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KEI MUA I TE AROARO O TE RŌPŪ WHAKAMANA I TE TIRITI O WAITANGI

BEFORE THE WAITANGI TRIBUNAL **WAI 3325**

WAI 3414

IN THE MATTER OF	The Treaty of Waitangi Act 1975
AND IN THE MATTER OF	The Climate Change Priority Inquiry
AND IN THE MATTER OF	A claim by Anthony Olsen on behalf of the Matiti Māori Committee that the Crown is acting in breach of Treaty of Waitangi obligations towards Māori because of the New Zealand Government failing to implement adequate policies to address the threats posed by global climate change

BRIEF OF EVIDENCE OF ANTHONY WHARERAUPO OLSEN

22 October 2024

WOODWARD LAW OFFICE

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WELLINGTON

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E TE KAIWHAKAWĀ, TĒNĀ KOE.

Introduction

1. My name is Anthony Whareraupo Olsen of Timaru, Senior Environmental and Matauranga Advisor.

2. I have made this claim for myself and the Matiti Māori Committee, a corporate entity under the Māori Community Development Act 1962, of which he is a member, and which as a statutory mandate to represent the Māori of the Matiti Māori committee district.

3. My Iwi is Waitaha ki Te Waka-a-Maui, my hapu is Te Aitaka a Awearaki and my Papakaika (Marae) is Te Pātunuioāio.

4. I am providing this evidence in support of my claim on behalf of Maititi Maori Committee, which I am a member of.

Summary of Evidence

5. I will be covering the following topics in my evidence:

   (a) The Matiti Māori Committee and its relevant functions;

   (b) Impacts of climate change for Māori;

   (c) Māori Community Resilience to Climate Change;

   (d) Mātauranga Māori response to climate change;

   (e) The Landcare Research Report on guidance for Te Ao Māori on climate change adaptation and mitigation;

   (f) The Te Puni Korkiri Understanding climate hazards for hapori Māori report;

   (g) The Statistics NZ paper on Maori Authorities' response to climate change;

   (h) The Deep South Challenge symposium in September 2017;

   (i) Native trees v Pine Trees re Carbon Sequestration and ETS

   (j) What the Government can do to better support Maori cope with climate change;

   (k) Nga koreo kati

Matiti Māori Committee

6. **The Matiti Māori Committee** ("the Committee') is a Māori Committee established under the Māori Community Development Act 1962 (the Act). Under s 10 the Act it has the same functions as a Māori Committee it has the same functions conferred on the New Zealand Māori Council under s 18 of the Act. These functions include the following:

> *The general functions of the New Zealand Māori Council, in respect of all Māori, shall be:*
>
> (a) *to promote, encourage, and assist Māori:*
>
> (i) *to conserve, improve, advance and maintain their physical, economic, industrial, educational, social, moral, and spiritual well-being;*
>
> (ii) *to assume and maintain self-reliance, thrift, pride of race, and such conduct as will be conducive to their general health and economic well-being;*

7. When it comes to climate change the particularly relevant functions of the committee is to "conserve, improve advance and maintain" the physical, spiritual, general health and economic wellbeing of Maori.

8. Our statutory mandate to represent all Māori supports our practice of striving for inclusiveness embracing all Māori whether urban or rural, iwi aligned or non-iwi aligned, or informed or not informed by whakapapa and matauranga.

Ngā pānga o te huringa āhuarangi ki a Ngāi Māori - Impacts of climate change for Māori

9. The impacts of climate change on the cultural, social, environmental, and economic wellbeing of Māori are potentially profound.

10. Māori communities are already vulnerable and many marae, wāhi tapu and papakāinga are located in rural coastal communities.

11. Almost 200 marae are within a kilometer of the coastline, urupā and other sacred sites are also under threat.

12. The implications of climate change on Māori include:

- mana whenua relationships to ancestral taonga, cultural knowledge and practices are at risk - sea level rise is compromising wāhi tapu, Māori land holdings, marae and other significant sites
- potential socio-economic impacts on whānau - proposed responses to climate may present a further disadvantage for Māori

- whānau Māori who are already in a precarious financial position, have less access to resources to respond to rapidly worsening conditions
- marae, urupā and wāhi tapu will be exposed to inundation and flooding
- indigenous flora and fauna are under threat from a changing environment, particularly where those changes are so fast or significant that species cannot adapt or are overrun by exotic invasive species.

Māori Community Resilience to Climate Change

13. There are several Māori Community Resilience Issues with climate change including:

    a) Adaptation planning and building climate resilience
    b) Energy security and sovereignty (including geothermal)
    c) Land use changes
    d) Biodiversity
    e) Food and Water security
        i. For example Rotorua has been described as a food desert.
        ii. 80 trucks of food arrive in to Rotorua every week. This equates to 3 days food supply.
    f) Circular enterprises – local economy

Mātauranga Māori response to climate change

14. Mātauranga Māori offers solutions to these issues that may both mitigate the effects of climate change through increased community resilience as well as create benefits with flow-on effects throughout te ao Māori.

15. The global response to climate change requires applying all the best knowledge available, including the perspectives of indigenous peoples.

16. Indigenous peoples are not only among the most vulnerable to the impacts of climate change, they also may hold the solutions to adapting to it.

17. Te Ao Māori calls for the protection and preservation of all that is culturally significant, to protect and preserve our taonga. The legacy of our ancestors, that we in turn leave for future generations, lies in the balance.

18. Indigenous peoples constitute less than five per cent of the world's population, but they safeguard 80 per cent of the world's biodiversity.

Ngā Pae o te Māramatanga (NPM) and Manaaki Whenua – Landcare Research Report

19. A report from Ngā Pae o te Māramatanga (NPM) and Manaaki Whenua – Landcare Research provides guidance for Te Ao Māori on climate change adaptation and mitigation. He huringa āhuarangi, he huringa ao: a changing climate, a changing world was produced by a multidisciplinary Māori research team working across many research institutions. [1]

20. Using a novel kaupapa Māori risk assessment approach to climate change, the report synthesises the latest climate change research through a Māori lens, and identifies the potential impacts, implications, mitigation and adaptation strategies for whānau, hapū, iwi and Māori business. It follows the recent release of an Intergovernmental Panel on Climate Change report forewarning that global temperature is expected to reach or exceed 1.5°C of warming over the next 20 years.

21. He huringa āhuarangi, he huringa ao finds that Māori well-being across all four key domains - environment, Māori enterprise, healthy people and Maori culture - will be moderately impacted by 2050. By 2100, the risks to ecosystems are likely to show severe impact, compromising many aspects of Māori well-being. The authors write: "Climate change not only threatens the tangible components of Māori well-being, but also the spiritual components and, most important, the well-being of future generations."

22. The report sets out how the production and ecology of freshwater, terrestrial and coastal-marine ecosystems and biodiversity in Aotearoa will be challenged by projected warming temperatures and reductions in rainfall. Vulnerable flora and fauna may face habitat loss and in some cases extinction. Any decline in the quantity and quality of keystone species like pāua, kina and koura, will adversely impact Māori customary practise, cultural identity, social cohesion, and well-being.

23. Cultural infrastructure, especially in exposed areas (e.g. river valleys and coastal areas), will be particularly vulnerable to climate change impacts, and some marae and papakainga may have to be moved, along with urupā in low lying and coastal areas prone

[1] **Bundle of Documents (BOD) Tab 1**
https://www.landcareresearch.co.nz/news/release-of-te-ao-maori-climate-change-report/

to flooding and erosion. While some hapū and iwi are developing their own climate change adaptation and mitigation plans, the report provides Māori-focused guidance on areas often overlooked in mainstream reports. As the authors note: "Evidence suggests climate-related adverse health impacts are expected to become more severe and be borne disproportionately by groups like Māori who already suffer health inequities".

24. Shaun Awatere in the report states:"Climate change has the potential to throw out those observations that the maramataka had been based upon. For example, when we look at some of the signs for when the right season is to plant a particular crop – say kūmara – what we're finding is that the warmer temperatures during winter create the conditions for an earlier season. In the North Island areas that are good for growing kūmara, the colder seasons might be getting a bit warmer. What we are also seeing is that those areas are more prone for drought, and it is going to have an impact on the survivability of those types of crops like kumara".[2]

"Understanding climate hazards for hapori Māori" – Insights for policy makers report - TPK

25. In August 2020 Te Puni Korkiri produced its *Understanding climate hazards for hapori Māori" – Insights for policy makers report.* [3]

26. The TPK report notes the following about the climate changes hazards of hapori Maori:

- More than 8 out of 10 Māori households live in SA2 [4] areas are exposed to some level of flooding.
- About 1 in 7 Māori households live in coastal areas that are projected to flood from rising sea levels.
- SA2 areas that are likely to be flooded due to rising sea levels, heavy rain, and prolonged wet weather have a higher proportion of older Māori households.
- Heavy rain and prolonged wet weather are expected to affect fewer Māori households than other climate events. The West Coast and Taranaki are the two regions that are

[2] **BOD TAB** 2 *Climate Change and matauranga Māori* s *awatere*

neehttps://www.nzaee.org.nz/resources/the-impact-of-climate-change-and-matauranga-maori#:~:text=in%20the%20north%20island%20areas,types%20of%20crops%20like%20k%c5%abmara.%22

[3] **BOD Tab 3** *Understanding climate hazards for hapori Māori" – Insights for policy makers report* Te Puni Korkiri

[4] This is a **list of statistical areas in New Zealand**, as defined by Statistics New Zealand in the statistical area 2 (SA2) and statistical area 3 (SA3) boundaries set out in the *Statistical standard for geographic areas 2023*.

most likely to experience more extreme rainfall and prolonged wet weather in the future.

- More than 8 out of 10 Māori households live in areas where the number of extremely hot days is projected to increase.
- Nearly all (93%) Māori households are projected to experience a 10% or more increase in the number of heatwave days.
- Almost all Māori households live in areas where drought index is projected to increase in the future.

Statistics NZ report on Maori Authorities' response to climate change

27. In a Statistics NZ press release dated 7 September 2022 the following was reported under the heading: *Maori Authorities Demonstrate their commitment to kaitiakitanga in response to climate change.*[5]

28. The press release stated that in the last two years, Māori authorities carried out the following actions in response to climate change:

- 54 percent undertook climate-change related actions
- 30 percent reduced waste
- 26 percent developed programmes to offset emissions
- 17 percent measured direct greenhouse gas emissions.

29. The press release also stated that Eighty-five percent of Māori authorities and 51 percent of other Māori enterprises said they planned climate change-related actions in the next five years, compared with 45 percent for all New Zealand businesses.

30. These statistics show that Maori organizations are ready and willing to take action to address climate change.

Deep South Challenge symposium in September 2017.

31. Seven kaupapa Māori climate change projects – a first for New Zealand climate research – was celebrated at inaugural Deep South Challenge symposium in September 2017.

[5] **BOD Tab 4** https://www.stats.govt.nz/news/maori-authorities-demonstrate-their-commitment-to-kaitiakitanga-in-response-to-climate-change/

32. The symposium proposed that climate change was shaping up to be a key election issue, and Māori communities were bearing the brunt of the first waves of change.

33. The symposium celebrated a milestone in New Zealand climate change research. Under the Vision Mātauranga science programme of the Challenge, seven Māori-led science projects were investigating climate change impacts and opportunities for iwi, hapū, whānau and Māori business. Together they represented the largest ever Māori-led research effort into the implications of changing climate conditions for Māori society.

34. Darren Ngaru King, Science Lead of the Vision Mātauranga Programme noted "These projects investigated climate change links, pressure points and adaptation strategies for Māori communities and business." "They also considering new products, services and systems derived from mātauranga Māori.

35. Each project drew on distinct research methods – mātauranga Māori, science, art, design and even games – to unlock collective knowledge and shape conversations about our future climate. It was proposed that the projects would help to strengthen connections and knowledge exchange among Māori and the wider science community."

Native trees RE Carbon Sequestration and ETS

36. The effects of climate change on pine plantations were clearly shown after Cyclone Gabrielle. Not only swaths of wind throw but also the devestating effects of pine slash in both catchments and on the coast. This raises issues as to the use of pine rather than native forests to sequester carbon under the ETS.

I. Permanent Carbon Storage vs Temporary Carbon Storage

37. Carbon storage is permanent if exotic forests are transitioned into self-sustaining native forests. This process occurs naturally but can and should be accelerated by targeted management.

38. Because radiata pine needs a lot of light to grow, its own seedlings will not establish beneath its canopy. Therefore, pine will naturally decline over time and gradually be replaced by native forest, a process that occurs naturally but takes many decades.

39. To provide crucial structural and species diversity, and to expedite the transition process, native trees requiring plenty of light need to be planted, and pine trees need to be

thinned. This is nothing like commercial harvesting, so the problems associated with forestry "slash" do not arise.

40. Fruiting natives will attract birds and enhance seed dispersal. At the same time, the income from carbon credits through the ETS can be used for further plantings, and also to fund intensive animal pest control - a critical step towards rebuilding native forests.

41. Eventually, this strategy will provide both permanent carbon storage and carbon capture that continue way beyond a century. But within decades we would also see the return of large areas of highly biodiverse native forests.

II. Native vs Pinus

42. New research demonstrates that well-managed planted indigenous forest may be better at sequestering carbon and faster growing than previously considered. The current carbon sequestration analysis of indigenous forest is based on regeneration

43. Data from new Indigenous Plantation Database's show that Carbon sequestration for planted forests of totara, kauri, kahikatea, rimu, other conifers, puriri, beech, and other broadleaves is in the range:

    - 10.0 to 16.4 $tCO_2\ ha^{-1}\ yr^{-1}$ (mean annual increment over (1st) 50 years) and
    - 18.2 to 29.9 $tCO_2\ ha^{-1}\ yr^{-1}$ (current annual increment at (after) age 50 years).[6]

44. Growth rates of these native tree species have increased steadily over the first 50 years achieving higher productivity as well as carbon sequestration with age.

45. This research is a first for planted native forest using methodology comparable to that used for planted radiata pine forest in New Zealand (mean annual increment is 21 to 27 $tCO_2\ ha^{-1}\ yr^{-1}$ for radiata pine at age 50 years).

46. The current Carbon Look-up Table for natives is currently accurate only for naturally regenerating kanuka/manuka shrubland (6.5 $tCO_2\ ha^{-1}\ yr^{-1}$ mean annual increment over 50 years). However, new data indicates that, while lower than planted native forest, naturally regenerating native forest can still achieve good levels of sequestration over a long timeframe with the inclusion of climax tree species such as totara.

[6] https://pureadvantage.org/carbon-sequestration-by-native-forest-setting-the-record-straight/

47. Landowners can be encouraged by this new research. The difference between pine and well managed planted native forest is much less than is often suggested. Planted native trees will store carbon at a growing pace as they age, as well as enhancing natural landscapes, indigenous biodiversity and cultural values.

Indigenous Plantation Forestry Opportunities

48. Land use decisions for Māori have kaitiakitanga at their very heart.

49. Establishing native forests through new plantings or regeneration resonates well with Māori landowners as they seek to balance multi-dimensional considerations and give effect to their role as kaitiaki.

50. The New Zealand Emissions Trading Scheme (NZ ETS), land use diversification strategies and responding to perceived climate change risk are complex systems to understand and operate within. Being carbon farmers or earning an income from carbon farming is not yet a key driver in Māori land use diversification decisions. Nonetheless, when considered alongside wider aspirations for native forest land cover and co-benefits (such as improved water quality, restoring rongoā and other customary resources, protecting biodiversity and strengthening climate resilience), navigating the challenges and opportunities of being in the NZ ETS should be investigated and supported.

51. Studies have been undertaken of Māori land owners' decision-making processes and their cost (in time and other resources) when considering whether to enter the NZ ETS using native forests (both newly planted and natural regeneration). This aspect of emissions trading was examined whilst considering the importance of Māori cultural values such as kaitiakitanga (including supporting livelihoods and returning benefits to landowners) and the barriers that Māori generally face when planning land use investments (such as concerns about retention of land ownership, and financial and legislative constraints).

Current levels of Indigenous Forests

52. The following table sets out the amount of indigenous forest currently in Aotearoa [7]

[7] https://www.tanestrees.org.nz/site/assets/files/1069/3_2_an_historical_perspective.pdf page 7

Table 1: The resource of natural (native) forest in New Zealand in public and private ownership.

Natural Forest Resource	(000 ha)	Percentage of Total Forest Area
Public Natural Forest		
National and Conservation Parks, DoC administered	4952	77
Other Crown, etc	297	5
Local Authorities	45	1
Total Public Forest	**5294**	**83**
Private Natural Forest		
Maori owned	227	4
Other Private Natural Forest*	852	13
Total Private Natural Forest	**1079**	**17**
Overall Total	**6373**	**100**

** Approved Sustainable Forest Management Plans stand at c. 50,000 hectares with an approved sustainable harvest (standing volume) of 80,000m^3. (www.maf.govt.nz/forestry/forestry-in-nz/indigenous forestry).*

Secondary Crops in Pine Forests

53. To the extent that pine forests continue to be planted on Maori land for ETS credits there are several secondary crops that can be planted :

Mānuka honey

54. Mānuka growing in the areas that aren't planted in pine, like steep gulleys or on plantation fringes, can be used by beekeepers to make mānuka honey. Local beekeepers will pay to bring their hives into your forest when the mānuka is flowering.

Rongoā

55. Rongoā plants are used to enhance the welfare of the people. Talk to the people in your area who know what grows well and what plants work best in your area.

56. Most rongoā plants grow on the fringe of the ngahere, or under the big trees that make up the canopy. They heal the whenua and protect the other trees and plants within the ngahere.

Kōura (freshwater crayfish)

57. You can stock your ngahere fire ponds with kōura providing food and a potential income opportunity. A fire pond is an area of water that can be used if there is a fire.

What the Government can do to better support Maori cope with climate change

58. If Maori are going to cope with climate change in the future they are going to require more Government support than what is currently being provided. In this regard Landcare Research provide suggestions for further Government support, as follows.

59. An improved understanding of ecosystem management objectives from whānau/hapū/iwi and Māori business perspectives.

60. Implementing monitoring practices (based on mātauranga Māori and science) that provide for the early detection of invasive species on land, as well as the effective removal of invading plants, animals, and insects to halt their spread in a warming climate.

61. Obtaining a better understanding of biodiversity-climate linkages, and culturally significant ecosystems and taonga, would help prioritise activities to manage and restore culturally important terrestrial ecosystems and habitats.

62. Assessing the suitability of tribal lands for afforestation/reforestation schemes that could help to harness the multiple functions of forests, from supporting biodiversity and ecosystem services to carbon capture and controlling erosion might also contribute to lessening climate change risks for terrestrial ecosystems and biodiversity.

Nga koreo kati

63. The disproportionate effects of climate change on our Māori communities, particularly the cultural social and economic effects are well documented.

64. MfE research indicates that climate change is causing a shift in species habitat as well as species biological effects. These climate driven ecosystem changes are being seen to exacerbate the impacts of invasive species as well as changes in land use.

65. Mātauranga Māori offers solutions to these issues that may both mitigate the effects of climate change through increased community resilience as well as create benefits with flow-on effects throughout te ao Māori**.**

66. What is required is better support from the Government to allow Māori to offer these solutions which will benefit not only Māori but all of Aotearoa.

Dated this 22nd day of October 2024

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ANTHONY WHARERAUPO OLSEN