

*Emissions Reduction Plan Consultation,
Ministry for the Environment,
PO Box 10362,
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DairyNZ Submission: Transitioning to a low-emissions and climate-resilient future

Thank you for the opportunity to shape the Government's eventual Emissions Reduction Plan.

Executive Summary

DairyNZ is firmly committed to dairy farming playing its part in transitioning to a low-emissions economy alongside the rest of New Zealand.


This transition needs to be equitable, fair, and grounded by scientific, economic, social, and cultural considerations.

We know there will be changes required, therefore we must be confident that the transition pathway is justified. We will also need to fully understand what it will take to enable and support this transition process.

We can make practice changes with the tools and knowledge we have available now, but this will not get us all the way there. We need substantial R&D investment to accelerate the approaches and solutions available. If we can find these solutions, this will ultimately also be our biggest contribution to global agricultural emissions – to halt agriculture's warming contribution.

In an Emissions Reduction Plan for the agricultural sector, we call for:

- Enabling a successful outcome for the Primary Sector Climate Change Partnership - *He Waka Eke Noa* so that this partnership is enduring for business certainty.
- Commitment for the Biological Emissions Reduction Science Accelerator (BERSA) process to identify actions and initiatives to accelerate the development and availability of a range of emissions reduction technologies, across the pipeline from knowledge to impact, coupled with a long-term investment plan.

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- Commitment to ramp up extension services for farmers so they can assess their options and implement their plans to report and manage greenhouse gas emissions.
 - Better modelling and discussion of the distributional impacts of Government policies on rural communities.
 - Further research is done on transport needs and patterns for rural communities, so that low-emissions options can be developed with an evidence-base. We would encourage pilots to be established.
 - The Government to ensure that on-farm actions to reduce emissions flow through to the National Greenhouse Gas Inventory, to track and incentivise action.
 - Incentivising support for farmers to join Dairy Base – to show more farmers where they sit relative to others, to amplify understanding, options and build on practice changes.
 - Adopting the advice of the Climate Change Commission for afforestation policies that the NZ ETS should be amended to strengthen the incentive for gross carbon dioxide emissions reductions and to manage the amount of exotic forest planting the NZ ETS drives, in line with the Commission’s advice on the proportion of emissions reductions and removals necessary for meeting emissions budgets.
 - A split gas approach which better characterises the differences between long-lived and short-lived gases and is an appropriate science-based target for biogenic methane.
 - The Climate Change Response (Zero Carbon) Amendment Act and the Emissions Reduction Draft Plan specifically states a temperature goal as its purpose; therefore, the government needs to adjust from counting emissions to stating the warming contribution of methane. GWP* is an appropriate metric for accounting for the warming effect of short-lived greenhouse gases.

Introduction

DairyNZ is the industry good organisation representing all 11,000 of New Zealand's dairy farmers. **Our purpose is to provide a better future for farmers by enhancing their profitability, sustainability, and competitiveness.** The dairy sector employs 50,000 people, generates \$20b in export earnings, and comprises one third of all goods revenue. In 2018, we produced 25% less emissions per kg milk solids than if we had not invested in developing science to make more dairy farming more efficient.

DairyNZ is committed to dairy farming playing its part in transitioning to a low emissions economy alongside the rest of New Zealand and supporting the delivery of the Zero Carbon Act. We have active programmes to support farmers as they transition to lower greenhouse gas emissions.

The following views relate to shaping the Government's Emissions Reduction Plan (due in 2022) and progressing actions on agriculture and climate change internationally.

As we begin to implement pricing for biological emissions from 2025 for agriculture in New Zealand, it is important that New Zealand dairy farmers know that other nations are also making serious efforts to reduce their agricultural greenhouse gases. The recent Global Methane Pledge does begin to bring this issue into focus for other countries. We urge Ministers and officials to lead on these issues internationally.

New Zealand's dairy sector is committed to remaining the most efficient producer of low emissions milk in the world. Our focus as a sector is sustaining our success, as consumers and communities increasingly seek sustainably produced food.

New Zealand dairy farmers' hard work and their investment over decades has contributed to this world-leading status. Our grass-based, outdoor grazing system is unique globally and is critical to our success.


We can make practice changes with the tools and knowledge we have available now, but this will not get us all the way there. We need substantial R&D investment to accelerate the approaches and solutions available. If we can find these solutions, this will ultimately also be our biggest contribution to global agricultural emissions.

Context for Transition

Our dairy farmers must fund the cost of this transition, by and large themselves though the context of continuing to operate as a profitable business.

The vast majority of our global competitors are making these shifts with support through subsidies. As we assess the impacts and trade-offs of this effort for climate change, we cannot lose sight of that.

Farmers are dealing with a multitude of challenging issues, including greenhouse gas emissions, water policy, animal care, biosecurity, and labour issues.



We want this transition to be equitable, fair, and grounded by scientific, economic, social, and cultural considerations. The Government has coined the term “a just transition” and has recently joined the *International Just Transition Declaration* that acknowledges that countries must respond in a way that is fair to everyone. We know there will be changes required, therefore we must be confident that the transition pathway is justified. We will also need to fully understand what it will take to enable and support this transition process.

It is important to dairy farmers that the sector’s pathway is adaptive and reflects what is realistically possible on-farm. Our pathway should also recognise the economic and social costs of doing so, as well as the potential impact on rural communities.

The following views relate to the issues and questions asked in the Government’s discussion document entitled ***Te hau marohi ki anamata: Transitioning to a low-emissions and climate resilient future***. Page and paragraph numbering from this document are italicised here for ease of cross reference.

We note that this Emission Reduction Plan will need to coordinate the strategies and plans listed elsewhere within this document. We list them here for reference:

- a. Emissions Reduction Plan
- b. Treaty of Waitangi Strategy
- c. National Energy Strategy
- d. Circular Economy Strategy
- e. Bioeconomy Strategy
- f. Freight and Supply Chain Strategy
- g. Industry Plans
- h. Building Transformation Plan
- i. Equitable Transitions Strategy
- j. New Zealand Rail Plan
- k. National EV Infrastructure Plan
- l. Hydrogen Roadmap
- m. Multisector Strategy

The sheer volume of plans and strategies proposed is overwhelming. Their coordination, sequencing and synchronicity will be a feat of management. While indicative of a desire to ‘manage’ the transition we implore the Government to provide clear, predictable, coherent policy settings. Farmers deserve to have well signalled, practical, fair and coherent Government policy across the gambit of current reform programmes, including for climate change.

DairyNZ has just released its annual View from the Cowshed report, which was based on the feedback of 425 farmers who opted to be surveyed between April and May this year. Fifty-seven percent of farmers surveyed said changing government regulations are causing them a lot of stress. A further 67 percent of farmers feel there isn't enough support for farmers dealing with mental health issues. More than half of those surveyed

said they or someone on their farm had experienced a mental health issue in the last year.

Page 10: In-principle decisions on emission budgets

DairyNZ does not agree that long-lived and short-lived gases should be bundled together using the GWP100 metric. We have also submitted to the Climate Change Commission on this issue.

The latest IPCC AR6 report from Working Group I affirms this point. There is broad scientific consensus that the short-lived greenhouse gases do not need to reach net zero emissions to reach net zero warming.

We suggest emissions budgets that separate long-lived gases from short-lived gases. There is a credible, and more accurate way to measure the warming impact of short-lived greenhouse gases. This is evidence – it should be used.

The IPCC in its recent Sixth Assessment Report (AR6) says: *“The choice of emission metric affects the quantification of net zero GHG emissions and therefore the resulting temperature outcome after net zero emissions are achieved. In general, achieving net zero CO2 emissions and declining non-CO2 radiative forcing would be sufficient to prevent additional human-caused warming. Reaching net zero GHG emissions as quantified by GWP-100 typically results in global temperatures that peak and then decline after net zero GHGs emissions are achieved, though this outcome depends on the relative sequencing of mitigation of short-lived and long-lived species.”*

“In contrast, reaching net zero GHG emissions when quantified using new emission metrics such as CGTP or GWP would lead to approximate temperature stabilization (high confidence) {7.6.2}.” “By comparison expressing methane emissions as CO2 equivalent emissions using GWP-100 overstates the effect of constant methane emissions on global surface temperature by a factor of 3-4 over a 20-year time horizon (Lynch et al., 2020, their Figure 5), while understating the effect of any new methane emission source by a factor of 4-5 over the 20 years following the introduction of the new source (Lynch et al., 2020, their Figure 4).”*

Given that GWP100 is unfit for purpose to compare the cumulative warming impact of short and long-lived emissions, it is appropriate that governments either adopt a more fit-for-purpose metric or split out reduction targets and budgets for short and long-lived emissions. The IPCC says, *“treating short and long-lived GHG emission pathways separately, can improve the quantification of the contribution of emissions to global warming within a cumulative emission framework, compared to approaches that aggregate emissions of GHGs using standard CO2 equivalent emission metrics.”*

As Myles Allen, Professor of Geosystem Science, University of Oxford, and an expert on greenhouse gas metrics has said recently, *“Given only targets for aggregate CO2-equivalent emissions, without any indication of how much of these consist of methane and whether methane emissions are expected to go up or down, we have no way of telling whether they imply warming speeding up or slowing down. It’s like trying to land a plane with a faulty altimeter.”*

Aggregating emissions budgets and using the GWP100 metric for short-lived gases is disingenuous.

Page 18, Figure 2 New Zealand's pathway to Carbon Zero

DairyNZ agrees with the purpose as it relates to 'global effort to limit warming.' This is not just about greenhouse gas emissions, but the warming impact of those emissions that is different for each gas type.

Carbon dioxide dominates not only the overall level of global warming but also the speed of global warming. Early global methane reductions can at best shave a few tenths of a degree off peak global warming and slow the rate of global warming a little.

We have domestic targets that allow us to work out how much warming New Zealand will cause, and this implies that if we achieve the mid-range of our legislated target range for biogenic methane, and net zero long-lived gases by 2050, then New Zealand will stop our warming in the 2030s, earlier than the United Kingdom, the EU and the US.

An evidence-based approach should not only report greenhouse gas emissions, but also the warming impacts of those emissions. In pursuit of a global temperature goal, it is important for both the other principles proposed here, and future policies, that New Zealand understands when its contribution to warming is halted.

DairyNZ seeks that the target range specified for biogenic methane by 2050 is 'fair' and 'equitable' given the warming impact of methane as measured by an appropriate metric for short-lived gases.


Page 22: Guiding Principles – Q1 Do you agree that the emissions reduction plan should be guided by a set of principles?

Page 20, Table 5 provides "Guiding principles for Government decisions on the emissions reduction plan."

"A fair, equitable and inclusive transition" - DairyNZ seeks to understand how the Government will determine 'fairness' and 'equity,' and by what metrics or criteria will different policies be judged against one another? This principle, as expressed, is so broad that a multitude of policies completely unrelated to greenhouse gas emissions reductions could be justified (the latter point is reinforced by the third principle of "Environmental and social benefits beyond emissions reductions" i.e. the 'emissions reduction plan' which is about 'emissions reductions' can comprise policies that don't contribute towards emissions reductions). The current scope of this principle seems too broad and ambiguous without being supplemented with additional criteria, so that political trade-offs are made explicit.

DairyNZ supports the principle of "An evidence-based approach." An evidence-based approach should not only report greenhouse gas emissions, but also the warming impacts of those emissions. In pursuit of a global temperature goal, it is important that New Zealand understands when its contribution to warming is halted. Can the Government clarify, according to proposed budgets, when this will occur?

The principle of "An evidence-based approach" needs to draw on the latest findings of the IPCC.



We wish to ensure that the National Greenhouse Gas Inventory reports not just greenhouse gas emissions but also their warming impacts. DairyNZ also wants the National Greenhouse gas Inventory to be responsive and take account for new mitigation options and technologies as they emerge.

The principle of “A clear, ambitious and affordable path” is the first indication of cost and perhaps economic efficiency? There is an obvious tension between ‘ambitious’ and ‘affordable.’

In terms of affordability, a least cost approach can help. Not employing a least cost approach means higher than necessary costs for families and businesses, making the transition to lower emissions more expensive and painful than it needs to be.

Least cost emissions abatement through the ETS can be supported by policies that address other unpriced externalities. But these are exceptions that need to be justified by additional net benefit assessments.

In a policy process it should almost always be assumed the least cost option is the best option unless it can be shown not to be. Where a public policy option is not least cost, the Government must ensure transparency to show, for example, the actual abatement costs per tonne of CO₂ avoided.

DairyNZ wishes to see more discussion/guidance on what is ‘affordable’ and how that is determined prior to agreeing policies and evaluating their performance over time. For example, the Government has just announced a more ambitious 2030 target that will require purchasing international offsets estimated at many billions of dollars. What is the opportunity cost of spending that money in the domestic economy to reduce gross emissions?

Page 23, Q5. Are there any other views you wish to share in relation to the Transition Pathway?

DairyNZ agrees that New Zealand should create sufficient certainty while maintaining flexibility for future decisions-makers.


New Zealand is reliant on other nations curbing their own greenhouse gas emissions. New Zealand essentially imports its climate from what others are doing or not doing. We are hopeful that others will act in step, but this is not guaranteed. We are keen to see the scenario planning that the Government has undertaken that investigates what New Zealand would do under a range of scenarios where the rest of the world either acts or does not act on climate change.

Similarly, how adaptive is New Zealand’s transition pathway in respect of how resources will be allocated across both mitigation and adaptation where the rest of the world either acts or does not act on climate change?

Page 30, Equitable Transitions Strategy: Q18 What additional resources, tools, and information are needed to support community transition planning?

DairyNZ seeks that the ‘Equitable Transitions Strategy’ is ‘rural-proofed.’ What will be the impact of the transition on rural communities¹?

¹ See [Rural communities at heart of all decisions | Beehive.govt.nz](https://www.beehive.govt.nz/rural-communities-at-heart-of-all-decisions)



There was very little information on distributional impacts for rural communities in the Climate Change Commission's carbon budgets work.

We seek more information on the distributional impacts of the proposed pathway, particularly for the agriculture sector. We support a strong evidence base for assessing the distributional impacts of climate policy decisions and developing localised transition plans for affected regions. Further evidence is needed on the combined effects of carbon pricing, changes to transportation, heat and energy, and land use change on the agricultural sector and rural communities.

DairyNZ supports the Government improving digital connectivity for our rural communities. This will help support rural communities to be able to make use of technology as it arises and will support emissions reductions. Our recent farmer survey revealed that 50% of farmers don't have the broadband internet they need on-farm and 52% don't have adequate mobile reception. The Climate Change Commission recommended the rural Broadband Initiative is resourced and prioritised to achieve its 2023 target, so that farmers and rural communities have access to data and information to support decision-making.

The decarbonised future will increasingly be electric, and therefore there must be reliable and adequate distribution networks and distributed energy resources in the regions. Coverage of charging infrastructure, including fast-charging services, needs to be planned to consider regions, as well as State Highway networks.

Page 32: Government accountability and coordination


DairyNZ recommends that the Government, in a timely manner:

- Publish all briefings and minutes from the Climate Change Response Ministerial Group.
- Publish all briefings and minutes from the Climate Change Chief Executives Board.
- Publish annually the quantified costs and benefits of aligning government procurement of goods and services e.g. dollars saved, emissions avoided, cost per tonne CO₂ achieved.
- Regularly publish progress with the Carbon Neutral Government Programme e.g. dollars saved, emissions avoided and cost per tonne of CO₂ achieved.

Page 34, Q21 In addition to the Climate Change Commission monitoring and reporting on progress, what other measures are needed to ensure government is held accountable?

DairyNZ believes there should be increased accountability for actions and expenditure by government departments commensurate with any increases in Budget Appropriations. The Government has indicated that the release of the final Emissions Reduction Plan will coincide with Budget 2022. The assessed funding requirements for implementing each emissions reduction plan should estimate the costs and benefits. The cost per tonne of carbon should be calculated for each policy. All policies should be routinely evaluated for their effectiveness to reduce emissions - this information should be communicated publicly, and regularly. If a least cost principle is to be abandoned, then the transparent reporting of this information makes clear the trade-offs and opportunity costs of these investments.

Page 36, What else should the Government prioritise in directing public and private finance into low-emissions investment and activity?



DairyNZ believes that setting a clear strategy for science funding that is appropriately resourced will support farmers to reduce their environmental footprint while increasing profit. The long-term plan for funding (as recommended by the Climate Change Commission) should be expedited to provide clarity and certainty.

New Zealand Green Investment Finance is a green investment bank established by the New Zealand Government in April 2019 to accelerate investment that can help to reduce greenhouse gas emissions in New Zealand. The Agriculture sector is one of the target sectors for the Bank. To date, what proportion of the Bank's funding has been committed for the agriculture sector?

This question is cross-referenced with Page 46 Research, Science and Innovation below.

Page 40, Question 30: Do you agree the treatment of forestry in the NZ ETS should not result in a delay, or reduction of effort, in reducing gross emissions in other sectors of the economy?

There should be greater consideration to the consequences of afforestation policies where wholesale conversion to forestry and the scale of afforestation risks the effectiveness of policy drivers to reduce gross emissions. Long-lived gases remain the key drivers of climate change.

The pace of afforestation on farms around the country and the influence of government policies to drive afforestation is clear. We look forward to the Government responding to the clear guidance and concerns of the Climate Change Commission in this regard, this is repeated below for reference.

The Climate Change Commission's Advice to the New Zealand Government on its first three emissions budgets and direction for its emissions reduction plan 2022–2025 recommended the following (in Recommendation 11 and 25 on pp.243 and pp. 323 respectively):

“Amending the NZ ETS to strengthen the incentive for gross emissions reductions and to manage the amount of exotic forest planting the NZ ETS drives, in line with the Commission's advice on the proportion of emissions reductions and removals necessary for meeting emissions budgets (see also Recommendation 25).”

“Designing a package of policies to reduce reliance on forestry removals and manage the impacts of afforestation including:

- *Amendments to the NZ ETS to manage the amount of exotic forest planting driven by the scheme (see also Recommendation 11 on the NZ ETS).*
- *A clear position on the role and desirability of different types of permanent exotic forests as carbon sinks and amending the NZ ETS and other policies accordingly.*
- *Land-use planning, direction and tools to help local government manage afforestation, mitigate localised impacts of afforestation and to achieve environmental co-benefits.”*

Page 46, Research, science and innovation: Questions 36-41

The Government and agricultural industry sector bodies, including DairyNZ, continue to invest via the Pastoral Greenhouse Gas Research Consortium and New Zealand Greenhouse Gas Research Centre (NZAGRC) to research and develop technologies to reduce biological methane and nitrous oxide emissions.

For the dairy sector to maintain our international competitiveness, reduce our environmental footprint, and make a greater contribution to New Zealand's economy we need a more strategic approach to greenhouse gas research and development. It will not be possible to meet long-term targets for biogenic methane without very large financial costs to dairy farms and the dairy sector unless the breakthrough technologies under development come to fruition.

The current research system isn't working. It's costly, cumbersome, and misplaced incentives prioritise piecemeal projects at the expense of long-term vision and co-ordinated effort. The result is a splintered system driving mostly short-term and disconnected projects, with low accountability for impact.

DairyNZ welcomes MBIE's current consultation on the future of the science system in New Zealand. Minister Woods has said *"We need a future-focused fit for purpose research, science and innovation system to safeguard our future health, environment and prosperity."*

We need to apply a long-term strategic lens to our research sector so that the critical questions can be addressed. The big challenges we are facing like improving water quality, reducing emissions, and adding value to milk, require substantial, coordinated and consistent long-term research investment. This investment should be based on a shared strategy that brings together the expertise of our best researchers to achieve our collective economic, social, and environmental aspirations.

The biggest impact New Zealand can have in tackling global emissions will be through its contribution to efforts to reduce global livestock emissions which account for around 14% of all global emissions.

Setting a clear strategy for science funding that is appropriately resourced will support farmers to reduce their environmental footprint while increasing profit. The long-term plan for funding should be expedited to provide clarity and certainty.

Under the Biological Emissions Reduction Science Accelerator, DairyNZ is working alongside Government, industry, Māori and the science sector to develop a shared R&D plan. Good progress is being made to identify how to accelerate mitigations to reduce methane and nitrous oxide emissions on-farm. However strong funding commitment is needed from Government to ensure that these actions are operationalised.

Table 1: Current funding for emissions reductions from Government

	Transport sector	Agriculture sector
Government funding for emissions reductions	\$36.2m per year	\$32.5m per year
% of New Zealand's gross emissions (CO₂^e)	20%	48%
Government funding per kt CO₂^e	\$2,200 per year	\$820 per year

Government's new 2030 Nationally Determined Contribution (target)

At the UN Conference in Glasgow this month the Government announced a new climate change target to reduce net emissions by 50 per cent below gross 2005 levels by 2030. This more ambitious target commits New Zealand to purchasing international units because sufficient abatement is not available within the domestic economy to cover this increase over the period. The costs of offshore mitigation have been estimated by the Government at \$900m - \$1.5b per annum.

Based on the Climate Change Commission's recent advice to Government, and their assessment that increasing the 2030 target will simply lead the Government having to pay internationally for units - a 50% reduction by 2030 implies the need for 142 Mt CO₂e of international offsets.

This equates to the following costs (both direct and indirect²) over next 9 years, at different carbon prices:

Table 2


Price per t CO ₂ e	\$30	\$70	\$140
Direct cost (Billions)	\$4.2 b	\$10.0 b	\$19.8 b
Direct and Indirect cost (Billions)	\$7.6 b	\$17.8 b	\$35.8 b

It is useful to compare the current Government expenditure to reduce New Zealand's gross greenhouse gas emissions and its current commitment to research and development, with the above (direct and indirect costs) to the economy of purchasing international offset units – there is an order of magnitude difference.

Earlier this year the Climate Change Commission and the Sustainable Business Council called on the Government to develop and fund a long-term R&D strategy for agricultural greenhouse gas emissions. DairyNZ strongly supported this in our submission to the Commission.

At the UNFCCC Conference of the Parties meeting in Glasgow this month, the Government also signed a collective, global methane pledge. While Minister Shaw

² "Indirect costs" as defined by the Climate Change Commission are - The overall economic impact of expenditure on offshore mitigation will be greater than the purchase price (the direct cost), due to multiplier effects. Were an equivalent amount to be spent within Aotearoa, it would have a knock-on effect stimulating spending in downstream industries. With offshore mitigation these knock-on effects occur overseas, and so Aotearoa would not get these benefits."



confirmed that no policies or domestic targets will change as a result of signing the methane pledge, the pledge does call for “*technology innovation, incentives and partnerships*” in respect of agricultural methane.

A robust R&D strategy is the most important thing New Zealand could be doing right now as part of a global effort and we urge the Government to make this a significant priority. Scientific breakthroughs on agricultural greenhouse gases won’t just help kiwi farmers – it will help farmers worldwide.

Page 76, ultimate paragraph: Transport distributional Impacts

This paragraph refers to mitigating the distributional impacts on different sectors and industries. The Climate Change Commission’s first carbon advice was notable for the absence of any in depth information on distributional impacts. DairyNZ supports the publication of good evidence of the distributional impacts of transport policies on the agriculture sector and rural communities.

Page 81, Transport: Q57: Are there any other views you wish to share in relation to transport?

We are pleased to see that the transport sector is taking a leadership role in reducing New Zealand’s all-important long-lived emissions. Transport is responsible for 47% of total domestic long-lived gases.

There needs to be further consideration of the impact of transport policies for rural communities. Regions, sectors, and citizens all have different starting points in their journey to a low-emissions economy.

This is acknowledged on page 78 of the discussion document “*We have acknowledged in these estimates that more rural areas have limited opportunities to reduce light vehicle travel.*”

Options to decarbonise transport emissions are unlikely to be readily applicable in rural areas any time soon. Public transport and non-vehicle travel options are likely to be impractical options for farmers living in remote locations. Currently available EV options are not able to match the performance of internal combustion engine utes for on-farm needs.

As yet there are no low emissions options for tractors and other specialised farm machinery.

DairyNZ was pleased to see the Climate Change Commission acknowledged the specific transport needs of rural communities in the recent report “*Ināia tonu nei: a low emissions future for Aotearoa*”. “*Farmers, contractors and others in rural communities need vehicles that can carry heavy loads or access rugged or remote locations. Single- or double-cab Utes, farm bikes and quad bikes are an essential part of farming and rural landscapes. Cost-effective and low emissions solutions for these vehicles are available now or will be in the next few years.*”

The Climate Change Commission did not identify which and low emissions solutions it has looked at that are available now, which will be cost effective and available in three years’ time. We would welcome the Ministry for Transport and the Government to give more detail on this aspect. We also recommend further research is done on transport needs and patterns for rural communities, so that options can be developed with an evidence-base. We would encourage for pilots to be established.

Page 100, Agriculture specific questions

Support for He waka eke noa

DairyNZ is a partner and signatory to He Waka Eke Noa. This is a Primary Sector Climate Change Commitment with Government and iwi/Māori. Through He Waka Eke Noa, partner organisations are working to develop a framework by 2025 that will equip farmers and growers with both skills and tools to reduce their on-farm agricultural greenhouse gas emissions and to adapt to climate change.

The agriculture sector is invested to ensure He Waka Eke Noa delivers practical guidance to farmers. Advisory and guidance tools can enable better on-farm decisions leading to reduced greenhouse gas emissions. Farmers also want to be recognised for their achievement of on-farm emissions reductions.

He Waka Eke Noa decisions and actions must be enduring to provide business certainty.

The Government should ensure that on-farm actions to reduce emissions flow through to the National Greenhouse Gas Inventory.

He Waka Eke Noa presents a framework for farmer-driven action that could be used internationally by other nations seeing to address their own agricultural greenhouse gas emissions.

Q83, How could the Government better support and target farm advisory and extension services to support farmers and growers to reduce their emissions?


The Government could incentivise support for farmers to join Dairy Base - paying for data collection and incentivising farmers to participate. Dairy Base is a service provided by DairyNZ for farmers who subscribe. It helps farmers to better understand their farm system. It does this by comparing key performance indicators and determining opportunities for improvement.

With Government support to make it accessible to all dairy farmers it will help farmers to understand their business financial performance and the farms physical aspects, compared to industry standards or targets.

The Government could also incentivise other database holders to bring their data across to Dairy Base. We would then be able to show more farmers where they sit relative to others, to amplify understanding, options and build on practice changes.

Q84 What could the Government do to encourage uptake of on-farm mitigation practices, ahead of implementing a pricing mechanism for agricultural emissions?

There is little time between now and 2025 when the pricing of agricultural greenhouse gases is to be operational. Commitment to a well-funded, robust research and development programme will give confidence that mitigation solutions are on the horizon. Similarly, information and guidance will help prepare farmers, so they that they know their greenhouse gas numbers, have a management plan and knowledge of the options they can take. Public policy needs to be well signalled, have practical application and be fair. If there is not bi-partisan support to climate change policies or



the goal posts continually shift, this will likely pause action and dent confidence. We note that there are signals from the market too, but getting the regulatory environment correct is as equally important.

Q85 What research and development on mitigations should Government and the sector be supporting?

See the above section on Research, science and innovation.

Q86 How could the Government help industry and Māori agribusinesses show their environmental credentials for low-emissions food and fibre products to international customers?

New Zealand's food & fibre sector is committed to being the most efficient producer of low emissions, high quality, and safe food & fibre in the world. Our focus as a sector is sustaining our success, as consumers and communities increasingly seek sustainably produced food. New Zealand farmers' hard work and investment over decades has contributed to this world-leading status. Our unsubsidised grass-based, outdoor grazing system is unique globally and is critical to our success.

New Zealand continues to pursue and should amplify its research and development of agricultural greenhouse gas emissions. The Ministry of Foreign Affairs and Trade, the Ministry for Primary Industries and the Ministry for the Environment should highlight New Zealand's research and development efforts, including our coordination of the Global Research Alliance. We should also seek to partner with other countries.

The Government should also showcase *He Waka Eke Noa*. DairyNZ is a partner and signatory to *He Waka Eke Noa*. This is a Primary Sector Climate Change Commitment with Government and iwi/Māori. Through *He Waka Eke Noa*, partner organisations are working to develop a framework by 2025 that will equip farmers and growers with both skills and tools to reduce their on-farm agricultural greenhouse gas emissions and to adapt to climate change. *He Waka Eke Noa* presents a framework for farmer-driven action that could be used internationally by other nations seeing to address their own agricultural greenhouse gas emissions.

The Government has recently joined the Global Methane Pledge. For Agriculture this calls for “*technology innovation, incentives and partnerships.*”

Submission ENDS