In the Court of Appeal of New Zealand
I Te Kōti Pīra O Aotearoa

CA714/2022

Between **Lawyers for Climate Action NZ Incorporated**

Appellant

And **The Climate Change Commission**

First respondent

And **Minister of Climate Change**

Second respondent

APPELLANT'S SUBMISSIONS

Dated 26 September 2023

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A. Introduction

1. This appeal seeks to reverse the High Court's judgment of 23 November 2022 (**Judgment**) dismissing Lawyers for Climate Action NZ Inc's (**LCANZI**) application for judicial review of (i) advice given by the Climate Change Commission (**Commission**) to the Minister for Climate Change (**Minister**) on 31 May 2021 (**Advice**); and (ii) decisions made by the Minister consequent on that Advice.

2. The factual background in relation to climate change is uncontentious and is clearly set out in the Judgment at [18]-[36]. LCANZI notes the following points by way of emphasis or in addition:

    a. It is unequivocal that human influence has warmed the atmosphere and the land. Widespread and rapid changes are occurring in the atmosphere, the oceans and the biosphere.[1]

    b. The global harm from climate change will be significantly greater if average temperatures increase by 2℃ or higher than if temperature increases are kept to 1.5℃.[2]

    c. Under the Paris Agreement, almost every state in the world, including Aotearoa New Zealand, has committed to "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5℃ above pre-industrial levels".[3]

    d. The standard reference for what is required to limit global warming to 1.5℃ is the Intergovernmental Panel on Climate Change's (**IPCC**) 2018 Special Report on Global Warming of 1.5℃ (**2018 Special Report**, also referred to as SR18 or SR1.5).[4] As a rule of thumb, global net emissions in 2030 must be half of what they were in the 2005/2010 period.[5]

    e. Against this background, in 2019 Parliament introduced the Climate Change Response (Zero Carbon) Amendment Act (**Zero Carbon Act**). This amended the Climate Change Response Act 2002 (**Act**) by giving the Act a new purpose in s 3 to "provide a

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[1] Judgment at [18] **COA 05.0012** at [[**05.0020**]].
[2] Judgment at [19] **COA 05.0012** at [[**05.0020**]].
[3] Paris Agreement, art 2(1)(a) **COA 504.1728** at [[**504.1732**]]; and Judgment at [33]-[36] **COA 05.0012** at [[**05.0024**]].
[4] Global Warming of 1.5°C (IPCC, 2018) Vol 1 [[**COA 501.0013**]] and Vol 2 [[**COA 502.0471**]].
[5] The Commission acknowledges this as a "useful rule of thumb": Advice, section 9.3, para 27 **COA 401.0001** at [[**401.0211**]].

framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5℃ above pre-industrial levels" (**1.5℃ Goal**).[6] It also: set a target for net accounting emissions of greenhouse gases other than biogenic methane to be zero by 2050 (**2050 Target**);[7] introduced a requirement to set budgets for domestic emissions of all greenhouse gases (the **Budgets**);[8] and established the Commission.[9]

The Commission's advice

3. LCANZI's application relates to two aspects of the Commission's Advice:

    a. Its advice under s 5ZA of the Act on the first three Budgets under the Act for 2022-25, 2026-30 and 2031-35 (**Budgets Advice**); and

    b. Its advice in response to a request from the Minister under s 5K of the Act on whether Aotearoa New Zealand's then current nationally determined contribution (**NDC**) under the Paris Agreement (**2016 NDC**) was consistent with limiting global warming to 1.5℃ (**NDC Advice**).

4. In the NDC Advice, the Commission concluded that, based on the 2018 Special Report, the 2016 NDC was not compatible with contributing to global efforts to limit global warming to 1.5˚C and that, for the NDC to be compatible, it would need to reflect emissions reductions "much more than 36% below 2005 levels by 2030".[10] This meant emissions of "much less than 568 Mt CO_2-e over the 2021-2030 period".[11]

5. In the Budgets Advice, the Commission proposed the following domestic emissions budgets:[12]

    a. Emissions budget 1 (2022-2025): 278 Mt CO_2-e;

    b. Emissions budget 2 (2026-2030): 298 Mt CO_2-e; and

    c. Emissions budget 3 (2031-2035): 240 Mt CO_2-e.

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[6] Climate Change Response Act 2002 [**Act**], s 3(1)(aa)(i) **BoA/22/1128**.
[7] Act, s 5Q **BoA/22/1165**. This section also sets a target for biogenic methane to be reduced by 10% below 2017 levels by 2030 and by 24-47% below 2017 levels by 2050.
[8] Act, ss 5X and 5Y **BoA/22/1168**.
[9] Act, pt 1A **BoA/22/1159**.
[10] Advice, Executive Summary at paragraph 129 **COA 401.0001** at [[**401.0038**]].
[11] Advice, chapter 21 at paragraph 48 **COA 401.0001** at [[**401.0377**]].
[12] Advice at p 74, table 5.2 **COA 401.0001** at [[**401.0094**]].

6. The total of the recommended Budgets for the period from 2022 to 2030 was 576 Mt CO_2-e. The Advice noted that, when forecast emissions for 2021 were added, total expected net emissions over the period 2021-2030 were 648 Mt CO_2-e.[13] The Advice stated that there was a gap of 80 Mt CO_2-e over 9 years between the recommended Budgets and the recommended NDC which would need to be met by purchasing offshore mitigation.[14]

7. As the Judgment found, neither the NDC Advice nor the Budgets Advice put New Zealand on track to reduce domestic net emissions by 2030 in line with the global 1.5˚C pathways set out in the 2018 Special Report.[15]

The Minister's decisions

8. Following the Commission's Advice, the Minister and Government announced a new NDC on 31 October 2021 which was formally communicated to the UNFCCC on 4 November 2021 (**Amended NDC**).[16] The Amended NDC is gross:net[17] but adopts a headline "point-year target" of 50%, which equates to a "41%" reduction in comparable terms to the other numbers above.[18]

9. Following the hearing of LCANZI's application but before Judgment, the Minister and Government published the Budgets on 9 May 2022.[19] These largely adopted the Budgets Advice, adjusted to reflect updated information about afforestation intentions that was not available when the Commission prepared the Budgets Advice[20]

Grounds of review and the High Court decision

10. The Advice proceeds on the basis that, notwithstanding the Act's 1.5℃ Goal, and the findings in the 2018 Special Report that this requires global net emissions in 2030 to be around half of what they were in

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[13] Advice, chapter 22 at paragraph 24 **COA 401.0001** at [[**401.0383**]].
[14] Advice at p 368, table 22.1 **COA 401.0001** at [[**401.0388**]].
[15] Judgment at [11] **COA 05.0012** at [[**05.0018**]].
[16] See affidavit of Helen Plume at paragraphs 80-82 **COA 201.0346** at [[**201.0365**]]. The Minister exercises the prerogative to set and communicate the NDC. By convention, a decision of this nature is made with the agreement of Cabinet. See Judgment at [87] **COA 05.0012** at [[**05.0043**]].
[17] See the discussion of gross:net target setting at paragraphs 43-45 and 64-68 below.
[18] See second affidavit of Dr Taylor [[**COA 201.0066**]] and reply affidavit of Dr Taylor at paragraphs 29-33 **COA 201.0436** at [[**201.0443**]] as to the level of ambition in the new NDC.
[19] "Emissions Budgets for 2022 to 2025, 2026 to 2030 and 2031 to 2035" (16 May 2022) *New Zealand Gazette* No 2022-go1816.
[20] See the paper presented to the House: Ministry for the Environment "Response to the Climate Change Commission's advice on setting emissions budgets" (16 May 2022) **BoA/34/1918**.

2010, New Zealand's net emissions can be higher in 2030 than they were in 2010. LCANZI says that this result, which is obscured by the Commission's use of "gross:net" calculations and its adoption of an accounting method which includes only a subset of emissions and removals (known as modified activity-based or **MAB** accounting),[21] is: based on an error of mathematical logic; inconsistent with the purpose of the Act; inconsistent with the requirements of the Act as to how emissions must be counted; and patently unreasonable in light of the circumstances outlined above. It therefore says that it is unlawful under conventional grounds of review. Due to these errors in the Commission's Advice, LCANZI also says that the Minister acted unlawfully in determining the Amended NDC and adopting the Budgets in reliance on that Advice.[22]

11. The High Court agreed with a large portion of LCANZI's argument, finding that:

    a. The Commission's Advice can be subject to judicial review because of its likely influence in decisions made by the Minister, which are of great importance to New Zealanders, and because it is public advice with public consequences that are separate from the consequences of the Minister's ultimate decision.[23]

    b. LCANZI's expert evidence was admissible.[24]

    c. Neither the NDC Advice nor the Budgets Advice put New Zealand on track to reduce domestic net emissions by 2030 as per the IPCC global pathways (but the legislation did not require this in order to contribute to the 1.5℃ Goal).[25]

    d. The Commission applied the 2018 Special Report in a way that was potentially misleading. That is, it could wrongly lead a reader to believe that its recommendation represented ambition that was mathematically in line with the IPCC 1.5℃ global pathways.[26]

    e. The purpose of the Budgets included "contributing to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5C"; the Budgets are not merely

[21] See the discussion at paragraphs 37-40 and 47-48 below in relation to MAB accounting.
[22] In the High Court, the parties agreed that relief (including in relation to Budgets set by the Minister) would be addressed separately if the review application was upheld.
[23] Judgment at [56]-[68] **COA 05.0012** at [[**05.0032**]].
[24] Judgment at [77]-[80] **COA 05.0012** at [[**05.0040**]].
[25] Judgment at [11] **COA 05.0012** at [[**05.0020**]].
[26] Judgment at [115], [119], [125], and [127] **COA 05.0012** at [[**05.0053**]].

stepping stones to the 2050 Target as the Commission argued.[27]

f. The use of MAB accounting alters whether our emissions will appear to have *increased* or *decreased* between 2021 and 2030 relative to the previous decades.[28]

g. A more exacting standard than *Wednesbury* unreasonableness is appropriate in the particular context.[29]

12. However, Mallon J stopped short of upholding any of the four grounds of review.[30] We summarise below each ground of review, what the High Court found and why LCANZI says that the Judge should have gone further and found reviewable errors.

13. Ground 1 (mathematical error):

a. LCANZI's position: The parts of the Advice which purport to apply the 2018 Special Report contain a basic mathematical error. In determining what level of 2030 net CO_2 would be consistent with the required global average reductions, those reductions must be applied to our 2010 net CO_2 emissions. This error also affected the Minister's decisions in respect of the Amended NDC and the Budgets which were based on the Advice.[31]

b. Judgment: The Commission deliberately departed from a mathematical approach and applied the IPCC's percentage reductions to gross CO_2 to avoid New Zealand being penalised for past forestry. While the Commission's presentation was potentially misleading, the Minister, to whom the NDC Advice was given, was not misled.[32]

c. LCANZI's position on appeal:

i. The Judge failed to address the argument that the application of the IPCC's net:net pathways to New Zealand's 2010 gross CO_2 was a mathematical error and not an available "value judgment".

ii. In focussing on whether the Minister was misled, the Judge failed to take into account the broader function of the NDC

[27] Judgment at [149]-[154] **COA 05.0012** at [[**05.0065**]].
[28] Judgment at [295] **COA 05.0012** at [[**05.0114**]].
[29] Judgment at [69]-[76] **COA 05.0012** at [[**05.0037**]].
[30] Judgment at [11] **COA 05.0012** at [[**05.0020**]].
[31] Second Amended Statement of Claim at paragraphs 81-94B **COA 101.0144** at [[**101.0156**]].
[32] Judgment at [119]-[127] **COA 05.0012** at [[**05.0054**]].

Advice as advice to "the Government" that is of importance to the public as a whole.[33]

14. Ground 2 (misinterpretation of statutory purpose):

    a. LCANZI's position: The 1.5˚C Goal creates a substantive obligation on the Commission to meaningfully consider what is required to meet that purpose and to recommend Budgets that are consistent with that. The Budgets Advice does not, on any reasonable analysis, contribute to the 1.5˚C Goal. The Commission therefore failed to comply with this statutory requirement.[34]

    b. Judgment: The Commission did not misinterpret the statutory purpose, as it correctly understood that the Budgets should be set having regard to the mandatory relevant considerations and with both the 2050 Target and contributing to the global 1.5℃ effort in mind. 1.5℃ was not a duty nor a bottom line, but an "aspiration" to be "kept in mind".[35]

    c. LCANZI's position on appeal:

        i. On a correct interpretation of the Act, contributing to the 1.5℃ Goal is an operative requirement in relation to the Budgets Advice and the Budgets. It is not merely an "aspiration". While there is room for different approaches to what New Zealand's contribution should be, the Commission and the Minister are nevertheless required to grapple with what is required and how much New Zealand can feasibly do and to recommend or adopt Budgets that, on an objectively reasonable assessment, in fact contribute to the 1.5℃ Goal. They failed to do so.

        ii. Their failure was due to a mistaken view that meeting the 2050 Target was sufficient to meet the purpose of the Act in relation to the 1.5˚C Goal and that it was not necessary to separately consider whether the Budgets would contribute to the 1.5℃ Goal. That was a legal error.

15. Ground 3 (use of MAB accounting methodology):

    a. LCANZI's position: UNFCCC accounting (also referred to as Greenhouse Gas Inventory or **GHGI**) is the global standard for

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[33] Act, ss 5K and 5L **BoA/22/1162**.
[34] Second Amended Statement of Claim at paragraphs 95-99 **COA 101.0144** at [[**101.0159**]].
[35] Judgment at [162] **COA 05.0012** at [[**05.0069**]].

measuring a country's emissions. It is uncontroversial that it is the best measure of "what the atmosphere sees".[36] The Commission did not use UNFCCC/GHGI accounting, but instead adopted a bespoke measure known as MAB. LCANZI says that the Act mandates the use of GHGI.[37]

b. Judgment: The legislation empowered the Commission to give advice on the appropriate accounting methodology and did not mandate the use of GHGI for this purpose.[38]

c. LCANZI's position on appeal: The High Court wrongly considered that the Budgets could be developed independently of an accounting methodology and that such a methodology was only relevant to "measuring progress". The Act does not provide for either the Commission or the Minister to determine the accounting methodology. Rather, GHGI was intended to be used.

16. Ground 4 (overall unreasonableness):

a. LCANZI's position: The Budgets will see emissions increasing over the next decade; our 2021-30 net emissions will be higher than in any of the previous three decades. This nonsensical result came from failing to grapple with what contributing to the 1.5℃ Goal requires, failing to conduct any cost benefit assessment of greater ambition, the mathematical error and the adoption of MAB.

b. Judgment: The value judgements on which the Advice was based reflected New Zealand's particular circumstances. The Act did not require the NDC Advice nor the Budgets Advice to put New Zealand on track to reduce domestic net emissions by 2030 as per the IPCC global pathways. The Advice was not unreasonable.[39]

c. LCANZI's position on appeal: No reasonable body could have recommended such Budgets when the scientific evidence and statutory purpose require substantial reductions.

17. As a consequence, both the Advice and the Minister's decision to adopt the Budgets are unlawful.

18. Before addressing the individual grounds in detail, it is helpful to first step back and look at what went wrong in the Commission's Advice.

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[36] Judgment at [26] **COA 05.0012** at [[**05.0022**]].
[37] Second Amended Statement of Claim at 100-103 **COA101.0144** at [[**101.0161**]].
[38] Judgment at [274] **COA 05.0012** at [[**05.0107**]].
[39] Judgment at [313] **COA 05.0012** at [[**05.0121**]].

B. What went wrong and why it matters

The Commission's advice will see emissions continuing to rise

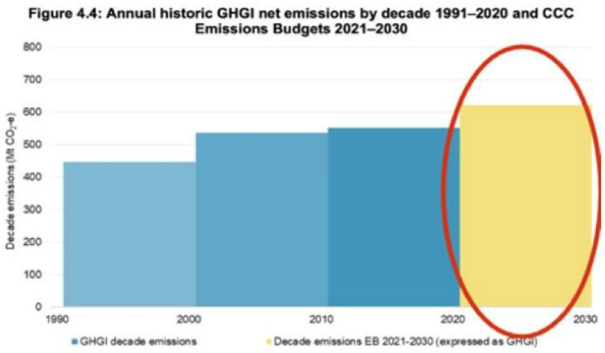
19. Significant reductions to global greenhouse gas emissions are required this decade to have a realistic prospect of limiting warming to 1.5℃.[40] If Aotearoa matches the required global average reductions from the 2018 Special Report, then net CO_2 using the GHGI measure would drop from 5.0 Mt in 2010 to 2.6 Mt in 2030 (-49%) and total net emissions would drop from 48.6 Mt $CO_{2\text{-e}}$ to 37.3 Mt $CO_{2\text{-e}}$ (-23%).[41]

20. Despite the Act's purpose of contributing to the global effort to limit warming to 1.5℃, the Budgets recommended by the Commission will result in our net CO_2 and total net emissions both being *higher* in 2030 than they were in 2010:

    a. the NDC Advice adopts a 2030 target of 17.9 Mt (+254%) for net CO2, and 52.6 Mt $CO_{2\text{-e}}$ (+8%) for total net emissions;[42] and

    b. the demonstration path used to calculate the Budgets projects net CO2 in 2030 at 20.7 Mt (+310%), and total net emissions at 58.2 Mt $CO_{2\text{-e}}$ (+20%).[43]

21. As a result, Aotearoa New Zealand's net emissions will be *higher* in 2021-30 than in any of the previous three decades:[44]



[40] The IPCC estimates that the remaining carbon budget to have a 67% chance of limiting warming to 1.5˚C is 4,000 billion Mt from the start of 2020. Based on current emission levels, this entire budget will be spent before 2030. See affidavit of Dr Taylor, exhibit A at paragraph 59 **COA 301.0069** at [[**301.0082**]].
[41] Affidavit of Dr Taylor, exhibit A at paragraphs 78-86 **COA 301.0069** at [[**301.0086**]].
[42] Affidavit of Dr Taylor, exhibit A at paragraphs 78-86 **COA 301.0069** at [[**301.0086**]].
[43] Reply affidavit of Dr Taylor at paragraphs 65 and 67 **COA 201.0436** at [[**201.0450**]]. This is based on the data available at the time of the Advice. As noted by the Court of Appeal in its judgment dated 13 September 2023 regarding the application to adduce evidence, the Commission's decision should be assessed by reference to the data that was available at the time (*Lawyers for Climate Change Action NZ Inc v Climate Change Commission* [2023] NZCA 443).
[44] Judgment at [288] **COA 05.0012** at [[**05.0111**]], adopted from the affidavit of Dr Taylor, exhibit A at figure 4.4 **COA 301.0069** at [[**301.0095**]].

22. This section explains in broad terms what went wrong with the Commission's analysis to produce this outcome.

NDC calculations

23. In its NDC Advice, the Commission purported to apply the 2018 Special Report to our 2010 emissions to "provide *a starting point based on scientific modelling*, for addressing the question of whether the [2016] NDC is compatible with contributing to the 1.5℃ goal."[45]

24. As set out in the 2018 Special Report, to have a 50-66% chance of limiting global warming to 1.5℃ by 2100 with no or limited overshoot, global net CO_2 emissions need to reduce by 40-58% from 2010 levels by 2030 and by 94-107% by 2050.[46]

25. Here "net CO_2" refers to "the gross amount of CO_2 emissions that humans annually emit into the atmosphere reduced by the amount of anthropogenic CDR [i.e. CO_2 removals] in each year".[47] It corresponds to the GHGI measure (as opposed to the Commission's preferred measure of MAB).[48] Gross CO_2 is simply all global CO_2 emissions.

26. The 2018 Special Report percentage reductions for net CO_2 (and those for other greenhouse gases) can be applied to our 2010 emissions to determine a level of 2030 emissions which would be consistent with the global pathways. This would provide a 2030 target for Aotearoa New Zealand that would be consistent with the required reductions identified by the IPCC to have a 50-66% chance of limiting global warming to 1.5℃ by 2100 with no or limited overshoot.

27. The Commission purported to do this by "convert[ing] the global reductions for each individual greenhouse gas set out in the IPCC 1.5℃ pathways … to reductions at the national level for Aotearoa".[49] The relevant table in the Advice correctly sets out the "Reductions in emissions, by gas, in IPCC pathways with no or limited overshoot

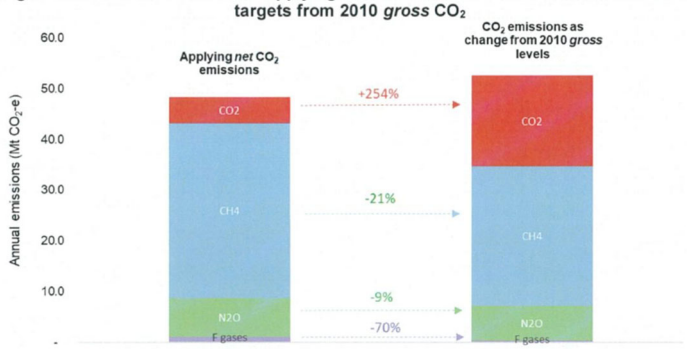
[45] Advice at p 354, box 21.1 **COA 401.0001** at [[**401.0374**]].
[46] Advice at section 21.1 **COA 401.0001** at [[**401.0372**]].
[47] 2018 Special Report Chapter 2, page 114 **COA 501.0013** at [[**501.0140**]]. In simple terms, gross emissions are the volume of greenhouse gases emitted from anthropogenic activities while net emissions also takes into account CO2 that is removed from the atmosphere through forestry. As discussed at paragraph 57.b) below, this is a different use of "net CO2" and "net emissions" than in some climate change accounting context where gross means without LULUCF and net means with LULUCF. This appears not to have been understood by the Commission witnesses.
[48] Judgment at [282] rejecting the Commission's claim that the IPCC global pathways do not use GHGI: **COA 05.0012** at [[**05.0109**]].
[49] Advice, chapter 21 at paragraph 21 **COA 401.0001** at [[**401.0374**]].

(interquartile range)" for 2030 relative to 2010 which, for "net carbon dioxide emissions", is a range of "-40 to -58%".[50]

28. So far this is exactly as it should be. However, as explained by Dr Gale, the Commission then made an error in applying this in respect of net CO_2.[51] Rather than apply the percentage reductions to our 2010 net CO_2 emissions (5.0 Mt), the Commission applied them to our 2010 gross CO_2 emissions (35.0 Mt). The result is that net CO_2 emissions are said to be able to increase from 5.0 Mt to 17.9 Mt instead of reducing.

29. The impact of the Commission's approach can be seen in the following chart which shows the Commission's 2030 target on the right compared with our 2010 emissions. Despite purporting to apply the 2018 Special Report and purporting to be 1.5℃ compliant, net CO_2 and net emissions *increase* on the Commission's calculations, as shown in the chart below produced by Dr Taylor in the High Court.[52]

Figure 3.3: 2010 total emissions applying net CO_2 and CCC's 2030 total net emissions targets from 2010 *gross* CO_2



Source: NERA analysis of NDC calculator data.

30. LCANZI's experts all agree that this is a mathematical error.

Budgets

31. As explained in the Advice, the Commission constructed a "demonstration path" based on various emission reducing actions across the economy. This was used to calculate the Budgets. Chapter 7 is devoted to showing the path is achievable.

32. But how did the Commission formulate the path in terms of contributing to limiting warming to 1.5℃? What is apparent from the Advice is that the Commission did not design the path with the 2018 Special Report in mind. The Commission's position has been that the 1.5℃ Goal was

[50] Advice at p 353, table 21.1 **COA 401.0001** at [[**401.0373**]].
[51] Affidavit of Dr Gale at paragraphs 8-14 **COA 201.0001** at [[**201.0004**]].
[52] Affidavit of Dr Taylor, exhibit A at figure 3.3 **COA 301.0069** at [[**301.0088**]].

not an operative purpose in setting the Budgets.[53] And the Commission's draft advice did not refer to the 2018 Special Report in relation to the Budgets – this discussion was new in the final Advice, and then was presented only as a "secondary" consideration or cross-check.[54]

33. Importantly, the Commission never asks in the Advice "can we do a bit more". That is, the Commission did not test alternative, higher ambition, paths to see whether greater reductions in emissions would still be affordable, or indeed, "economically achievable", as the Act requires. The only "can we do more" analysis was asking whether the NDC could be achieved *completely* domestically. No intermediate positions were considered.

34. We then come to the "cross-check" where the Commission considers the demonstration path relative to the 2018 Special Report.

35. The final Advice purports to show that net CO_2 will decrease by 55% between 2010 and 2030 under the demonstration path used by the Commission to calculate its recommended Budgets.[55] As noted above, net CO_2 is in fact projected to *increase from 5.0 to 20.7 Mt* under the demonstration path. How does the Commission refer to this as a *55% reduction*?

36. This is a result of two factors: a repeat of the mathematical error and use of MAB. In terms of the mathematical error, rather than comparing 2030 net CO_2 with 2010 net CO_2 (5.0 Mt), the Commission uses 2010 gross CO_2 (35.0 Mt) as the starting point. This repeats the mathematical error in the NDC analysis.[56]

37. The second factor is the adoption of MAB as a measure of net emissions. In contrast to UNFCC/GHGI numbers which attempt to measure what the atmosphere "sees",[57] MAB only includes a *subset* of forestry

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[53] The Commission continued in the High Court to maintain that that Parliament set the 2050 Target as the means, or primary means, for implementing New Zealand's contribution to the 1.5℃ goal: Judgment at [149] **COA 05.0012** at [[**05.0065**]].

[54] Advice, chapter 5 at paragraph 36 and chapter 9 at paragraph 33 **COA 401.0001** at [[**401.0087**]] and [[**401.0212**]].

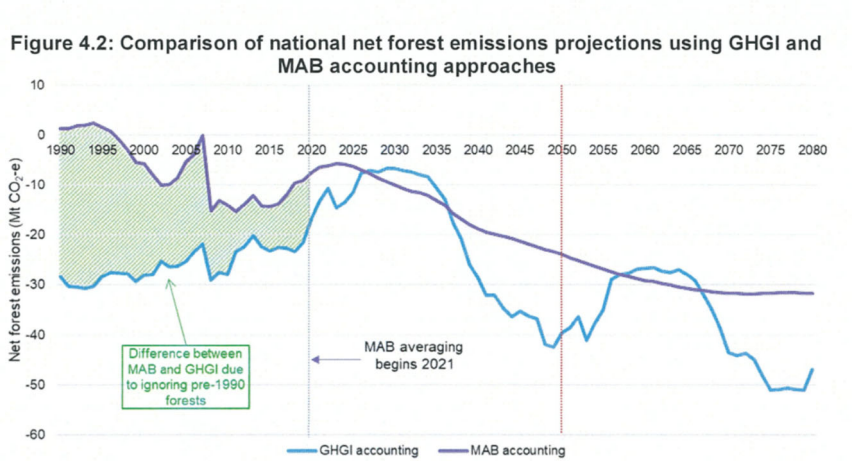
[55] Advice, p 192, table 9.1 **COA 401.0001** at [[**401.0212**]].

[56] Reply affidavit of Dr Taylor at paragraphs 61-68 **COA 201.0436** at [[**201.0450**]].

[57] Judgment at [304] **COA 05.0012** at [[**05.0118**]]. GHGI is reported as part of our obligations under the UNFCCC: Advice, Evidence chapter 3 at p 15 **COA 402.0412** at [[**402.0488**]]. As Dr Brandon notes, it estimates the emission and removals the atmosphere sees in any given year as the result of all human activities in Aotearoa New Zealand: Affidavit of Dr Brandon at paragraph 66 **COA 201.0324** at [[**301.0344**]]. "By attempting to include all emissions and removals in the year which they occur, it gives a truer representation of 'what the atmosphere sees'.": Advice, chapter 10 at paragraph 26 **COA 401.0001** at [[**401.0219**]].

emissions and removals (it disregards pre-1990 forests),[58] and it introduces averaging from 2021.[59]

38. The following table compares forestry removal under GHGI and MAB:[60]



39. By factoring out pre 1990 forests, MAB makes our past net emissions look worse than they actually were. And by introducing "averaging" from 2021, MAB avoids the low level of removals between 2025 and 2035 associated with the harvesting part of the forestry cycle. This makes near future net emissions look better than they actually will be.

40. The impact of using MAB is to "tilt" any net emissions graph compared with what the atmosphere really sees. This can be seen by comparing the previous decade-by-decade chart (which used GHGI) at paragraph 21 above with the same data in MAB accounting. The 2021-30 period looks much better relative to past decades because the 1991-2020 emissions are artificially inflated by factoring out pre-1990 forests (the area shaded green in the previous chart):[61]

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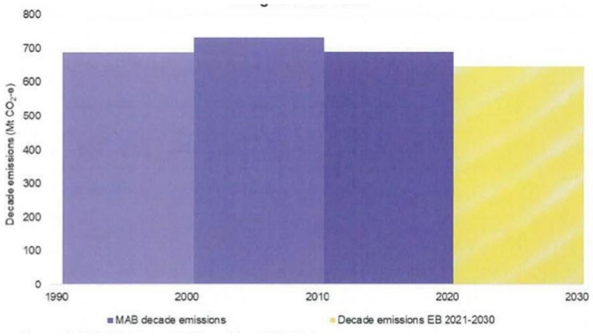
[58] Affidavit of Dr Brandon at paragraph 67 **COA 201.0324** at [[**301.0344**]]; Advice, chapter 10 at paragraph 27 **COA 401.0001** at [[**401.0219**]]; and Judgment at [203] **COA 05.0012** at [[**05.0085**]].

[59] At the time the Advice was being prepared a major change was being introduced to how MAB treats plantation forests. From 2021, NDC accounting (and so MAB) uses a method of "averaging" to account for emissions and removals from afforestation and reforestation of post-1989 forests. Averaging means that removals will be accounted for up until the forest reaches its long-term average. In contrast to GHGI net, harvesting will not count as an emission and replanting will not be treated as giving rise to removals going forward. See Advice, chapter 10 at paragraph 29 and box 10.1 **COA 401.0001** at [[**401.0219**]]; Advice, Evidence, chapter 3 at p 17 **COA 402.0412** at [[**402.0490**]]. The concern with averaging is that the timing of its introduction is opportunistic.

[60] Affidavit of Dr Taylor, exhibit A at figure 4.2 **COA 301.0069** at [[**301.0094**]].

[61] Affidavit of Dr Taylor, exhibit A at figure 4.5 **COA 301.0069** at [[**301.0096**]].



41. To be comparable with the 2018 Special Report, the Commission should have compared net CO_2 in 2010 with projected net CO_2 in 2030 using GHGI data. In terms of the table below,[62] the Commission should have identified a 254% increase (from 5.0 Mt to 20.7 Mt).

	2010 gross CO_2	2010 net CO_2	2030 net CO_2 from demonstration path
GHGI	35.0 Mt	5.0 Mt	20.7 Mt
MAB	-	22.3 Mt	15.8 Mt

42. What the Commission did instead was compare 2010 gross CO_2 with 2030 net CO_2 with the MAB tilt. As a result, a 254% increase became a 55% decrease (from 35.0 Mt to 15.8 Mt). As Dr Taylor explains, this is "an artefact" of the mathematical error and MAB.[63] The outcome looks good (New Zealand can claim to be doing its share even though our emissions will be much higher in 2030 than 2010 in terms of what the atmosphere will actually see), but these figures are not comparable with the net:net reductions in the 2018 Special Report,[64] and do nothing to contribute to limiting the global temperature rise. Climate change can only be addressed by real reductions, not paper reductions.

43. The Commission has filed a large volume of evidence aimed at justifying the setting of targets using a gross:net approach.[65] Their argument is that the Kyoto Protocol justifies applying the 2018 Special Report reductions to our 2010 gross CO_2 as doing otherwise would penalise New Zealand for having planted trees to meet its past international

[62] Figures are from reply affidavit of Dr Taylor paragraphs 65 and 66 **COA 201.0436 at** [[**201.0450**]].
[63] Reply affidavit of Dr Taylor at paragraph 68 **COA 201.0436** at [[**201.0451**]].
[64] Judgment at [116] **COA 05.0012** at [[**05.0053**]].
[65] Gross-net accounting involves setting an international target (such as our NDC) for *net emissions* in a particular year (2030 in the case of our NDC), by reference to a percentage reduction from *gross emissions* in the base year (2005 in the case of our NDC). This has previously been an implicit understanding, but is now expressly stated in the new NDC.

commitments and would constitute an undue burden.[66] The Commission appears to consider the application of the 2018 Special Report pathways to net CO_2 as an "attack" on the concept of gross:net accounting.[67]

44. LCANZI's answer to this is straightforward. However a country chooses to express its target, it is not mathematically valid to assess its compatibility against the global 1.5℃ goal by "choosing" to apply the 2018 Special Report range to incompatible numbers. The IPCC percentage changes are compatible with our 2010 and 2030 GHGI net emissions. They are not compatible with 2010 gross CO_2 or 2030 MAB net emissions. So, the lengthy evidence justifying Kyoto is irrelevant to the issues in this review application.

45. Furthermore, using a gross:net approach to setting targets also risks portraying a misleading level of ambition.[68] For example, our 2016 NDC was expressed as a commitment "to reduce greenhouse gas emissions to 30% below 2005 levels by 2030".[69] However, the true commitment was for 2030 net emissions to be 30% below 2005 gross emissions.[70] In 2005, our net emissions were over 30% below gross emissions. Accordingly, expressed in net:net terms, our NDC commitment was that our net emissions would not increase by more than 1% between 2005 and 2030.[71]

46. The choice to move from 1990 to 2005 as the base year amplified this risk. In 2005, New Zealand's gross emissions were much higher than in

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[66] Under the Kyoto Protocol, countries for whom forestry was a net sink of emissions in 1990 did not count these removals in calculating their base year emissions. Progress against their target reduction in emissions for the commitment period (which counted net emissions, that is all emissions less any removals) was measured against this gross base year calculation. The reason for the difference was to avoid rewarding or penalising countries for their past actions. Countries such as New Zealand, that had planted a lot of commercial forests prior to 1990, would have to continually plant more forests just to maintain the same level of emissions compared to the base year, if removals from the pre-1990 planted forests were counted in the base year. See Judgment at [29]-[31] and [114] **COA 05.0012** at [[**05.0023**]] and [[**05.0052**]].

[67] See affidavit of Matthew Smith at paragraph 108 **COA 201.0140** at [[**201.0171**]].

[68] "Using a gross:net approach to setting targets can portray a misleading level of ambition. This can be simply illustrated. If a country had gross CO2 of 100 MtCO2 and net CO2 of 70 Mt CO2 in 2010 and set a target of reducing net CO2 in 2030 to 30% below gross CO2 in 2010, then it could achieve this apparent ambition but with no reduction to either gross or net CO2.": reply affidavit of Prof Forster at paragraph 12 **COA 201.0420** at [[**201.0424**]].

[69] [[COA 501.0008]].

[70] It is not clear that this was widely understood. For example, in *Thomson v Minister for Climate Change* [2017] NZHC 733, [2018] 2 NZLR 160, the 2016 NDC was described as a "30 per cent reduction in greenhouse gas emissions by 2030 (using 2005 as a baseline year) (**30 by 30**)" (at [48]) without any discussion in the judgment of gross-net accounting **BoA/11/0394**.

[71] Affidavit of Dr Taylor, exhibit A at paragraphs 43-47 **COA 301.0069** at [[**301.0080**]].

1990 (82.5 versus 65.1 Mt). Accordingly, our apparent level of ambition appears much higher from a 2005 starting point.[72] In addition, when this change was made, the 1990 forestry baseline for the "net" or "target" part of the gross:net equation was not changed. This means that the forest sink prior to 2005 is counted in the 2030 emissions target but not in the 2005 gross baseline: we have a "head start" equivalent to 15 years of forestry when meeting a target expressed relative to our 2005 gross emissions.[73] Such accounting practices explain the apparent paradox that New Zealand has had ambitious sounding targets and has purported to meet them but our gross and net emissions are significantly higher now than they were in 1990 in contrast to almost all other developed nations.[74]

47. In the High Court, the Commission referred to the increase in net emissions according to GHGI as an "accounting trick" by LCANZI and blamed the increase on "tree cycles".[75] This is disingenuous.

48. In 2010 both GHGI and MAB have "tree cycles" (averaging was not introduced to MAB till 2021), the difference is MAB makes our 2010 emissions look higher by factoring out all pre 1990 forests. In terms of 2030 projections, introducing averaging just before a large amount of harvesting "lowers the stringency of the NDC for the coming decade [by disregarding significant emissions associated with harvesting] and effectively writing-off forestry removals that are already above their long-term average even where we have relied on these excessive removals for Kyoto compliance purposes under the previous target-accounting methodology."[76]

C. Ground 1: Logical error in application of 2018 Special Report

49. This ground relates to the way the 2018 Special Report percentage

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[72] That is, any given target will appear as a much higher headline percentage reduction. Affidavit of **Smith** at paragraph 54: the 2016 NDC of a 30% reduction on 2005 gross levels is equivalent to only an 11% reduction on 1990 gross levels **COA 201.0140 at** [[**201.0156**]].
[73] See affidavit of Prof Forster at paragraphs 10-15 **COA 201.0007** at [[**201.0009]]**; reply affidavit of Dr Bertram at paragraph 58(b) **COA 201.0394** at [[**201.0410**]]; and reply affidavit of Prof Forster at paragraphs 2(b) and 18-23 **COA 201.0420** at [[**201.0421**]] **and** [[**201.0426**]].
[74] Affidavit of Prof Sims at paragraphs 20-29 **COA 201.0046** at [[**201.0053**]]. As Professor Sims comments at paragraph 28, "[i]t is therefore of little wonder that New Zealand is often criticised as a country not doing enough to reduce our emissions and therefore not on track to contribute to the world staying below 1.5°C".
[75] Judgment at [291] **COA 05.0012** at [[**05.0112**]].
[76] See reply affidavit of Dr Bertram at paragraph 52 **COA 201.0394** at [[**201.0408**]]. Dr Bertram quotes a paper co-authored by one of the Commission's witnesses (Paul Young) that identified that changing the rules around accounting for planted forests to mature forests means "New Zealand can keep all the credits received up until then, but doesn't have to pay any back".

reductions were applied to CO_2 in particular. The 2018 Special Report explains that net CO_2 in 2030 must be 40-58% below net CO_2 in 2010 to limit global warming to 1.5℃ with little or no overshoot with a 50-66% probability.[77] As discussed in section B, the Commission sought to apply these percentage reductions in relation to both the NDC Advice (as a starting point based on "scientific modelling") and in the Budgets Advice to assess whether the proposed emissions budgets were compatible with contributing to the global 1.5℃ effort.

50. The 49% reduction (being the midpoint of the 40-58% range) represents the required change globally in net CO_2 emissions between 2010 and 2030. In terms of basic mathematics, to convert this global average to the national level for Aotearoa one must take our 2010 net CO_2 (5.0Mt)[78] and subtract 49%. This produces a 2030 target for net CO_2 of 2.6Mt.

51. The logical error made by the Commission in the NDC Advice is to apply the 49% reduction to our 2010 gross CO_2 (35Mt) which produces a 2030 target for net CO_2 of 17.9Mt.[79] This is an apples-with-oranges calculation that is an incoherent application of the 2018 Special Report. It implies that net CO_2 can increase by 254% (from 5.0 to 17.9Mt) while at the same time being consistent with the 2018 Special Report which says it should fall by 49%.

52. How does the Commission justify applying the 49% reduction to 2010 gross CO_2 rather than 2010 net CO_2? In its Draft Advice, the Commission set out a table that recorded the global percentage reductions for each greenhouse gas according to the 2018 Special Report.[80] The first row is headed "Net carbon dioxide emissions". This was followed by a second table which purported to apply the reduction ranges to Aotearoa New Zealand's 2010 emissions to produce a 2030 target end point. Again, the first row is headed "Net carbon dioxide" but the data figure used was the 2010 gross CO_2 emissions.[81] No explanation was given. It was unclear whether this was intended or a clerical error. As noted by Dr

[77] As noted by Dr Rogelj, the pathways chosen by the Commission are likely to overshoot the 1.5°C goal and therefore represent a weaker-than-necessary benchmark: reply affidavit of Dr Rogelj at paragraphs 10-11 **COA 201.0458** at [[**201.0460**]].

[78] Net CO2 is stated using the UNFCC/GHGI measure to be compatible with the IPCC pathways. See paragraph 25 below.

[79] The Commission's NDC Advice is set out in chapters 21 and 22 of the Advice. The error is part of the calculation of the numbers set out in section 21.2.1 of chapter 21 of the Advice **COA 401.0001** at [[**401.0374**]]. The calculations themselves are set out in the supporting material, Evidence, chapter 13 **COA 403.0759** at [[**403.0915**]].

[80] Draft Advice, Evidence, chapter 10 at table 10.1 **COA 506.2133 at** [[**506.2327**]].

[81] Draft Advice, Evidence Chapter 10 at table 10.2 **COA 506.2133 at** [[**506.2328**]].

Bertram, this presentation was "obscure in the extreme."[82]

53. The Advice contains a similar sequence of tables,[83] including retaining the 35,031 kT emissions figure (that is, 35.031 Mt) in the "net carbon dioxide" row despite this being the gross figure, but with the added footnote explanation that: "Reductions of net carbon dioxide emissions have here been applied to gross carbon dioxide levels consistent with target accounting. This accounting recognises that land sector emissions need to be reduced, but land sector removals do not need to continue indefinitely."[84] The footnote does not disclose to the reader that not only have the reductions been applied to a gross figure, but the purported 2010 "net carbon dioxide" figure in the table is in fact gross.

High Court

54. The Judgment is critical of the Commission's presentation of its analysis. Mallon J found it was potentially misleading to purport to use the IPCC pathways as a scientifically modelled starting point, but to apply them to gross CO_2 which means that our share of reductions will be less than the global average.[85] Specifically, a reader would be misled if they thought that the Commission's NDC recommendations were compatible with the IPCC 1.5℃ pathways and therefore the 1.5℃ global effort.[86] For the Judge though, the critical issue was whether the Minister specifically was misled and she found that the Minister understood that the Advice was not mathematically in line with the IPCC 1.5℃ global pathways and so was not in fact misled.[87]

55. In this analysis, the Judge accepts the Commission's characterisation that applying the 49% reduction to 2010 gross CO_2 was a "value judgment" rather than a logical error. She does not, however, explain why she disagrees with the experts from whom LCANZI called evidence (including authors of the 2018 Special Report) who are firm that a mathematical error is made by applying the IPCC global pathways in this way.

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[82] Reply affidavit of Dr Bertram at paragraph 25 **COA 201.0394** at [[**201.0400**]]; and reply affidavit of Professor Sims at paragraph 4 **COA 201.0417** at [[**201.0418**]].
[83] Table 13.1 and 13.2 in Evidence, chapter 13 **COA 403.0759** at [[**403.0924**]].
[84] Footnote 6 in Evidence, chapter 13 **COA 403.0759** at [[**403.0924**]]. See also the final two paragraphs in box 21.3 in chapter 21 **COA 401.0001** at [[**401.0371**]]; and Judgment at [102]-[103] **COA 05.0012** at [[**05.0053**]].
[85] Judgment at [115]-[119] **COA 05.0012** at [[**05.0053**]].
[86] The Judge was generous to say this was only "potentially" misleading as that is precisely what the Commission purported to show.
[87] Judgment at [119]-[127] **COA 05.0012** at [[**05.0054**]].

Evidence

56. LCANZI has provided evidence from the leading experts in the world that the Commission has made an error of logic by applying the 2018 Special Report global reduction range to 2010 gross CO_2 emissions. A brief summary of the evidence of each of LCANZI's witnesses in relation to ground 1 is set out below:

    a. **Dr Stephen Gale** is an expert in economic regulation. He was Telecommunications Commissioner from 2012 to 2020. His evidence sets out what the Commission did, and why it was an error of mathematical logic to apply the required 40-58% reduction to our 2010 gross CO_2 emissions.[88] He explains why gross:net accounting does not validate the Commission's approach and that, mathematically, one cannot "choose" to apply a net:net range to a 2010 gross starting point.[89]

    b. **Professor Piers Forster** is the acting Chair of the UK Climate Change Committee,[90] the UK equivalent of the Commission, and Professor of Physical Climate Change at the University of Leeds. He has had 20 years of involvement in the work of the IPCC. Specifically, he was a Lead Author for the mitigation pathways chapter of the 2018 Special Report that is relied on by the Commission. His evidence confirms that the IPCC used net CO_2 in its pathways in the 2018 Special Report and agrees with Dr Gale that the Commission was in error to use a gross emission number for baseline 'net' emissions in 2010.[91] He also confirms that, whether or not gross:net accounting is used to express climate targets, if the IPCC pathways are to be used as a baseline they must be applied to 2010 net CO_2 as a matter of internal logic.[92]

    c. **Dr Joeri Rogelj** is the Director of Research at the Grantham Institute for Climate Change and Environment and a Reader in Climate Science and Policy at the Centre for Environmental Policy

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[88] Affidavit of Dr Gale at paragraphs 4-17 **COA 201.0001** at [[**201.0002**]].
[89] Reply affidavit of Dr Gale at paragraphs 8-13 and 22-23 **COA 201.0429** at [[**201.0431**]] and [[**201.0433**]].
[90] See Climate Change Committee "Ministers appoint interim Chair to the CCC" (22 June 2023) <www.theccc.org.uk>.
[91] Affidavit of Prof Forster at paragraph 8 **COA 201.0007 at** [[**201.0009**]].
[92] Reply affidavit of Prof Forster [[**COA 201.0420**]] explains that: the IPCC pathways refer to changes in net CO2 (paragraph 10) [[**201.0424**]]; here "net CO2" means gross emissions minus removals in contrast to the with/without LULUCF distinction used in Kyoto accounting (paragraph 10) [[**201.0424**]]; as a matter of logic the only mathematically correct was to apply the 2018 Special Report pathways is to 2010 net CO2 (paragraphs 4 and 14) [[**201.0422**]] and [[**201.0424**]]; and the resulting figures can be expressed as a gross:net NDC if preferred (paragraphs 24 and 29) [[**201.0427**]] and [[**201.0428**]].

at Imperial College, London. He was one of three Coordinating Lead Authors of the mitigation pathways chapter of the 2018 Special Report relied on by the Commission. He is also a lead author on the annual Emissions Gap Reports by the United Nations Environment Programme and a lead author for the IPCC's Sixth Assessment Report. His evidence explains that the 2018 Special Report reductions must be applied to 2010 net CO_2 and that comparing 2010 gross CO_2 with 2030 net CO_2 results in reduction percentages that are incompatible with the global averages required to limit warming to 1.5℃.[93]

d. **Professor Donald Wuebbles** is a Professor of Atmospheric Sciences at the University of Illinois. He has been a coordinating lead author in the first, second and fifth IPCC assessments and a leader in at least three special interim IPCC reports. He agrees that the use of gross 2010 emissions in considering the emissions reductions that would be consistent with the 2018 Special Report is an error.[94]

e. **Dr William Taylor** is an economist and Associate Director at NERA Economic Consulting. His evidence is that the Commission has made a "simple mathematical error" when it purported to use the percentage reductions from the 2018 Special Report to inform judgements about emissions reductions consistent with a global effort to limit temperature increases to 1.5℃. His calculations also show how the percentage reductions could have been correctly applied and then expressed as a gross:net NDC.[95]

f. **Dr Geoff Bertram** is an economist and Senior Associate at the Institute for Governance and Policy Studies at Victoria University of Wellington. His evidence is that this use of a gross 2010 figure is not consistent with the 2018 Special Report.[96]

g. **Professor Ralph Sims** is Professor Emeritus, Sustainable Energy and Climate Mitigation at Massey University. He also agrees with Dr Gale and the other witnesses for LCANZI that the Commission's

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[93] Affidavit of Dr Rogelj at paragraphs 5-8 **COA 201.0458 at** [[**201.0459**]].
[94] Reply affidavit of Prof Wuebbles at paragraphs 11-15 **COA 0390 at** [[**201.0392**]].
[95] Affidavit of Dr Taylor, exhibit A at paragraphs 60-100 and **COA 301.0069** at [[**301.0083**]]; and reply affidavit of Dr Taylor at paragraphs 4-14 **COA 201.0436** at [[**201.0437**]].
[96] Affidavit of Dr Bertram at paragraphs 2-17 **COA 201.0016** at [[**201.0017**]]. Dr Bertram has conducted extensive research and consultancy work on climate change policy and co-authored a book on New Zealand's emissions trading scheme.

use of a gross 2010 emissions figure was an error.[97]

57. In order to properly respond to LCANZI's evidence, one would have expected the Commission to put forward evidence from someone who was both independent (that is, who had not been closely involved in New Zealand climate policy) and also an expert in the matters covered by the 2018 Special Report. However, none of the Commission's witnesses meet these criteria:

    a. In terms of independence: the evidence of Mr Smith has to be read in light of his leading role in preparing the parts of the Advice that have been said to be in error;[98] Dr Glade was an MfE employee between 2011 and 2019 and this relationship apparently continues in a contracted capacity;[99] and Dr Reisinger was announced as a new Climate Change Commissioner on 22 December 2021.[100]

    b. The Commission's witnesses have no particular expertise regarding the 2018 Special Report. This is illustrated by Mr Smith and Dr Glade's lack of understanding of how the terms "net" and "gross" are used in the 2018 Special Report. Mr Smith regards LCANZI's evidence as demonstrating a "fundamental" definitional error.[101] Dr Gale defined net CO_2 as referring to gross CO_2 emissions (for example, from fossil fuel combustion) less CO_2 removals (for example from forestry). Mr Smith says that this is wrong and that gross and net are "globally understood and accepted" as meaning, respectively, without and with land use, land-use change and forestry (**LULUCF**).[102] However, it is Mr Smith who is demonstrably wrong.[103] Net CO_2 is used in the 2018

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[97] Reply affidavit of Professor Sims **COA 201.0417** at [[**201.0418**]]. Professor Sims has been a lead author for five IPCC reports. He chaired the Royal Society of New Zealand's climate change panel which produced the 2016 report *Transition to a Low-Carbon Economy for New Zealand*.

[98] Affidavit of Matthew Smith at paragraph 2 **COA 201.0140** at [[**201.0141]]**; and affidavit of Joanna Hendy at paragraph 62.3 **COA 201.0119** at [[**201.0131**]].

[99] Affidavit of Dr Glade at paragraphs 6-17 and CV annexed as OG-1 **COA 201.0098** at [[**201.0099**]]. The continuing contracted work is not referred to in Dr Glade's affidavit but appears from Dr Glade's acknowledgement for "national compilation and cross-sector analyses" under the category of "technical contributors and contracted specialists" in New Zealand's 2021 national inventory submission at p iv: **COA 503.0978** at [[**503.0981**]].

[100] New Zealand Government "New appointments to the Climate Change Commission Board" (22 December 2021) <www.beehive.govt.nz>. An application for this position was presumably live at the time his evidence was given.

[101] This appears to be the primary point of disagreement with Dr Gale: see affidavit of Matthew Smith at paragraph 107 **COA 201.0140** at [[**201.0171**]]. See also paragraphs 9, 30, 103, 108 and 114.

[102] See affidavit of Matthew Smith at paragraph 33 **COA 201.0140** at [[**201.0149**]].

[103] In addition, the definitional issue is a red herring. As Dr Gale states, "the issue of whether the SR 2018 reduction pathways for net CO2 can be applied mathematically to a 2010 gross

Special Report in exactly the way that Dr Gale uses the term.[104] Dr Glade similarly wrongly assumes that the 2018 Special Report uses "net emissions" in the same way as under the Kyoto approach.[105] As noted by Professor Forster, Dr Glade appears to be simply mistaken as to how the terms "net" and "gross" are used in the 2018 Special Report which may be due to her lack of familiarity with it.[106]

58. If there was an independent expert of comparable standing to Professor Forster and Dr Rogelj who thought that the global reduction rates for net CO_2 could be applied to gross CO_2 then one can assume the Commission would have been able to provide their evidence.

Commission's defence re applying the percentage reduction to 2010 gross CO_2

59. The Commission defends its approach by saying that:

    a. there are many factors involved in setting the NDC and our level of ambition is a political choice;

    b. our international commitments have always been expressed in terms of gross:net accounting: it is derived from the Kyoto Protocol and is acceptable internationally;

    c. the Commission intended to use the IPCC modelling only as an indirect comparator, incorporating value judgements about New Zealand's contribution to the global 1.5℃ effort;

    d. in order to translate the IPCC global pathways to the New Zealand context it is a legitimate "choice"[107] to apply the percentage reductions to 2010 gross CO_2 and applying the 2018 Special Report global pathways to our 2010 net CO_2 would "penalise" New Zealand or create an "undue burden";[108]

    e. the application of the 2018 Special Report pathways to net CO_2

CO2 starting point does not depend on the particular definitions of net and gross.": reply affidavit of Dr Gale at paragraphs 3-6 and 17 **COA 201.0429** at [[**201.0430**]]. Dr Bertram confirms that this definitional issue "leaves untouched the fact that directly comparing gross-net with net-net numbers is a not a like-with-like exercise.": reply affidavit of Dr Bertram at paragraph 8 **COA 201.0394** at [[**201.0396**]].

[104] See affidavit of Dr Bertram at paragraphs 21-33 **COA 201.0016** at [[**201.0021**]]; reply affidavit of Dr Gale at paragraphs 18-20 **COA 201.0429** at [[**201.0432**]]; reply affidavit of Dr Bertram at paragraphs 8-9 **COA 201.0394** at [[**201.0396**]]; and reply affidavit of Prof Forster at paragraphs 15-17 **COA 201.0420** at [[**201.0424**]].

[105] Affidavit of Dr Glade at paragraphs 24 and 28 **COA 201.0098 at** [[**201.0102**]].

[106] Reply affidavit of Prof Forster at paragraph 16 **COA 201.0420** at [[**201.0425**]].

[107] See affidavit of Dr Reisinger at paragraphs 60-61 **COA 201.0283** at [[**201.0306**]].

[108] See affidavit of Dr Reisinger paragraphs 65-67 **COA 201.0283** at [[**201.0309**]].

would be a "direct attack" on the concept of gross:net accounting which is based on the Kyoto Protocol; and

f. the IPCC 1.5℃ pathways use a net:net approach, because this is the most appropriate approach at the global level where the forestry sector is a net source of emissions. Aotearoa New Zealand uses a gross:net approach, because the forestry sector has been a net sink of emissions.[109]

60. The starting point in response to these arguments is that LCANZI does not challenge the adoption of a gross:net approach to express our international targets.[110] Nor does LCANZI advocate for a mechanical application of the 2018 Special Report to determine our NDC. LCANZI agrees that the level of ambition in the NDC is a political matter which involves many considerations.

61. Rather, the error arises because the only way to apply the 49% reduction in net CO_2 taken from the 2018 Special Report is on a like-for-like basis. It must be applied to our 2010 net CO_2 to have a mathematically valid target for 2030 which can be said to align with the global averages.

62. The respondents' evidence spends a great deal of time explaining and justifying the background to the Kyoto approach and the use of gross:net targets. This is not, however, relevant to the error alleged. As Professor Forster explains, it "seems that Mr Smith and Dr Glade are defending the use of gross:net accounting itself, whereas the Applicant and its experts point out that it is rather its use to compare to the analytical approach in SR1.5 which is at fault".[111] Furthermore, the source/sink distinction referred to by the Commission in justifying its approach is irrelevant to the 2018 Special Report as net CO_2 is, by definition, lower than gross CO_2 globally and for each country.[112]

63. Professor Forster goes on to say:[113]

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[109] Commission's statement of defence at paragraph 87.1 **COA 101.0234** at [[**101.0270**]].
[110] Although LCANZI is concerned that the Commission and the Minister have not presented this in a way that is transparent to the reader, allowing the targets to be misunderstood as being more ambitious than they actually are.
[111] See reply affidavit of Prof Forster at paragraph 17 **COA 201.0420** at [[**201.0425**]].
[112] As explained at paragraph 57.b) above, in the 2018 Special Report, net CO_2 is defined as gross CO_2 less removals. As explained by Professor Forster, this means that net CO_2 will always be lower than gross CO_2: reply affidavit at paragraph 17(b) **COA 201.0420 at** [[**201.0426**]] . This is in contrast to the Kyoto approach, which included the LULUCF sector in net emissions and excluded it from gross emissions. See reply affidavit of Dr Gale at paragraph 23(c) **COA 201.0429** at [[**201.0434**]].
[113] Reply affidavit of Prof Forster at paragraphs 13-14 **COA 201.0420** at [[**201.0424**]]. As Dr Gale says, mathematically, one cannot simply "choose" to apply a net:net range to a

> Mr Smith and Dr Reisinger both say that there is no one right way to determine what 1.5℃ degrees requires for an individual country. It is true that SR1.5 does not attempt to allocate what is required at a global level to states or regions and there are lots of choices and value judgments involved in doing so. However, this does not validate the Commission's approach.
>
> Section 13.2 of the Commission's supporting evidence is clear that the minimum level recommended for the NDC is based on mathematical interpretation of the SR1.5 report's global pathways. As noted by Dr Reisinger's affidavit, paragraph [65] there are many value judgements applied. Here, the value judgement being applied is that the median SR1.5 global pathway should be employed as a starting point. Accepting this choice, the global pathway is still not applied in a mathematically correct way by the Commission.

64. The ultimate level of ambition is a political matter. But if the global net emissions reduction pathways from the 2018 Special Report are to be used as a starting point, then internal consistency requires these to be applied to 2010 net CO_2.[114] That is, the existence of choices in how to determine an equitable contribution does not alter the fact that there is only one way to correctly apply the 2018 Special Report pathways to Aotearoa New Zealand's emissions. That is on a net:net basis.

65. Once this calculation has been correctly performed it can be used to create a comparator which reflects the application of the IPCC pathways to New Zealand.[115] In other words, once the calculation has been properly performed to determine the 2030 end point for net CO_2 and net emissions overall, this end point can be expressed in gross:net accounting terms. But it is necessary to do the calculation correctly in the first place by applying the 2018 Special Report reduction ranges to a starting point of net emissions.[116] The Commission's alternative approach (to apply the reductions to 2010 gross CO_2) has the pretence of rigour,[117] but it is methodologically flawed and "masks" the value

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2010 gross starting point: reply affidavit of Dr Gale at paragraph 23(a) **COA 201.0429** at [[**201.0434**]].

[114] See reply affidavit of Dr Taylor at paragraphs 5-10 **COA 201.0436** at [[**201.0437**]].

[115] The accounting format used to express an emissions target does not determine the level of ambition, which is a political decision separate from the choice of accounting methodology. See affidavit of Dr Reisinger at paragraphs 43, 58-59 and 68 **COA 201.0283** at [[**201.0299**]]. See also for example: affidavit of Matthew Smith at paragraph 140 **COA 201.0140** at [[**201.0179**]]; affidavit of Helen Plume at paragraph 73) **COA 201.0346** at [[**201.0365**]]; and affidavit of Paul Young at paragraphs 29, 54-55, 76 and 88.3 **COA 201.0190** at [[**201.0197**]].

[116] See reply affidavit of Dr Gale at paragraph 12 **COA 201.0429** at [[**201.0431**]]; and reply affidavit of Prof Forster at para 24 **COA201.0420** at [[**201.0427**]].

[117] The Commission described its approach in box 21.1 of its Advice: "Applying global-scale modelling to Aotearoa is a blunt approach. However, it does provide a starting point, based on scientific modelling, for addressing the question of whether the NDC is compatible with contributing to the 1.5°C goal" **COA 401.0001** at [[**401.0374**]].

judgements being made by the Commission and the extent to which they impact the recommended figures.[118]

66. Many of the Respondents' witnesses express the view that applying the 2018 Special Report global pathways to our 2010 net CO_2 would "penalise" New Zealand or create an "undue burden".[119] The idea is that such an approach would include forestry removals in the starting point for making further reductions and so we would be "penalised" for trees planted from 1990-2010.[120]

67. This is a very contestable view. While it is correct that under Kyoto, countries for whom forestry was a net sink of emissions in 1990 did not count those removals in calculating their 1990 base year emissions,[121] this does not imply that forests planted after 1990 which have been relied on to meet international targets should also be disregarded in calculating base year emissions as at 2010 for example. As the Commission points out, instead of putting policies in place to decarbonise the economy, "Aotearoa used forests planted in the 1990s to offset its emissions and meet its targets."[122] It is somewhat perverse to rely on forests planted in the 1990s to defer making actual emissions reductions at source, but then to say it is an "undue burden" to take those forests into account when setting future targets. This point is made by Professor Forster as follows:[123]

> The thrust of the evidence of Mr Smith, Dr Glade and Dr Reisinger is that the Commission applied SR1.5 to 2010 gross CO_2 to avoid being "penalised" for trees planted from 1990-2010. But New Zealand relied heavily on those forestry removals to meet its first commitment period obligations under the Kyoto Protocol. If New Zealand had instead reduced gross emissions it would be part of the baseline calculation.

68. In any event, the "undue burden" argument cannot cure the mathematical error in the Commission's approach.

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[118] Reply affidavit of Dr Taylor at paragraph 9 **COA 201.0436** at [[**201.0438**]].
[119] See affidavit of Dr Reisinger at paragraphs 65-67 **COA 201.0283** at [[**201.0309**]].
[120] The Commission appears to have applied the 2018 Special Report ranges to 2010 gross CO_2 rather than net CO_2 emissions to avoid such an outcome: affidavit of Dr Reisinger at paragraph 6 **COA 201.0283** at [[**201.0309**]].
[121] This was to avoid penalising such countries for their past actions. Countries such as New Zealand, that had planted a lot of commercial forests prior to 1990, would have to continually plant more forests just to maintain the same level of emissions compared to the base year, if removals from the pre-1990 planted forests were counted in the base year: see Judgment at [27]-[32] **COA 05.0012** at [[**05.0023**]].
[122] Advice, Executive Summary, at paragraphs 86-87 **COA 401.0001** at [[**401.0032**]].
[123] Reply affidavit of Prof Forster at paragraph 23 **COA 201.0420** at [[**201.0426**]]. This point is specifically noted in the Judgment at footnote 151 **COA 05.0012** at [[**05.0053**]]. See also affidavit of Dr Taylor, exhibit A at paragraph 93 **COA 301.0069** at [[**301.0090**]].

69. In the case of Aotearoa New Zealand, the 2018 Special Report implies that, as a starting point, net CO_2 should fall to between 2.1 Mt and 3.0 Mt, average 2.6Mt.[124] All of LCANZI's experts are clear that this is the mathematically correct way to apply the emissions reductions pathways of the 2018 Special Report. This results in a 2030 limit for total net emissions (all gases) of 32.6 to 42.0 Mt $CO_{2\text{-}e}$, with a midpoint of 37.3 Mt. $CO_{2\text{-}e}$ [125] To the extent that this is considered an "undue burden" this must be part of a separate fairness exercise where there is a transparent explanation of why we will do less than the global averages require.[126]

Consequences of the error

70. As a result of the error, the "568 Mt $CO_{2\text{-}e}$" and "36%" figures derived by the Commission are incorrect.[127] If the 2018 Special Report reduction rates are applied properly to net CO_2, then these figures change:

    a. the maximum for the NDC budget between 2021-30 would become 484 Mt CO_2-e (not 568 Mt CO_2-e);[128] and

    b. minimum reductions of 55% (not 36%) between 2005 and 2030.[129]

Cabinet's decision relies on the Commission's incorrect advice

71. The 2016 NDC was due to be updated by 2020 and indeed a more ambitious NDC had been anticipated following the 2017 General Election. However, this process was paused to allow for the Government to receive advice from the Commission as to an appropriate NDC.[130]

72. The NDC Advice was also front and centre in the Cabinet Paper relating to the decision to adopt the new NDC:[131]

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[124] Advice, Evidence, chapter 10 at p 10 **COA 403.0759** at [[**403.0924**]]; affidavit of Prof Forster at paragraph 13 **COA 201.0007** at [[**201.0010**]]; affidavit of Dr Taylor, exhibit A at paragraph 16 **COA 301.0069** at [[**301.0073**]]; and affidavit of Dr Gale at paragraphs 11-13 **COA 201.0001** at [[**201.0004**]].

[125] Affidavit of Dr Taylor, exhibit A at paragraph 16 **COA 301.0069** at [[**301.0073**]]; and affidavit of Dr Bertram at paragraphs 90-91 **COA 201.0016** at [[**201.0038**]].

[126] It is far from obvious that this burden is "undue"; it simply represents what a global average approach requires based on the scientific methodology of the 2018 Special Report.

[127] See paragraph 4 above.

[128] Affidavit of Dr Taylor, exhibit A at paragraphs 79-80 **COA 301.0069** at [[**301.0087**]]; affidavit of Dr Bertram at paragraphs 85-89 **COA 201.0016** at [[**201.0036**]]. This calculation is confirmed by Dr Reisinger in paragraph 86 of his affidavit **COA 201.0283** at [[**201.0315**]] and in the MfE Consistency Advice annexed to Dr Reisinger's affidavit at paragraph 83.

[129] Affidavit of Dr Taylor, exhibit A at paragraph 99-100 **COA 301.0069** at [[**301.0091**]].

[130] [[COA 501.0011]].

[131] See affidavit of James Shaw at paragraph 20 and exhibit JS-5 **COA 201.0371** at [[**201.0378**]] and [[**COA 301.0417**]]. The press release from the Prime Minister and the Minister also refers to the Commission's advice and the 36% figure: "In May this year, the Climate Change Commission provided its final advice to the Government, which said New

> 36. The Commission advised that the current NDC is not compatible.
>
> 37. In order to be more likely to be more compatible, the NDC should reflect a reduction of net emissions of "much more than 36 per cent below 2005 gross levels by 2030, with the likelihood of compatibility increasing as the NDC is strengthened further".
>
> 38. The Commission reached its recommendation of much more than 36 per cent by assuming that New Zealand's emissions should reduce by *at least* at the same rate as global emissions of those gases in the average of pathways consistent with the global pathway to 1.5℃.

73. As noted by Mallon J, this passage: "repeats the potentially misleading impression that might be taken from the Commission's NDC Advice. That is, it suggests that the 36 per cent figure correlates to the average of the IPCC 1.5℃ global pathways. In fact, the percentage does not, because it uses a gross base year rather than a net base year for the comparison."[132]

74. It is submitted that the "36%" will have had an anchoring effect in the decision over the new NDC and that it provided the context for determining what our level of international commitment should be. That is, it is likely that a different NDC may have resulted if Cabinet had been correctly advised that the IPCC pathways imply an NDC with at least a 55% reduction for New Zealand (when the pathways are properly applied to 2010 net CO_2 and then the resulting figure re-expressed as a gross-net target).

The error also affects the Budgets proposed by the Commission

75. The same mathematical error is present in the Commission's assessment of whether its proposed Budgets are consistent with the 1.5℃ Goal.

76. The Commission's analysis purports to show that the demonstration path will result in net CO_2 dropping by 55% from 2010 to 2030. However, this is a false comparison because the Commission compares our 2010 gross CO_2 to the projected 2030 net CO_2 whereas the IPCC's figures compare net with net. When a proper comparison is made, net CO_2 is projected to increase by 310% under the recommended Budgets (from 5.0Mt to 20.7Mt) which is clearly inconsistent with the global averages required by the 2018 Special Report.[133]

Zealand's previous NDC … was incompatible with limiting warming to 1.5°C. The Commission recommended a new NDC should be much more than 36 per cent reduction on 2005 levels by 2030" [[**506.2341**]].

[132] Judgment at [125] **COA 05.0012** at [[**05.0056**]].

[133] See paragraph 36 above. The "55%" figure is from table 9.1 in the Advice.

The Commission's error is reviewable in an administrative law sense

77. By applying the IPCC global pathways to 2010 gross CO_2 instead of 2010 net CO_2 the Commission has made an error which comes within several well-recognised categories of review:

    a. The Commission did not act on the basis of any evidence that logically supports its findings.[134] The Commission's calculation purports to show that a doubling of net CO_2 emissions between 2010 and 2030 (from 5.0Mt to 17.9Mt) is consistent with limiting global warming to 1.5℃. However, there is no evidence to support such a finding. The evidence that the Commission purports to rely on (that is the 2018 Special Report) supports exactly the opposite conclusion. That is, the 2018 Special Report finds that net CO_2 must decrease by 40-58% by 2030.

    b. The Commission's reasoning is not supportable as a matter of logic, and it has "made an error which is of fundamental significance to its decision-making".[135] As set out above, LCANZI's evidence shows the Commission has made an error of mathematical logic because the global reductions have been applied to our 2010 gross CO_2 instead of our 2010 net CO_2, in a way that is not justified by references to taking a "gross:net approach" or otherwise.

    c. The Commission's reasoning is logically self-contradictory and internally inconsistent.[136] The Commission purports to apply the scientific modelling of the 2018 Special Report (which says net CO_2 emissions must halve) but finds that net CO_2 emissions can more than double between 2010 and 2030. The *increase* in overall net emissions from 48.6 to 52.6 Mt CO_2-e between 2010 and 2030 is also inconsistent with the significant reductions required by the

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[134] A decision-maker must make its findings on the basis of material of probative value, in the sense that there is some material which "tends logically to show the existence of facts consistent with the finding and that the reasoning supportive of the finding … is not logically self-contradictory": *Re Erebus Royal Commission; Air New Zealand Ltd v Mahon* [1983] NZLR 662 (PC) at 671 per Lord Diplock **BoA/10/0357**. This principle has been applied in many cases, which are helpfully summarised at [53.5.2] of Matthew Smith *The New Zealand Judicial Review Handbook* (2nd ed, Thomson Reuters, Wellington, 2016) **BoA/10/1268**.

[135] *Vodafone New Zealand Ltd v Telecom New Zealand Ltd* [2011] NZSC 138, [2012] 3 NZLR 153 at [52] **BoA/13/0571**. Or, using the language of the Canadian Supreme Court in *Canada (Minister of Citizenship and Immigration) v Vavilov* [2019] SCC 65, [2019] 4 SCR 653 at [101] **BoA/16/0725**, there has been a "failure of rationality internal to the reasoning process" and the Advice is "untenable in light of the relevant factual and legal constraints that bear on it."

[136] Affidavit of Dr Taylor, exhibit A at paragraphs 81-86 **COA 301.0069** at [[**301.0088**]].

2018 Special Report.[137] It is logically impossible to both claim to be following the 2018 Special Report pathways and have net CO_2 and overall net emissions increasing during this period.

d. A further contradiction, as pointed out by Mallon J, is that the Commission finds that, as a developed country, New Zealand has agreed to "take the lead" (so our NDC must reflect deeper emission reductions than the global average), but then recommends a 2030 target which is much less ambitious than the global average.[138] These internal contradictions are caused by wrongly applying the net reduction rates to a 2010 gross CO_2 starting point.

78. This is not an issue where deference to a specialist body is required or appropriate;[139] errors of logic and findings that are not supported by logically probative evidence are reviewable in the usual way.

Minister's awareness does not cure the error

79. As noted above, the Judge found that the Commission's NDC Advice was saved because the Minister understood what the Commission had done and so was not misled.

80. LCANZI says that this is no answer because the real problem as was that the Commission made a basic error of mathematics and this cannot be cured by anyone being aware it was a deliberate choice. In addition, while requested by the Minister, the NDC Advice is advice "to the Government" (s 5K) and was relied on by Cabinet as a whole. Furthermore, the Commission also has a broader public function in its own right,[140] reflected by the fact the Minister must present a copy of the Advice to the House of Representatives within 10 working days after receiving it and the Commission must make its Advice publicly available as soon as practicable after it is presented to the House (s 5L).

81. Nor does the Minister's understanding of the error cure its effect on his decision to adopt the Amended NDC. As noted above, the Advice will have had an anchoring effect on the Minister and Cabinet's decision. It also gives the Amended NDC legitimacy. Different Advice may well have

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[137] Affidavit of Dr Taylor, exhibit A at paragraphs 81-86 **COA 301.0069** at [[**301.0088**]].
[138] Judgment at [115] **COA 05.0012** at [[**05.0053**]]; and Advice **401.0001** at [[**401.0377**]].
[139] See *Z v Dental Complaints Assessment Committee* [2008] NZSC 55, [2009] 1 NZLR 1 **BoA/14/0580**; *Lab Tests Auckland Ltd v Auckland District Health Board* [2008] NZCA 385, [2009] 1 NZLR 776 **BoA/4/0112**; and *New Zealand Climate Science Education Trust v National Institute of Water and Atmospheric Research Ltd* [2012], NZHC 2297 [2013] 1 NZLR 75 **BoA/6/0222**.
[140] Judgment at [65] **COA 05.0012** at [[**05.0035**]].

resulted in a different decision.

D. Ground 2: failure to apply statutory purpose

82. In addition to the overall purpose provision in s 3, s 5W of the Act requires the Minister to set a series of emissions budgets:

> … with a view to meeting the 2050 target and contributing to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels …

83. Section 5W creates a dual purpose: the budgets must be set with a view to both meeting the 2050 Target and contributing to the 1.5℃ Goal. These are compatible but logically discrete goals because meeting the 2050 Target is only one part of keeping the global temperature increase to 1.5°C. As the 2018 Special Report makes clear, the pathway to 2050 is critical to achieving that goal, especially the pathway between now and 2030.

84. LCANZI says these purposes are not just aspirations to be kept in mind, but provide an overarching framework that has operative force. Accordingly, s 3 and s 5W create a substantive requirement for the Commission (and the Minister) to ensure that the Budgets contribute to the 1.5℃ Goal.

85. The Commission failed to meet this substantive requirement due to its mistaken view that the 2050 Target had been "*set by the government as our domestic contribution to the global 1.5℃ effort*".[141] It therefore relegated its own consideration of how the Budgets related to the 1.5˚C Goal to a cross check.[142] However, the cross check is flawed due to the mathematical error and MAB. As the Judgment held, the Budgets are not consistent with the IPCC 1.5℃ pathways.

86. This error then affected the decision of the Minister to adopt Budgets based on the Advice. The High Court accepted the first step in LCANZI's analysis above: that s 5W creates a dual purpose and was intended to emphasise that limiting global warming to 1.5℃ is the ultimate goal; "reaching net zero by 2050 is one thing but the timing of reductions also matters".[143]

87. However, the High Court held that the purpose of "contributing to"

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[141] Advice, chapter 9 at paragraph 31 **COA 401.0001** at [[**401.0212**]]. And see Advice at section 5.1.4 **COA 401.0001** at [[**401.00086**]].
[142] Advice, chapter 5 at paragraph 36 and chapter 9 at paragraph 33 **COA 401.0001** at [[**401.0087**]] and [[**401.0212**]].
[143] Judgment at [151]-[154] **COA 95.0012** at [[**05.0065**]].

1.5℃ was more consistent with an aspiration than an obligation.[144] Section 5W was not a "bottom line" purpose in the sense used in *Trans-Tasman Resources*[145] but was something to be kept in mind. LCANZI submits this was an error.[146]

88. LCANZI does not say there was only one answer the Commission and the Minister could have reached in relation to the Budgets and how they should contribute to the 1.5℃ Goal. Nevertheless, there are objective criteria by which New Zealand's contribution to the 1.5℃ Goal can be assessed and there is an outer limit to the permissible range.[147] Budgets that would see New Zealand's net emissions *increasing* over a period when they are supposed to fall by around 50% are well outside the permissible range. In any event, at a minimum, the Commission and the Minister were required to substantively and meaningfully grapple with what was required to meet this purpose and failed to do so.

The statutory purposes

89. The Budgets are intended to represent New Zealand's domestic contribution to the 1.5℃ Goal. This is clear from s 5W which requires the Budgets to be set "in a way that allows those budgets to be met domestically" and s 5Z which provides that "emissions budgets must be met, as far as possible, through domestic emissions reductions and domestic removals".[148]

90. In terms of the division between domestic ambition and offshore mitigation, the Paris Agreement states in Article 2 that "Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions [i.e. NDCs]." Offshore mitigation is permitted, but in addition to, not as a substitute for, domestic action.[149]

91. The overall purposes of the Act include the 1.5℃ Goal (s 3(1)(aa)) and enabling New Zealand to meet its international obligations including under the Paris Agreement (s 3(1)(a)).

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[144] Judgment at [162] **COA 05.0012** at [[**05.0069**]].
[145] *Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board* [2021] NZSC 127, [2021] 1 NZLR 801 **BoA/12/0432**.
[146] Notice of appeal at paragraph 1(c) **COA 05.0001** at [[**05.0004**]].
[147] See the discussion at paragraphs 118136105 below.
[148] Offshore mitigation may be used if there has been a significant change of circumstances that affects the considerations on which the budget was based and the ability to meet it domestically. Section 5ZA also requires the Commission when giving advice on the Budgets to recommend an "appropriate limit" on offshore mitigation and to explain the circumstances that "justify" its use.
[149] See Paris Agreement Article 6 which refers to "voluntary cooperation…to allow for higher ambition": **COA 504.1728** at [[**504.1736**]].

Legislative history

92. Both sections 5W and 3(1)(aa) were added by the Zero Carbon Act. The linking of the Act's purpose to the 1.5℃ Goal and New Zealand's international obligations under the Paris Agreement reflects the context in which the Zero Carbon Act was passed, just over a year after the 2018 Special Report highlighted the critical importance of limiting warming to 1.5℃ and the need for net emissions to be reduced by around half by 2030 for this to be achieved.

93. The legislative history of the Zero Carbon Act clearly shows that Parliament understood the distinction between the 2050 Targets and the 1.5℃ Goal and wanted to make sure that the Budgets supported both, including by amending the Bill to incorporate an express reference to the 1.5℃ Goal into what is now s 5W.

94. Introducing the Zero Carbon Bill at its first reading on 21 May 2019, Minister Shaw referred to the amended purpose of the Act and stated:[150]

> As far as we're aware, we are the first country in the world to locate that commitment to hold global warming to no more than 1.5 degrees in primary legislation. This ensures that whatever else we choose to do, it must further that critical outcome—and nothing we do should undermine it.

95. The Minister's report to Cabinet following feedback from Select Committee adopted a recommendation in the Departmental Report to add express reference to the 1.5℃ Goal in relation to the budgets.[151] At the second reading of the Bill, the Minister again noted the amendment to make explicit that the 1.5℃ Goal applied to the budgets set under the Act: [152]

> Third, the purpose of emissions budgets in the bill will now include a reference to the need for New Zealand to contribute to global efforts to limit the average temperature increase to 1.5 degrees Celsius above pre-industrial levels. This will align emissions budgets with the overall purpose of the bill and reinforce the need for decision makers to consider the global response to climate change when determining the level of emissions budgets.

96. The legislative history accordingly confirms that Parliament intended the Act to require the Commission to propose Budgets that are consistent with *both* the 2050 Targets and the 1.5℃ Goal, consistent with

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[150] (21 May 2019) 738 NZPD 11026 **BoA/27/1457**.
[151] Office of the Minister for Climate Change "Policy decisions for Climate Change Response (Zero Carbon) Amendment Bill Departmental Report" (19 February 2019) **BoA/30/1566**.
[152] (5 November 2019) 724 NZPD 14719 **BoA/28/1486**.

the plain meaning of s 5W.

What does "contributing to" the 1.5℃ Goal require?

97. The High Court has previously held in *Thomson v Minister for Climate Change* that the Act must be interpreted consistently with Aotearoa New Zealand's international obligations, including the UNFCCC and the Paris Agreement.[153] This reflects the principle that domestic law must be interpreted in a manner that is consistent with international obligations where possible.[154] Given the importance of the objective of mitigating climate change and its impacts, the Court should expect clear language to have been used if Parliament did not intend the Act to give full effect to New Zealand's international obligations.

98. In light of this, LCANZI says that "contributing" in s 5W means contributing in accordance with the commitments New Zealand made under the Paris Agreement. That is evident from the references to the Paris Agreement in ss 5W, 3(1)(aa) and 3(1)(a).

99. Under the Paris Agreement, each state is free to set its own NDC. However, each state has signed up to commitments about what its NDC will represent and how it will be achieved. Most importantly:

    a. under article 4(2) each Party shall pursue domestic mitigation measures with the aim of achieving its NDC;

    b. under article 4(3), each Party's NDC will reflect its "highest possible ambition"; and

    c. under article 4(4), developed country Parties should take the lead.

100. Having regard to these obligations, the question of what "contributing" to the 1.5℃ Goal requires in terms of the Budgets is broadly the same question the Commission was required to address in its NDC Advice. It is partly a matter of science and partly a matter of considerations of national capacity and international equity as informed by the Paris Agreement.

101. The science part of the question is what the 2018 Special Report addresses. As discussed in relation to ground 1, when the 2018 Special Report pathways are properly applied to New Zealand they imply a

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[153] *Thomson v Minister for Climate Change* [2017] NZHC 733, [2018] 2 NZLR 160 at [88] **BoA/11/0407**.

[154] *Helu v Immigration and Protection Tribunal* [2015] NZSC 28, [2016] 1 NZLR 298 at [143]-[145] **BoA/3/0094**; and *Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board* [2021] NZSC 127, [2021] 1 NZLR 801 at [99] per William Young and Ellen France JJ, and at [246] and fn 398 per Glazebrook J **BoA/12/0476 and BoA/12/0517**.

reduction of total annual net emissions from 48.6 to 37.3 Mt $CO_{2\text{-}e}$ between 2010 and 2030 (a decrease of 23%) and a 2021-2030 budget of 484 Mt $CO_{2\text{-}e}$.[155] Accordingly, 484 Mt $CO_{2\text{-}e}$ should have been the starting point for consideration of our initial domestic Budgets for the period from 2022-2030 (taking into account that the budget period is one year shorter).

102. The approach of taking the global emissions budget as assessed by the IPCC as the starting point for determining what individual states are legally obliged to do to contribute to global climate goals is not novel. Not surprisingly, it is the approach that courts in other jurisdictions have adopted when faced with a similar task.[156]

103. When it comes to considerations of national capacity and international equity, the advice received by the Minister from the Ministry for the Environment on the consistency of the NDC with efforts to limit global warming to 1.5℃ (**MfE Consistency Advice**) shows there are a number of ways in which the global budget can be allocated between counties, each of which produces different outcomes, namely:[157]

    a. **Equal** rate of emission reductions;

    b. **Equality** (equal emissions per capita);

    c. **Capacity** (equal share of the global cost of mitigation);

    d. **Responsibility** (equal overall responsibility for global warming including from historical emissions); and

    e. **Need** (equal right to sustainable development).

104. However, while there is room for value judgments about which of these measures (or combination of them) should be adopted, it does not follow that there are no substantive constraints on the scope of what "contributing to" the 1.5℃ Goal requires. Logically, to contribute to the

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[155] See paragraph 70 above.

[156] For example, in *The State of the Netherlands v Stichting Urgenda* ECLI:NL:HR:2019:2007 Supreme Court of the Netherlands, 20 December 2019 it was held that the Dutch government was obliged to reduce emissions by at least the minimum global average percentage required by the IPCC's 2007 AR4 report (at 7.3.6) **BoA/20/1064**. See also *Neubauer v Germany* Federal Constitutional Court BvR 2656/18/1 BvR 78/20/1 BvR 96/20/1 BvR 288/20, 24 March 2021 in which the German Federal Constitutional Court held it could not currently determine that the German national emissions budgets (set on the basis of Germany's per capita share of the IPCC global budgets) breached the constitutional requirement to limit warming to well below 2C and preferably to 1.5℃ but confirmed that the law should take the IPCC estimates of the global budget into account in assessing whether there was a risk of the requirement not being met (at 229) **BoA/18/0954.**

[157] Affidavit of James Shaw, exhibit JS-3: [[**COA 301.0370**]].

1.5℃ Goal and to meet the Act's purpose of enabling New Zealand to meet its international obligations under the Paris Agreement, the Budgets must use New Zealand's share of the global emissions budget as a starting point, with adjustments as needed to be consistent with the principles of the Paris Agreement.

105. The Commission ought to have undertaken this analysis but failed to do so. The Budgets proposed by the Commission do not correspond with New Zealand's share of the global 1.5℃ budget on any measure. As a developed country, the Paris Agreement requires us to do more than the average, not less. The Budgets therefore fall outside the scope of what "contributing to" the 1.5℃ Goal requires.

An operative requirement or merely aspirational?

106. As noted above, the Judgment finds that the 1.5℃ Goal under the Act is more in the nature of an aspiration, rather than a bottom-line requirement. However, this overlooks that, even if it is not a bottom-line as such, it is still an operative requirement in the sense that the Budgets Advice and the Budgets must be recommended and adopted with a view to contributing to the 1.5℃ Goal.

107. In *Trans-Tasman Resources*, the Supreme Court considered the decision-making framework for discharge consent applications under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (**EEZ Act**). The Court held that—in the absence of any other substantive standard for the consent decision set out in the legislation—the purposes under s 10(1) of the EEZ Act were to (in summary) promote the sustainable management of the exclusive economic zone and the continental shelf (s 10(1)(a)); and protect the environment from pollution (s 10(1)(b)) had substantive or operative force.[158]

108. The leading majority judgment was written by Glazebrook J, who relevantly held that:

> [240] As a purpose provision, s 10 provides the basis for the purposive interpretation of the other sections of the EEZ Act. It also, however, provides an overarching guiding framework for decision-making under the Act and, to this extent, has substantive or operative force. […]
>
> [248] I do not, however, agree with the Court of Appeal that s 10(1) provides the main operative criteria for the determination of

[158] *Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board* [2021] NZSC 127, [2021] 1 NZLR 801 at [240] onwards per Winkelmann CJ, Glazebrook and Williams JJ; William Young and Ellen France JJ dissenting **BoA/12/0515**.

> applications. […] Section 10(1) sets out guiding principles but is not the section under which particular consent decisions are made. Nevertheless, the s 10(1) purposes are not merely context for decision-makers. Nor are they factors to be given special weight. Ensuring those purposes are met is the very point of the s 59 assessment.
>
> [249] In respect of discharges and dumping, therefore, this means that the relevant s 59 factors must be weighed in a way that achieves both the sustainable management purpose in s 10(1)(a) and the bottom line purpose in s 10(1)(b) of protecting the environment from pollution.

109. LCANZI submits that the ss 3 and 5W purposes, including in relation to the 1.5℃ Goal, have the same status as the s 10(1) purposes under the EEZ Act.[159] The Act directs relevant considerations in s 5ZC, but otherwise provides no substantive decision-making criteria. The ss 3 and 5W purposes provide the overarching guiding framework for the Budgets Advice and decisions and to that extent have substantive or operative force. Ensuring that New Zealand meets its commitment under the Paris Agreement to contribute appropriately to the 1.5℃ Goal is the very point of the Budgets, as s 5W makes clear.

110. It follows that the matters set out in s 5ZC that the Commission must have regard to when preparing the Budgets Advice must be weighed in a way that achieves each of the purposes of the Act, including the 1.5℃ Goal. They help to inform what that goal looks like (for example, what are the limits of our "highest possible ambition") but they are not matters to be balanced against it.[160]

111. Whether New Zealand's and the world's efforts will be sufficient to keep global warming to 1.5℃ is uncertain – to this extent it is an aspirational goal. Further, as the use of the language "contributing to" instead of "achieving" reflects, the 1.5℃ Goal is not something that Aotearoa New Zealand, or any one state, can achieve on its own. It can only be achieved by a collective effort in which all states do their part, as the parties to the Paris Agreement have committed to do. But that does not mean the 1.5℃ Goal can be treated as merely aspirational in the sense that it has no operative force. There can still be a substantive legal requirement to contribute to a goal, even if meeting that goal can only be an aspiration.[161]

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[159] Note that the "bottom line" finding applied only to s 10(1)(b) of the EEZ Act. Nevertheless, both ss 10(1)(a) and (b) were held to be operative requirements.

[160] Cf *Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board* [2021] NZSC 127, [2021] 1 NZLR 801 at [304] per Williams J **BoA/12/0532**.

[161] See *The State of the Netherlands v Stichting Urgenda* ECLI:NL:HR:2019:2007 Supreme Court of the Netherlands, 20 December 2019 **BoA/20/1028**; and *Neubauer v Germany*

Even if not an operative requirement, the Commission still had to grapple with what contributing to the 1.5℃ Goal required

112. In any event, regardless of whether the s 5W purpose was an operative requirement, as LCANZI submits, or simply something to be kept in mind, as the High Court found, the Commission and the Minister were required to engage with it substantively in their analysis.

113. One way of expressing this is in terms of the *Tameside* duty: the Commission and the Minister were under a duty to ask themselves the right question and take reasonable steps to acquaint themselves with the relevant information to answer it correctly.[162]

114. A more robust formulation is found in the recent Canadian case law emphasising a decision-maker's duty to grapple with key issues and observing that a failure to meaningfully grapple with key issues or central arguments may call into question whether the decision maker was actually alert and sensitive to the matter before it.[163]

115. The European Court of Human Rights has held that when a state has to deal with complex environmental and economic policy issues, and in particular when dangerous activities are involved, the decision-making process prior to establishing a legislative and administrative framework must involve the carrying out of appropriate investigations and studies, so as to prevent and assess in advance the effects of activities which may harm the environment and the rights of individuals.[164]

116. Ultimately, as the Supreme Court has recently confirmed, a decision-maker must engage in a "structured analysis" of the relevant considerations to applying the statutory test, rather than exercising an "overall broad judgment" about what it considers appropriate.[165]

117. The Commission's analysis bears all the hallmarks of the latter, rather than the former, when it comes to the question of whether the Budgets Advice met the 1.5℃ Goal and whether an incrementally more ambitious set of budgets could be adopted.

Federal Constitutional Court BvR 2656/18/1 BvR 78/20/1 BvR 96/20/1 BvR 288/20, 24 March 2021 **BoA/18/0887**.

[162] *Secretary of State for Education & Science v Tameside Metropolitan Borough Council* [1977] AC 1014 (HL) **BoA/19/0965**.

[163] *Canada (Minister of Citizenship and Immigration) v Vavilov* [2019] SCC 65, [2019] 4 SCR 653 at [128] **BoA/16/0737**.

[164] *Taskin v Turkey* ECHR 46117/99, 30 March 2005 at [119] **BoA/21/1098**.

[165] *Port Otago Ltd v Environmental Defence Society Incorporated* [2023] NZSC 112 at [78]-[82] **BoA/9/0342**.

The Commission's advice failed to grapple with what contributing to the 1.5℃ Goal requires and what New Zealand's highest possible ambition would be

118. As discussed in section 5 of Dr Taylor's evidence, the Commission did not carry out any form of cost benefit or multi criteria analysis.[166] This is accepted by Dr Carr in his affidavit, but he disputes whether such an analysis was required or would have been helpful.[167]

119. As Dr Taylor explains in his reply affidavit, the point is not that the Commission should have adopted a particular method of analysis but that they did not make any real assessment of whether the Budgets could be more ambitious.[168] Indeed, Dr Carr says that he does not agree that the Commission could or should have defined the "best" option.[169] In other words, in his view, it was not part of its task to identify New Zealand's "highest possible ambition", despite this being the obligation under the Paris Agreement which the Act is intended to implement.

120. As discussed in Dr Taylor's evidence, the Commission should have undertaken some form of analysis of whether incremental ambition was likely to be "technically and economically achievable" in a context where:

    a. one of the purposes of the Budgets is to contribute to the 1.5℃ Goal;

    b. the Paris Agreement requires parties to undertake ambitious efforts to achieve this goal;

    c. the Act also requires the Budgets to be ambitious (but likely to be technically and economically achievable); and

    d. there is a shortfall between the NDC and Budgets and therefore we are relying on overseas mitigation to meet our international commitments.[170]

121. Instead, the Commission adopted a demonstration path that was principally focused on the 2050 Target and then tested it to ensure it was achievable and "affordable".[171] By contrast, the Act does not require

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[166] Affidavit of Dr Taylor, exhibit A **COA 301.0069** at [[**301.0099**]].
[167] Affidavit of Dr Carr at paragraphs 61-102 **COA 201.0249** at [[**201.0264**]].
[168] Reply affidavit of Dr Taylor at paragraph 44 **COA 201.0436** at [[**201.0446**]].
[169] Affidavit of Dr Carr at paragraph 85 **COA 201.0249** at [[**201.0270**]].
[170] Reply affidavit of Dr Taylor at paragraph 45(d) **COA 201.0436** at [[**201.0446**]].
[171] The Commission's three "key outcomes" include in two separate places that the Budgets are "affordable": **COA 401.0001** at [[**401.0080**]]. The Advice is replete with references to the Budgets being "affordable". The Commission characterises its analysis in chapter 8 as

the Budgets to be "affordable" but merely that the Commission have regard to the need for the Budgets to be likely to be "technically and economically achievable".[172]

122. Further, the Commission appears to have taken a conservative view of what is "affordable". The GDP impact of the proposed Budgets estimated by the Commission is "an overall reduction to the level of GDP in 2035 of around 0.55%", but as the Commission points out, "This does not consider the significant co-benefits of action or the costs of delaying action."[173] As discussed by Dr Bertram, a change in GDP of this magnitude is within the margin of error for the type of modelling used and does not seem consistent with "maximum ambition".[174]

123. However, despite finding the costs of its proposed Budgets to be "affordable", the Commission did not test alternative, higher ambition, paths to see whether greater reductions in emissions would still be affordable, or indeed, "economically achievable", as the Act requires.[175]

124. Nor has the Commission undertaken any cost benefit analysis of meeting our NDC through domestic measures versus meeting it through offshore mitigation. It is by no means obvious that the latter option is likely to be more cost-effective. As the German Federal Constitutional Court stated in *Neubauer*, referring to the results of the UNFCCC's Synthesis Report on Nationally Determined Contributions: "Considering the substantial reduction efforts that the entire international community will still have to make in order to reach the Paris Agreement's temperature target…the competition for transferable surplus reductions is likely to be intense."[176]

125. Dr Carr defends the Commission's Budgets Advice in his evidence, saying that moving too fast would impact on people and that higher ambition would result in large scale cuts to economic output.[177] This caution against moving too far and too fast is also reflected in the Advice, which suggests it would place a disproportionate burden on younger generations who would be left without employment or

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showing, among other things, that the Budgets are "economically affordable": **COA 401.0001** at [[**401.0079**]].

[172] Act, s 5ZC(2)(b)(iv) **BoA/22/1171**.

[173] Advice, chapter 8 at paragraph 44 **COA 401.0001** at [[**401.0166**]].

[174] Affidavit of Dr Bertram at paragraph 111 **COA 201.0016** at [[**201.0043**]].

[175] Reply affidavit of Dr Taylor at paragraph 44 **COA 201.0436** at [[**201.0446**]].

[176] *Neubauer v Germany* Federal Constitutional Court BvR 2656/18/1 BvR 78/20/1 BvR 96/20/1 BvR 288/20, 24 March 2021 at 226 **BoA/18/1954**.

[177] Affidavit of Dr Carr at paragraph 35 **COA 201.0249** at [[**201.0257**]]. See also the Commission's statement of defence at paragraph 114 **COA 101.0234** at [[**101.0278**]].

essential services, and would disproportionately affect Iwi/Māori.[178]

126. Dr Carr avers that "*with respect to the level of 'ambition' of each budget, which taken together determine the initial "steepness" of the path to the 2050 target, this is about the short-term pace of change, not overall ambition*".[179] More troublingly again, Mr Smith (the analyst primarily responsible for the relevant parts of the advice) explains the Commission's lack of short term ambition in part by saying that "*New Zealand reducing emissions faster will not change the global impacts of climate change to any material degree*" and that for that reason "*there is no causal link between the speed in which we reduce emissions and the impacts of climate change felt by us or by anyone else*".[180]

127. These are the wrong lenses to apply. The science indisputably shows that short term ambition matters and the Paris Agreement is based on each state doing its part. Moreover, the purpose of the Act is to *contribute* to the global effort, not undermine it by free-riding.

128. Furthermore, there is no suggestion that the Commission has considered any intermediate options between domestic action at the level of the NDC and the recommended Budgets. If it considered that meeting the NDC entirely through domestic action would not be possible, it still had to consider how far we could go towards this. It has not done this analysis and there is no evidence to suggest that a somewhat more ambitious path—that is, somewhere in between the proposed Budgets and the NDC—would not be "technically and economically achievable". The "large scale cuts to economic output" referred to by Dr Carr represents a false "all-or-nothing" assumption.

129. There are several more detailed points to make in response to the Commission's approach.

130. First, it is not clear what evidence or analysis the Commission relied on for its conclusion that meeting the NDC through domestic action would create unmanageable consequences.

131. Secondly, it is widely understood and accepted that addressing climate change will carry costs and cause economic and social disruption (as indeed climate change is increasingly doing in any case). The 2018 Special Report made this clear, and it was recognised in the Regulatory Impact Statement on the Zero Carbon Bill.[181] The fact that some

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[178] For example at Box 22.1 **COA 401.0001** at [[**401.0384**]].
[179] Affidavit of Dr Carr at paragraph 95 **COA 201.0249** at [[**201.0272**]].
[180] Affidavit of Matthew Smith at paragraph 176 **COA 201.0140** at [[**201.0188**]].
[181] Ministry for the Environment "Regulatory Impact Statement for the Zero Carbon Bill" (January 2019) **BoA/31/1579**.

businesses will be forced to close or cut output, or that more marginal land will be converted to forestry, or that changes to transport will be needed, are neither unexpected nor disproportionate impacts in the context of what Parliament has declared to be a climate emergency. They do not mean that such action is not "technically or economically achievable". Rather, these sort of impacts are in line with what the 2018 Special Report says is necessary and what policy makers anticipated when the Bill was drafted.

132. Third, the Commission has not considered the extent to which the negative impacts of greater domestic action could be mitigated by policy measures using the billions of dollars that would otherwise have to be spent on offshore mitigation. The Advice states that it is currently uncertain how much offshore mitigation will cost and that the overall economic impact will be greater than the direct cost due to multiplier effects.[182] It sets out a "plausible range" of costs based on the gap between the proposed Budgets and an NDC of 36% below 2005 emissions of $2.4 to $11.2 billion (based on direct costs only) or $4.3 to $20.2 billion (including indirect costs).[183]

133. Fourth, while emphasising the potential adverse economic impact on younger generations of emissions reductions in the short-term, the Commission fails to weigh against this the potential consequences for the same generations (as well as future generations) of failing to limit warming to 1.5℃, which are likely to be orders of magnitude more severe, and irreversible.

134. Finally, the risk of adverse social and economic impacts from reducing emissions in line with the 1.5℃ Goal cannot justify departing from the purpose of the Act. While such impacts are a mandatory relevant consideration under s 5ZC, for the reasons discussed above they do not outweigh the purpose of contributing to the global 1.5℃ effort. They inform the assessment as to what that contribution may look like but they do not alter the goal.

135. Dr Carr also defends the Budgets against the charge of not meeting New Zealand's international obligations by saying that domestic Budgets are only one part of New Zealand's contribution.[184]

136. However, offshore mitigation does not fulfil the obligation under the

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[182] COA 401.0001 at [[**401.0388**]].
[183] COA 401.0001 at [[**401.0389**]].
[184] Affidavit of Dr Carr at paragraph 105 **COA 201.0249** at [[**201.0276**]]. This point is also made in the Advice, for example at box 9.1 **COA 401.0001** at [[**401.0206**]].

Paris Agreement to pursue domestic mitigation measures.[185] Nor does this point address the fact that the Commission has not approached the task of setting the Budgets in the manner intended by the Act and has not given the priority to meeting our Paris Agreement commitments by domestic action that Parliament clearly intended the Act to achieve.

E. Ground 3: Act does not allow Minister (or Commission) to choose which emissions/removals to count

137. The Commission's position is that "the selection of an appropriate accounting measure is a matter of expert judgement vested in the Commission under the Act".[186] In the Advice, the Commission uses the MAB approach (also referred to as NDC accounting or target accounting) for tracking net emissions over time and in recommending the Budgets.

138. LCANZI's position is that there is no selection to be made. Rather, the Act requires a different measure, GHGI,[187] to be used as the measure of net emissions.

139. This ground of review is purely a matter of statutory interpretation. However, even if MAB was a lawful choice under the Act, LCANZI's position is that its selection has led the Commission into other errors. In particular, as discussed earlier, the "tilt" in the MAB data portrays a false level of ambition and MAB numbers are not comparable with "net emissions" as that term is used in the 2018 Special Report. The only time series of "net emissions" which is comparable with the percentage reductions in the 2018 Special Report is GHGI.[188]

Statutory provisions

140. The Act is concerned with the level of "net accounting emissions" in New Zealand. The 2050 Target is expressed in terms of "net accounting emissions",[189] as is the Minister's duty to ensure that the Budgets are met.[190]

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[185] Paris Agreement, art 4(2) **COA 504.1728** at [[**504.1733**]].

[186] Commission's statement of defence at paragraph 100.1.2 **COA 101.0234** at [[**101.0276**]].

[187] Also referred to as UNFCCC, Net Inventory Reporting or New Zealand Greenhouse Gas Inventory reporting.

[188] See paragraph 25 above.

[189] Section 5Q(1)(a) requires that "net accounting emissions of greenhouse gases in a calendar year, other than biogenic methane, are zero by the calendar year beginning on 1 January 2050 and for each subsequent calendar year" **BoA/22/1165**.

[190] Section 5X(4) requires the Minister to ensure "that the net accounting emissions do not exceed the emissions budget for the relevant emissions period" **BoA/22/1168**. The emissions budget itself is simply "the quantity of emissions that will be permitted" for the

141. Following the definitions in s 4 of the Act, the "net accounting emissions" for a particular period of time are calculated by:[191]

    a. summing the emissions into the atmosphere from the agriculture, energy, industrial processes and product use, waste and LULUCF sectors as reported in the New Zealand Greenhouse Gas Inventory;

    b. subtracting removals of greenhouse gases from the atmosphere, including from the LULUCF sector, as reported in the New Zealand Greenhouse Gas Inventory; and also

    c. subtracting offshore mitigation.[192]

142. The Act also defines the New Zealand Greenhouse Gas Inventory. When the Zero Carbon Act was passed the New Zealand Greenhouse Gas Inventory was defined as: "the annual inventory report under Articles 4 and 12 of the Convention and Article 7.1 of the Protocol, prepared in accordance with section 32(1)".[193]

143. The Act provides for regular monitoring and reporting by the Commission on progress towards meeting Budgets and the 2050 Target. Specifically, the Commission must:

    a. report annually on progress against the current budget including the adequacy of steps taken to reduce emissions (s 5ZK); and

    b. report at the end of an emissions budget period (s 5ZJ).

144. In both cases, the Commission is required to "carry out its monitoring function in accordance with the rules" that it has earlier advised the Minister "will apply to measure progress towards meeting emissions budgets and the 2050 target" (ss 5ZA(1)(b) and 5ZJ(2)). The Minister

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relevant emissions budget period and is expressed as a net quantity of carbon dioxide equivalent (see s 5Y(1) and the definition of an emissions budget in s 4 **BoA/22/1169)**.

[191] This is the combined effect of the s 4 definitions of "net accounting emissions", "gross emissions", and "removals". "Offshore mitigation" is also defined but the definition has been omitted from the text above as it is not relevant to the proceeding **BoA/22/1143**.

[192] Noting that, in relation to Budgets, there are constraints on the extent to which offshore mitigation can be taken into account: see ss 5Z and 5ZA(1)(e) **BoA/22/1169**.

[193] That is, at the time the definition of "net accounting emissions" was created, the definition of the New Zealand Greenhouse Gas Inventory did not refer to the Paris Agreement. The definition was subsequently replaced by the Climate Change Response (Emissions Trading Reform) Amendment Act 2020 and now refers to "the reports that are required under Articles 4 and 12 of the Convention, Article 7.1 of the Protocol, and Article 13.7 of the Paris Agreement and that are prepared in accordance with section 32(1)". A reference to Article 13.7 of the Paris Agreement was also added to s 32(1) by the Climate Change Response (Emissions Trading Reform) Amendment Act 2020 **BoA/23/1259**. The High Court refers only to the subsequent definition (at [220]) COA **05.0012** at [[**05.0090**]].

does not have a role in setting or approving these rules".[194] It is this power that the Commission (and the Court) relied on.

145. The Act also prescribes when amendments can be made to Budgets or the 2050 Target:

a. once notified, the Budgets may only be revised if the Commission recommends doing so (s 5ZE(3));

b. the Commission may only recommend a revision to the Budgets if, since they were set, there have been methodological improvements to the way emissions are measured and reported, or there has been a significant change in circumstances, or the 2050 Target has been revised (s 5ZE(1) and (2));

c. the Commission is required to review the 2050 Target when preparing its advice on the Budget for the period starting in 2036 and at any other time the Minister requests a review (s 5S) but is only permitted to recommend a change if a significant change has occurred in relation to one or more of a list of relevant circumstances (s 5T); and

d. the Government's response to the Commission's recommended change to the 2050 Target must be published (s 5U) (and any amendment would need to be by way of amending legislation).

High Court

146. LCANZI's position is that the term "net accounting emissions" directs the use of GHGI which is reported annually in our Greenhouse Gas Inventory as part of our obligations under the UNFCCC.[195] GHGI is a straightforward concept (it estimates the emission and removals the atmosphere sees in any given year as the result of all human activities in Aotearoa New Zealand),[196] and it provides the discipline of an international standard. The relevant emissions and removal data can be found in the executive summary and Chapter 2,[197] and it follows the same sector categories as used in our definition of "net accounting

[194] For a Budget, the Minister just sets the quantity of budget: ss 5X(1), 5Y(1) and definition of emissions budget **BoA/22/1168**.

[195] Advice, Evidence, chapter 3 at p 15 **COA 402.0412** at [[**402.0488**]]. The language of reporting under the New Zealand Greenhouse Gas Inventory was used at the time to distinguish annual UNFCCC reports from NDC accounting.

[196] Affidavit of Dr Brandon at paragraph 66 **COA 201.0324** at [[**201.0344**]].

[197] For example, see New Zealand's Greenhouse Gas Inventory 1990-2019 **COA** [[**503.0978**]]. The Summary Table **COA** [[**504.1679**]] shows emissions for each sector as well as total gross and net emissions. The 2010 figures for gross and net CO2 (35,031 Kt and 5,048 Kt) can be found at **COA** [[**504.1679**]].

emissions" (that is, agriculture, energy, industrial processes and product use, waste and LULUCF).[198] While the Inventory also includes supplementary information (such as target accounting) this is clearly distinguished from the "inventory" itself (that is, the annual estimate of all emissions/removals).[199] The absence of a reference to reporting under the Paris Agreement in the definition of the New Zealand Greenhouse Gas Inventory at the time the Zero Carbon Act was passed, as explained above, also shows that the definition of "net accounting emissions" cannot have been intended to refer to NDC accounting.

147. The High Court, however, considered that the Act gave the Commission power to advise, and the Minister power to determine, the accounting methodology to be used.[200] This was based on an indication in a Cabinet Paper and Departmental Report that the Commission's advice would include the accounting methodologies that will apply.[201] For example, "whether they should align with the accounting methodologies that apply to NDCs set under the Paris Agreement or those used for the New Zealand GHG Inventory)".[202] The Court considered that the determination of an accounting methodology came within "the rules that will apply to measure progress towards meeting emissions budgets and the 2050 target" which are advised by the Commission under s 5ZA(1)(b).[203]

Errors in the High Court's approach

148. First, the High Court proceeded as if the choice of an accounting methodology was separate from how net accounting emissions are

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[198] These are the standard UNFCCC categories for emissions and removals: see reply affidavit of Dr Bertram at paragraph 44 **COA 201.0394** at [[**201.0405**]]. In contrast, the Paris Agreement does not prescribe how NDC targets are to be specified or the form of accounting and so there is no certainty that our NDC reporting will continue to line up with the definition of net accounting emissions and gross emissions.

[199] While Kyoto information is "*incorporated* in [the] annual inventory" to provide "the necessary *supplementary information* for the purposes of ensuring compliance" with each country's commitments, this is in the nature of an addendum to the actual "*inventory* of anthropogenic emissions by sources and removals by sinks of greenhouse gases": art 7.1, Kyoto Protocol: **BoA/22/1221**. Similarly, art 13.7 of the Paris Agreement splits the reporting obligation into: (a) a national inventory report of anthropogenic emissions by sources and removals by sinks; and (b) information necessary to track progress against each country's NDC: **BoA/22/1228**. See also affidavit of Dr Bertram at paragraphs 34-42 **COA 201.0016** at [[**201.0023**]; and reply affidavit of Dr Bertram at paragraph 46 **COA 201.0394** at [[**201.0405**]].

[200] Judgment at [274] **COA 05.0012** at [[**05.0107**]].

[201] Judgment at [243] **COA 05.0012** at [[**05.0098**]].

[202] Office of the Minister for Climate Change "Proposed Climate Change Bill" (December 2018) at paragraph 67(b) **BoA/29/1525**; and Cabinet Environment, Energy and Climate Committee "Minute of Decision Proposed Climate Change Bill" (May 2019) ENV-18-MIN-0053 **BoA/34/1918**.

[203] Judgment at [254] and [259]-[260] **COA 05.0012** at [[**05.0101**]] and [[**05.0102**]].

measured for the purpose of *setting* Budgets and the 2050 Target.

149. It is respectfully submitted that the quantity of emissions in a Budget (or "zero" in the 2050 Target) has no meaning separately from the accounting methodology used to measure emissions. It would be like first deciding that the oven should be 180 degrees, and then deciding separately whether to use Celsius or Fahrenheit to measure progress to this target.

150. Secondly, the Act does not provide a power for the Minister (or the Commission) to change the way that "net accounting emissions" are measured. The Act simply refers to emissions and removals "as reported in the New Zealand Greenhouse Gas Inventory". The power referred to by the High Court relates to how the Commission will measure progress towards meeting emissions budgets and the 2050 targets. There is no link between these rules and the definition of net accounting emissions. Rather, these rules relate to the Commission's function of monitoring progress under ss 5J(f) and 5ZG to 5ZI, which expressly cross-reference s 5ZA(1)(b).[204]

151. The obvious function of "the rules that will apply to measure progress" is to set in advance markers for satisfactory progress within a budget period and in terms of progress towards the 2050 Target. This might include indications of how budgets should be divided up within the five year budget period and expected rates of decarbonisation within different industries.

152. At any rate, the Minister has no role in setting these rules. They are simply "advised" to the Minister (s 5ZA(1)(b)) and then the Commission is required to carry out its monitoring function in accordance with these rules (s 5ZJ(2)).[205]

153. The third problem is that if the Minister (let alone the Commission) can unilaterally change how "net accounting emissions" are to be measured, then it would in substance be re-defining both the 2050 Target and the content of the Minister's obligation to ensure the Budgets are met. This would be quite an extra-ordinary delegation of legislative power that would need clear language that is not present in the Act.

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[204] See s 5ZJ(2) **BoA/22/1176**. This is part of the second purpose of the Commission under s 5B(b) to monitor and review the Government's progress towards its emissions reduction and adaptation goals. These rules, however, have nothing to do with measuring *emissions*.

[205] In contrast, the original Cabinet decision approving the amendments that became the Zero Carbon Act did envisage a role for the Commission providing *advice* on accounting for the Minister to accept or reject: Office of the Minister for Climate Change "Proposed Climate Change Bill" (December 2018) at paragraph 70 **BoA/29/1525**.

154. A "Henry VIII" clause is a provision in an Act that allows primary legislation to be amended, suspended or overridden by delegated legislation. It may operate by allowing the text of legislation to be amended, or by otherwise altering its scope and effect.[206] It is a constitutional principle that such powers need to be express.[207]

155. The High Court reached the view that there was no Henry VIII issue here because changing the accounting methodology did not change the quantity of a Budget or the quantitative description of the 2050 Target.[208] With respect, choosing a methodology which determined which emissions and removals from the full inventory count for the purpose of "net accounting emissions" has the effect of changing the meaning of the 2050 Target under the Act and the Minister's obligations in respect of the Budgets. It is like saying that a speed limit of 30 does not change when it goes from being measured in kilometres per hour to miles per hour because the number is still the same. MAB contains a subset only of forestry-related emissions and removals. Net zero (or any Budget number) means something different under MAB than it does under GHGI.

156. The effect of the Commission's position is that it has delegated authority to change the meaning of the 2050 Target and the Minister's duty to ensure Budgets are met by changing which emissions and removals are included or excluded from the inventory count.[209] This offends the constitutional principle that such delegation would need to be express. It would occur based only on advising the Minister under s 5ZA(1)(b) which is not secondary legislation and so the usual safeguards of presentation to the House and potential for disallowance would not

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[206] Dean Knight and Edward Clark "Regulation Review Committee Digest" (6th ed, New Zealand Centre for Public Law, 2016), at 29-30 **BoA/26/1323**.

[207] "It is a constitutional principle and a canon of statutory interpretation that delegated legislation may not amend, suspend, or repeal primary legislation, unless Parliament clearly authorises it": Philip A Joseph *Joseph on Constitutional and Administrative Law* (5th ed, Thomson Reuters, Wellington, 2021) at [2.26.6.2(3)] **BoA/25/1273**; and *North Shore City v Local Government Commission* HC Auckland M 1197-96, 28 April 1993 at p 11 **BoA/7/0268**: "Such a provision cannot permit the modification of a statutory provision without very clear enabling words. Cases such as *McKiernon v Secretary for State and Social Security* (1990) Admin LR 133 and *R v Secretary of State for Social Security, Ex Parte Britnell* (1991) 1 WLR 198, 204 indicate that, whilst the duty of the Courts is to give effect to the will of Parliament, a delegation to the Executive of power to modify primary legislation must be seen as an exceptional course; if there is any doubt about the scope of such a power or whether it has been exercised, it should be resolved by a restrictive approach."

[208] Judgment at [265]-[268] **COA 05.0012** at [[**05.0104**]].

[209] In fact, what the Commission proposes would involve a double delegation to determine the content of the legislation since the Commission is selecting MAB and the meaning of MAB will be defined by the Government in relation to NDC reporting. The rules around NDC accounting were not defined when the Bill was passed or when the Commission gave its Advice. At the time of the Advice, the Commission refers to the "broad structure" as being settled. See Evidence, chapter 3, p 15-16 **COA 402.0412** at [[**402.0488**]].

apply.[210] Furthermore, it would be in stark contrast to the careful prescriptions around when the Commission can recommend a change to the headline numbers in a 2050 Target or a Budget.

F. Ground 4: budgets are unreasonable in an administrative law sense

157. LCANZI's fourth and final ground of review is that the Commission has recommended Budgets that no reasonable body could have recommended. Therefore, in addition to being unlawful under grounds 2 and 3, the Budgets Advice is also unlawful on the basis it is "unreasonable" in judicial review terms.[211]

158. The High Court accepted LCANZI's submission that the Court should apply a more exacting standard of review of the Commission's decision against the unreasonableness standard, given the significance of the issue of climate change and of the associated administrative decisions.[212] Both the Commission and the Minister challenge this conclusion in their notices to support on other grounds. LCANZI maintains that this heightened standard is appropriate, but also says that it does not need to rely on any such heightened standard in this case given what LCANZI says is the patent unreasonableness of the Commission's Budgets Advice. It is therefore not necessary to determine the question of the standard of review in this case.

159. The basis on which LCANZI says the Budgets Advice is unreasonable arises from the grounds already covered. In short, once understood in terms of what the atmosphere sees the Budgets Advice (and the Budgets now adopted) provide for New Zealand's net emissions to continue to increase to 2030. This in a time period where it is not contested that limiting warming to 1.5℃ is critically important for humanity, nor that doing so requires an approximately 50% reduction in global net CO_2 emissions by 2030. Yet despite this:

    a. The Commission has recommended Budgets that will see an increase in decadal net emissions in 2021-30 relative to 2011-20 (and to the two decades before this as well) in the GHGI terms that the atmosphere "sees" and only a modest reduction even

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[210] See the Legislation Act 2019 and the Secondary Legislation Act 2021.

[211] *Associated Provincial Picture Houses Ltd v Wednesbury Corporation* [1948] 1 KB 223 (CA) **BoA/15/0632**; *Council of Civil Service Unions v Minister for the Civil Service* [1985] AC 374 (HL) at 410 **BoA/17/0872**; and *B v Canterbury District Law Society* [2002] 3 NZLR 113 (HC) at [56] **BoA/1/0014**.

[212] Judgment at [69]-[76] **COA 05.0012** at [[**05.0037**]]. See also *Hauraki Coromandel Climate Action Inc v Thames-Coromandel District Council* [2020] NZHC 3228, [2021] NZRMA 228 at [50]-[51] **BoA/2/0037**.

under the Commission's MAB construct.[213]

b. The Commission's Budgets forecast net emissions between 2021-30 of 648Mt CO_2-e when, on the Commission's own analysis, the maximum consistent with 1.5℃ (before taking into account the need for Aotearoa New Zealand to show increased ambition as a developed country) is 568 Mt CO_2-e (or 484 Mt CO_2-e if the argument in ground 1 is successful).

c. The Commission envisages that the purchase of offshore mitigation "will be critical to meeting" the 2030 NDC.[214] Yet the Commission acknowledges that "it is not yet clear how Aotearoa will access offshore mitigation"[215] and "it is uncertain how much offshore mitigation will cost"[216] but with possible economic costs ranging from $4.3b to $30.5b to 2030 depending on the number of units required to be purchased, the price of per tonne and the final NDC adopted by the Government.[217]

d. Net CO_2 is forecast to be over 310% higher in 2030 than it was in 2010 (increasing from 5.0 Mt to 20.7 Mt).[218]

e. The Commission's Budgets forecast net emissions in 2030 that will be higher than 2010. The "demonstration path" would see our net emissions increasing by 20% between 2010 and 2030 (from 48.6 to 58.2 Mt CO_2-e).[219]

160. These forecast outcomes are on their face clearly inconsistent with contributing to 1.5℃ and therefore with the purpose of the Act. They also fly in the face of the uncontested need for an urgent collective effort to reduce global net CO2 emissions by around half by 2030. The Commission's Advice and the Minister's decision to adopt it are therefore "unreasonable", regardless of the intensity of review undertaken.

G. Responses to remaining points from Commission's notice to support on other grounds: jurisdiction and admissibility

Amenability of the Commission's advice to review

[213] Affidavit of Dr Taylor, exhibit A at paragraphs 114-115 and figures 4.4 and 4.5 **COA 301.0069** at [[**301.0095**]].
[214] Advice, chapter 22 at paragraph 36 **COA 401.0001** at [[**401.0384**]].
[215] Advice, chapter 22, section 22.3.1 **COA 401.0001** at [[**401.0386**]].
[216] Advice, chapter 22, section 22.4.1 **COA 401.0001** at [[**401.0388**]].
[217] Advice, chapter 22, tables 22.2 and 22.3 **COA 401.0001** at [[**401.0389**]].
[218] See paragraph 20.b) above.
[219] See paragraph 20.b) above.

161. The Commission argued in the High Court, and again in its notice to support on other grounds, that its advice is not amenable to judicial review.[220] It says that only the Minister's subsequent decision is reviewable. The Minister does not take this point. The High Court dismissed it, holding that the Court has jurisdiction to review the Commission's advice.[221]

162. LCANZI supports the High Court's decision.[222] Ordinary officials' advice to a Minister is not generally reviewable, the Minister's decision being the reviewable decision. However, that is not the nature of the Commission's advice. The Commission's advice is a public document, with public significance in its own right. It is required to be presented to Parliament. The Minister is required by statute to respond to the Commission's advice and if, departing from it, explain his reasons for doing so. The reasons that led the High Court to find NIWA's advice reviewable in the *New Zealand Climate Science Education Trust* case apply *a fortiori* to the Commission.[223]

Admissibility of LCANZI's expert evidence

163. The Commission maintained an extensive challenge to the admissibility of LCANZI's evidence in the High Court, arguing that it was ex post facto merits evidence not admissible on a judicial review. The High Court dismissed the challenge, accepting the evidence was technical, explanatory evidence of the kind admissible on judicial review.[224] Again, the Commission maintains this point on appeal.[225] The Minister does not take the point. LCANZI supports the High Court's judgment for the reasons given by the High Court.

H. Relief and costs

164. LCANZI seeks relief as set out in paragraph 2 of its notice of appeal.[226]

165. In respect of the Budgets, LCANZI seeks an order requiring the Minister to reconsider the Budgets, in addition to declaratory relief. The Budgets

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[220] Commission's notice to support on other grounds at paragraph 2.1 **COA 05.0007 at** [[**05.0008**]].
[221] Judgment at [56]-[68] **COA 05.00012** at [[**05.0032**]].
[222] LCANZI says that despite this (correct) finding, the High Court fell into error in one related aspect. Having found that the Commission's advice was independently reviewable, the Court ought not to have regarded it as a complete answer to the deficiencies it found in the Commission's advice that the Minister himself was not misled.
[223] *New Zealand Climate Science Education Trust v National Institute of Water and Atmospheric Research Ltd* [2012] NZHC 2297 [2013] 1 NZLR 75 at [27] **BoA/6/0228**.
[224] Judgment at [77]-[80] **COA 05.00012** at [[**05.0040**]].
[225] Commission's notice to support on other grounds at paragraph 2.3 **COA 05.0007 at** [[**05.0008**]].
[226] **COA 05.0001** at [[**05.0005**]].

Advice is part of the statutory process for setting the Budgets, with the Minister required to explain any departure from that Advice.[227] In this case, the Minister adopted the Commission's Budgets Advice with only minor updating amendments.[228] Accordingly, a finding that the Budgets Advice is unlawful would necessarily mean the Budgets themselves were unlawful. In those circumstances, it would be appropriate for the Court to exercise its discretion to make an order under s 17(3) of the Judicial Review Procedure Act 2016 directing the Minister to reconsider his decision to adopt the Budgets.[229]

166. In respect of the NDC Advice and the Minister's decision to adopt the Amended NDC it seeks only declaratory relief.[230] In the event the Court finds the NDC Advice was unlawful and that it was relevant to the Minister's decision to adopt the Amended NDC, the Court may also wish to invite the Minister to reconsider the Amended NDC in light of its decision.[231]

167. If successful, LCANZI seeks costs for a complex appeal, allowing for commencement and preparation of the case on appeal on a band A basis and preparation for the hearing on a band B basis, with certification for second counsel. If the appeal is dismissed, LCANZI seeks to be heard on costs and will argue that no costs ought to be awarded against it given the public interest nature of this litigation and its interest in it.

Dated 26 September 2023

James Every-Palmer

J D Every-Palmer KC | J S Cooper KC | M C Smith
Counsel for the appellant

[227] Act ss 5ZA and 5ZB **BoA/22/1169**.
[228] See the paper presented to the House on 16 May 2022: Ministry for the Environment "Response to the Climate Change Commission's advice on setting emissions budgets" (16 May 2022) **BoA/33/1905**.
[229] There is no risk of the order sought creating a vacuum as the existing Budgets would remain in effect until they were amended, by virtue of s 17(6). See for example the relief ordered in *Lawyers for Climate Action NZ Inc v Minister of Climate Change* [2023] NZHC 1835 and the references to s 17 of the Judicial Review Procedure Act 2016 at [52]-[54] **BoA/5/0219**.
[230] This reflects that, unlike the Budgets, the NDC is not adopted under a statutory power. In the High Court the Crown's position was that the Court could not order a reconsideration (being an order in the nature of mandamus) in relation to a prerogative power. Without conceding that this is correct (and reserving its position should there be a further appeal), the relief sought in relation to the new NDC is only a declaration.
[231] See *Pora v Attorney-General* [2017] NZHC 2081, [2017] 3 NZLR 683 **BoA/8/0280**.