IN THE WAITANGI TRIBUNAL **WAI 2607**

IN THE MATTER OF The Treaty of Waitangi Act 1975

AND IN THE MATTER OF A claim by **Cletus Maanu Paul**, **David Potter** and **Andre Paterson** on behalf of the **Mataatua District Māori Council** that the Crown is acting in breach of Treaty of Waitangi obligations towards Maori as a result of the New Zealand Government failing to implement adequate policies to address the threats posed by global climate change.

FURTHER AFFIDAVIT OF IVO GEOFFREY BERTRAM

Dated **2024**

Instructing Solicitor:
Tania Te Whenua
Te Whenua Law
PO Box 12094
Rotorua 3045

COUNSEL ACTING:
MICHAEL SHARP
Barrister
PO Box 5111
MT MAUNGANUI
T: 07 575 7383
E: michael@michaelsharp.co.nz

1. Introduction

1.1. Since my affidavit dated 26 August 2024 was prepared there have been a number of new developments, including

1.1.1. publication in December 2024 of the final *Second Emissions Reduction Plan*[1] accompanied by a new Technical Appendix[2] and tables[3] which (i) highlighted the lack of new action on gross emissions reduction (apart from highly speculative projected reductions in agricultural emissions after 2030) along with increased reliance on very optimistic projections of large-scale exotic afforestation to meet emissions budgets, (ii) foreshadowed "an average planting rate of around 15,000 hectares per year from 2027" with "at least 320,000 hectares of Crown-owned land [that] has the biophysical factors required for afforestation (e.g., altitude/slope/rainfall) and is free of other constraints that may limit the Crown's ability to offer it for partnership (e.g. land held for future Treaty settlements)", and (iii) introduced a new carbon price projection peaking at over $90 per tonne in 2030, before falling back to $52.05 in 2049 (rather than 2035 as in the baseline projections);

1.1.2. publication in November 2024 by the Climate Change Commission He Pu a Rangi [**CCC**] of its *Advice on Aotearoa New Zealand's Fourth Emissions Budget*[4] noting that afforestation was running far ahead of earlier projections which meant a *de facto* reduction in the effective level of ambition represented by the prevailing emissions budgets;

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1 *Our Journey Towards Net Zero: New Zealand's second emissions reduction plan 2026-2030, Tā Aotearoa mahere whakaheke tukunga tuarua*, https://environment.govt.nz/assets/publications/climate-change/ERP2/New-Zealands-second-emissions-reduction-plan-202630.pdf accessed 23 April 2025.

2 https://environment.govt.nz/assets/publications/climate-change/ERP2/New-Zealands-second-emissions-reduction-plan-2026-30-Technical-Annex.pdf accessed 23 April 2025.

3 https://environment.govt.nz/assets/publications/climate-change/ERP2/Detailed-results-for-ERP2-projection-scenarios.xlsx accessed 23 April 2025.

4 https://www.climatecommission.govt.nz/public/Advice-to-govt-docs/Target-and-budgets-final-reports/Climate-Change-Commission-EB4-Final-Advice-1.1.pdf accessed 23 April 2025.

1.1.3. the announcement in January 2025 of New Zealand's second Nationally Determined Contribution [**NDC**] target to reduce emissions by 51% to 55% compared to 2005 levels by 2035[5], with the claim (page 2 of the document) that this target "represents New Zealand's highest possible ambition, in light of our national circumstances and respective capabilities";

1.1.4. publication in April 2025 by the Parliamentary Commissioner for the Environment of his report *Alt-F Reset – Examining the drivers of forestry in New Zealand*[6], recommending phased removal of forestry credits from the NZETS in order to forestall excessive afforestation at the expense of other valued land uses;

1.1.5. publication in April 2025 by the CCC of its *Advice on NZ ETS unit limits and price control settings for 2026–2030*[7].

1.2. None of this new information contradicts any of the points made in my previous affidavit. However I take this opportunity to update some of those points.

2. Increasing reliance on forestry absorption

2.1. The Second Emission Reduction Plan at page 13 states that

> The Government wants to reduce net emissions in cost-effective ways. This means the Government, businesses and households will take actions that have the greatest impact on net emissions for a given investment in reductions or removals. Cost-effective emissions reduction policies minimise the cost-of-living impacts of climate change policies…

2.2. Because afforestation has a lower cost than large-scale reduction of gross emissions, this strategic orientation translates to primary reliance on forestry absorption of CO2 to bring TAN emissions down, with minimal effort to reduce

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5 https://environment.govt.nz/publications/new-zealands-second-nationally-determined-contribution-submission-under-the-paris-agreement/ accessed 23 April 2025.

6 https://pce.parliament.nz/media/5v0oorhb/alt-f-reset_examining-the-drivers-of-forestry-in-new-zealand_web.pdf accessed 23 April 2025.

7 https://www.climatecommission.govt.nz/public/ETS-advice/2025/CCC-NZ-ETS-advice-2025_WEB.pdf accessed 23 April 2025.

gross emissions (apart from a highly-speculative projected reduction in agricultural emissions which I discuss further below).

2.3. My previous affidavit paragraph 10.17 showed projected planting of 700,000 hectares of exotic carbon forests ERP2. The same plantings appear in Figures 22 and 23 page 35 of the Technical Annex to the final ERP2. This sustained high rate of land conversion to forestry, and its implications for the NZETS and the degree of ambition to reduce gross emissions, have drawn comment in several quarters.

2.4. In its December 2024 *Advice on Aotearoa New Zealand's Fourth Emissions Budget* at page 178 the Commission noted that (emphasis added)

> The higher-than-anticipated afforestation will produce ongoing additional removals of carbon through to 2050. Although the projected afforestation rate is uncertain, the actual afforestation that has occurred is highly likely to achieve sustained removals of CO2…. **If the budgets remain the same, the higher amount of afforestation in recent years will contribute more carbon removals, thus supplanting some gross emissions reductions.** If the first three emissions budgets can be met without reducing gross emissions, then subsequent emissions budgets will, at worst, be unachievable and, at best, only achieved through higher-cost action later. **The level of ambition for gross emissions reductions should be maintained** along with the actions necessary to ensure future budgets can be met. What we now consider feasible is greater overall reductions occurring in the second and third emissions budgets.

2.5. A more strident warning against the Government's increased reliance on afforestation to meet emissions targets was issued by the Parliamentary Commission for the Environment in April 2025[8]:

> In the space of 15 years, the NZ ETS has become the principal driver of land use change. Record high carbon prices in 2022 coincided with total afforestation rates exceeding 70,000 hectares. By the end of 2024, over 650,000 hectares of forest was registered in the NZ ETS. The Climate Change Commission's most recent scenarios for their emissions budget projections have future plantings totalling between 0.93 and 2.2 million

[8] *Alt-F Reset – Examining the drivers of forestry in New Zealand,* page 4.

hectares by 2050. This is a huge area to commit to trees for reasons that are neither strictly commercial nor truly environmental.

The commercial driver relies on the artificial policy construct of an NZ ETS, which can be changed at any time. The environmental driver – sequestering carbon to offset emissions – is based on a deeply flawed assumption of equivalence between carbon dioxide emissions from fossil fuel combustion and their capture in stocks of biological carbon. To put it simply, because of the long-lived nature of carbon dioxide emissions in the atmosphere, any forests planted to offset those emissions need to effectively remain there forever. If we continue to emit carbon dioxide and not reduce gross emissions, we will need to continually plant more and more forests.

The PCE has repeatedly drawn attention to the multiple environmental and economic risks that are being run. The scale of land use change caused by the NZ ETS, driven by its singular focus on carbon and with almost no limit to the number of carbon credits that can be created, is setting up increasingly negative economic, social and environmental consequences.

If current settings remain largely unchanged, those negative consequences will compound.

2.6. The projected price of NZUs in the draft ERP2 was, as noted in paragraphs 10.18 and 10.19 of my previous affidavit, modelled as rising to $75 per tonne in 2030 and then falling to $50 per tonne in 2035. The final ERP2 modelling ("New measures" scenario) now shows the price peaking at $92.60 in 2030 and then falling more slowly to reach $52.05 per tonne by 2049[9]. I reiterate that, as stated in my previous affidavit, this idea of a steadily falling domestic carbon price as world carbon markets tighten does not make economic sense, and may not be consistent with incentivising the planned extension of forestry onto increasingly marginal land.

2.7. A more general concern with the heavy reliance on afforestation is the issue of the feasibility of the projected scale of forest planting, given (i) the constraints on land conversion that were introduced in ERP2 to protect high-value farm land, (ii) rising public opposition to large-scale land conversion to exotic forests, (iii) uncertainty about the suitability of the 320,000 hectares of Crown-estate

[9] https://environment.govt.nz/assets/publications/climate-change/ERP2/Detailed-results-for-ERP2-projection-scenarios.xlsx sheet "New measures"

land, (iv) the rising risk of wildfires as climate change progresses, and (v) the increasing risks of pests and plant diseases as climate change advances.

2.8. As forestry planting expands into increasingly marginal land, the associated costs are likely to rise, which seems contradictory with the expectation that the entire planting programme can be incentivised at prices falling over time to around $50 per tonne.

2.9. The extent to which ERP2 places primary emphasis on afforestation can be illustrated by reference to the following table extracted from the Technical Annex to ERP2, showing the projected emissions by industry in the "New Measures" central scenario[10]:

Summary emissions by GHG Inventory classification (ktCO2e)	2020	2030	2040	2045	2050	Change 2020-50	% change 2020-50	% of total reduction in TAN
Transport Energy	13,192	13,685	10,700	8,814	7,362	-5,830	-44%	12%
Non-Transport Energy	17,733	11,627	10,106	9,946	9,722	-8,011	-45%	17%
IPPU	4,480	2,981	2,699	2,658	2,558	-1,922	-43%	4%
Agriculture	42,869	38,972	33,540	33,098	32,871	-9,999	-23%	21%
Waste	3,603	2,747	2,818	2,833	2,846	-757	-21%	2%
LULUCF Target Accounting	-6,185	-14,833	-25,931	-28,790	-26,773	-20,589	333%	44%
Net	75,693	55,180	33,931	28,560	28,585	-47,107	-62%	100%
Gross	81,878	70,012	59,862	57,350	55,359	-26,519	-32%	

2.10. It can be seen that fully 44% of the forecast reduction in TAN emissions is accounted for by LULUCF (forestry), with a further 21% accounted for by a reduction in agricultural emissions which in my opinion (paragraphs 4.6 and 4.6 below) is highly speculative and dependent upon very optimistic assumptions about future technological progress and adoption.

[10] https://environment.govt.nz/assets/publications/climate-change/ERP2/Detailed-results-for-ERP2-projection-scenarios.xlsx accessed 23 April 2025.

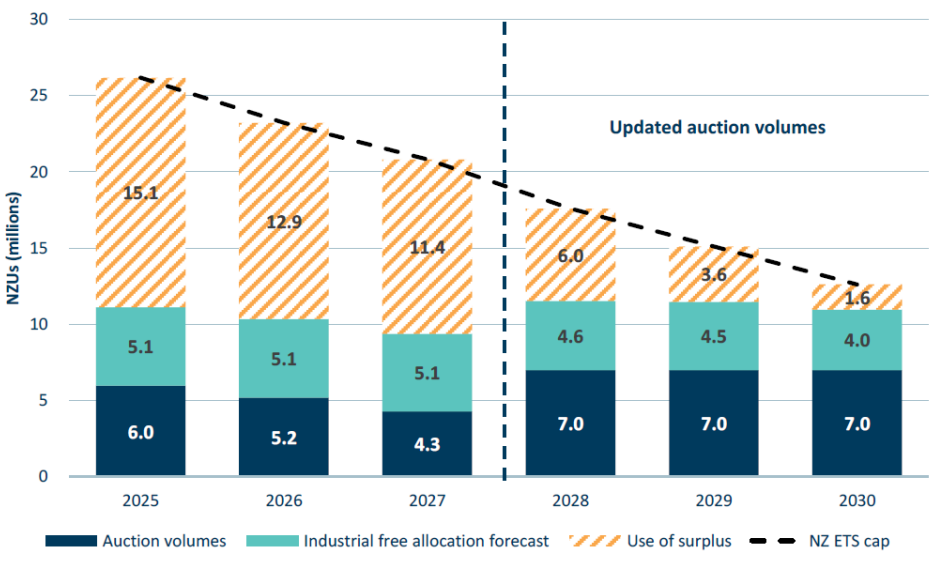
2.11. The ERP2 projection of long-lived gases reaching net zero emissions by 2044 (see chart in paragraph 4.1 below) is in my opinion extremely optimistic given the uncertainties and risks outline in 2.7 above and 4.6-4.7 below. In the absence of more serious attention to reducing gross emissions in transport, IPPU and waste it appears to me that the net-zero prediction by 2044 is unrealistic.

3. Integrity of the NZETS

3.1. In paragraph 1.4 of my previous affidavit I noted the absence from the outset of any quantitative cap in the NZETS, and in paragraph 13.4 I said that the absence of such a cap has left the NZETS "far removed from the economic concept of cap-and-trade, and rendered it simply a de-facto carbon tax".

3.2. Government statements nevertheless continue to refer to an alleged quantitative cap (for example the section from the draft Second Emissions Reduction Plan cited in paragraph 10.12 of my previous affidavit), and in its *Advice on NZ ETS unit limits and price control settings for 2026–2030* the CCC presents the following chart on page 15:

Figure ES.1: NZ ETS emissions cap, proposed surplus reduction and auction volumes 2025–2030



Source: Commission analysis

3.3. The purported “NZETS emissions cap” shown in this chart is not in fact a cap at all: it is the total of only three of the four tranches of NZUs that are available in the market, and by omitting the fourth - units issued to forest owners, acknowledged on page 18 of the same document – the chart presents a false picture of actual market stringency. I consider this chart to be seriously misleading as a basis for recommending future Government issues of NZUs through the auction mechanism.

3.4. Later in the same document, on page 30, the CCC argues that

> Auction volumes will decrease as the emissions cap reduces towards zero, and unit supply from forestry is expected to start dominating the scheme. The relevance of price control settings will diminish, and the NZETS price would likely tend towards the relatively low marginal cost of forestry. If in the 2030s Aotearoa New Zealand needs to further decarbonise to meet its targets, other tools or policies may need to be used as the NZETS may not be capable of driving material gross emissions reductions.

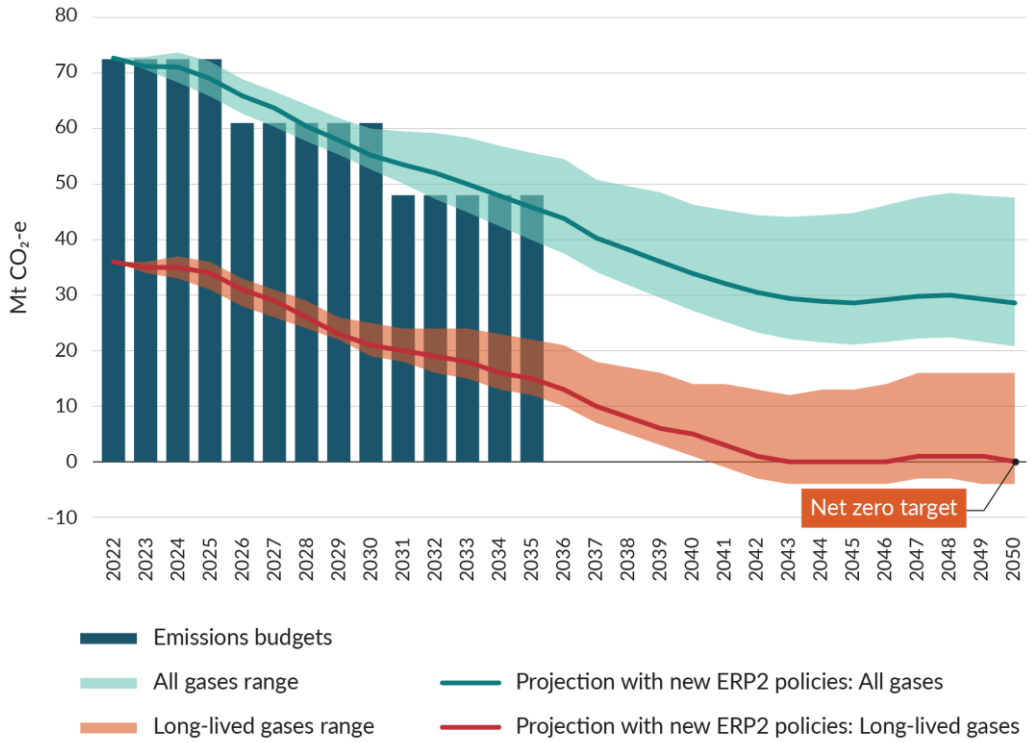
3.5. That proposition that the unit price is expected to fall as the so-called “emissions cap” reduces shows immediately how divorced the CCC’s analysis (and official statements in general) have been from the textbook economics of cap-and-trade.

3.6. Given the lack of basic integrity in the scheme’s design it is not surprising that in the early part of 2025 the NZU price has fallen, and NZU auctions have failed to clear. These developments have reflected, in my view, the very low level of ambition in the Second Emissions Reduction plan, which placed the NZETS at the centre of its policy while failing seriously to tackle the task of reducing gross emissions.

4. Projected emission reductions

4.1. The Second Emissions Reduction Plan page 18 presents this chart to show emissions budgets being met:

Figure 2.2: Emissions projections with new ERP2 policies and sensitivity range (Mt CO2-e), 2022–50



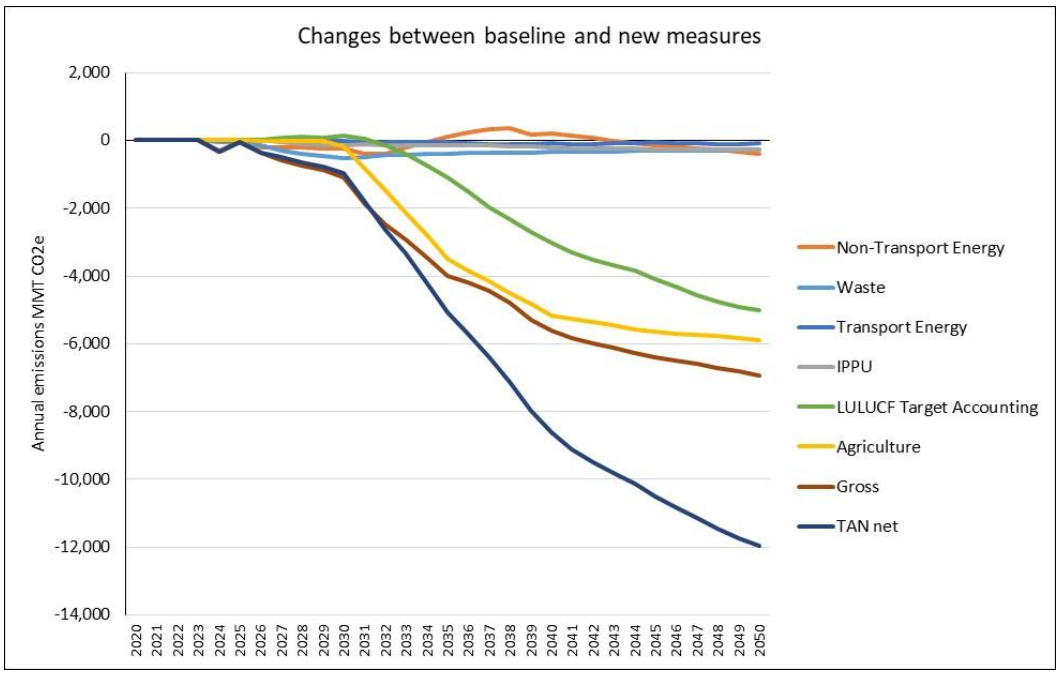
4.2. The trajectory for "all gases" in this chart corresponds closely to the "ERP2 projected TAN emissions" in the chart included in paragraph 10.11 of my previous affidavit, using figures from the July 2024 draft ERP2. As in that chart, it would have been helpful to have shown the path of projected gross emissions as well as that for projected TAN emissions, since the difference between the two represents the effect of forestry absorption as measured by target accounting[11].

4.3. Some of the detailed numbers have shifted since the draft ERP2. The Technical Annex to the final ERP2, pages 16-20 sets out a number of changes in the baseline emission projections, relative to those accompanying the draft ERP and plotted in paragraph 10.11 of my previous affidavit, and the tables enable

[11] Footnote 20 on page 68 of the Plan document explains that "Target accounting emissions include gross emissions, along with a subset of forestry and land-use emissions and removals. Target accounting is designed to be compatible with net emissions targets, under which business-as-usual removals from pre-1990 forests are not counted. Only emissions and removals due to additional human activities are counted. This means emissions from deforestation are counted for all forests, but to address permanence, removals from afforestation are only counted for post-1989 forests up until their long-term average is reached."

a comparison between that baseline (assuming previously-prevailing policy) and a “new measures” scenario incorporating the projected impacts of ERP2.

4.4. Subtracting the baseline from the “new measures” projections results in the chart below, showing the extent to which ERP2 changed the prevailing policy settings for the various categories of emissions. The chart shows a relaxation, rather than a tightening, with respect to non-transport energy emissions in the 2030s, and effectively no change with respect to those, or transport or industrial processes, or waste, out to 2050. The big changes are in target-accounted LULUCF and agriculture. LULUCF accounts for the much steeper drop in TAN emissions than in the baseline, while agriculture is the only significant downward pressure on gross emissions.



4.5. The shift in ERP2 towards greater reliance on LULUCF forestry is seen as the green line in the chart and accounts for the widening gap between gross and TAN net emissions.

4.6. The projected fall in agricultural emissions relative to the pre-ERP2 baseline is remarkable. The ERP2 Technical Annex page 36 Table 11 shows only one new policy for agriculture: the “introduc[tion] of emissions pricing from 2030 to

incentivise the uptake of technologies while not reducing agricultural production". Given the repeated failure to date to bring agriculture into the NZETS, any suggestion that emission pricing will be imposed on the sector in 2030 must be regarded as highly speculative, and the substantial projected emissions reductions apparently associated with this should be discounted accordingly.

4.7. In addition the projected fall in agricultural emissions seems heavily dependent on a range of technologies that are yet to be developed to maturity and which accordingly are speculative.

5. Second Nationally Determined Contribution

5.1. The second NDC announced in January 2025[12] is

> To reduce net greenhouse gas emissions to 51–55 per cent below gross 2005 levels by 2035.
>
> Based on New Zealand's Greenhouse Gas Inventory (1990–2022), this target provisionally equates to reducing emissions to between 38.98 and 42.44 Mt CO2-e by 2035.
>
> The second NDC constitutes a progression in ambition from New Zealand's first updated NDC of reducing net greenhouse gas emissions to 50 per cent below gross 2005 levels by 2030, or to an estimated 579 Mt CO2-e over 2021–30.

5.2. The second NDC is a single-year target, with no specified total quantity of emissions over the period 2031-2035, in contrast to the 579 MMT total specified for NDC1. It represents only a minimal tightening relative to NDC1, and accordingly a relatively slight increase in ambition. Indeed, it would be hard to defend less than an extra 1% of stringency as an increase in ambition at all, and the slightly higher 55% figure is clearly aspirational rather than binding.

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[12] *Submission under the Paris Agreement New Zealand's second Nationally Determined Contribution Tā Aotearoa Whai Wāhitanga Whakatau ā-Motu tuarua*

6. Correction

6.1. It has come to my attention that my affidavit dated 26 August 2025 contained a typographic error in paragraph 10.1 where the calculation 290+305 = 395 MMT should have read 290+305 = 595 MMT. The remainder of that paragraph remains accurate as it stands.

SWORN at this day of 2024 before me:

Ivo Geoffrey Bertram

A solicitor of the High Court of New Zealand