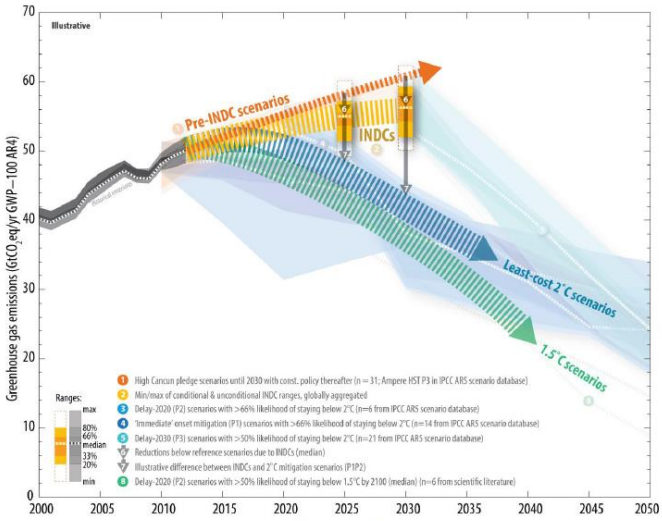
[157] In summary I consider the impact on Tokelauans is a mandatory relevant consideration when New Zealand is considering its responses to climate change, given Tokelau's dependence on New Zealand and its status in international law. However I am not persuaded this meant New Zealand's NDC needed to be consistent with a 1.5ºC target. Nor am I persuaded New Zealand's NDC was likely to have been any different if the specific circumstances of Tokelauans had been considered when making the NDC decision. The international framework provides the opportunity for New Zealand to take account of the special needs and circumstances of Tokelau in its climate change decisions as appropriate. The evidence indicates New Zealand intends to do that.

The NDC

[158] The last pleaded mandatory relevant consideration concerns the scientific consensus that the Parties' combined INDCs fell short of the extent and speed of reductions needed to stabilize greenhouse gas concentrations in the atmosphere at a

level that would prevent dangerous anthropogenic interference with the climate system.[166] This is depicted as follows:

Figure 2
Comparison of global emission levels in 2025 and 2030 resulting from the implementation of the intended nationally determined contributions and under other scenarios



Sources: Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report scenario database, 1.5 °C scenarios from scientific literature (see footnote 19), IPCC historical emission database and intended nationally determined contribution quantification.

[159] The plaintiff contends the Minister failed to consider this between communicating New Zealand's INDC and confirming it as the NDC. In my view this was not a mandatory relevant consideration at this stage of the Paris Agreement process. Under the Paris Agreement each country was to determine their own NDC. The assumption under this Agreement is that a country's INDC would become its NDC on ratifying the agreement unless the country notifies otherwise. The Paris Agreement did not require countries to repeat the substantial process involved in deciding upon an INDC between communicating the INDC and confirming it as the NDC. There was no requirement for countries to adopt a target that if adopted by all would achieve warming well below 2ºC, nor to alter its NDC because the combined INDCs were insufficient to meet the target. This stage of the process is about individual decision making (towards the common goal). The Paris process envisages a 2018 facilitative dialogue intended to assess the collective progress towards the long term temperature goal.

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166 This scientific consensus can be seen in *Aggregate Effect of the intended nationally determined contributions: an update – Synthesis Report by the Secretariat* (FCCC/CP/2016/2, COP 22 Marrakech, 7-18 November 2016).

[160] The Minister set New Zealand's NDC, considering it to represent New Zealand's fair contribution in light of its national circumstances, recognising it would need to determine ways to "bend the curve" on our greenhouse emissions and to show progression over time. The nature of the decision involved a balancing of competing factors. The Government of the day was concerned about imposing burdensome costs on the economy especially when there was no "easy" solution to lowering our emissions from a switch to renewable energy and a large proportion of our emissions arose in the agriculture sector. A period of time was needed for the solutions to lower our emissions that the Government wished to pursue. A differently constituted Government may have balanced the competing factors differently and made different choices about how to lower our emissions. But that does not mean the NDC was outside the proper bounds of the Minister's power, even though the combined INDCs were an insufficient response to the dangerous climate change risks.

The third cause of action: NDC irrational/unreasonable

[161] The plaintiff's third cause of action pleads that the NDC decision was irrational or unreasonable because:

(a) there is no rational basis for the belief that the NDC will strengthen the global response to the threat of climate change; and/or

(b) the global scientific consensus shows the NDC falls short of the extent and speed of reductions needed to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

[162] The plaintiff's written and oral submissions elaborated on this cause of action. The matters which together were said to have led to an unreasonable and irrational decision were:

(a) The Minister in setting the NDC focussed on 2ºC as the target, when this should have been treated as an upper limit, and the aim was to pursue efforts to limit the temperature increase to 1.5ºC.

(b) New Zealand's decision was based on optics (that is, how the decision would look as compared with other countries) when, as a developed country, New Zealand needed to take the lead and not be satisfied with "shuffling along with the crowd". If New Zealand can do more then it must do more.

(c) New Zealand's pathways for achieving its target rely heavily on carbon trading in international markets and envisage a "star trek" solution relying on future technology, and it is wrong to base decisions on technology that does not and may never exist.

(d) The modelling that was carried out showed the incremental cost of deeper targets was comparatively small.

(e) New Zealand's decision failed to take into account the cost of delay. This included failing to take into account intergenerational equity, that is that delaying action now imposes unfair costs on future generations. It also included failing to take into account that delaying action will increase the accumulation of carbon levels in the atmosphere and will mean negative emissions will not be achievable without future (uninvented) technology.

(f) New Zealand failed to take into account the alleged mandatory relevant considerations referred to in the second cause of action.[167]

[163] The plaintiff seeks a declaration that the NDC decision was unlawful, an order quashing the NDC and an order that the decision be remade.

[164] As discussed earlier, I am not persuaded the Minister had the wrong global temperature aim in mind when setting the NDC. New Zealand was actively involved in the process leading to the Paris Agreement and was well aware of what it

[167] Failed to take into account the cost of climate change if no action is taken, the interests of Tokelau and the inadequacy of the combined global INDCs. These have been considered under the second cause of action and did not need further consideration here.

provided. The feasibility of limiting the global temperature increase to 1.5ºC is soon to be the subject of further international dialogue.

[165] Nor am I persuaded the Minister's decision was based on optics. The extensive process leading to the NDC has been discussed earlier. The relevant papers appropriately discussed a range of key objectives, one of which was international credibility. It is wrong to read that as meaning simply doing what others were doing regardless of our ability to do more. Other countries' targets were relevant to test the fairness and ambition of our target.

[166] The evidence shows that our target is fair when considered on this basis. Professor Frame provides a comparison of New Zealand's 2030 target against other developed countries in the following table:

Country Name	Base year	Emissions reductions	End year
Australia	2005	-26-28%	2030
Canada	2005	-30%	2030
New Zealand	2005	-30%	2030
Japan	2005	-25.4%	2030
EU	1990 (2005)	-40% (-36%)	2030
United States	2005	-26-28%	2025

[167] I am also not persuaded New Zealand's target is based on "star trek" technology. The papers I have discussed above do not show this. They do, however, show that a range of choices were available and New Zealand was contemplating the possibility of meeting a large percentage of its target by buying overseas emissions. Professor Renwick regards this as meeting the letter of the Convention, but doing nothing to reduce the atmospheric burden of CO_2 and other greenhouse gases. However it is the legal position which is the Court's concern and the use of "internationally transferred mitigation outcomes" or carbon credits is permitted under the Paris Agreement. It can be expected that the extent to which international carbon markets will in fact be utilised will be influenced by a number of factors, including the carbon prices in both international and domestic markets over the period to 2030. The documents before me also indicate New Zealand was supporting research into reducing biological emissions, but I have not been provided with information to show this envisages "star trek" technology.

[168] I am also not persuaded the NDC decision was unreasonable in a judicial review sense because the costs of deeper targets are comparatively small and there are other costs associated with delay. How the costs considerations are appropriately balanced is properly for the Executive to decide, especially as the international legal framework does not stipulate how a country is to determine this.

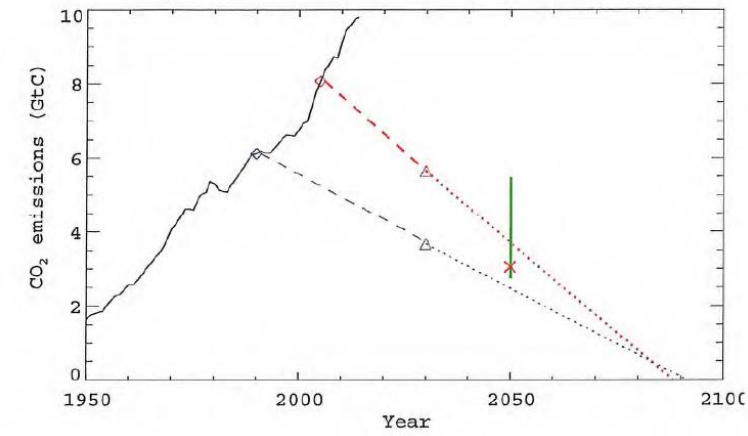
[169] More generally the plaintiff's submission is that delaying additional mitigation to 2030 will substantially increase the challenges associated with limiting warming to below 2ºC. This submission is supported by Professor Renwick's evidence. He says that the consequence of delay is that it will require substantially higher rates of emissions reductions from 2030 to 2050; a much more rapid scale-up of low carbon energy over this period; a larger reliance on CO_2 removal in the long term; and higher transitional and long-term economic needs. He also says that technology required for large scale CO_2 removal does not presently exist. This may all be so, but New Zealand's NDC does not remain set in stone until 2030. Reviews are envisaged. It is for the new Minister to consider any appropriate review.

[170] Professor Renwick says that New Zealand's 2030 target is not consistent with its 2050 goal. The direct pathway between a 5 per cent reduction from 1990 levels in 2020 and a 50 per cent reduction in 2050 would require about a 20 per cent reduction from 1990 levels in 2030 (or about 37 per cent from 2005 emission levels). This contrasts with New Zealand's 2030 target of 30 per cent from 2005 levels (equating to 11 per cent below 1990 levels by 2030). More importantly New Zealand's emissions trajectory is rising, and is projected to continue to increase.

[171] Professor Frame says that what is important is a country's cumulative CO_2 emissions in the period between pre-industrial times and net zero global emissions, rather than a country's emissions in any given year or the rate of reduction across a decade or two. The AR5 sets out a range of climate budgets consistent with limiting warming to under 2ºC at different levels of probabilities. These budgets are not part of an international agreement. Professor Frame says this means a country's decision on which budget and probability it will pursue is not a question for science – but involves social, economic and political judgments about relative risks of over and under mitigation.

[172] Professor Frame says that emissions plans are important in determining the rate at which CO_2 emissions (and other long-lived greenhouse emissions) are capped. The AR5 states that global emissions need to reduce to 40-70 per cent of 2010 levels by 2050. Professor Frame provides a graph which compares New Zealand's 2030 INDC (now NDC) against the European Union's (EU) INDC and also as against our 2050 target. His graph is as follows:

Figure 1



[173] The black line is a plot of global CO_2 emissions; the blue line is a linear projection of the EU's baseline year (1990) and target (a 40 per cent decrease by 2030); the red line is a linear projection of New Zealand's baseline year (2005) and target (a 30 per cent decrease by 2030); the "x" reflects New Zealand's 2050 target; the green line represents a reduction of 40-70 per cent by 2050 against a 2010 baseline year. The blue and red lines are projected to net zero emissions, since this is a necessary condition of temperature stabilisation.

[174] Professor Frame accepts that these linear projections are a simplification which likely under-estimates cumulative emissions. This is because of the implausibility of a rapid reversal of emissions trends near the red and blue diamonds pictured and the historical emissions trends across the recent past (when real emissions grew from 1990 to 2014). However, the fact that it takes time to reverse course on emissions growth, is also why in Professor Frame's view a steepening of emissions reductions over the next 50 years should be expected if mitigation policy is successful.

[175] Professor Frame further comments:

(a) Professor Renwick is correct that New Zealand's INDC does not lie along a line connecting 1990 emissions with New Zealand's longer term 2050 target. However the difference is small and is consistent with inertia in the technological and economic systems that give rise to emissions.

(b) The blue line (EU approach) has lower cumulative emissions than the red line (New Zealand approach) and less warming. However both approaches "if taken at a global level, would be broadly consistent with the 2ºC goal, depending on the details of warming arising from non-CO_2 gases and allowing for uncertainty in climate system parameters". It is "certainly not clear that the red line is at all inconsistent with the 2ºC aspirational goal".

(c) New Zealand's INDC, if scaled to the global level, is also consistent with the AR5 statement that global emissions need to be reduced by 40-70 per cent on 2010 levels by 2050 (as shown by the red line's intersection with the green line).

[176] In my view Professor Frame's analysis shows that New Zealand's 2030 target is somewhat less ambitious than its 2050 target and somewhat less ambitious than the EU's target. That may increase the costs to New Zealand of reducing our emissions over time. That, however, does not mean it is inconsistent with the global temperature goal under the Paris Agreement such that the NDC does not meet our international obligations and is outside the proper bounds of the Minister's power. Importantly, nor does it mean that a new Minister will take the same view about the appropriate level of ambition for New Zealand. As noted earlier, the new Government intends to amend the 2050 target. Amending the 2030 target may follow from this.[168] It is open under the international framework to review the 2030

[168] The new Minister has recently made this point. See "Government considering experimental climate change visa" (1 November 2017) Stuff.co.nz <www.stuff.co.nz>; and Dateline Pacific "NZ points to Zero Carbon Act to curb emissions" (31 October 2017) Radio New Zealand <www.radionz.co.nz>.

target. It is also open under our domestic law to set a new 2030 target or other targets as is considered appropriate in light of the relevant economic, environmental, social and international considerations involved.

Fourth cause of action: NDC decision (mandamus)

[177] The plaintiff's fourth cause of action is for a writ of mandamus in relation to the NDC decision. It is sought in the event the plaintiff's application for declarations and orders is successful to require the Minister to make the NDC decision again. As I have considered it is not appropriate to make the declarations and orders sought under the other causes of action, it is not necessary that I consider this cause of action further.

Result

[178] On the first cause of action (relating to the 2050 target) I accept that, following the release of the AR5, the Minister was required to turn her mind to whether there had been any material change as between the AR4 and the AR5 that was relevant to the 2050 gazetted target, and that this did not occur. However this cause of action has been overtaken by subsequent events. The new Government has announced it intends to set a new 2050 target. Court ordered relief is therefore unnecessary.

[179] On the second and third causes of action (relating to the NDC decision which set a 2030 target) I am not persuaded the Minister made any reviewable error for which the Court may intervene. The international framework has been followed. It has not been demonstrated the NDC decision was outside the Minister's power under this framework. That is not to say another Minister would have assessed the appropriate 2030 target in the same way and reached the same decision. Nor does it prevent New Zealand from doing more between now and 2030 than contemplated in its NDC decision. The international process envisages review and demonstrated progression by developed countries including New Zealand. Quite apart from the international process, New Zealand remains free to review its 2030 target (or any other target) as it considers appropriate. The community has elected a new

Government and it is for that new Government to weigh the competing factors and to reach a view about the appropriate targets going forward.

[180] For these reasons the application for judicial review is dismissed.

[181] My preliminary view is that the costs should lie where they fall. If there is any issue about this the parties may submit brief memoranda (no more than five pages each and limited to the issues in dispute) within three weeks of the date of this judgment.

Mallon J