IN THE WAITANGI TRIBUNAL	**WAI 3325**
TE ROOPU WHAKAMANA I TE TIRITI O WAITANGI	**WAI 2494**

IN THE MATTER OF	The Treaty of Waitangi Act 1975
AND	
IN THE MATTER OF	the Climate Change Inquiry **(WAI 3325)**
AND	
IN THE MATTER OF	a claim by **Donna Awatere-Huata** for and on behalf of herself, her hapū, her iwi and all Māori for racism against Māori **(WAI 2494)**

Brief of Evidence of John Stacey Ballingall

13 May 2025

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Introduction

1. I am an economist working in Wellington. I have been asked by Ms Awatere-Huata to give expert evidence about the design of the emissions trading scheme ("**ETS**") and whether it complies with good principles of regulatory design. I have also been asked to explain how the operation of the ETS impacts on forestry owners from an economics perspective, using some case studies of particular decisions the Government has made about the ETS.

2. At Sense Partners, I prepared the "Analysis of MfE ETS forestry options: Final report to Climate Forestry Association" dated 30 August 2023 **[Wai 3325, #3.3.11(a)]**. I understand the Tribunal has already received this document and discussed it with some witnesses. I have annexed the report to my evidence as **Appendix A**. We also assisted the Climate Forestry Association to prepare a one-page summary document, called "a better way", to help understand our report. A copy of that summary is annexed as **Appendix B**.

Expertise

3. Since January 2019, I have been employed as a partner of Sense Partners, an independent economics consultancy in Wellington. I graduated from Massey University in Palmerston North with a Bachelor of Applied Economics and a Master of Applied Economics. I am a Chartered Member of the Institute of Directors.

4. I have 24 years' experience in the application of economics to a wide range of business and policy issues, including regional economic development. I have been involved in several Environment Court cases and District Plan hearings. This is my first time giving evidence in the Waitangi Tribunal.

5. Previous roles include being the Deputy Chief Executive at the New Zealand Institute of Economic Research (NZIER) for 11 years, and the Deputy Director of the Economics Division at the Ministry of Foreign Affairs and Trade.

6. I specialise in modelling or analysing the economic and emissions impacts of investment projects, policies or regulatory change. My work frequently feeds into or responds to regulatory impact analyses. At NZIER, I regularly advised government agencies on the quality of their policy advice and assessed the quality of regulatory impact analyses.

7. Some examples of my work include:

   7.1. leading the development of *Aotearoa New Zealand's International Climate Finance Strategy* for the Ministry of Foreign Affairs and Trade, including regular meetings with Ministers Nanaia Mahuta and James Shaw;

   7.2. carrying out economic modelling and writing reports for the Ministry for the Environment on the climate policy options, including the Emissions Trading Scheme and New Zealand's emissions targets;

   7.3. analysing the economic and emissions impacts of introducing a biofuels mandate in New Zealand for the Ministry of Business, Innovation and Employment and Ministry of Transport;

   7.4. exploring the potential implications and opportunities for New Zealand and the Pacific Islands of emissions charges on global shipping, for the Ministry of Foreign Affairs and Trade and Ministry of Transport;

   7.5. providing technical trade policy expertise for Te Taumata to support its input into Free Trade Agreement (FTA) negotiations, most recently with India, the Gulf Cooperation Council, UK and EU;

   7.6. advising government on Māori exporter awareness and use of New Zealand's Free Trade Agreement network, for the Ministry of Foreign Affairs and Trade;

   7.7. estimating the costs of global trade distortions on New Zealand exports of logs, lumber and fibreboard for the Ministry of Foreign Affairs and Trade;

7.8. leading projects considering the potential economic impacts of different strategies to lift the performance of the red meat, aquaculture and horticulture sectors, all of which took into account changing land use patterns;

7.9. developing a National Investment Policy for the Cook Islands, for the Cook Islands Government and PACER Plus Implementation Unit; and

7.10. visiting 12 Pacific economies to speak with government and business leaders and carry out an independent General Review of the Pacific Agreement on Closer Economic Relations (PACER) Plus trade and development agreement, for the PACER Plus Implementation Unit.

8. I have been provided with a copy of r 9.43 and sch 4 of the High Court Rules 2016. I understand that an expert witness is required to comply with certain rules, and while the Tribunal is not a court, I confirm I have complied with those rules in preparing my evidence. I have read the code of conduct and agree to comply with it.

9. I understand and agree that:

9.1. I have an overriding duty to assist the Tribunal impartially on relevant matters within my expertise;

9.2. I am not an advocate for Ms Awatere-Huata's claim;

9.3. I must state, and have stated, the facts and assumptions on which my opinions are based;

9.4. I must specify any literature or other material which I have used in my opinion or upon which my opinion relies;

9.5. where I believe my opinion might be incomplete or inaccurate without some qualification, I must state that qualification; and

9.6. if for some reason my opinion cannot be expressed as a concluded opinion, I must state that in my evidence.

Summary of my evidence

10. In summary, my key points are:

10.1. New Zealand has a net, not a gross, emissions target: New Zealand aims not to eliminate all emissions, but to get to "net zero" with some emissions offset by activities that sequester carbon. Forestry is currently the main feasible way to do this.

10.2. Policies that affect the role forestry plays under the ETS implicitly (and sometimes explicitly) therefore makes adjusting to any net zero target a lot more expensive. Without forestry (or with a reduced role for forestry), it is harder and more expensive to reduce/offset emissions. These policies also affect forestry values, which disproportionately fall on Māori.

10.3. Regulatory or policy uncertainty has very real economic consequences. That does not mean you should never change policies or regulations, but communication around intentions matters. Clarity on why you might be proposing something, and what the trade-offs are, is absolutely essential if you are not to chill investment. In this context that means risking chilling investment that makes achieving a net zero target cheaper and easier.

How the ETS works

New Zealand's emissions targets

11. New Zealand sets domestic emissions targets on a "net" not a "gross" basis. Gross emissions are total greenhouse gas emissions from economic activity.[1] Net emissions include any removal of carbon dioxide from the atmosphere, from land use and forestry.

12. New Zealand has a domestic target of net zero emissions by 2050. That means that, by 2050, there may still be some gross emissions from economic activity; but those emissions will be entirely offset by removal activities, for example carbon dioxide being absorbed by trees as they grow or through technology to capture and store carbon.

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[1] Biogenic methane is dealt with separately. It is not part of the "net zero by 2050" target. New Zealand's domestic targets for biogenic methane are "gross", not "net" targets.

13. "Forestry is the only form of carbon removal currently recognised as contributing to New Zealand's domestic and international climate targets."[2] Other forms of carbon removal, whether from carbon-capture technologies or other forms of environmental sequestration, do not yet have the same impact on emissions and are not always accounted for in setting emissions targets.[3]

14. The importance of New Zealand having a net zero target is that whenever we consider our pathway to net zero, we have to consider both gross reductions *and* removals (i.e. forestry). They are two sides of the same net zero coin. That is, as long as New Zealand retains a net target, forestry removals will be a core element of climate policy.

An overview of the ETS

15. In this section of my evidence, I provide a brief summary of how the ETS works. In preparing this section of my evidence I have adapted "A Guide to the New Zealand Emissions Trading Scheme" (Motu, March 2022; "the **Motu Guide**"), which I find helpful as a good introduction to the ETS. A copy of this is annexed as **Appendix C**. The Motu Guide was prepared in 2022 so I have slightly adapted some of the comments to reflect the current state of the ETS.

16. The ETS began operating in 2008. It is the main domestic policy response of the New Zealand government to climate change. It encourages reductions in gross emissions and also incentivises the offsetting of emissions, particularly through forestry.

17. The ETS is designed to send price signals to producers, consumers and investors that incentivise them to reduce greenhouse gas emissions.

18. Price signals aim to change behaviour. If the price of something increases, that signals to producers to increase production of that thing and/or to consumers to reduce demand for that thing.

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2 Ministry for the Environment *Our journey towards net zero: New Zealand's second emissions reduction plan 2026–30* (December 2024) at 68.

3 At 75.

19. Price signals are at the core of any economy because they coordinate what consumers want to buy, how much needs to be produced, what types of inputs should be used in production and what investments might be required to support production in the future.

20. An ETS works by setting a regulatory limit on emissions across the economy (excluding agriculture in New Zealand). It then translates that limit into a market price for "emissions units", sending a price signal to the market. A party who is subject to the ETS ("an **Emitter**") is required to surrender to the government an emission unit for each tonne of emissions it generates.

21. The government determines how many emissions units are put into the market (depending on the regulatory limit on emissions). The market then translates this into a unit price based on supply and demand. The cost to Emitters of purchasing (and then surrendering) emissions units is passed on across the supply chain. This raises the relative cost of higher-emission goods and services, making lower-emission behaviour more competitive, and incentivising business and consumers to reduce or avoid emissions.

22. The way that emissions units can be acquired shapes how the price signal (and an ETS) works. An Emitter can potentially acquire emissions units by:

    22.1. receiving them for free from the government (only for selected emissions-intensive, trade exposed businesses);

    22.2. buying them at quarterly government-run auctions, known as the primary market (I discuss this in more detail below);

    22.3. buying them directly from others on the secondary market (if one Emitter reduces their emissions and has surplus units, they may sell them directly to another Emitter);

    22.4. earning them through activities that qualify as "ETS removal activities" (such as planting forests or carrying out industrial processes that export or destroy synthetic greenhouse gases);

    22.5. buying them from external offset mechanisms (sometimes called carbon offsetting, this is where an investment in a project outside the business making the investment is deemed to qualify for emissions units, because the project will remove emissions — for example paying

an additional cost to plant trees that sequester carbon to offset the emissions from a domestic flight); and

22.6. engaging in international trading of units.[4]

23. As the government is the source of the emissions units for most of these methods of acquisition, how the government determines supply of emissions units will significantly affect the price signal created by an ETS. If, for example, the government provides many emissions units for free, then that will reduce demand for emissions units in the market, lowering the emissions price and reducing the incentive to firms to cut emissions. The government may also influence supply more indirectly (for example, by changing the regulatory rules determining how activities such as forestry may qualify for emissions units).

A brief history of the New Zealand ETS — continued

24. The Motu Guide was prepared in March 2022, and contains a helpful section called "A brief history of the New Zealand ETS". I will not repeat that history but instead briefly summarise the major developments in the ETS since March 2022:

24.1. As I discuss below, the Government now does limit the way it spends revenue it generates from the ETS.

24.2. The Government announced restrictions on how much farmland can be converted into exotic forest, banning registering of exotic forests in the ETS when it has been converted from land of certain farming qualities. These restrictions are expected to come into force later this year.[5]

25. I do note that when Motu wrote their guide in 2022 it was expected that the agricultural sector would eventually enter into the ETS. The current government removed the reporting requirements that had been placed on the agricultural sector and chose not to phase in its inclusion.

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4 Under the current ETS in New Zealand, it is not now possible to obtain emissions units from international sources. It was until 2015, when the domestic market was uncoupled from the international Kyoto market due to concerns over purchases of 'low quality' units that did not generate genuine emissions reductions overseas.

5 Ministry for Primary Industries "Update on proposed changes to limit farm conversions to exotic forestry in the Emissions Trading Scheme" (25 March 2025).

Core design features of the New Zealand ETS

26. The Motu Guide provides a detailed discussion of the New Zealand ETS, so I will summarise the main features:

26.1. The ETS commenced in 2008. It has changed significantly over time, but the founding legislation was passed in September 2008 (with the ETS being effective since 1 January 2008).

26.2. The ETS covers most sectors of the economy. It currently covers the "stationary energy" sector,[6] transport, industrial process, waste and forestry (both deforestation and afforestation). The ETS does not cover the agricultural sector as noted.

26.3. Emitters are required to surrender one emissions unit for every tonne of CO2 emissions. (The ETS also covers methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, which are converted into CO2-equivalents.)

26.4. Some Emitters are provided free emissions units by the Government. Eligibility centres on businesses that are considered both heavy emitters and trade exposed. The risk is that if these firms had to pay for their units in full, they could become internationally less competitive and shut down, which would see emissions 'leakage' to other, higher-emitting countries that do not current price emissions (e.g. India, China). Businesses allocated free units include New Zealand Steel (owner of the Glenbrook Steel Mill) and New Zealand Aluminium Smelters (which owns the Tiwai Point smelter).

26.5. Emitters are entitled to bank emissions units previously acquired for future use and "stockpile" them. Units do not expire, and if firms expect emissions prices to be higher in the future, holding onto units can be a sensible choice.

26.6. Emitters must self-report their emissions, with the potential for an audit by the Government.

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6 The stationary energy sector includes all fossil fuels used in electricity generation and in the direct production of industrial heat (such as for steelmaking) as well as geothermal energy. See Environmental Protection Authority "Stationary energy" <epa.govt.nz>.

27. The supply of emissions units is restricted by regulations that set limits on how many units can be allocated by auction. These limits account for the free allocation of units to certain Emitters just mentioned but they do not restrict the supply of units created by other means (notably through forestry). The intention is that, over time, the supply of units decreases consistently with New Zealand's emissions reduction targets.

28. The regulatory settings for unit supply are determined five years in advance, extended by one year each year (i.e. the current settings are for 2025–2029, and the next settings will be for 2026–2030). The Climate Change Commission advises the Government on how settings for unit supply should be determined.

Auctions for emissions units

29. In 2021, auctions for emissions units began. Auctions are held four times per year (once in each financial quarter). The auction is overseen by the Ministry for the Environment and is managed by the NZX.

30. If a unit is not sold in one auction, it is carried through to the next. However, this can only occur within the same calendar year. If the December auction fails to sell all units, the remainder are not carried forward.

31. Auctions occur with a set reserve (minimum) price for emissions units. The price is set broadly based on prevailing prices in the secondary market (the market for buying and selling emissions units between emitters/holders of units). The most recent public minimum price (March 2025) was $68.00 per unit.

32. There is also a price set for what is called the cost containment reserve. There are a number of emissions units set aside which can be supplied to the market in the event that the price for an emissions unit reaches a threshold that is deemed too high. In the most recent auction there were two reserve prices: $193.00 and $242.00 (Tier 1 and Tier 2). Had those prices been reached, an additional 2,600,000 and 4,500,000 units would have been supplied to the auction with the aim of moderating price increases that would otherwise cause significant economic harm to businesses and hurt consumers.

33. The cost containment reserve was triggered in 2021 and 2022. However it has not been triggered recently as the ETS price has been low.

34. As noted, price management settings are decided five years in advance, with yearly reviews. As with the settings for supply, price management settings are determined by the Government but the Government receives advice from the Climate Change Commission.

35. The minimum/reserve price does not constrain the secondary market: businesses can trade emissions units between themselves for less than the Government decides is the “minimum” price at auctions.

36. Historically revenue generated by the Government from the ETS auction has been specifically used to support emissions reductions programmes through a Climate Emergency Response Fund. However, in 2024 the Government closed this fund and redistributed revenue from sales of emissions units to the Government’s general budget.

37. In 2023, none of the auctions resulted in any sales of carbon credits/emissions units.

38. In 2024, the first auction in March sold 2,974,300 units out of 3,525,000 units available (84 per cent). No units were sold in June or in September.

39. By December 2024, there were 7,600,700 units unsold from previous auctions which had accumulated, along with the 3,525,000 units specifically available for December. Of these 4,032,500 units were sold (53 per cent).

40. In March 2025, there were 1,500,000 units available. None were sold. They have rolled over into the next auction in June.

41. The failure of emissions units to sell at the minimum auction price may be indicative of a failure of the market and/or regulatory design. It can also be indicative of weak demand due to (for example), a slowdown in the economy that reduces production of goods and services and hence emissions generated.

42. If market participants do not purchase any emissions units at the minimum auction price set by the Government, then that means those participants believe the minimum price the Government has set is too high. It is cheaper

to buy emissions units on the secondary market than to buy them from the Government directly at the auction.

43. This in turn evidences an excess of supply of emissions units in the market, relative to demand. This could be due to the allocation of free emissions units to emitters by the Government. It may also be due to stockpiling of units historically, which occurred during the phasing out of the ability to use international Kyoto emissions units. The Climate Change Commission ("**Climate Commission**") has estimated the surplus in the market as at the end of 2024 is 50.2 million units, and that there are 110.2 million additional units stockpiled at the end of 2024 (of which 17.4 million are estimated to be held for "hedging" against future price increases). 10 million forestry units are estimated to contribute to the surplus.[7]

44. If prices for emission units remain low (and do not trend upwards over time) this weakens the incentive created by the ETS to reduce carbon emissions. The Climate Commission has stated that there are too many units in the ETS for it to be usable to effectively reduce New Zealand's gross emissions. The excess units present a risk that emissions budgets for New Zealand will not be met, and the Commission advised the Government to reduce the number of units sold in auctions as soon as possible.[8]

Principles of good regulatory design

45. There has been a lot written about what good regulatory design looks like. Public sector agencies are expected to take care to design regulations properly, such as by creating and following the regulatory impact statement process. The Treasury has put together a simple guide for public sector agencies, which I have annexed as **Appendix D**. Similar guidance has been put out by the OECD.

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7 Climate Change Commission *Advice on NZ ETS unit limits and price control settings for 2026–2030* (April 2025) at 41–45, and see particularly fig 3.1.

8 Climate Change Commission *Advice on NZ ETS unit limits and price control settings for 2025–2029* at 3.

46. Good regulatory design involves taking a series of steps:

    46.1. Define the problem properly: describe why government intervention is required. Ascertain the size and scale of the problem, and how it will evolve if nothing changes. Identify clearly what success looks like.

    46.2. Ascertain the options: develop range of potential solutions to problem. Identify the costs or benefits for each option. Quantify those costs and benefits if possible. If quantification is not possible or too difficult, describe the trade offs involved in each option.

    46.3. Set out a preferred regulatory option: decide on the preferred option using a clear method (such as a social cost-benefit analysis, economy-wide economic modelling, semi-quantitative multi-criteria analysis, etc).

    46.4. Implementing the preferred option: implement the option in a way that mitigates any risks associated with the costs of that option. Monitor, review and report on how implementation is going and consider whether the preferred option is still fit for purpose.

47. In my experience, poor regulation often occurs because things have gone wrong at the first stage: the problem has not been defined properly. It is important to socialise the problem definition as much as possible. That entails consulting with stakeholders who have experienced the problem and those who will be affected by any changes to the status quo.

48. It is also necessary to follow a structured framework. A clear process, with a defined output at each step, helps ensure that proper steps are being taken to assess the problem and weigh up the options.

49. At each stage of the process there is a need to adapt to changes in circumstances. Information may come to light, including from stakeholders, that requires changes to the problem definition or a reassessment of the preferred option. A good regulatory system should be flexible enough to allow the regulator to adapt to these situations and, if necessary, go back in the process to redefine the problem or rescope the options.

50. This also avoids the risk of the (preferred) option/solution defining the problem (i.e. the process is followed backwards, starting from a preferred solution). The solution can never define the problem: the purpose of following the process is to avoid deciding in advance both what the problem actually is and how best to solve that problem.

51. Overall, there is considerable value in creating as much certainty and predictability as possible. Investors hinge on certainty, especially when making multi-decade investments and decisions that are affected by climate policy. Providing timely and clear information to people affected by regulations makes it easier for them to make decisions. In contrast, if people are confused about why a regulatory change has been proposed, how regulations work or what their obligations are, and if the information is unclear or contradictory, people are less likely to make investment decisions.

Stranded assets and forestry

52. There have been a significant number of changes to the ETS over the course of its existence. There has been significant volatility in the price of carbon credits and in the regulatory settings applicable to the ETS. This in turn has led to a risk of forestry assets becoming stranded.

53. In simple terms, a stranded asset is an asset which has suffered from an unanticipated or premature, write-off, devaluation or conversion to a liability. When an investment decision is made about an asset, assumptions are made by the investor about how long that asset will generate returns and/or how long it can be used before it needs to be replaced. The “stranding” occurs because of changes in the market or regulatory environment that were unanticipated at the time the investment decision was made.

54. Many different factors can cause an asset to become stranded. For example, rapid unexpected technological changes may render existing assets inefficient or obsolete, well before it was anticipated they would need to be replaced. Blockbuster video went out of business very quickly when Netflix and other video streaming services entered the marketplace, for example. A government regulation may prohibit the use of a particular asset when it was expected to generate returns for much longer. Assets may also become stranded simply because of physical and environmental changes: productive

land may become too affected by changes in weather patterns or rising sea levels to be capable of being used for agriculture.

55. Climate change is generally expected to cause a significant increase in stranded assets. For example, one study has concluded that, if international climate targets are to be met (i.e. keeping global warming well below 2°C or 1.5°C) coal-fired power plants will need to be retired 10–30 years earlier than they usually have been historically.[9]

56. Forestry assets are also at risk of being stranded because of the significant volatility in regulatory signals being created by changes in policy for the ETS. When investors make decisions to invest in an asset (like a forest that generates carbon credits) they have a specific regulatory framework in mind. While some change in that regulatory framework might be expected, the substantial changes in the ETS have driven market volatility and investor uncertainty. It is difficult for investors to make decisions about whether to invest in forest because of this.

57. For example, it may make sense for an investor to purchase x ha of forest land assuming y price for emissions units. The investor may expect some fluctuation in the price for emissions units, and will build in contingencies to their investment plans accordingly; but if the Government was to unexpectedly allocate a significant number of additional emission units to certain industries for free, that can substantially change the expected value for the forestry asset the investor has bought: emissions units will now be much cheaper than the investor had assumed when they purchased the asset.

58. There have been a number of comments from business about the investment uncertainties created by changes to the ETS. I annex as **Appendix E** a report by Sapere which includes interviews with businesses to this effect. The Climate Change Commission also referred to similar concerns in its 2024 advice[10] and in its most recent 2025 advice.[11]

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9 Robert Fofrich and others "Early retirement of power plants in climate mitigation scenarios" (2020) *Environ. Res. Lett.* 15 094064.

10 Climate Change Commission "Advice on NZ ETS unit limits and price control settings for 2025-2029" (February 2024) at 14 and 31.

11 Climate Change Commission "Advice on NZ ETS unit limits and price control settings for 2026–2030" (April 2025) at 12 and 15.

59. Concerns about investment uncertainties have existed for a long time: the Ministry for the Environment similarly noted concerns in 2016.[12] Similarly in 2016 Leining and Kerr described the impact of policy uncertainty on as "significant".[13]

"A Better Way"

60. In 2023 Sense Partners was commissioned by the Climate Forestry Association to prepare a report on a consultation prepared by the Ministry for the Environment. As I said the report is **Appendix A**. A summary of our conclusions is headed "Key Points" on pages i–ix.

61. The problem that the Ministry for the Environment was consulting on was whether existing ETS settings would lead to an oversupply of emissions units, in turn reducing the incentive for an Emitter to emit less. The Ministry's approach is an example of the kind of poor regulatory decision-making that in my opinion has often affected the ETS:

62. <u>The problem was not defined properly:</u> the Ministry did not have sufficient evidence to support the problem it asserted existed. It had inappropriately leapt to proposing solutions when its analysis of the status quo was incomplete.

63. For example, officials had assumed: (i) that investors would continue to plant forests, even though the price they would obtain for emissions units would be dropping significantly (because of excess supply); (ii) ETS settings would not change over time (they are updated annually); and (iii) that investors would not change their behaviour in response to uncertainties created by government policy (including the consultation itself).

64. <u>The options had not been defined clearly:</u> each of the options was described only broadly, all with a common purpose of forcing the net emissions target to be met with more gross emissions cuts rather than forestry removals.

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12 Ministry for the Environment *The New Zealand Emissions Trading Scheme Evaluation 2016* at 29–30.

13 Catherine Leining and Suzi Kerr "Lessons Learned from the New Zealand Emissions Trading Scheme" *Motu Working Paper 16–06* (April 2016).

65. Quite how officials wanted to implement any of the options to reduce the 'value' of forestry removals was unclear. There was no indication of how much forestry removals might be devalued, nor any evidence on what the 'right' amount of forestry removals to meet any given net target might be.

66. The Ministry's options analysis was almost non-existent: there was no quantified analysis. As such it is impossible to know how the options stack up against each other in terms of addressing the 'problem' and their relative costs, benefits, risks and distributional impacts across groups of stakeholders. It did not account for the significant cost to meet New Zealand's net emissions targets and so had not properly analysed the costs and benefits of the options.

67. For example, according to our modelling reducing the role of forestry could make it up to three to four times more expensive to meet our net zero targets.[14] The options could have led to an estimated loss of between 2,700 and 4,500 Māori FTE (full-time equivalent) jobs, largely in forestry and logging. The overall impacts of job losses and increased costs were regressive i.e. they affected lower-income households more than higher income households. This was largely due to the incomplete and unreliable modelling that had been done by the Ministry in defining its problem: the options had been put out with almost no supporting economic analysis. I will not set out for the Tribunal the different issues with the modelling used but they are set out in the report.

68. The consultation was also based on the fallacious idea that government can de-link forestry removals and ETS sector emissions reductions. As I said, the ETS is based on a "net" not a "gross" target: the amount of removals of emissions from forestry will affect ETS prices. Even if you took forestry directly out of the ETS entirely (de-linking the planting of forests from the creation of emission units), a "net" target still considers the sequestration of carbon caused by forestry. ETS prices would be affected indirectly by virtue of the emissions budget setting process: if there had been more carbon sequestered from forestry, then that would be accounted for in the emissions

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14 This estimate was based on foresters receiving 50% of the NZU price for their units, while emitters pay a 'premium' of 200% on the NZU price. This was the more extreme of our six modelling scenarios. The magnitude of the economic costs varies with the precise NZU 'exchange rate' selected.

budget when the Government came to make decisions about how many emissions units to auction on the primary market.

69. We recommended that officials revisit their assumption that there was a long-run oversupply problem caused by excess forestry units. Their problem definition was flawed and they needed to use better models and empirical analysis of any proposed new changes to/options for the ETS.

70. We also criticised the assumption made by officials that investors in forestry would not know that there would be a collapse in prices (caused by excess forestry units), even though officials knew that. At a minimum, modellers should assume that what is known to them is also known to the people insider their models. You should not design a model for behaviour that assumes people do not respond to changes in policy and incentives.

71. It required too much faith in officials to assume they would be able to determine precisely the right incentive to achieve just the right amount of removals. The consultation assumed that a ‘right’ ETS price exists, that that is all that matters, and that officials would just ‘know’ that price.

72. The consultation did not properly acknowledge the costs and trade-offs either. It did not recognise the costs from deterring investors in forestry, costs which would have serious long-term costs because of the decades it takes sequestration to occur. Nor did it recognise that reducing the role of exotic forestry would materially increase the costs of getting to net zero: we estimated the costs of getting to net zero could be 3 to 4 times the cost under the then current ETS settings.

73. Government already plays a large role in the ETS. It controls the number of units introduced each year, the price floor/reserve, and the cost-containment reserve. If there is a concern about either volumes of emissions units or price, the Government has tools to manage that. It does not necessarily need to go further to specifically target a particular form of net emissions reduction (forestry); and if it does, it needs to consider the particular costs of doing this very carefully. None of this was recognised in the consultation.

74. Finally, the costs to Māori of the proposals were significant. We estimated Māori GDP could be between $560 million and $1.14 billion lower in 2050, by the time New Zealand reached net zero. Māori employment could be between 550 and 4,600 lower than under existing ETS settings. None of these costs were quantified in the consultation.

75. As I mentioned the impact of the proposals was regressive: it impacted lower-income households more than higher-income households. We also concluded the negative impacts fell strongly on lower-skilled workers and several regional economies. The options presented a challenge to a 'Just Transition' towards a lower-emissions future.

John Stacey Ballingall