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

BEFORE THE WAITANGI TRIBUNAL **WAI 3325**

IN THE MATTER OF	**the Treaty of Waitangi Act 1975**
AND	
IN THE MATTER OF	**the Climate Change Priority Inquiry**

BRIEF OF EVIDENCE OF ROBYN JULIE COLLINS

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I, Robyn Julie Collins of Wellington, Deputy Director-General state:

Introduction

1. My full name is Robyn Julie Collins.

2. I am the Deputy Director-General Policy and Trade at the Ministry for Primary Industries (**MPI**). I have held this role since 2020. Prior to this role I was the Deputy Director-General Te Uru Rākau - New Zealand Forest Service, responsible for the establishment and running of this new business unit. I joined MPI in 2006 and have held a range of roles including Director of Biosecurity, Food Safety and Animal Welfare, and Manager of Climate Change Policy from 2007 to 2011. I hold a Bachelor of Forestry Science (Hons) and have had 38 years of experience working in land use policy in New Zealand and the United Kingdom.

3. This is my first time giving evidence before the Waitangi Tribunal.

Summary of evidence

4. In my evidence, I will explain:

    4.1 MPI's roles and responsibilities for the agricultural sector in New Zealand;

    4.2 An overview of the agriculture sector in New Zealand, with reference to the emissions profile and the Māori agricultural sector (detailed from paragraph [20]);

    4.3 The legislative context for New Zealand's climate change policy, including New Zealand's Emissions Trading Scheme (**NZ ETS**) and the agricultural exemption (detailed from paragraph [37]); and

    4.4 Current MPI climate policy and programmes in respect of climate change and agriculture including research, development and extension programmes (detailed from paragraph [49]).

MPI roles and responsibilities – Agriculture

5. MPI is the lead agency for the food and fibre sector. It has:

   5.1 Six customer facing branded business units – New Zealand Food Safety, Biosecurity New Zealand, Fisheries New Zealand, He Taurikura Māori – Māori Partnership & Investment, Te Uru Rākau – New Zealand Forest Service, Agriculture and Investment Services.

   5.2 Three supporting business units including Policy and Trade, Public Affairs and Corporate Services.

   5.3 Three professional leads including the Chief Science Advisor, Deputy Director General China Relations, and the Inspector General of the Regulatory System.

6. MPI's Policy and Trade business unit provides strategic sector-level insights, advice and analysis on the policy and regulatory settings for the agriculture sector, including for climate change. It works with other government agencies, Treaty partners, agricultural organisations and businesses on economic, environmental and natural resource matters.

7. The business unit's Trade and International Relations function leads MPI's involvement in New Zealand's trade system, ensuring agricultural sector exporter access to markets is maintained, enhanced and operating within the international rules-based trading environment.

8. MPI administers funding for research and development, for example via the Primary Sector Growth Fund, and the Accelerating New Mitigation Programme, supporting long-term sector growth.

9. MPI works with Māori, including via He Taurikura Māori (Māori Partnerships and Investment), to strengthen and grow Māori agribusiness, in lifting MPI's capability to support the Māori-Crown relationship, partnering and engaging with Māori, and driving high-value growth across the Māori food and fibre sector. The Māori Agribusiness programme works directly with Māori landowners and agribusinesses to

develop their primary sector assets. It has a dedicated climate programme alongside a suite of other support mechanisms. The Māori Partnerships and Capability Directorate has a key role in identifying partnership opportunities with iwi/hapū and supporting the development and maintenance of MPI's relationships with Māori.

10. Through Agriculture and Investment Services and its other business units, MPI invests in sector innovation, supports recovery from adverse events, and helps farmers and growers plan for the future.

11. Biosecurity New Zealand leads the national biosecurity system, protecting the food and fibre sector from pests and diseases by managing risks offshore, at the border, and within New Zealand.

12. New Zealand Food Safety supports the food and fibre export system through regulatory oversight, industry guidance, and export assurances, maintaining New Zealand's international reputation as a trusted food producer.

13. Te Uru Rākau – New Zealand Forest Service supports forestry priorities. These include climate change and working with Māori on land development opportunities, industry transformation, the NZ ETS, native planting, forestry and wood processing, and workforce development. For more information about the role in Te Uru Rākau – New Zealand Forest Service please see my joint brief of evidence with Sam Keenan on the forestry sector.

Te Rautaki mo te Taurikura – Embracing change for prosperity

14. In 2022, the Government launched Te Rautaki mo te Taurikura – Embracing change for prosperity.[1] The strategy for the Māori food and fibre sector was developed by MPI with Ngā Pouwhiro Taimatua, MPIs independent Māori primary sector advisory body to support the sector to drive growth through on the ground support, innovation and workforce development.

[1] Ministry for Primary Industries *Rautaki mo te Taurikura Embracing change for prosperity* <www.mpi.govt.nz>.

15. Its vision is that Māori are thriving at all levels of food and fibre sector work and enterprise, partnering widely and using resources and skills sustainably and innovatively to deliver quality, high value and unique products that meet domestic and international demand.

16. This mahi identifies three initial priority areas we will focus on to accelerate economic prosperity for Māori – partnerships, investment and building our services to meet the aspirations of Māori. The strategy guides MPI's investment in extra on-the-ground support to grow Māori businesses and jobs in the food and fibre sector.

17. The Pūtea Penapena section of Te Rautaki mo te Tarikura highlights, "to navigate the environmental transition and climate change challenge, Māori will need options to both reduce emissions generated by current land uses, and to explore alternative land uses, processing capabilities and market access for new and emerging products".

18. The Pūtea Penapena section identifies several actions to support Māori businesses transitioning to low-emission operating models, including to:

    18.1 tailor advice and investment to reduce on-farm emissions, including through the Centre for Climate Action on Agricultural Emissions; and

    18.2 partner globally on indigenous knowledge development that promotes greenhouse gas emissions reduction.

19. The Mahi Tahi section of Te Rautaki mo te Tarikura also highlights the need to partner with Māori to understand their aspirations.

Agricultural sector in New Zealand

20. The agriculture sector plays a significant part in New Zealand's economy, environment and society. MPI's 2025 Situation and Outlook for Primary Industries[2] provides information on the food and fibre sector's contribution in New Zealand including:

[2] Ministry for Primary Industries *Situation and Outlook for Primary Industries* (June 2025). **[MPI.006.0225]**

20.1 Forecasting $59.9 billion in export revenue in the year to 30 June 2025 rising to a further record $65.9 billion in the year to 30 June 2029.

20.2 82.5% of goods export.

20.3 12.4% of employment.

21. The food and fibre sector makes up around 10% of New Zealand's gross domestic product (**GDP**). When indirect effects are included such as transport industries which rely on agriculture output, the total GDP contribution of the sector is estimated at 16% of New Zealand's GDP.

22. Food and fibre sectors directly support around 360,000 jobs across New Zealand, making them a vital source of employment, especially in regional areas. Exporting companies also tend to pay higher wages.[3]

23. The 2025 Situation and Outlook for Primary Industries projected that by 30 June 2025, export revenue from the following sectors would contribute the following to New Zealand's economy:[4]

23.1 Dairy - $27 billion; including a $19.4 billion farmgate payout that is injected into rural communities.

23.2 Meat and Wool - $12.3 billion.

23.3 Forestry - $6.3 billion.

23.4 Horticulture - $8.5 billion.

23.5 Arable - $340 million.

24. New Zealand's comparative advantage in primary production underpins the large foreign exchange earnings the sector generates. This in turn supports the purchasing power of the New Zealand dollar, which helps finance essential import goods, contributing to a high living standard for

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3 Ministry for Foreign Affairs and Trade All *Inclusive and productive characteristics of New Zealand goods exporting firms* (February 2022) at 11. **[MPI.006.0001]**

4 Ministry for Primary Industries *Situation and Outlook for Primary Industries* (June 2025) at 3. **[MPI.006.0225**]

New Zealanders. Primary industry sectors also generate large tax revenues which helps fund essential public services and infrastructure.

25. The sector and government have built extensive competitive advantages and competencies on top of the sectors comparative advantage. This includes on-farm and processing technology, sustainable practices, biosecurity systems and marketing, which has supported the continual growth in exports, employment, and wages.

26. The sector is strongly connected with a network of universities, research institutions and infrastructure, which has supported improved agriculture productivity and resilience.

27. Over the last ten years, New Zealand's food and fibre exports have grown at a compound annual growth rate of 4.8% whereas other goods exports have grown by 1.8%.[5]

28. There are large opportunities for future growth in New Zealand's food and fibre sector. Emerging technologies and demand opportunities, such as nutritional constraints highlighted in the OECD Food and Agriculture Outlook 2025–2034[6] will provide opportunities for growth.

29. MPI has developed an 8-point plan to enable the sector to capitalise on growth opportunities and help meet the Government's goal of doubling the value of exports by 2034.[7]

Māori economy and the agriculture sector

30. The primary sector is important to New Zealand's overall economic contribution, and Māori own a significant share of these assets. The 2017 Māori Investor Guide[8] reported that Māori own 50% of the fishing quota,

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5 At 4.

6 Food and Agriculture Organization of the United Nations *OECD Food and Agriculture Outlook 2025–2034* (2025). **[MPI.006.0059]**

7 Ministry of Primary Industries *Strategic Intentions 2024–2028* (31 October 2024) at 18. **[MPI.006.0369]**

8 Ministry of Business, Innovation and Employment *Māori Economy Investor Guide* (June 2017). **[MPI.006.0410]**

30% of forestry,[9] 30% of lamb production, 30% of sheep and beef production, 10% of dairy production and 10% of kiwifruit production.

31. Te Ōhanga Māori 2023 (The Māori Economy 2023) provides an insight of the role of agriculture sector in the Māori economy.[10] The Māori economic contribution to New Zealand's economy has grown from $17 billion (6.5% of GDP) in 2018 to $32 billion (8.9% of GDP) in 2023.[11] Of this total, the Māori primary sector (agriculture, forestry and fishing) contributed $3.6 billion to New Zealand's GDP in 2023, playing a significant part in the Māori economy.

32. The report found that in 2023, the primary industries were the second largest contributors to the Māori economy with an estimated asset base of $39 billion (of a total of $126 billion). This included:[12]

    32.1 $12 billion in sheep and beef farming;

    32.2 $11.7 billion in dairy farming;

    32.3 $6.2 billion in forestry;

    32.4 $3 billion in fishing;

    32.5 $3.5 billion in kiwifruit growing and other horticulture; and

    32.6 $2.4 billion in other agriculture.

33. Te Ōhanga Māori 2023 found there were 21,468 Māori employees in the primary industries (6% of the total Māori workforce).[13] Of these employees, 19% are employed in dairy, 17 % in sheep and beef farming, 15% in the horticulture and kiwifruit growing, 10% in forestry, 34% in other agriculture, and 5.5% in fishing. In addition to this, there are around 16,400 Māori employees working for processors: in dairy processing (2580 employees), meat processing (8637 employees), and wood and

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9 Ian Dickson, Mike Hensen and Peter Madden *Economics of Alternative Land Use on Crown Forest Licensed Land* (May 2009). [**MPI.005.3193**]

10 Ministry of Business, Innovation and Employment *Te Ōhanga Māori 2023* (November 2024). **[MPI.006.0464]**

11 At 5.

12 At 14.

13 At 28.

paper processing (5214 employees). Beef+Lamb NZ estimates around 40% of the meat processing workforce are Māori.

34. It is well recognised that Māori face barriers that can limit primary sector economic development options and increase their exposure to the impacts of climate change and climate policy, for example:

34.1 Higher proportion of ownership of land of a lower-quality land use capability (**LUC**)[14] - around 80% of Māori freehold land is considered 'under-utilised', or 'under-productive'. There are approximately 1,400,000 hectares of whenua Māori in Aotearoa where 7% (115,000 ha) is classified as highly productive, 63% (875,000 ha) can be used for pastoral or forestry activities, and 11% (157,000 ha) is unsuitable for cropping, pasture or forestry. The remaining 8% (106,000) is formed by estuaries, icefields, lakes, quarries, rivers and towns.[15]

34.2 Higher land use classes are subject to moderate to severe land use constraints through physical limitations, such as erosion, climate (drought, excessive rain etc), soil and wetness, which influences the production suitability of the land.[16] Up to 30% of land is thought to be landlocked (i.e. identified as a piece of land where there is no reasonable access).[17]

34.3 Barriers in obtaining capital - legislation such as Te Ture Whenua Māori Act 1993 protects the retention of whenua in Māori ownership, resulting in difficulty using whenua Māori as a loan security to access capital to fully realise the potential of the land.

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14 The LUC units are used by New Zealand's agencies to classify land blocks into 8 classes according to their long-term productivity capacity.

15 Te Puni Kōkiri *Whenua Māori Land Use Capability distribution*. **[MPI.006.0409]**

16 Manaaki Whenua Land Care Research "An introduction to LUC" (2025) <Landcare Research, Land Resources Portal>.

17 Herenga ā Nuku Aotearoa "Land Locked Land" (2023) <https://www.herengaanuku.govt.nz/advice/resolving-disputes-over-access/landlocked-land>.

This may include capital to support productivity improvements, land use change or building resilience.[18]

34.4 Multiple ownership structures – overall an average Māori land block has a size of 53.06ha and 114 owners and the total number of allocated ownership records recorded in all Māori land blocks is 3,287,810.[19] This can make it difficult to get agreement on decisions about land use change and development, for example, decisions that would reduce emissions or make the enterprise more resilient to climate impacts.

35. Over two-thirds of Māori farms owned and operated by Māori Authorities[20] in both the North Island (68%) and South Island (71%) were livestock farms in 2022, including sheep, beef, and dairy cattle farms.[21] This data did not include farms privately owned by Māori (such as land on general title). The report commented that almost half of Māori farms are owned and operated by Māori authorities. While livestock farms are the more common type of Māori Authority owned farms across Aotearoa, large areas of Māori agricultural land are also dedicated for use as plantation forests.

36. To give some sense of the further economic potential of whenua Māori, preliminary results from recent research estimates there is the potential for an additional: [22]

36.1 $1.01 billion in direct output and $389 million in GDP annually, supporting the employment of an extra 2,135 FTEs, through bringing new land into food and fibre production; and

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18 Reserve Bank of New Zealand *Improving Māori Access to Capital: Issues Paper* (2022). [**MPI.006.3219**]

19 Ministry of Justice *Māori Land Update – Ngā Āhuatanga o te whenua* (June 2024). **[MPI.006.0462]**

20 Māori authorities are economically significant businesses involved in the collective management of assets held by Māori. 'Other Māori enterprises' refers to Māori businesses that are economically significant and are not Māori authorities.

21 Statistics New Zealand "Māori farm size much larger than average size" (23 August 2023) <https://www.stats.govt.nz/news/maori-farm-size-much-larger-than-average-size/>.

22 Ministry for Primary Industries *Situation and Outlook for Primary Industries* (June 2025) at 88. **[MPI.006.0225]**

36.2 $2.9 billion in direct output and $1.2 billion in direct GDP annually, supporting the employment of an extra 7,447 FTEs, through increasing the productivity of whenua Māori that is already in food and fibre production.

New Zealand's agricultural emissions profile

37. New Zealand's emissions profile reflects that New Zealand has a large agriculture sector and an energy sector that is largely renewable. The agriculture sector plays a key role in the New Zealand economy.

38. In New Zealand's latest Greenhouse Gas Inventory 1990–2023 (**NZ GHG Inventory**),[23] emissions from the agriculture sector totalled 40,613.0 kilotonnes carbon dioxide equivalent (**kt CO_2-e**), representing 53.1% of New Zealand's gross emissions.

39. Of this, New Zealand's agricultural emissions include:

39.1 Methane (**CH_4**) as the main source of agriculture emissions, contributing 82% of the sector's total emissions. Methane is a short-lived gas, meaning it stays in the atmosphere for a shorter time than carbon dioxide, but it also has a greater warming effect, estimated to be 28–36 times more effective at trapping heat in the atmosphere than carbon dioxide (**CO_2**).[24]

39.2 New Zealand's methane emissions are mostly from enteric fermentation, which is the digestive process in ruminant animals like cows and sheep, and from manure management.

39.3 Nitrous oxide emissions make up 16% of the sector's emissions and 8.3% of New Zealand's gross emissions. These emissions are from livestock urine and dung on pasture and the use of synthetic nitrogen fertilisers.

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23 Ministry for the Environment *New Zealand's Greenhouse Gas Inventory 1990–2023* (4 August 2025). **[MPI.006.0993]**

24 Using Global Warming Potential (GWP), the method used by the UNFCCC for comparing the different warming effects of equal-sized emissions of different greenhouse gases, averaged over a 100-year period. Carbon dioxide has a baseline GWP of 1. Methane has a GWP of 28–36.

39.4 A small percentage (2%) of carbon dioxide is also emitted from the from the use of lime and urea fertiliser.

40. Of the 2023 agriculture emissions, the most significant come from dairy cattle (48.3%), sheep (23.3%) and beef cattle (19.8%).

41. I note that Dr Anthony Owen and Emily Bailey's evidence discusses New Zealand agricultural emissions profile from 2019 and 2018 respectively.[25] The NZ GHG Inventory 1990–2023 is the latest Inventory and was published in April 2025.

42. The NZ GHG Inventory shows agricultural emissions peaked in 2014 and remained stable between 2015 and 2021, before dropping significantly in 2022 and 2023.

43. But, if we go further back in time, from 1990 – 2023 there is a 10% increase in agricultural emissions. Since 1990, this has been driven by increases in the number of dairy cattle, and synthetic nitrogen fertiliser use. There has also been a 2% decrease from 2022 to 2023, which was largely been driven by reduced livestock populations, as well as market forces, such as the price of fertiliser and afforestation incentives under the NZ ETS.

44. I note that Natasha Koia's evidence outlined the environment damage caused by the use of fertiliser emissions.[26] Fertilisers like superphosphate, potassium and nitrogen are applied to pastures to optimise pasture growth. Natural levels of these chemicals may be low in many soils in Aotearoa. The amounts applied will be driven by the cost of fertiliser and the soil and plant needs. There are national regulations that allow farmers to apply up to 190kg of synthetic nitrogen fertiliser per ha, per annum without requiring a consent. Changes to this policy (including its removal) were recently consulted on as part of wider public consultation on freshwater policy in July 2025. Regional councils also have a role in

[25] Brief of evidence of Dr Anthony Owen Cole dated 6 May 2025 (Wai 3325, #A84); and brief of evidence of Emily Tuhi-Ao Bailey dated 24 October 2024 (Wai 3325, #A17).

[26] Brief of evidence of Natasha Koia, dated 15 October 2024 (Wai 3325, #A8).

managing freshwater outcomes and have rules and policies in place to achieve this (such as those in regional plans).

45. I note that Dr Anthony Cole's evidence also states that by the end of 2025, the agricultural sector is on track to release a further 39.6 million tonnes of CO_2 equivalent (**$C0_2e$**).[27] At this annual rate of $C0_2e$ emissions, between 1990 and 2025 (i.e., 35 years), the agricultural sector will have released an estimated 1.4 billion tonnes of $C0_2e$.

46. As outlined above, I discuss how methane is a short-lived gas (and more potent than carbon dioxide) meaning it stays in the atmosphere for around 9 years. Therefore, a cumulative addition of biogenic methane for 35 years may not accurately reflect our methane emissions contribution to global temperature changes. The biogenic methane component of our 2050 target recognises this difference and therefore does not require biogenic methane emissions to reduce to zero – this is discussed further when talking about the split gas target.

Climate change impacts on agriculture and Māori

47. New Zealand has experienced significant climate-related events in recent years including cyclones, floods, landslips, droughts and wildfires. Climate change is increasing the frequency and severity of these weather events, causing widespread damage and imposing significant costs to the primary sector and the broader economy.

48. These climate impacts are placing measurable pressure on New Zealand's agriculture sector with weather events and seasonal variations, as well as incremental changes, contributing to increased variability in crop yields, pasture growth, and livestock productivity. The Māori agriculture sector may be disproportionately affected by these pressures due to the barriers outlined in paragraph [34]. For example, difficulties accessing financial support can hinder the ability of Māori landowners to implement mitigation and adaptation measures, and higher land-use capability classes generally have fewer production options than better quality land.

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27 Brief of evidence of Dr Anthony Owen Cole dated 6 May 2025 (Wai 3325, #A84).

Crown policy and programmes: Legislative context

Climate Change Response Act 2002 and the NZ ETS

49. The NZ ETS is the primary legislative mechanism for managing emissions in New Zealand and for helping New Zealand meet its domestic and international obligations. These include the Paris Agreement, the 2050 domestic targets as set out in the Climate Change Response Act 2002 (**CCRA**), and emissions budgets set out in the emissions reduction plans for 2022 to 2025. Details on setting emissions targets can be found in the Ministry for the Environment's briefs of evidence.

50. Emissions from agricultural activities, in terms of methane and nitrous oxide, are not included in the NZ ETS[28]. The entry of the agricultural sector into the NZ ETS has been delayed several times for reasons including concerns about administrative burden, leakage, and impacts on the competitiveness of the agricultural sector.[29]

51. In 2002, the CCRA was enacted to establish a framework for reducing greenhouse gas emissions in New Zealand but the agriculture sector was exempt from a price on emissions until 2012.

52. In 2005, the government consulted on implementing a carbon tax. This carbon tax was to come into effect on 1 April 2007, except for farming emissions of methane and nitrous oxide which were exempt for the first commitment period (after 31 December 2012).[30] However, the government announced in December 2005 that it was not proceeding with its proposed carbon tax and would instead consider other ways to ensure New Zealand meets its commitments to cut greenhouse gas emissions.[31]

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28 Where an agricultural processor is involved in processing activities (for example, dairy and meat processing or the import and manufacture of synthetic fertiliser), the emissions associated with non-farm activities such as transportation, or the energy to process, are covered by the NZ ETS. A small proportion of on-farm emissions are included in the NZ ETS, such as emissions from driving farm vehicles.

29 Ministry for the Environment *Deferral of Climate Change Response Act 2022 reporting obligations for animal farmers* (12 March 2025). **[MPI.006.1865]**

30 Hon Dr Michael Cullen and Hon Pete Hodgson *Implementing the carbon tax: a government consultation paper* at 2. [**MPI.006.2956**]

31 Hon David Parker (Minister Responsible for Climate Change Issues) "Carbon tax will not go ahead in 2007" (press release, 21 December 2005) <https://www.taxpolicy.ird.govt.nz/news/2005/2005-12-21-carbon-tax-not-proceed>.

53. In 2007, the government consulted with Māori on the proposals outlined in the five documents including: (1) Measures to Reduce Greenhouse Gas Emissions Post 2012; (2) Transitional Measures; (3) Sustainable Land Management and Climate Change; (4) Powering our Future – New Zealand Energy Strategy; and (5) the New Zealand Energy Efficiency and Conservation Strategy.[32]

54. Consultation included 13 hui during March and April held in Gisborne, Rotorua, Ruatōria, Auckland, Masterton, Tūrangi, Hamilton, Whangārei, New Plymouth, Wellington, Nelson, Christchurch and Invercargill. One person from each hui also attended a representatives' hui in Wellington.[33]

55. Following this consultation the government decided both to develop an Emissions Trading Scheme as the key mechanism to incentivise emissions reduction, and for officials to explore whether agriculture should be included. In 2007, the then Ministry of Agriculture and Forestry (**MAF**) also established the agricultural technical advisory group AgTAG[34] to consider how agriculture could participate in the NZ ETS. Its main task was to provide guidance and advice on the technical design of options for the point of obligation and methodologies for allocating New Zealand Units (**NZUs**).

56. Two rounds of regional engagement with Māori occurred in 2007 and a further round of hui were held in 2008. Through these meetings with Māori, the following groups were established by Māori to engage with government:

    56.1 an Iwi Leadership Group who engaged directly with Ministers and were also members of the Climate Change Leadership Forum;

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32 Ministry for the Environment *Consultation with Māori on Climate Change: Hui Report* (November 2007) at 6. **[MPI.006.1296]**

33 At 4.

34 Ministry of Agriculture and Forestry *Briefing on the Agricultural Technical Advisory Group's Report on Agriculture's Inclusion into the Emissions Trading Scheme* (27 February 2009). [**MPI.006.2915**]

56.2 the Māori Reference Group (**MRG**) which is a representative group of Māori and comprises 14 members, selected from 12 regional climate change consultation hui held across the country in 2007; and

56.3 the Māori Reference Group, which is an executive group nominated by the MRG (**MRGE**) to actively work with officials on the development and implementation of climate change policy. Members from this group represented Māori on the MAF Peak Group and attend international negotiations.[35]

57. Engagements to advise on climate change issues with Māori throughout that process informed the government on the core design of the NZ ETS. The government also commissioned work on the impacts of climate change policy for Māori. This included the 2007 report by Dion Tuuta, *Consulting report Māori and Climate Change: Issues for Māori Consideration.*[36] In 2008, Parliament passed NZ ETS legislation to start unit obligations to cover all sectors including forestry and agriculture from 1 Jan 2013. In 2009, the Moderated Emissions Trading Amendment Bill was introduced into Parliament and deferred unit obligations for the agriculture sector until 1 Jan 2015 and required mandatory reporting from 1 Jan 2012.

58. In 2010, an Agriculture ETS Advisory Committee was established by the Minister of Agriculture.[37] It included representatives from the pastoral sector, research groups and Māori. The role of the Committee was to provide independent and objective advice to the government on the implementation of the agricultural component of the NZ ETS. In 2011, agricultural processors (such as those who process meat from animals, pigs or poultry; and milk processors) started voluntary reporting of its emissions, followed by mandatory reporting in 2012.

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35 Ministry for the Environment *Departmental Report on the Emissions Trading Scheme Select Committee Review* (26 June 2009). [**MPI.006.1431**]

36 Dion Tuuta *Māori and Climate Change: Issues for Māori Consideration* (January 2007). [**MPI.006.2010**]

37 New Zealand Government "Agriculture ETS Advisory Committee announced" (1 October 2010) <www.beehive.govt.nz>.

59. In 2011, a legislated review of the NZ ETS was delivered by an appointed Panel.[38] This review focused on the high-level design of the NZ ETS. Chris Karamea Insley was appointed by the Minister as someone who had the appropriate knowledge, skill and experience relating to the principles of the Treaty of Waitangi and tikanga Māori, as required under the CCRA. The CCRA also required the Panel to consult representatives of iwi and Māori.

60. For agriculture, the Panel focussed on what, if anything, had changed for the agriculture sector since its inclusion in the NZ ETS was last considered in 2009. On balance the Panel recommended agriculture remain in the NZ ETS and incur surrender obligations in 2015 as currently legislated. In response to the 2011 review, the Minister for Climate Change Issues was invited by Cabinet to report to them by February 2012 with proposed changes to the NZ ETS based on the Review Panel's recommendations. In the report back to Cabinet, the Minister for Climate Change Issues informed Cabinet that they proposed to remove the 2015 entry date for surrender obligations for agricultural emissions.[39] The removal was intended to be a transitional measure designed to give Ministers more flexibility over the optimal timing for the imposition of surrender obligations for the agricultural sector.

61. In 2012, Parliament passed the Emissions Trading and Other Matters Amendment Bill, which deferred the introduction of unit obligations for agricultural emissions indefinitely, and suspended the phase-out of free allocation to industry and agriculture. Reporting remained for processor level (but not farm-level). 21% of the Select Committee submitters agreed with the deferral. This was mainly pastoral industry organisations and Climate Change Iwi Leadership. Most agreed that before agricultural emissions are included in the NZ ETS, practical economically viable mitigation technologies need to be available and New Zealand's trading

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38 Ministry for the Environment *Doing New Zealand's Fair Share: Emissions Trading Scheme Review 2011 Final Report* (30 June 2011). **[MPI.006.1634]**

39 Office of the Minister for Climate Change Issues *Emissions Trading Scheme Review 2012 – final decisions on amendments to the Climate Change Response Act 2002* at [73]-[74]. [**MPI.006.3163**]

competitors need to be taking similar action.[40] Te Rūnanga o Ngāi Tahu acknowledged the economic need for a delay but supported setting an entry date for agriculture into the NZ ETS.[41]

62. In 2017, an independent Climate Change Committee was established to recommend whether agriculture should be included in the ETS. In April 2019, the Interim Climate Change Committee released its recommendations on agriculture including:[42]

62.1 Pricing agricultural emissions via a levy/rebate system from 2025; and in the interim.

62.2 Processor-level pricing via the NZ ETS.

63. The Interim Climate Change Committee engaged with Māori in the development of its final report. Key feedback included:[43]

63.1 Māori landowners are supporters of strong climate change policy. They want to see climate change addressed more holistically – in a way that considers intergenerational impacts, planning and responding to the impacts of climate change, and the overall transition to a low-emissions economy.

63.2 The unique characteristics of iwi/Māori owned land means policy needs to allow iwi/Māori owned farm enterprises to equitably engage and take up opportunities. This includes consideration of the fact that some iwi/Māori landowners have been unable to develop their land and are also unlikely to sell it.

64. In 2019, the Government considered the Interim Climate Change Committee's recommendation and publicly consulted on options to reduce agricultural emissions. This included a proposal to put a price on agricultural emissions at farm level from 2025; and two options for

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40 Ministry for the Environment and Ministry for Primary Industries *Departmental Report on the Climate Change Response (Emissions Trading and Other Matters) Amendment Bill* (September 2012). **[MPI.006.1732]**

41 At [220].

42 Interim Climate Change Committee *Action on agricultural emissions* (30 April 2019). [**MPI.002.0591**]

43 Interim Climate Change Committee *Action on agricultural emissions* (30 April 2019). [**MPI.002.0591**]

managing emissions in the interim. These options were to: (1) put a price on emissions at processor level, or (2) to establish a formal sector-government agreement as proposed by the primary sector in the He Waka Eke Noa – Primary Sector Commitment to support on-farm emissions reduction and develop and implement a farm-level pricing system by 2025.

65. The government's consultation with Māori included officials calling key iwi/Māori partners, corresponding with a wider group of iwi/Māori and offering the opportunity for hui or a phone call with a policy expert. Following this, two hui were held with Te Rūnanga o Ngāi Tahu and representatives from Te Arawa.

66. Nineteen submitters identified as iwi/Māori provided feedback on the government's proposal, including 11 who also identified as farmers and 6 iwi/Māori representative organisations (three were from different groups within Te Arawa, Waikato–Tainui, Ngāi Tahu, and the Federation of Māori Authorities (**FOMA**)).

67. Key feedback received from iwi/ Māori submitters included:

    67.1 A split in terms of preference for the interim options - iwi organisations mostly favoured the interim option to bring agriculture into the NZ ETS via the processor level. This would provide certainty as starting a process would support reducing emissions in the short term. However, submitters raised concerns about the 95% free allocation of units in the NZ ETS and how this would affect Māori land, especially land that was less developed, because Māori landowners face uncertain costs in the future that will not be faced by established agricultural enterprises.

    67.2 Iwi/Māori submitters with strong connections to the agriculture sector tended to support the interim option of establishing a formal sector-government agreement, as this option would support and incentivise farm level actions compared to the processor level option. These submitters wanted to see this

farm-level action accompanied by comprehensive, strategic approaches to lowering emissions, such as a low emissions action plan for the primary sector.

67.3 Almost all iwi/Māori submissions emphasised the importance of partnerships with the Crown to support and develop Māori land and agriculture to: (1) to address the historical disadvantages faced by Māori landowners; (2) overcome any of the disproportionate impacts on Māori related to agriculture's inclusion in the NZ ETS; and (3) harness the existing potential of Māori land and resources.

2050 split gas target (part of the Zero Carbon Bill)

68. In 2019, New Zealand set a domestic target under the CCRA of:

68.1 Net zero emissions of all greenhouse gas (**GHG**) emissions other than biogenic methane by 2050 (net zero 2050 target).

68.2 A 24 to 47% reduction below 2017 biogenic methane emissions by 2050, including a 10% reduction below 2017 biogenic methane emissions by 2030 (biogenic methane target).

69. This approach is known as a split-gas climate change target, as it treats long-lived and short-lived gases separately due to their different warming impacts and so excludes biogenic methane from 'net zero'. This approach reflects that methane is a short-lived but potent gas with an average atmospheric lifetime of ~12 years,[44] where warming caused by past and current methane emissions will largely disappear within the next few decades. The contribution from methane to future global warming therefore depends almost entirely on future emissions of this gas.

[44] Tonne-for-tonne methane is estimated to be 28 times more effective at trapping heat in the atmosphere than carbon dioxide averaged over 100 years, and 84 times more effective over 20 years (without climate feedback). See Intergovernmental Panel on Climate Change "Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report" (2013) <https://www.ipcc.ch/report/ar5/wg1/ >.

Agriculture mitigation policy in New Zealand

Agricultural emissions mitigation policies, as published with the first and second Emissions Reduction Plans

70. New Zealand's first emissions reduction plan (**ERP1**), released in 2022, outlined the following actions and strategies to support meeting the first emissions budget period of 2022 – 2025.[45] The following actions and strategies were included:[46]

    70.1 Price agricultural emissions:

        70.1.1 Introduce an agricultural emissions pricing mechanism by 2025.

        70.1.2 Support early adopters of low-emissions practices.

    70.2 Accelerate mitigation technologies:

        70.2.1 Establish a new Centre for Climate Action on Agricultural Emissions to drive a step change in mitigation technology innovation and uptake on farms.

    70.3 Support producers to make changes:

        70.3.1 Fund tikanga-based programmes to support needs and aspirations of Māori.

        70.3.2 Introduce climate-focused extension and advisory services.

    70.4 Transition to lower-emissions land uses and systems:

        70.4.1 Develop food and fibre science and mātauranga Māori accelerators.

71. ERP1 was amended in 2024. Several agriculture actions were discontinued in this amendment, including:[47]

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45 Ministry for the Environment *Aotearoa New Zealand's First Emissions Reduction Plan* (May 2022). [**MPI.001.5229**]

46 Ministry for the Environment *Aotearoa New Zealand's First Emissions Reduction Plan* (May 2022) at 235. [**MPI.001.5229**]

47 Ministry for Primary Industries *Status of Actions in the first Emissions Reduction Plan* (24 June 2024). [**MPI.006.2935**]

71.1 An emissions pricing system is developed, and agricultural emissions are priced by 1 January 2025.

71.2 All producers will have emissions reports by the end of 2022 and a farm plan in place by 2025.

71.3 Develop further climate-focused extension and advisory services.

72. A report released in 2025 shows the progress made from actions under ERP1 of which the key highlights are:[48]

72.1 Continued work on on-farm sequestration and sector engagement on farm-level emissions calculation methodology.

72.2 Continued work with sector to invest in research and development.

72.3 Complete updated GHG inventory research strategy.

72.4 Continued policy work and engagement with the sector on agricultural emissions policy.

73. In December 2024, the government released New Zealand's Second Emissions Reduction Plan (**ERP2**) to cover the emissions budget period of 2026-2030.[49] Key actions for supporting emissions reduction in the agricultural sector are outlined in the government's ERP2. These include:

73.1 Reviewing the methane science and targets.

73.2 Accelerating the development of mitigation tools and technologies to reduce on-farm emissions.

73.3 Developing measurement of on-farm emissions for use by 2025.

73.4 Implementing a fair and sustainable pricing system for on-farm emissions by 2030.

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48 Climate Change Chief Executives Board *Progress Report on the first Emissions Reduction Plan* (March 2025). **[MPI.006.2235]**

49 Ministry for the Environment *New Zealand's second emissions reduction plan 2026-2030* (December 2024). **[MPI.006.2538]**

74. The government also supports Māori through programmes such as the Māori Agribusiness Extension Programme and Māori-led approaches to reducing biological emissions.[50] These programmes support Māori agribusinesses to:

74.1 identify, develop and implement innovative, scalable and culturally appropriate ways to reduce emissions;

74.2 enhance resilience in food and fibre production; and

74.3 improve overall sustainability.

Agricultural emissions pricing – legislative history and policies to date

Formation of the He Waka Eke Noa - Primary Sector Climate Action Partnership to develop an agricultural emissions pricing system

75. In October 2019, the previous government agreed to a proposal from the primary sector and Māori Agribusiness to work together under the He Waka Eke Noa Partnership (**Partnership**) to develop a system for measuring, managing and reducing agricultural greenhouse gas emissions, rather than putting agriculture in the NZ ETS. The Partnership was tasked with recommending to the government a farm-level pricing system to be put in place for 1 January 2025.

76. FOMA was part of the primary sector group (made up of 11 industry bodies) that provided government with the He Waka Eke Noa proposal to work with government on designing a practical and cost-effective system for reducing emissions by 2025 (as an alternative to the NZ ETS).[51]

77. When government agreed to partner with the primary sector group on the He Waka Eke Noa – Primary Sector Climate Action Partnership, FOMA was one of 13 members of the Partnership. FOMA's role was to provide a Māori agribusiness perspective to the development of pricing system through the Te Aukaha work programme. FOMA established Te Aukaha to:

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50 Ministry for Primary Industries *The Māori Agribusiness Extension Programme (MABx).* [**MPI.006.3001**]

51 Primary Sector Climate Change Commitment *He Waka Eke Noa – Our Future in Our Hands* (July 2019). **[MPI.006.2026]**

77.1 Advise and inform Māori landowners on the policy, legislative and regulatory reform process and the effects on land use and land management.

77.2 To support Māori landowners, land users and land managers, as mana whenua with mana whakahaere, to act with authority over their land, resources and assets.

77.3 To ensure the past and present contribution from Māori landowners to improving the emissions profile in Aotearoa is recognised.

77.4 To address the historic disparities faced by Māori landowners by working with government and industry on key strategic and policy priorities.[52]

78. The timeline for the Te Aukaha work programme was to:

78.1 Ensure Māori collective farmers have measured their baseline carbon profile (25% by 31 Dec 2021, 100% by 31 Dec 2022).

78.2 Ensure Farm Environmental Plans are in place (25% by 1 Jan 2022, 100% by 1 Jan 2025) and being deployed.

78.3 Provide cohesion and add-value to the He Waka Eke Noa workstreams.[53]

79. Both industry and government (MPI and Ministry for Environment) provided funding to support FOMA's participation in the He Waka Eke Noa Partnership. MPI held the Funding Agreement on behalf of the Partnership.

80. The Government legislated "Primary Sector Climate Change Commitment" milestones in schedule 5 of the CCRA to assess progress towards farmer readiness and establishing an alternative emissions pricing system.[54] These milestones were:

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52 FOMA "Te Aukaha" <https://foma.org.nz/te-aukaha/>.

53 FOMA "Te Aukaha" <https://foma.org.nz/te-aukaha/>.

54 Climate Change Response (Emissions Trading Reform) Amendment Act 2020, sch 5.

Farm emissions reporting

80.1 For 25% of farms in New Zealand, a person responsible for farm management holds a documented annual total of on-farm greenhouse gas emissions, by methods and definitions accepted by the He Waka Eke Noa Steering group, by 31 December 2021.

80.2 For all farms in New Zealand, a person responsible for farm management holds a documented annual total of on-farm GHG emissions, by methods and definitions accepted by the He Waka Eke Noa Steering group, by 31 December 2022.

80.3 A pilot of a farm-level accounting and reporting system has been completed by 1 January 2024 across a range of farm types.

Farm Plans

80.4 Guidance is provided to farmers on how to measure and manage GHG emissions through farm planning by 1 January 2021.

80.5 A quarter of farms have a written plan in place to measure and manage their GHG emissions by 1 January 2022.

80.6 All farms have a written plan in place to measure and manage their GHG emissions by 1 January 2025.

81. The CCRA required the Climate Change Commission to assess this progress. These milestones were repealed as part of the Climate Change (Emissions Trading Scheme Agricultural Obligations) Amendment Act 2024, as the requirements for the Climate Change Commission to report on the milestones in 2022 were met.

82. The Climate Change Commission's report found:[55]

> While not all the primary sector climate change commitments have been met, the steps that have been taken are enough to keep the sector on track for a basic farm-level pricing system by 2025. Many farmers have taken steps to measure and report on-farm agricultural emissions, and put plans in place to manage emissions. Our [Climate Change Commission] assessment shows that good progress has been made towards farmers being ready for farm-level pricing, but there is still work to be done.

He Waka Eke Noa progress and response

83. In May 2022, the He Waka Eke Noa Partnership provided its final recommendation to government to implement a farm-level split-gas levy system in 2025.[56]

84. In June 2022, the government considered the Partnership's recommendations and agreed to implement it with modifications to improve how it would work in practice, increase the effect on emissions reduction and support impacts on participants and the wider economy. The Ministry for the Environment (**MfE**) and MPI consulted on the modified system in October 2022.[57] Over 20,000 submissions were received, and 28 consultation events were undertaken, including one specifically for hapori-Māori.

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55 Climate Change Commission *Full Report: Progress toward agricultural emissions pricing* (June 2022) <https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/agricultural-emissions/agricultural-progress-assessment/full-report-agricultural-progress-assessment>:

- Robust evidence from the He Waka Eke Noa partners responsible for measuring progress towards the Schedule 5 commitments gives us high confidence that the 25% emissions reporting commitment (1) has been met. About 61% of farms held a documented total of their annual emissions as of 31 December 2021. However, ongoing progress and the total number of farms varies significantly between sectors.
- The 100% emissions reporting commitment (2) is due by 31 December 2022. Based on evidence received to date, we have high confidence that the sector will not reach this commitment on time.
- We conclude with high confidence that commitment (3), for a pilot of a farm-level accounting and reporting system across a range of farm types by 1 January 2024, can be met in time if all parties continue to work towards it.
- We have high confidence that with commitment (1) having been achieved, and progress made towards commitments (2) and (3), even if these milestones are not met in full, this contributes to laying the foundations for participation in a basic farm-level pricing system by 1 January 2025.

56 He Waka Eke Noa - Primary Sector Climate Action Partnership *Recommendations for pricing agricultural emissions, Report to Ministers* (31 May 2022). **[MPI.002.0457]**

57 Ministry for the Environment *Pricing agricultural emissions: consultation document* (2022). **[MPI.006.2042**]

85. In December 2022, to meet the requirements of section 215 of the CCRA, the Minister of Climate Change and Minister of Agriculture, released a report outlining a system to put a price on emissions from agricultural activities as an alternative to the NZ ETS (**section 215 report**).[58] The section 215 report reflected concerns that Māori had raised with the pricing proposal. This included a desire for changes to the pricing system to address historical disadvantages and manage disproportionate impacts on Māori and Māori communities, with specific areas of concern including around recognition of sequestration, need for transitional assistance, governance and revenue recycling settings, point of obligation settings, and how collectives would be treated.

86. The section 215 report addressed a number of these concerns raised by Māori submitters, including proposing:

86.1 A proportion of levy revenue would be used to establish a dedicated fund to support Māori landowners. This fund will be administered by Māori, for Māori, with the intention to recycle the levies paid by Māori to support Māori landowners and agribusiness.

86.2 Collective reporting and payment to support whenua Māori landowners and to ease administrative costs for members of the collection.

86.3 A relatively low, unique initial prices for both methane and nitrous oxide.

86.4 Eligible sequestration (management of indigenous vegetation and riparian margins) would be recognised in the interim. A sequestration strategy would be developed which would investigate additional vegetation categories such as indigenous vegetation established before 1 January 2008, and on or after 1 January 2008.

[58] Ministry for the Environment *Pricing agricultural emissions: Report under section 215 of the Climate Change Response Act 2002* (2022). **[MPI.003.3669]**

87. In 2023, the government made initial and then final policy decisions on an agricultural greenhouse gas emissions reporting and levy system.[59] Features included:

87.1 Start mandatory reporting of emissions in Q4 2024, and pricing in place by Q4 2025 (outside the CCRA).

87.2 Levy prices would be set with the primary consideration being to achieve emissions reductions in line with legislated targets and emissions budgets and considering additional factors (including availability of on-farm mitigations; social, cultural, and economic impacts on farmers growers, regional communities, households and Māori agribusiness; best available science; mātauranga Māori and economic information; and emissions leakage.

87.3 Oversight of the pricing system would include the Climate Change Commission and an Oversight Board with representation from the agriculture sector and Māori.

87.4 An innovation pathway would be developed and implemented to enable on-farm vegetation to be included in the NZ ETS or other appropriate mechanism. If the innovation pathway is not in place by 2025, then an interim sequestration system will be in place when the levy begins in Q4 2025 to recognise additional sequestration from riparian margins and management of indigenous vegetation within the pricing system.

88. In 2023, the government also deferred the date that animal farmers must meet NZ ETS reporting obligations, from 1 January 2024 to 1 January 2026. This followed initial decisions made to progress work to ensure mandatory reporting of agricultural emissions by late 2024 and pricing of those emissions one year later.

89. The government conducted public consultation on the proposal to defer NZ ETS animal farm level obligations from 18 August to 6 September 2023.

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[59] Ministry for Primary Industries *Final policy decisions on agricultural greenhouse gas emissions reporting and level system*. **[MPI.006.2195]**

Māori submitters considered there would be increased administrative costs as a result of animal farmer obligations under the NZ ETS due to the short timeframe before obligations commence and lack of extension and education support to farmers.[60]

90. Te Tumu Paeroa – Office of the Māori Trustee considered there would be significant impacts to participants by way of increased administrative and compliance costs.[61] They noted small landholdings and minor emitters are not normally set up to hold the required data or reporting systems to provide sufficient detail to meet NZ ETS obligations.

91. The Māori Trustee expressed its preference for a single, farm-level levy system to be fully developed and implemented, even if this requires an extension to timeframes. Taking the time to establish an effective, workable system was important as further delays to the pricing of agricultural emissions were likely to result in high costs and pressures (both domestically and internationally) for farmers and Māori landowners to meet their emissions targets.

Deferral of agricultural processes entering into the NZ ETS (from 2025 to 2027)

92. In 2020, the Climate Change Response (Emissions Trading Reform) Amendment Bill was passed which introduced the ETS backstop, that is:

92.1 processor level pricing via the NZ ETS to start by 2025 (the NZ ETS backstop);

92.2 agricultural processors (dairy processors, livestock processors and fertiliser importers and manufacturers) to monitor and report their agricultural emissions and to pay for these emissions from 2025; and

92.3 farmers to monitor and report for their emissions from 1 January 2025, and to pay for these emissions from

60 Ministry for the Environment *Deferral of Climate Change Response Act 2002 reporting obligations for animal farmers* (12 March 2025) at 7. **[MPI.006.1865]**

61 Ministry for the Environment *Deferral of NZ ETS reporting obligations for animals – farmer activities: Summary of submissions* (March 2025). [**MPI.006.2173**]

1 January 2026.

2023 coalition government commitment to remove agriculture from the NZ ETS and delay agricultural pricing until 2030

93. In 2023, the coalition government committed to take agriculture out of the NZ ETS, and to delaying agricultural emissions pricing until 2030.[62]

94. A number of claimants have raised specific concerns regarding New Zealand's agriculture sector being excluded from the NZ ETS or not facing a price under a different pricing mechanism.[63] In November 2024, the government passed the Climate Change Response (Emissions Trading Scheme Agricultural Obligations) Amendment Act 2024 to remove agricultural obligations from the NZ ETS (including the monitoring obligations). Changes to the CCRA were considered needed to remove those obligations because:

94.1 Processor-level pricing of agricultural emissions in the NZ ETS (that is, pricing agricultural emissions at the point where agricultural products are processed rather than at farm-level) may not effectively incentivise farmers to reduce their on-farm emissions, as on-farm behavioural changes may not be effectively recognised (processors may pass the same cost to all farmers regardless of their emissions efficiency). This also means that there would be little incentive to incorporate mitigations on-farm.

94.2 Applying a single price to all gases contradicts the intended split-gas pricing approach of New Zealand's legislated split gas targets. New Zealand's split-gas approach reflects the different warming impact that methane has compared with other greenhouse gases such as carbon dioxide.

94.3 Implementing the farm-level obligations, for farmers to report and pay for their agricultural emissions via the NZ ETS, could bring

62 National Party *Blueprint for a Better Environment* at 7. [**MPI.006.3247**]

63 Kōrero taunaki o Pita Tipene dated 30 Oketopa 2024 (Wai 3325, #A19); Affidavit of Ivo Geoffrey Betram dated 26 August 2024 (Wai 3325, #A5); Brief of Evidence of Natasha Koia dated 15 October 2024 (Wai 3325, #A8); Brief of evidence of John Stacey Ballingall dated 13 May 2025 (Wai 3325, #A108); and Brief of evidence of Dr Rhys Griffith Jones dated 6 May 2025 (Wai 3325, #A79).

around 100,000 farmers into the NZ ETS as participants.[64] This is likely to present significant administrative, compliance, and data management challenges. It would also be costly for farmers to comply with the system. Retaining any form of obligations for agriculture in the NZ ETS contradicts the government's commitment to keep agriculture out of the NZ ETS. The ERP2 includes the government's commitment to implementing a fair and sustainable pricing system for on-farm emissions by 2030.

95. The Crown did not publicly consult on policy for the Climate Change Response (Emissions Trading Scheme Agricultural Obligations) Amendment Bill (**the Bill**) to remove agricultural activities from the NZ ETS. This was because legislative changes were required in 2024 to prevent NZ ETS obligations from starting on 1 January 2025. The timescales to progress legislative changes meant that there was not time for extensive consultation on the Bill's policy. Additionally previous public engagement, including with Māori, were undertaken for a number of related policy proposals outlined in this document.

96. In June 2024, the government announced the disestablishment of the He Waka Eke Noa Partnership. The Government replaced the He Waka Eke Noa Partnership with a new industry led "pastoral sector group" to "constructively tackle biogenic methane',[65] and to act as mechanism for the sector 'to provide their views to government directly and to engage in a respectful dialogue'.[66] The Pastoral Sector Group consists of the industry bodies: DairyNZ, Beef + Lamb New Zealand, Deer Industry New Zealand,

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64 The CCRA did not include a minimum size threshold for agricultural NZ ETS participants meaning any farmer that raised, grew or kept ruminant animals, pigs, horses or poultry and intended to sell or trade these products, would be captured in the NZ ETS. This "broad definition" could bring around 100,000 farmers into the NZ ETS. For comparison, the He Waka Eke Noa Partnership proposed a threshold for participation in its proposed farm-level pricing system, which excluded very small farms and minor emitters. It estimated around 23,000 farmers would be captured representing around 96% of the sector's emissions.

65 Hon Todd McClay, Hon Simon Watts, Hon Andrew Hoggard and Hon Mark Patterson "Agriculture to come out of the ETS" (press release, 21 June 2024) <https://www.beehive.govt.nz/release/agriculture-come-out-ets>.

66 Hon Todd McClay "Statement by Minister Todd McClay following the March 2025 Pastoral Sector Group meeting" (press release, 25 March 2025) <https://www.beehive.govt.nz/release/statement-minister-todd-mcclay-following-march-2025-pastoral-sector-group-meeting>.

Federated Farmers of New Zealand, Dairy Companies Association of New Zealand, and the Meat Industry Association of New Zealand.[67]

97. Additionally, there had been independent analysis from the Productivity Commission and the Interim Climate Change Committee that have raised concerns about including agricultural emissions into the NZ ETS. In the Productivity Commission's 2018 report on a low emissions economy, it recommended that short-lived and long-lived gases should be priced separately, either through a dual-cap ETS (where there is a separate cap for long-lived and short-lived gases) or through a methane quota system.[68] The Productivity Commission noted that that having a single-cap ETS for biogenic methane is unsuitable as it does not properly recognise the different warming potential of biogenic methane.

98. In 2019, the Interim Climate Change Committee released its recommendations on *"how surrender obligations could best be arranged if agricultural methane and nitrous oxide emissions enter into the New Zealand Emissions Trading Scheme"*. The Committee concluded that the best way to reduce livestock emissions is to price them through a farm-level levy/rebate scheme as this was a simpler and less costly approach compared to the NZ ETS.[69] The Committee also recommended that prior to the establishment of a farm-level levy, that agricultural emissions are included in the NZ ETS at a processor level in the interim.

Independent methane science and target review and Climate Change Commission's review of 2050 targets

99. The National-ACT Coalition agreement included a policy to review the methane science and targets in 2024 for consistency with no additional warming from agricultural methane emissions. The government established an independent panel[70] to review the methane science and

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67 Hon Todd McClay "Statement by Minister Todd McClay following the March 2025 Pastoral Sector Group meeting" (press release, 25 March 2025) <https://www.beehive.govt.nz/release/statement-minister-todd-mcclay-following-march-2025-pastoral-sector-group-meeting>.

68 New Zealand Productivity Commission "Low-Emissions Economy" (August 2018). [**MPI.003.2918**]

69 Interim Climate Change Committee *Action on agricultural emissions: Evidence, analysis and recommendations* (30 April 2019). [**MPI.002.0591**]

70 Ministry for the Environment "Review of methane science and target" (11 December 2024)

provide advice on what our domestic 2050 biogenic methane target should be, consistent with the principle of no additional warming.[71] The principle of no additional warming requires the warming contribution of emissions to stabilise at a certain point.

100. The purpose of the methane review was to deliver an independent review of methane science and the 2050 targets, and to provide estimates of biogenic methane emissions reductions needed in 2050 and 2100 to achieve and maintain a state of no additional warming from New Zealand's biogenic methane emissions relative to 2017 levels of warming. The panel members brought extensive New Zealand and international scientific experience across atmospheric physics and chemistry, understanding and quantifying greenhouse gas emissions, and climate modelling.[72] The report also was peer reviewed by Dr Chris Smith and Professor Myles Allen.

101. As per the terms of reference for the review, taking a "no additional warming" approach would set a biogenic methane emissions target based on stabilising New Zealand's global warming impact at a level consistent with the 2050 target baseline year of 2017. The Panel were specifically asked not to make conclusions or recommendations beyond performing the scientific review. In undertaking the review, the Panel was tasked to:

101.1 engage with relevant experts if they choose to, in the development of the report;

101.2 ensure an effective quality assurance process is undertaken, for example, including through an independent external review process;

101.3 where possible, provide a consensus view in its report;

<https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-reductions/emissions-reduction-targets/review-of-methane-science-and-target/>.

71 Ministry for the Environment *Methane Science and Target Review – Terms of Reference* (24 June 2024). [**MPI.002.4582**]

72 The members of the Panel were: Professor Nicola Shadbolt – Chair, Massey University of New Zealand; Professor William (Bill) Collins – University of Reading; Professor David Frame – University of Canterbury; Dr Sara Mikaloff-Fletcher – Earth Sciences New Zealand (formally NIWA); and Associate Professor Laura Revell – University of Canterbury.

101.4 where this is not possible, feedback from individual members will be captured, and considered as part of subsequent advice;

101.5 provide a process where interested parties, including iwi/Māori, can submit relevant evidence, including mātauranga Māori;

101.6 provide a draft report to the Minister of Agriculture and Minister of Climate Change by 1 November 2024; and

101.7 provide a final report to the Ministers by Friday 29 November 2024 (noting an extension for this was granted).

102. The Panel provided its report to Ministers in December 2024.[73] The Panel was specifically asked not to make conclusions or recommendations beyond performing the scientific review.[74]

103. The Panel tested multiple methane reduction targets to assess what levels of reduction in New Zealand's biogenic methane emissions would meet the principle of no additional warming from 2017 levels across global emissions scenarios. Its key results were:

103.1 in a global emissions scenario of limiting temperature increases to 1.5°C, New Zealand biogenic methane emissions reduced by 24% by 2050;

103.2 for a mid-range global emissions scenario (holding average temperatures to 2.0-2.7°C), New Zealand's biogenic methane emissions reduced by 14-15% by 2050; and

103.3 in a high global emissions scenario (with a temperature increase well over 2.0°C and as high as approximately 4.5°C),

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73 Methane Review Panel *Methane science and target review* (December 2024). **[MPI.006.2638]**

74 The following issues were out of scope of the review: a) making any conclusions or recommendations that go beyond performing the scientific review and providing the evidence-based advice required by these terms of reference. For example, the advice will not cover implications of any new proposed target on the broader climate strategy. It will not try to make values-based judgements about the burden sharing responsibilities of different sectors or nations; and b) reviewing any other aspects of the 2050 Target as set out in s 5Q of the CCRA.

New Zealand's biogenic methane emissions levels can remain at 2022 levels.

104. Under the CCRA, the Climate Change Commission is required to review the 2050 target every five years to ensure it remains fit for purpose and provide independent expert advice on whether any changes should be made. The first review of this kind was released in late 2024.[75] The government is required to respond to this review within twelve months. Ministers have signalled they intend for both reports to inform their response to the Climate Change Commission, and that they intend to confirm a target this year.[76]

Tools and technologies to reduce agricultural emissions

105. I understand a number of claimants evidence briefs have raised concerns about the government's technology-led approach to managing agricultural emissions including noting "highly speculative projected reductions in agricultural emissions" in the ERP2 and increased reliance on mitigation technology.[77]

106. Under ERP2, the government is taking a technology-led approach for agricultural emissions so the New Zealand economy can grow as net emissions come down. The government is investing in research and development of new technologies across a range of programmes with the aim of lowering emissions and as applicable,[78] increasing carbon removals to support cost-effective climate action.

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75 Climate Change Commission *Final report: Review of the 2050 emissions target including whether emissions from international shipping and aviation should be included* (November 2024). **[MPI.006.2249]**

76 Hon Todd McClay, Hon Simon Watts, Hon Andrew Hoggard and Hon Mark Patterson "Government releases independent scientific review on biogenic methane science and targets" (press release, 4 December 2024) <https://www.beehive.govt.nz/release/government-releases-independent-scientific-review-biogenic-methane-science-and-targets>.

77 Brief of evidence of Emily Tuhi-Ao Bailey dated 24 October 2024 (Wai 3325, #A17); Further affidavit of Ivo Geoffrey Bertram dated 28 April 2025 (Wai 3325, #A5(a)).

78 Removals do not 'count' towards the biogenic methane component of New Zealand's target. The biogenic methane target can only be met via gross reductions in methane.

107. A number of claimants' briefs of evidence have outlined the Crown's climate change response is focused on managing risk or protecting the agricultural sector.[79] The government has outlined in ERP2: [80]

> We need to reduce agricultural emissions in a way that does not compromise exports or lead to emissions leakage. Climate change policies cannot lower global emissions by shifting agricultural production to less efficient producers overseas. It is critical for the economy and for global emissions that New Zealand's trade-exposed agricultural production remains competitive. This is why the Government is taking a technology-led approach to managing agricultural emissions, which we are making good progress in implementing.

108. As technologies become commercially available, New Zealand will have more options for achieving emissions budgets and targets. New Zealand's farming and growing systems are diverse, and not all mitigation tools will work for all systems. This is why the research and development programme the government is investing in focuses on delivering enough adoptable solutions across different system types.

109. Table 10.1 from ERP2[81] outlines technologies for reducing agricultural emissions that have received Crown investment via the Ag Emissions Centre ((the **Centre** – formerly known as the **NZAGRC**) or AgriZero. This table was published in December 2024. Since then, MPI and the Centre have worked to continuously monitor the technology pipeline to support advice to Ministers and the provision of information to the sector to support their ability to plan.

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79 Brief of evidence of Dr Anthony Owen Cole Evidence, dated 19 May 2025 (Wai 3325 #84).

80 Ministry for the Environment *New Zealand's second emissions reduction plan 2026–30* (December 204) at 57. **[MPI.006.2538]**

81 At Table 10.1.

Table 10.1 Technology for reducing agricultural GHG emissions

Technology *Name and/or mechanism*	Description	Target source of emissions	Estimated/targeted efficacy on target source of emissions [1]	Earliest date available to New Zealand farmers [2]
EcoPond – treatment for anaerobic lagoons	EcoPond reduces the methane (CH_4) emissions from anaerobic lagoons by adding polyferric sulphate and concentrated sulphuric acid to the stored effluent. These additives inhibit the CH_4-producing organisms.	Manure management – CH_4 from anaerobic lagoons on dairy farms	92%	2025
Low-emissions breeding	Sheep and cattle can be genetically selected to emit less CH_4. Within a species, animals vary naturally in the amount of CH4 they produce with the same intake of the same diet, and this trait has been shown to be heritable.	Enteric CH_4 emissions	Sheep: 1% per annum (max 20%) Dairy: 1% per annum (max 20%) Beef: 1% per annum (max 20%)	Sheep: 2024 [3] Dairy: 2029 Beef: 2035
New Zealand methane inhibitor	Identifying compounds suitable for slow-release delivery systems.	Enteric CH_4 emissions from livestock	At least 20% target	2032
Ruminant BioTech – methane-inhibiting bromoform bolus	An Auckland start-up is developing a CH_4-inhibiting bolus for livestock. The biodegradable bolus sits in the rumen for up to six months while the active ingredient is slowly released in a controlled manner.	Enteric CH_4 emissions from livestock	45–70%	Beef: 2026/27 Dairy: 2028

Agroceutical Products Limited – haemanthamine (alkaloid produced by daffodils)	A Welsh company is developing a methane inhibitor for cattle using haemanthamine, a naturally occurring alkaloid produced by daffodils.	Enteric CH_4 emissions from dairy cattle	Up to 30%	TBC
Lucidome Biotech – methane vaccine	Methane vaccine for ruminant animals – new venture to accelerate the development, building on New Zealand research previously funded via PGgRc and the Crown (via NZAGRC).	Enteric CH_4 emissions from livestock	Up to 30%	TBC
ArkeaBio – methane vaccine	A Boston, US start-up is developing a CH_4 vaccine for ruminant animals, with an initial focus on cattle.	Enteric CH_4 emissions from livestock	13–15% [4]	TBC
BioLumic – high-lipid pasture	An agricultural biotech company founded in New Zealand is using UV light to develop a low-emissions farm pasture with higher productivity.	Enteric CH_4 emissions	Up to 15%	2026/27
Plantain	A modern plantain (Plantago lanceolata L.) cultivar is showing promise for reducing nitrous oxide (N2O) emissions when included in pasture swards.	N_2O emissions from urine and dung deposited on pastures	TBC 4–30%	2025
AgResearch high metabolic energy (HME) ryegrass	A genetically modified ryegrass with elevated leaf lipids increases energy content.	Enteric CH_4 emissions	10%	2030

Hoofprint Biome – probiotics and natural enzymes	Hoofprint Biome, a US start-up, is developing probiotics and natural enzymes to reduce CH_4.	Enteric CH_4 emissions from dairy cattle	30–80%	TBC
Nitrification inhibitor	A potential novel inhibitor to target urine patches or be applied with fertiliser.	N_2O emissions from urine and dung deposited on pastures [5]	30%	2030

[1] Based on developer estimates. Level of confidence in efficacy varies depending on where the technology is in the R&D pipeline, from proof of concept to commercialisation. The efficacy %age relates to where the technology is applied and could vary significantly.
[2] Based on developer estimates. This will be affected by R&D progress and regulatory approval processes.
[3] Wide-scale commercial availability is likely from 2026.
[4] As advised by ArkeaBio.
[5] Maximum of 70% of all dairy pastures, considering slope and access, during winter only.
NZAGRC = New Zealand Agricultural Greenhouse Gas Research Centre; PGgRc = Pastoral Greenhouse Gas Consortium; TBC = to be confirmed.

Crown research and support funding in agriculture and climate change

110. The following section of my brief outlines the various initiatives that have been put in place to assist with, understand, and in time reduce agricultural emissions and respond to the impacts of a changing climate.

2000: Greenhouse Gas Inventory Research Fund

111. The New Zealand Greenhouse Gas Inventory Research Fund (**GHGIR Fund**) was first established in the early 2000s as a strategy to improve accuracy of the agricultural greenhouse gas inventory. It resulted in many significant improvements to the inventory, including the development of an energy model for ruminant animals which is the core for the calculation of the majority of agricultural emissions.[82]

112. A 2007 Cabinet paper approved appropriations for the fund to meet "good practice guidance" and incorporate mitigation technologies for the agriculture and forestry inventory.[83] As stated in the GHGIR Fund Review Report, in this period the focus was to ensure the inventory adhered to United Nations Framework Convention on Climate Change reporting principles. Significant improvements were made to the way that nitrous oxide emissions from manure on pasture were calculated. During this time there was also a change in the reporting guidelines that countries were required to follow. This required several changes to the inventory, including the addition of new emissions sources.[84]

113. The principles and direction of the fund during its existence have remained consistent.

2007: Sustainable land management and climate change

114. In 2007, the New Zealand government consulted the land-based sectors and hapori Māori on its intention to develop and implement climate change policies through a single sustainable land management and climate

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82 Richard Eckard and Ann-Maree Graham *New Zealand Greenhouse Gas Inventory Research Fund: Review Report* (September 2020). **[MPI.006.2739]**

83 Cabinet Paper *Sustainable Land Management and Climate Change: A Preferred Plan of Action* (2007) at [41] on 25. [**MPI.006.3258**]

84 Richard Eckard and Ann-Maree Graham *New Zealand Greenhouse Gas Inventory Research Fund: Review Report* (September 2020) at 8. **[MPI.006.2739]**

change Plan of Action, to be created and implemented jointly with the sectors and Māori.[85]

115. In the Plan of Action, the Government committed to engaging with sectors, Māori and local government to develop joint work programmes to achieve a combined sector-government response to climate change.

116. This Plan of Action lead to the establishment of the Sustainable Land Management and Climate Change research programme (**SLMACC**). To date, SLMACC has included assessment criteria to support Māori aspirations and opportunities in the area of sustainable land management (and climate change adaptation, detailed more in paragraphs [192]–[201] below) where appropriate.

117. Overall, SLMACC has committed $83 million across 193 projects since 2007, with 181 projects completed since the fund started. The appropriation is expected to expire on 30 June 2027.[86]

118. An independent review of SLMACC in 2016 found it is creating high quality research, engaging stakeholders and end-users, and growing climate change science capability in New Zealand.[87]

119. In 2011, the then MAF reported on options to improve the productivity of Māori freehold land. From 2013, the then *Māori Primary Sector Partnerships* branch implemented prototype projects with Māori landowners to test these options.[88]

2009: Ag Emissions Centre

120. The Centre was established in 2009 and is hosted by AgResearch[89]. From 2019, the Centre received $48.5 million to develop and oversee a research

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85 Minister of Agriculture and Forestry and Minister Responsible for Climate Change Issues *New Zealand's climate change solutions: Sustainable land management and climate change* (September 2007). **[MPI.006.2781]**

86 Ministry for Primary Industries "Sustainable Land Management and Climate Change (SLMACC) Fund" (presentation to International Finance Corporation, November 2023). [**MPI.006.2803**]

87 Ministry for Primary Industries *Sustainable Land Management and Climate Change: A review of 10 years of Research, Summary of findings*. [**MPI.003.4475**]

88 New Zealand Government *Māori Agribusiness Directorate Overview* (July 2023). [**MPI.006.2938**]

89 Ministry Agriculture and Forestry *Briefing on Proposed Allocation Framework for Global Research Alliance Budget* (12 November 2010). [**MPI.006.2947**]

programme focused on novel agricultural greenhouse gas mitigation solutions. The Government committed $150 million from 2024–2029 to support the Centre's emissions reduction research.

121. The Centre is a global leader in driving the development of emissions reduction tools, including developing fit-for-purpose and cost-effective technologies and practices for New Zealand farmers and growers to lower agricultural emissions.

122. The Centre's domestic research and development includes strengthening research to support Māori agribusinesses to lower emissions. The Centre has a dedicated Māori research strategy programme, developed by Toihau — NZAGRC Māori Advisory Group, and led by Pokapū Waro — the NZAGRC Māori research strategy and partnerships team. This programme seeks to support a future for Māori farming where whānau, hapū, iwi and their whenua are thriving, with agriculturally based food production systems that are lower in emissions, sustainable and self-determined.[90]

123. The Centre, through Pokapū Waro, provides funding towards Māori-led research into agricultural GHG emissions – this has resulted in an increased focus on ātauranga Māori– and kaupapa Māori– based solutions related to reducing agricultural GHG emissions that support Māori to be a kaitiaki on their whenua. These actions include identifying key factors for productive Māori owned and managed land, that allows for efficient resource and emission management, alongside sustainable profitability.

124. Projects under this programme include:

124.1 The Mātai Whenua – Māori Knowledge Hub: developing an innovative digital platform to engage Māori landowners, providing valuable knowledge to support informed decision-making on land use and emissions.

[90] Ag Emissions Centre "Māori Research Programme" <https://www.ag-emissions.nz/domestic/maori-research/>.

124.2 Parininihi ki Waitotara: this project aims to explore sustainable plant options as an alternative feed for intensive pastoral farming.

124.3 Tahamata: this project aims to develop ecological, economic, cultural, and farm management strategies to help Tahama Incorporation's 490-hectare farm reduce agricultural GHG emissions.

124.4 Mātauranga Māori Research Scan: this project involves a stock take, literature review, and synthesis report of existing mātauranga Māori research related to GHG emissions, climate change and agriculture.

2009: Global Research Alliance on Agricultural Greenhouse Gases

125. New Zealand was a founding member of the 2009 Global Research Alliance which promotes research cooperation and investment in mitigation practices and technologies that grow more food without growing greenhouse gas emissions.

126. Through the Global Research Alliance on Agricultural Greenhouse Gases (**GRA**), New Zealand is working with other countries to collectively pool scientific and technical expertise to find ways to find solutions.

127. It promotes international cooperation and investment in research to mitigate the effect of agricultural greenhouse gas emissions while improving food security.

128. The GRA has a membership of 68 countries, including many of the world's major agricultural producers. The GRA also partners with 29 international and regional organisations that pass knowledge on to policy makers, the science community, and farming leaders.

129. New Zealand's research and capability investment through the GRA is part of the $400m invested across the Accelerating New Mitigations work programme funded in 2022. The GRA forms the basis of our international agricultural climate change partnerships bilaterally and with multilateral organisations.

130. In 2022, the Indigenous Research Network (**IRN**) was established as part of the GRA. New Zealand currently co-leads the IRN with Samoa. The aim of the IRN is to strengthen indigenous voices in global agricultural issues and empower traditional knowledge and practices to be used in our fight against climate change. This includes aiming to overcome the barriers in career pipelines, use of traditional knowledge and methods of learning to build capability, and co-design indigenous-to-indigenous collaborations.

131. In 2022, a number of Māori researchers established the Tāngata Whenua Alliance (**TWA**) to support New Zealand's participation in the IRN. An informal, opt-in forum, TWA was established to provide awareness, access and technical support to enable Māori communities to participate in GRA activities. TWA has a key focus on community resilience to climate change according to traditional knowledge, connecting Māori into agricultural GHG emissions research as well as mitigation technologies and practices. TWA will lead as example for other countries to create their own domestic alliances where we can collaborate through the IRN.

132. Research, such as that undertaken by these entities, has helped provide the foundation for the technologies currently under development (see table 10.1 above).

2013: Establishment of MPI's Māori Primary Sector Partnerships

133. MPI's Māori Agribusiness climate programme delivers a trusted climate service that supports Māori to realise their aspirations for their agribusiness, whenua and whānau. The programme provides targeted support for investment-ready entities to fast-track delivery of climate change solutions and emissions reduction projects, for the purposes of generating climate champions, case studies and experiences to assist others in their climate journey. The sharing of learnings is to accelerate emissions reduction activity.

134. Intended outcomes from the programme include reduced GHG emissions, climate resilient agribusinesses, production and profit uplift, and high trust partnerships. The programme has the following focus areas:

134.1 Knowledge – creation of new climate, emissions, and solutions knowledge, ready for sharing.

134.2 Advisory – delivery of plans to reduce climate emissions, and solutions knowledge and experiences to enable entities to take action.

134.3 Improvement – refine existing farm practices to identify emission reduction improvements.

134.4 Optimisation – multidisciplinary reimagining of farm systems to optimise performance for economic, environmental, cultural and social outcomes.

134.5 Exploration – support to build a project team, and to refine the proposal, workplan, and budget.

134.6 Solutions – development and trialling of new emissions reduction solutions.

135. Since 2013, MPI's Māori Agribusiness Directorate has taken a 'relational' approach to working with Māori landowners – "Manaaki whenua, Manaaki tangata – ka haere whakamua". This model involves intentionally taking time to build relationships by listening, understanding issues, identifying solutions together and committing to a response.

136. In 2015, MPI's *Māori Agribusiness Pathway to Increased Productivity* (**MAPIP**) programme was established with between $500,000 and $1m available annually (not secured long-term at that time) to help Māori landowners and agribusinesses access primary sector expertise.

137. In 2021, MPI allocated an additional $10 million to the *Māori Agribusiness Extension Programme* (**MABx**) from its Sustainable Food and Fibre Futures fund. MPI's MABx programme was developed to support clusters of Māori landowners and agribusinesses develop capability and work towards shared goals for their primary sector assets.

138. The suite of Māori Agribusiness programmes has been intentionally designed to support the specific needs of whenua Māori and

collectively-owned primary sector assets. Project participants are able to seek support and expertise relating to building resilience and responding to climate change related issues as part of their project where identified.

139. In 2022, MPI established a dedicated Māori Agribusiness Climate Change Programme through the Accelerating New Mitigations programme. A successful MPI budget bid in 2022 secured an additional $34.6 million over 2022–2026 to:

139.1 expand delivery of MAPIP ($6.1m over the period) and MABx ($10.6m);

139.2 establish the *He Ara Mahi Hou* programme to support future workforce needs ($5.3m);

139.3 establish the *Māori Innovation* programme to support primary sector innovation ($6.4m).

140. The development of MPI's Māori Agribusiness Climate Programme was guided by an external Māori panel of experts. The Programme includes conditional grants to enable Māori entities to access expertise and advice, trial innovative initiatives, and establish case studies showcasing successful practices.

141. The Programme supported the integration of mātauranga Māori, tikanga and Western science into farm system design and practice change. This fostered indigenous-based solutions that reflect Māori values and aspirations and the unique challenges and opportunities faced by Māori agribusinesses. Case studies and learnings from funded projects will be shared through the Programme's extension workstream, promoting proven, practical and tailored approaches for lowering on-farm emissions across whenua Māori.

142. This work is also intended to contribute to the development of a Māori-designed and led advisory service model. There is potential for this approach to be more broadly applied through the Global Research Alliance

on Agricultural GHGs, showcasing indigenous leadership in global emissions solutions.

143. MPI has other funds, outlined below, that have also invested in Māori responses to emission reduction. Projects funded through these funds include: Ngāi Tahu regenerative agriculture and CNI Sheep Milk Collective.

2018: Investment vehicles: The Sustainable Food and Fibres Futures and Primary Sector Growth Fund (PSGF)

144. The Sustainable Food and Fibre Futures (**SFF Futures**) fund was in operation from 2018 to 2025.

145. SFF Futures had a broad scope. Over its lifetime, it invested in both climate-related projects and projects with Māori entities. MPI remains committed to the successful delivery of existing SFF Futures projects.

146. Examples of relevant SFF Futures projects include an $8.0 million Crown investment in a $19.9 million project with Spring Sheep to expand into the Taranaki region in partnership with Parininihi ki Waitotara[91]; and an $8.0 million Crown investment in a $11.6 million programme with Ngāi Tahu Farming Limited and Ngāi Tūāhuriri to take part in a whole-farm scale study in North Canterbury to validate the science of regenerative dairy farming.[92]

147. The Primary Sector Growth Fund (**PSGF**) was launched in May 2025. It's a public-private co-investment fund that helps primary sector businesses, industry bodies, and other groups to:

147.1 leverage opportunities or problems; and

147.2 create benefits for New Zealand and themselves.

148. The PSGF funds projects throughout the food and fibre value chain for the benefit of New Zealand, rural communities and iwi.

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91 Hon Damien O'Connor "Government supports innovative dairy sheep sector to scale up" (press release, 23 June 2022) <https://www.beehive.govt.nz/release/government-supports-innovative-dairy-sheep-sector-scale>.

92 Hon Damien O'Connor "New programme to provide insights into regenerative dairy farming" (press release, 5 August 2022) <https://www.beehive.govt.nz/release/new-programme-provide-insights-regenerative-dairy-farming>.

2021: Biological Emissions Reduction Science Accelerator

149. The Biological Emissions Reduction Science Accelerator (**BERSA**) project was established under the Science Accelerator programme through MPI's Fit for a Better World programme. The project was identified as a priority by the Food and Fibre Partnership Group, the Chief Executives of the Crown Research Institutes and MPI leadership.

150. The BERSA science and mātauranga accelerator aimed to provide a framework that would deliver scientific and mātauranga based solutions to farmers to enable them to reduce biological emissions on their farms.

151. The project produced the Biological Emissions Reduction Science and Mātauranga Plan which was published in 2023.[93] Development of the Plan was informed by engagement with subject matter experts from government, science, industry, and Māoridom. This process was overseen by a Leadership Group comprised of the following members:

151.1 Tim Mackle (DairyNZ) – Chair;

151.2 Sam McIvor (Beef+Lamb New Zealand);

151.3 Margaret Hyland (Te Herenga Waka – Victoria University of Wellington);

151.4 Sue Bidrose (AgResearch);

151.5 John Roche (MPI);

151.6 Mackenzie Nicol (MPI);

151.7 Murray Hemi (Te Aitanga a Kupe);

151.8 Tanira Kingi (Kokiri Research Ltd);

151.9 Te Horipo Karaitiana (FOMA); and

151.10 Steve Thompson (Observer).

[93] Ministry for Primary Industries *Biological Emissions Reduction Science and Mātauranga Plan*. [**MPI.001.4176**]

152. Further, the work under the BERSA science and mātauranga accelerator helped inform the 2022 budget bid that led to the initial funding of our Accelerating New Mitigations programme (detailed below from paragraph [160]).

2022: On farm support and extension

153. MPI's On Farm Support team (**OFS**) is a free regional service with national coverage that was set up to provide more on-the-ground support to farmers and growers. The service was allocated $55 million over four years in Budget 2022. Its key focus is to help farmers, growers and catchment groups access the support, information, expertise and advice they need to continue to be successful in a changing world including as it relates to climate change mitigation and adaptation.[94]

154. The regional approach helps brings together people, stakeholders, resources and a practical rural understanding to ensure the needs of each region are met, with a focus on sustainability, productivity and profitability, while meeting environmental requirements.

155. OFS provides key support with:

155.1 Farm planning: helping farmers and growers gain access to farm planning support and advice.

155.2 Accessing existing services: making it simple for farmers and growers to navigate available advice and guidance.

155.3 Funding and support: providing farmers and growers with a clear understanding of available funding and support options.

155.4 Innovation and tools: providing access to tools and resources to help farmers thrive in a changing environment

155.5 Catchment groups: provision of funding and support to groups to improve practices and outcomes based on catchment priorities.

94 Ministry for Primary Industries *On Farm Support Factsheet.* [**MPI.006.2824**]

155.6 Adverse events and biosecurity responses: providing on-the-ground regional resources and capability to response and recovery efforts; and assisting farmers and growers to improve their resilience through planning.

155.7 Informing policy discussion: gathering information and insights from farmers and growers in the regions to inform MPI's wider organisation, advice, and operations.

155.8 Science for Farmers: providing collaborative connections between farmers, growers, scientists and the wider industry.

156. OFS services are available to all farmers, growers and whenua Māori. Māori programmes work closely together to ensure the best possible outcomes for Māori farmers and growers.

2022: Climate Emergency Response Fund - Low Emissions Sustainable Agriculture

157. In 2021, the New Zealand government established the 'Climate Emergency Response Fund' (**CERF**). The fund was set up with an initial $4.5 billion balance for Aotearoa New Zealand's climate spending (including several agriculture programmes), proportional to the size of proceeds from the NZ ETS.[95] The CERF was also topped up periodically by the government at Economic and Fiscal Updates.

158. Funded by the CERF programme in Budget 22, the Low Emission and Sustainable Agriculture Extension Programme is part of a wider initiative to support farmers, growers and Māori producers of food and fibre products to transition to a low emissions future.[96] The Māori-designed and led (extension) programme specifically supports Māori Producers to transition to a low emissions future.

159. As of Budget 24, the CERF is now closed.[97] A final round of monitoring and reporting for the 2023/24 financial year has been completed and released.

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95 New Zealand Government *Climate Emergency Response Fund* (16 May 2022) at 9–10. [**MPI.001.6024**]

96 Ministry of Primary Industries *Agriculture initiatives for Climate Emergency Response Fund* (17 September 2021). [**MPI.001.3473**]

97 The Treasury "The Climate Emergency Response Fund" <https://www.treasury.govt.nz/information-and-services/nz-economy/climate-change/climate-emergency-response-fund>.

Table 1: MPI's Accelerating New Mitigations Programme – Workstream C 2023-2030

Programme	Entity	Project	Purpose	Area of interest	Date started	Funding committed
Climate (CERF)	Paraninihi ki Waitotara Incorporation	Aquafeed	Investigate the use of Lemna (a native aquatic plant) as an alternate to Palm Kernel Expeller (PKE) as a supplementary feed stock on their dairy milking platforms.	Taranaki	March 2023	$245,000
		Biomethane – part 1	Project scoping for a pre-feasibility analysis on the design, planning and implementation of a biomethane plant that runs on feed stocks from farm effluent, bioenergy crops grown on-farm, and district food waste destined for landfill.		May 2025	$40,000
	Te Arawa Primary Sector Incorporated	Takahuri Whenua	Multidisciplinary team of experts to deliver farm system optimisation assessments across 35 whenua Māori farm blocks (c. exceeding 50,000ha), that optimise profitability and productivity while maintaining environmental performance (including reducing emissions).	North Island	December 2024	$2,600,000
	Sea, Soil & Society Incorporated	Rere ki Uta Rere ki Tai	Development of farm practice and system knowledge to reduce emissions and improve freshwater quality, monitor, analyse and report on impacts, conduct field trials, and share learnings via field days.	Northland, Waikato, Bay of Plenty, Taranaki	October 2024	$2,912,000
	Whāngārā Farms	Whenua optimisation - He Rau Ake Ake	Identify experts and scope of optimisation needs, and design the project proposal, then assess all farm and forestry practices and systems and develop a set of transition plans.	Gisborne	December 2024	$497,100
	Rautāpatu	Emissions Reduction pilot – part 1	Establish baseline data, foundation for multi-group collaboration, and identification of land use and practice change implementation.	Taranaki	November 2024	$49,000
	Te Pou Oranga o te Whakatōhea Charitable Trust Limited	Whakatōhea dairy farm – part 1	Profile of the Trust's five farm dairy platforms, including practices, land and resource composition, production and spatial analyses, and soil and plant chemistry data layers.	Bay of Plenty	April 2024	$250,000
		Whakatōhea dairy farm – part 2	Co-design a transition plan detailing farm practice and system changes and associated research plan to assess the effectiveness of the changes across economic, environmental and animal and soil health metrics.		July 2025	$250,000
	Te Raparahi Lands Trust	Soil carbon and emissions reduction (part 1)	Assess farm soils and soil carbon baseline, and develop an emissions reduction plan.	Waikato	February 2025	$45,000
		Soil carbon and emissions reduction (part 2)	Investigate and implement farm practice and system change to lift productivity, reduce emissions, and improve soil carbon.		May 2025	$100,000

	Tainui Group Holdings Farms and Forestry Limited	Master planning optimisation	Two-part project (1) to identify experts and scope of optimisation needs, and design the project proposal, (2) assess farm and forestry practices and systems and develop a transition plan.	Waikato	January 2025	$50,000
		Bio-char research – part 1	Develop a research proposal that includes methodology and budget for field trials of biochar as a feed additive for livestock to reduce emissions.		April 2025	$40,000
	Te Tawa Kaiti	Whenua optimisation	Complete a farm profile of baseline data across their 380ha of land holdings, to inform a transition to lower emissions, retire fragile land, introduce new land uses and technology to increase productivity.	Ruatoki	December 2024	$250,000
	Tauhara North Farming & Company Limited Partnership	Dairy farm optimisation	Undertake optimisation of the Trust's Minginui dairy farm operation (1,030ha) to reduce emissions and increase productivity and profitability.	Taupō	January 2025	$100,000

2022: Accelerating New Mitigations Programme

160. In 2022, the government established the Accelerating New Mitigation Programme which is led by MPI. The Accelerating New Mitigation Programme leads delivery of the government's technology-led approach to reducing agricultural emissions. This approach recognises that innovative technologies are critical to ensuring our efforts to cut on-farm emissions do not undermine New Zealand's agricultural production and profitability. Initially funded by CERF under Budget 22, baseline funding of over $400 million over 4 years has been provided for this work.[98]

161. The Accelerating New Mitigation Programmes' primary focus is to accelerate the development and commercialisation of new mitigation technologies,[99] for which it is supported by key delivery partners AgriZeroNZ (discussed below from paragraph [166]) and the Ag Emissions Centre (discussed above from paragraph [120]). However, it also includes a range of other elements required to deliver the Government's technology-led approach. These include:

161.1 Supporting fundamental research, chiefly through the Centre.

161.2 Commercialising and bringing agriculture mitigation tools to market, chiefly through AgriZeroNZ.

161.3 Māori led innovation and approaches to emissions reductions from agriculture, implemented via MPI's Māori Partnerships & Investment Unit.

161.4 Regulatory system streamlining to manage the risks of new mitigation technologies effectively and efficiently, working with New Zealand Food Safety.

161.5 Ensuring farmers can measure their emissions and the impact of any mitigation technology, including through the development of

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98 Ministry for Primary Industries "Speeding up access to emission-reducing tools for NZ Farmers" <https://www.mpi.govt.nz/funding-rural-support/environment-and-natural-resources/accelerating-new-greenhouse-gas-mitigations/>; Ministry for Primary Industries *Appendix Two – Overview of Accelerating New Mitigations programme funding* [**MPI.006.2946**].

99 Ministry for Primary Industries *Agriculture initiatives for Climate Emergency Response Fund* (17 September 2021). [**MPI.001.3473**]

a standardised farm emissions methodology, and ensuring alignment with our national greenhouse gas inventory.

161.6 Supporting international market acceptance of foods produced using these technologies, including through the international food safety body Codex Alimentarius.

161.7 Continued support of international research collaboration through the GRA.

162. A proportion of the programme is also dedicated to building farmer awareness of new mitigations to support uptake including:

162.1 Outreach activities/field-days for farmers on specific new mitigation technologies, e.g., EcoPond[100] and low methane sheep genetics.[101]

162.2 Funding via the Centre to upskill end users via provision of relevant and robust emissions mitigation information and training for rural professionals, policy makers, land-owners, farmers and growers including via the AgMatters website.

163. The key activities undertaken in 2023/24 were:

163.1 EcoPond farmer field-days including the Taranaki Dairy Trust event and South Island Dairy Event Conference/general media.

163.2 Establishment of Coolsheep website, a webinar (165 attendees), and general engagement with the media.

164. The Centre also delivered 6 training sessions for rural professionals. Climate change was the focus of the training sessions and was attended by a total of 152 people.

165. Since June 2019, a total of 961 rural professionals have attended these basic climate change seminars around the country. Planned activities in 24/25 financial year include further training sessions, educational material

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100 Ecopond <https://ecopond.co.nz/>.

101 Beef+Lamb New Zealand "Cool Sheep Programme" <https://www.blnzgenetics.com/cool-sheep-programme>.

on CoolSheep and EcoPond farmer field days.[102]

2022: AgriZeroNZ – a 50/50 public-private joint venture

166. In 2023, the government established AgriZeroNZ, a 50/50 public-private joint venture to help pasture-based farmers in New Zealand reduce their agricultural emissions. MPI played a key role in advising on this. The Minister of Agriculture and Minister of Finance jointly hold 50% of the shares in the joint venture and MPI is the Crown's agent to support oversight of the Crown's investment. A total of $191 million was committed to AgriZeroNZ by industry and government over its first four years.

167. AgriZeroNZ is charged with ensuring New Zealand farmers have access to affordable, effective solutions that can significantly reduce their emissions. It is delivering this through three functions:

167.1 Investing in solutions and guiding them to market in New Zealand, with a focus on later-stage product development and commercialisation of emissions reduction technology.

167.2 Catalysing actions and funding across the sector to unblock constraints, including supporting research and the uptake of tools.

167.3 Strategy and engagement to coordinate stakeholders and improve sentiment towards mitigation tools.

168. AgriZeroNZ's headline targets are to support a 30% reduction in biogenic methane and nitrous oxide emissions by 2030; and enable development and adoption of solutions to drive towards near zero by 2040. It aims to have two to three mitigation tools in widespread use by 2030.

169. AgriZeroNZ has already invested in several major projects including investment for a methane inhibiting bolus, novel probiotics, New Zealand research for a methane vaccine and inhibitor, and the construction of a GHG testing facility. It has invested in nine agritech tools to date across

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102 Ministry for the Environment *New Zealand's second emissions reduction plan 2026–30* (December 2024) at Table 10.1. **[MPI.006.2538]**

eight categories of tools, and covering all major ruminant livestock classes (dairy, beef, sheep, deer).

170. Besides the Crown, AgriZeroNZ's partners are Fonterra, Ravensdown, Silver Fern Farms, Synlait, a2 Milk Company, ANZCO, Rabobank, ANZ Bank New Zealand, Bank of New Zealand, and ASB Bank. Other partners are expected to join over time.

171. AgriZeroNZ works for the benefit of all pasture-based farmers in New Zealand. However, its Shareholders' Agreement also acknowledges the Crown's Te Tiriti o Waitangi obligations, including consideration of the principles of rangatiratanga, partnership, tikanga, active protection, equity, options and mutual benefit. It also provides that AgriZeroNZ will work in good faith with the Crown to ensure this obligation is considered in the process of achieving its purpose (section 2.1(b)).

172. In carrying out this obligation, to date AgriZeroNZ has:

172.1 developed a Māori engagement policy, a Māori engagement strategy, and a Te Tiriti o Waitangi commitments delivery plan;

172.2 integrated Māori considerations into its investment criteria, including investment fit with Māori agribusinesses, and that policies are in line with kaitiakitanga;

172.3 entered into a memorandum of understanding with the Toihau Māori Advisory Board to collaborate with and advise AgriZeroNZ on incorporating mātauranga Māori in its work; and

172.4 engaged with several iwi and Māori agribusinesses.

2023: Streamlining the process for regulatory approval of emerging tools

173. MPI is improving regulatory processes for new technologies in New Zealand to accelerate their development and uptake while maintaining food safety and trade security. This is so that all New Zealand farmers, including Māori agribusinesses have faster access to safe, effective mitigation technologies.

174. Registration of methane, urease, and nitrification inhibitors under the

Agriculture Compounds and Veterinary Medicines Act 1997 has been streamlined to allow for the minimum efficacy data required to assess an application as well as the use of qualitative efficacy claims.

175. Inhibitors that are the same or similar to products already registered may use existing data from the registered product to support an application. Variations to existing registrations can be made should a product already be registered in New Zealand but without an inhibitor claim.

176. Work is also underway on potential exemptions for low-risk inhibitors and a process for maximising use of regulatory assessments by international regulators to further streamline requirements to register products in New Zealand.

177. MPI is working with product developer companies on being as efficient as possible within the Agriculture Compounds and Veterinary Medicines Act process. Finding efficiencies within the regulatory process should allow for emerging mitigation technologies to be used on New Zealand farms sooner.

2024: Standardising the estimation of on-farm emissions

178. Having a standard methodology for estimating emissions is critical for farmers to understand the main drivers of their emissions and ways to reduce them. It also provides an opportunity to enhance the credibility of sustainability claims made by our food and fibre exporters and enables new products and features to improve farm management and reporting.

179. Currently, the agriculture and horticulture sectors have 11 calculators that all use different methods to estimate emissions. This creates inconsistencies in the estimates and makes it difficult to compare estimates across calculators.

180. The government worked with the sector and Māori (detailed below) to develop a standard way to estimate a farm's agricultural GHG emissions to ensure transparency; consistency; robustness; and fairness. The standard methodology was released in December 2024.

181. Standardising estimation is a key step towards pricing emissions in the future and supports on-farm emissions measurement by 2025. The first version of the methodology includes current science. New technologies will be added to annual updates as they become available.[103]

182. MPI established a Māori Advisory panel to provide a te ao Māori and mātauranga Māori perspective on the proposed methodology. The group was asked to provide advice and guidance on the implications of the proposed methodology on Māori land ownership, agribusiness and farm management practices.

183. MPI had three separate hui with the Māori Advisory Panel. The first was to outline the proposed methodology and work done to date (7 December 2023).[104] The second was a methodology and roadmap deep dive, and implications on different farm systems (24 January 2024).[105] The third was a detailed feedback session and application (30 January 2024).[106]

184. MPI also engaged with Te Tumu Paeroa, Office of the Māori Trustee and FOMA on the standardised methodology and calculation with hui with both groups in early 2024. The hui with Te Tumu Paeroa was on 30 January 2024,[107] and the hui with FOMA were on 27 February and 12 March 2024.[108]

185. Te Tumu Paeroa - Office of the Māori Trustee supports the Māori Trustee to carry out her statutory duties, administering Māori freehold land and other assets on behalf of the beneficial owners. Representatives from Te Tumu Paeroa noted that farm definition and scope challenges of

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103 Ministry for Primary Industries *New Zealand Farm Emissions Method: a farm-level approach for estimating biogenic emissions* (December 2024). [**MPI.006.3079**]

104 Ministry for Primary Industries "Agricultural Emissions Programme (AEP) – Māori Advisory Panel – Initial Briefing Session" (7 December 2023). [**MPI.006.2943**]

105 Ministry for Primary Industries "Agricultural Emissions Programme (AEP) – MAP – Session 2" (24 January 2024). [**MPI.006.2901**]

106 Ministry for Primary Industries "Agricultural Emissions Programme (AEP) – Sector working group – Benchmarking and Feedback Hui" (6 March 2024). [**MPI.006.2912**]

107 Ministry for Primary Industries "Agricultural Emissions Programme (AEP) – Te Tumu Paeroa" (30 January 2024). [**MPI.006.2906**]

108 Ministry for Primary Industries "Agricultural Emissions Programme (AEP) – Te Tumu Paeroa" (27 February 2024). [**MPI.006.2909**]

farmers not having access or knowledge of technology.

186. FOMA noted that Māori farmers operate in different contexts to other farmers. As such, they noted that a reporting system would need to be built to fit different farming profiles.

2025: Science for Farmers

187. Science for Farmers is a collaboration between MPI and research partners.[109] The initiative aims to better connect scientists and researchers with farmers and growers on-the-ground to talk about the latest research and innovation and its practical application on-farm.[110]

188. The Science for Farmers programme supports farmers and growers with information and resources to:

188.1 boost on-farm productivity, profitability, and resilience;

188.2 improve sustainability and environmental outcomes;

188.3 reduce on-farm agricultural greenhouse gas emissions; and

188.4 adapt to change.

189. To date, Science for Farmers sites at key Fieldays and agricultural shows highlight the latest in science and research. Exhibits allow farmers and growers to engage directly with experts, to export the latest innovations, and to leave with actionable ideas to implement on their own farms. Key focuses to date include strategies for reducing agricultural GHG emissions, along with innovations and future investment pathways.

190. Specific exhibits have included studies on diverse pastures, heat-tolerant livestock genetics and the development of climate modelling tools to help support future-focused decisions.

Crown climate change adaptation and technology transfer for the primary sector

191. A number of claimants' evidence briefs have outlined how the impacts of

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109 Collaborations to date include those with AgResearch, AgriZeroNZ, LIC, Massey University, NZAGRC, DairyNZ and Pāmu.

110 Hon Todd McClay "Backing farmers to innovate and make more money" (press release, 27 February 2025) <https://www.beehive.govt.nz/release/backing-farmers-innovate-and-make-more-money>.

climate change, such as severe drought, erosion, flooding, will impact the Māori primary sector.[111] MPI has a strategic interest in supporting climate change adaptation across New Zealand's primary sectors and rural communities, recognising their vulnerability to climate-related risks such as drought, flooding, erosion, and biosecurity threats.

192. In 2007, the government set up the Sustainable Land Management and Climate Change Plan of Action. In addition to the climate change mitigation work programme, four other work programmes were important to the primary industries – 'Adaptation', 'Research, Science and Innovation', and 'Technology Transfer'. The research and technology streams delivered outcomes across mitigation and adaptation. Each of these work programmes was supported by technical advisory groups that included Māori. The aim was to embed matters that needed to be addressed as part of the whole SLMACC programme and report through to the Peak Group.

193. The SLMACC programme supported Māori aspirations and opportunities in sustainable land management and climate change adaptation, and recognised mātauranga Māori as a valuable knowledge source. Mātauranga research proposals were welcome in all research funding rounds and were assessed by appropriate subject matter experts.[112]

194. The Peak Group's key goals for climate change adaptation were:

194.1 The sectors understand and are able to manage the economic implications arising from climate change.

194.2 The sectors are positioned to take advantage of the economic opportunities arising from climate change.

194.3 The sectors and their communities have the necessary information and technology available to successfully prepare for and adapt to a changing climate.

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111 See for example Briefs of Evidence of Dr Shaun Awatere dated 6 May 2025 (Wai 3325, #A80) at [97]-[106]; Ilan Noy dated 6 May 2025 (Wai 3325, #A78) at [21]; Peter Rice dated 28 April 2025 (Wai 3325, #A57) at [135].

112 Ministry for Primary Industries *Sustainable Land Management and Climate Change Investment Plan 2022-2027*. **[MPI.001.3863]**

195. The Adaptation Technical Advisory Group advised the Peak Group on adaptation matters, including priorities for research and technologies. A strategic Five-Year Adaptation Programme was developed and agreed by the Peak Group but not the government in 2009. The Peak Group was disestablished by the end of 2012.

196. The Adaptation Group commissioned stocktakes of activities by sector and Māori organisations, including technology transfer, as well as commissioned research on the impacts of a changing climate.[113] Case studies were produced and information published that focused on Māori farms and kaupapa Māori approaches to responding to climate change. These were:

196.1 Arai Matawai: Breeding for facial eczema tolerance.

196.2 Environmental monitoring of lakes and rivers to inform future climate change adaptation – Ngati Tuwharetoa Wai Ora.

196.3 Incorporating climate change into iwi environmental management plans – Ngai Tahu Ki Murihuku: Te Tangi a Tauira.

196.4 Managing impacts on tuna (eel) using a Kaupapa Māori approach – Ngati Raukawa ki te tonga me Te Wananga O Raukawa.

196.5 Threats to stocks of Titi and Tio in the South Island – Te Titi te Tio ki Rakiura.

196.6 Wairarapa Moana Farms: Build buffers into farm policy for resilience.

196.7 Weather and climate change indicators: Nga Tohu Huarere O Te Whanau-A-Apanui.

196.8 Climate change business opportunities for Māori land and Māori organisations.

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113 Ministry for Primary Industries *Impacts of Climate Change on Land-based Sectors and Adaptation Options: Stakeholder report* (July 2012). [**MPI.006.3003**]

197. In 2016, MPI commissioned reviews of the topic areas under the SLMACC programme. An overall review of 10 years of research was published in 2019, with an adaptation specific technical paper by Manaaki Whenua Landcare Research (*Mind the gaps: Synthesis and systematic review of climate change adaptation in New Zealand's primary industries*) published in 2018.[114] The summary of findings found that SLMACC has provided a critical source of adaptation research funding which has helped build New Zealand adaptation research capability and capacity, e.g. by supporting early-career researchers, and international collaborations. It also noted that there were opportunities to do better, such as supporting research to enhance strategic climate change adaptation decision-making and action in the primary sector.[115]

[114] Ministry for Primary Industries *Mind the gap: Synthesis and systematic review of climate change adaptation in New Zealand's primary industries* (August 2018). [**MPI.001.0152**]

[115] Ministry for Primary Industries *Sustainable Land Management and Climate Change: A review of 10 years of Research, Summary of findings* at 9. [**MPI.003.4475**]

Table: Key examples of adaptation research funded by MPI through SLMACC from 2008-2015

Programme	Funding year	MPI funding amount	Title
SLMACC	2008	$65,063	Learning from past adaptation to extreme climatic events: a case study of drought
		$51,945	Vulnerability of New Zealand pastoral farming to the impacts of future climate change on the soil water regime
		$19,730	Climate change risks to pastoral production systems
		$60,200	Adapting to climate change in the kiwifruit industry
		$51,030	Improved field facilities to study climate change impacts and adaptations in pasture
		$60,314	Enhanced modelling capability to conduct climate change impact assessments
		$74,341	Forage crop opportunities as a result of climate change
	2009	$125,321	Tomorrow's pastures: subtropical grass growth under climate change
	2010	$150,000	Flood risk under climate change: a framework for assessing the impacts of climate change on river flow and floods, using dynamically-downscaled climate scenarios
		$150,000	Framework for assessment of climate impacts on New Zealand's hydrological systems
	2011	$150,000	Scenarios of regional drought under climate change
		$150,000	Scenarios of storminess and regional wind extremes under climate change
		$141,881	Impact of elevated atmospheric carbon dioxide concentration on pasture, production forestry and weeds
		$150,000	Improving sustainable lifetime performance of pastures: Learning from extreme climatic events
	2012	$150,000	Impacts of climate change on erosion and erosion control methods: a critical review
		$150,000	Climate change impacts on plant diseases affecting New Zealand horticulture
		$722,000	Projected effects of climate change on water supply reliability in Mid-Canterbury
		$1,493,333	Impacts of climate change on land-based sectors and adaptation options
		$150,000	Farm-level adaptive capacity to climate change: the role of financial strategies and financial institutions in Australia
		$150,000	Farm-level adaptive capacity to climate change: the role of financial strategies and institutions
	2013	$150,000	Operationalising resilience in dairy agroecosystems
		$150,000	Impact of climate change on crop pollinator in New Zealand
		$149,565	Four degrees of global warming: effects on the New Zealand primary sector
	2014	$500,000	Defining climate adaptive forage traits and genetic resources
		$80,000	Climate Smart Intensification options for New Zealand pastoral farmers: a farmer's guide to intensification options in the context of climate change
		$148,010	Detection of historical changes in pasture growth and attribution to climate change
	2015	$210,000	Innovative and targeted mechanisms for supporting adaptation in the primary sector
		$150,000	Effects of climate change on current and potential biosecurity pests and diseases in New Zealand
		$471,168	Evaluating intensification trajectories in the context of climate change
		$500,000	Development of advanced weather and climate modelling tools to help vineyard regions adapt to climate change

198. Further information of relevant SLMACC Adaptation projects include:

198.1 In 2021, AgResearch undertook an adaptation project 'Aspirations of Māori Landowners', which investigated the aspirations and options for future land use of Ngāti Pāhauwera landowners facing a changing climate.

198.2 In 2022, supported the University of Canterbury to develop 'Climate Maladaptation Tool for Aotearoa New Zealand' project.[116] The project developed an assessment methodology to identify maladaptation in adaptation strategies, building on holistic metrics like the Mauriora Framework[117] which underscored how maladaptation can disproportionately exacerbate vulnerabilities among Māori communities.

199. In 2020, the SLMACC programme was changed to limit its climate change focus to adaptation, largely due to the availability of other funding resources for climate change mitigation research. This programme has now closed to new applications.

200. The SLMACC Adaptation Programme focused on social impacts, policy research, and the science around climate adaptation. It aimed to:

200.1 understand people's needs, including looking at barriers to behavioural change;

200.2 develop tools and practices to enable adaptation to climate change; and

200.3 put adaptation into practice, providing examples that show how research can be used by different sectors and regions in practical ways.

201. MPI also funds specific pieces of research to inform policy and practice. For example, in 2022, MPI commissioned a report titled 'Flexible policy

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116 Ministry for Primary Industries *A Climate Maladaptation Tool for Aotearoa New Zealand: A Sustainable Land Management and Climate Change Adaptation Research Report* (October 2024). **[MPI.006.2458]**

117 The Mauriora Framework is a decision-making guide and tool grounded in te ao Māori and is based on the interaction between taonga, kaitiaki, tikanga, and ritenga.

pathways for enabling climate change adaptation' exploring how land-use decisions can be adapted to climate change through flexible policy pathways. This work focused on enabling long-term resilience in the primary industries by understanding decision contexts and barriers to change, including the ability to apply mātauranga Māori to land use practices.[118]

202. MPI also provides advice on how to prepare and what to do in natural disasters and other adverse events such as floods, droughts, earthquakes, storms, and volcanic eruptions, with specific help available for rural communities and individuals.[119] MPI administers the Primary Sector Recovery Policy, which guides government decisions on recovery assistance following adverse events affecting farmers.[120] The Climate Change Response Act 2002 establishes a statutory process for the implementation of climate adaptation in New Zealand. This process requires:

202.1 National risk assessments from the Climate Change Commission every six years assessing climate-related risks to the economy, society, environment, and ecology.

202.2 National adaptation plans in response to the risk assessments every six years.

202.3 Progress reports from the Climate Change Commission every two years on how effective the plan is in reducing risks. The Government must respond to the report within six months.

202.4 Adjustments to the national adaptation plan to ensure it meets the intended outcome.

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118 Ministry for Primary Industries *Flexible policy pathways for enabling climate change adaptation* (April 2022). **[MPI.001.0771]**

119 Ministry for Primary Industries *Agriculture and Investment Services Tapuwae Ahuwhenua Response and Recovery Guide* (November 2024). **[MPI.006.2830**]

120 Ministry for Primary Industries *Summary of the Primary Sector Recovery Policy* (August 2016). **[MPI.006.2866]**

203. Within the CCRA process, MPI is involved in the development of the actions that make up the national adaptation plans (**NAP**). The first NAP was released by the Government in 2022, with the second one due in 2028.

204. To complement the process above, MPI is working alongside other agencies, in particular, the Ministry for the Environment to establish a National Adaptation Framework (**NAF**). The NAF will support adaptation work under four pillars previously agreed by Cabinet:

204.1 risk and response information sharing;

204.2 roles and responsibilities (via adaptation planning);

204.3 principles for investment in risk reduction; and

204.4 cost-sharing post-event (although note that cost-sharing for commercial land and broader support for economic recovery post-event are not in scope).

205. MPI's role in the NAF work programme is to provide input, advice and feedback, from a rural communities and primary sector perspective, and to support the overall development of the work programme.

Addressing key allegations in claimant evidence

206. Where specifically relevant, the content above includes reference to claimant evidence. The below is provided for reference.

Theme: Why isn't agriculture in the ETS

207. I understand that claimants have raised specific concerns regarding New Zealand's agriculture sector being excluded from the NZ ETS or not facing a price under a different mechanism.[121] As noted in this evidence, the entry of the agricultural sector into the NZ ETS has been delayed several times due to concerns including impacts on the international

[121] See for example Brief of evidence of Dr Anthony Cole, dated 6 May 2025 (Wai 3325, #A84) at [24]; Brief of evidence of Natasha Koia, dated 15 October 2024 (Wai 3325, #A8) at [18]; Kōrero taunaki o Pita Tipene, dated 30 Oketopa 2024 (Wai 3325, #A19) at paragraph 58; and Affidavit of Ivo Geoffrey Bertram, dated 26 August 2024 (Wai 3325, #A5) at paragraph 1.4.3.

competitiveness of the agricultural sector, sector impacts, practicality, and administrative burden.

208. Additionally, there has been independent analysis from the Productivity Commission and the Interim Climate Change Committee that have raised concerns about including agricultural emissions into the NZ ETS. In the Productivity Commission's 2018 report on a low emissions economy, it recommended that short-lived and long-lived gases should be priced separately, either through a dual-cap ETS (where there is a separate cap for long-lived and short-lived gases) or through a methane quota system.[122] The Productivity Commission noted that having a single-cap ETS for biogenic methane is unsuitable as it does not properly recognise the different warming potential of biogenic methane.

209. In 2018, the Interim Climate Change Committee was also established to, "[p]rovide advice on how surrender obligations could best be arranged if agricultural methane and nitrous oxide emissions enter into the New Zealand Emissions Trading Scheme". The Committee concluded that the best way to reduce livestock emissions is to price them through a farm-level levy/rebate scheme as a simpler and less costly approach compared to the NZ ETS to avoid the need for farmers to trade emissions units. The Committee also recommended that prior to the establishment of a farm-level levy, that agricultural emissions are included in the NZ ETS at a processor level in the interim.

210. In 2024, the government removed agriculture from the NZ ETS and outlined in ERP2 its commitment to implement a fair and sustainable pricing system for on-farm emissions by 2030. The government has reiterated the position that, "[w]e need to reduce agricultural emissions in a way that does not compromise exports or lead to emissions leakage",[123] and also how it intends to meet the second Emissions Budget and put

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122 New Zealand Productivity Commission "Low-emissions economy" (August 2018) <https://www.treasury.govt.nz/sites/default/files/2024-05/pc-inq-lee-productivity-commission-low-emissions-economy-final-report-final-2.pdf>.

123 Ministry for the Environment *New Zealand's second emissions reduction plan 2026–30* (December 2024) at 57. **[MPI.006.2538]**

New Zealand on track to reach its climate change targets.

211. As noted in this evidence, the government has been told Māori farmers risk being negatively and disproportionately affected by an agricultural emissions pricing mechanism due to the specific barriers Māori farmers already face. While there has been some support from Māori farmers to price agricultural emissions, some who were engaged have favoured delaying entry into the NZ ETS until mitigation technologies are readily available and overseas trading partners are also pricing agricultural emissions.

Theme: Is the technology-led approach the right way to manage agricultural emissions?

212. I understand that applicants have raised concerns about the government's technology-led approach to managing agricultural emissions. MPI is investing in a portfolio of different technologies so there is no reliance on a single technology or approach. MPI is also working to streamline the regulatory processes to speed up approvals for developers, and to deliver technologies to farmers sooner. AgriZero is working on how it can best increase its focus on adoption and early uptake of technologies, including through reducing cost barriers to uptake. Additionally, MPI has programmes in place to support Māori farmers consider climate change, which is outlined in detail above.

Theme: Emissions from agriculture in New Zealand's overall emissions profile

213. Claimant evidence discusses the proportion of which emissions from agriculture make up New Zealand's overall emissions profile.[124] As noted in this evidence, the makeup of New Zealand's emissions profile is reflective of the role primary industries play in the economy, and the high percentage of renewable electricity generation.

[124] See for example Brief of evidence of Dr Anthony Cole, dated 6 May 2025 (Wai 3325, #A84) at [34]; and Brief of evidence of Emily Tuhi-Ao Bailey, dated 24 October 2024 (Wai 3325, #A17) at [99].

Theme: Questioning the adequacy of Māori consultation since onset of the ETS

214. I understand the claimants have raised concerns about the adequacy of the Crown's consultation with Māori since the onset of the NZ ETS. Throughout my evidence, I have outlined previous consultation with Māori on the NZ ETS and other agricultural emissions policies, including:

214.1 2007–2017: Climate Change Response Act and the New Zealand Emissions Trading Scheme;

214.2 2018: Consultation on "Action on Agricultural Emissions" (paragraphs [62]-[67]);[125]

214.3 2019: Establishment of Te Aukaha as part of the He Waka Eke Noa Partnership (paragraphs [77]–[78]);

214.4 2022: Consultation on pricing agricultural emission (paragraphs [85]– [86]);

214.5 2023: Public consultation on the Order in Council for deferring animal farmer obligations (paragraphs [88]-[89]);[126]

214.6 2024: Development of the standardised emissions methodology and calculation.[127] This is outlined in detail at paragraphs [179]-[187].

215. In addition to the Crown's consultation with Māori, there have been engagement from independent Crown entities on agricultural emissions related issues, such as the Productivity Commission's Low Emissions Economy report, the Interim Climate Change Committee's Action on

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125 Ministry for the Environment *Action on agricultural emissions: A discussion document on proposals to address greenhouse gas emissions from agriculture* (1 July 2019). [**MPI.001.5068**]

126 Ministry for the Environment "Removal of agriculture from the NZ ETS" <https://consult.environment.govt.nz/climate/deferral-nz-ets-reporting-for-animals-farmers/>.

127 Ministry for Primary Industries "Supporting farmers to reduce on-farm emissions" <https://www.mpi.govt.nz/funding-rural-support/environment-and-natural-resources/estimating-on-farm-emissions/>.

Agricultural Emissions report[128] and the independent Climate Change Commission's report on agricultural emissions and transitioning to a low emissions future.

Signed: Robyn Julie Collins
Date: 30 September 2025

[128] Interim Climate Change Committee *Action on agricultural emissions: Evidence, analysis and recommendations* (30 April 2019). [**MPI.002.0591**]