



He Waka Eke Noa primary sector and Māori agribusiness Partners' Joint Submission

Introduction

This Submission sets out responses to the government proposals, as set out in the consultation document released in October, and makes recommendations to develop an emissions pricing system that creates incentives and opportunities to reduce agricultural emissions while maintaining the viability of the primary sector.

It is made on behalf of 10 He Waka Eke Noa Partners from the primary sector and Māori agribusiness (the Partners) - Apiculture New Zealand, Beef + Lamb New Zealand, Dairy New Zealand, Dairy Companies Association of New Zealand, Deer Industry New Zealand, Federation of Māori Authorities, Foundation for Arable Research, Horticulture New Zealand, Irrigation New Zealand and the Meat Industry Association. Federated Farmers of New Zealand says it supports much of the content, but has decided not to be part of this joint submission. The Partners will continue to work constructively and collectively in the spirit of partnership to achieve the best outcomes for farmers, growers and New Zealand.

This submission should be read in conjunction with the submissions supplied separately by the Partners, providing further context to the proposed solutions and recommendations outlined in this document.

Government proposals for agricultural emissions pricing as they stand are not acceptable to He Waka Eke Noa primary sector and Māori agribusiness Partners (the Partners), nor the farmers and growers they represent.

The He Waka Eke Noa proposed system, recommended by Partners in May this year, was carefully constructed. It included balancing elements that in combination created an innovative approach to emissions pricing that would reduce emissions while maintaining a viable and productive primary sector and protecting New Zealand's export revenue.

The government proposals have shifted the overall balance and as a result do not offer any assurance that the pricing system will not threaten the viability of the New Zealand agriculture sector and provide for a 'just transition' to a low-emissions economy.

The following submission sets out the Partners' response to the government proposals. Partners remain committed to working in good faith with government and iwi/Māori to design a practical cost-effective farm-level system for enabling the agricultural sector to play its part in responding to climate change by 2025. Our objective is for policy to be effective, enduring and have Partnership support, and we therefore call upon government to consider and adopt these recommendations.

The key concerns and subsequent recommendations from Partners are on the topics of:

- Price settings, governance and transitional arrangements
- Price of nitrous oxide
- Sequestration
- Nitrous oxide slope
- Point of obligation for synthetic fertiliser emissions
- Organic fertiliser
- Collectives
- Interim processor-level levy
- Revenue recycling
- Establishment and Operation cost recovery
- Government-led modelling on sectoral impacts and emissions leakage

These recommendations are intended to be considered and adopted as a package of recommendations. In many cases, Partners urge government to revert to the approach recommended in May. In some areas Partners recommend action in addition to the May recommendations, with the intent of further improving the practicality and effectiveness of the system.

Price settings, governance, and transitional arrangements

In brief

The socio-economic impacts on the primary sector and wider economy must be factored into decision-making, in balance with emissions reductions. Emissions leakage risks should also be considered. It is also critical that decision-makers receive advice on price settings from people who have the required knowledge of the New Zealand agricultural sector and are operating commercially in the global marketplace. Sector expertise, technical knowledge, and real-world data must be leveraged to support modelling, the understanding of potential impacts, and ultimately effective decision-making.

He Waka Eke Noa-recommended system

The He Waka Eke Noa Partnership has been focused on designing a system that reduces emissions in line with targets while maintaining a viable productive primary sector that is a strong employer of New Zealanders and that returns critical export revenue for New Zealand.

Partners recommended four key and connected elements that would operate together as a system to achieve that objective:

- **A levy price set as low as possible** to fund sequestration, incentive payments, R&D, and a contribution toward administration costs.
- **An incentive mechanism** that provides for uptake of actions (practices and technologies) to reduce emissions that is a direct discount off the levy bill.
- **Recognition for on-farm sequestration** where it is credible, cost effective and integration of trees into farming landscapes with the right management, and that is a direct credit to the levy bill.
- **A range of checks and balances to provide confidence** to farmers and the sector that levy rates would not lead to otherwise viable farmers going out of business including:
 - **A collaborative governance approach** for levy rate and price setting
 - **A requirement to balance a range of factors in setting levy rates in legislation**
 - **A price ceiling** in order to provide investment certainty for farmers in the first few critical years of the scheme
 - **Levy relief on a case-by-case basis**, as a transitional measure finishing in 2030.

Government proposal

The government's proposals differ to the He Waka Eke Noa recommendations in a number of critical ways:

- **Price setting is determined by Ministers on the advice of the Climate Change Commission (CCC).** There is not a specific role for the agricultural sector beyond normal consultative requirements.
- **The primary factor for consideration in setting prices will be in meeting emission reduction targets.**

While the CCC is required under the Climate Change Response Act to consider, where relevant, other matters (e.g., the likely economic effects; and social, cultural, environmental, and ecological circumstances, including differences between sectors and regions), these matters are secondary to meeting emissions reduction targets.

He Waka Eke Noa Partners recommended a broader set of criteria for levy setting because of concern that the targets might not be achievable in a way that would be economically sustainable for the country, and/or in a way that would lower global agricultural emissions (at least on the basis of current assumptions about mitigation technology).

- **No price ceiling.** This will not provide certainty for farmers in the crucial first few years of the scheme.
- **No detail provided on possible levy relief.** Government has sought information on how this might work.
- **Sequestration.** Only limited categories of sequestration are recognised, through a separate contract system which may also be a barrier to farmers for uptake.

It is unclear in the government proposals if the incentive payments are intended to be discounted directly off the levy bill.

The government proposals state that the levy is expected to raise significant revenue at the prices and levels of uptake that have been modelled, sufficient to cover incentives for mitigation technologies and practices, with a surplus of \$100 million to \$140 million remaining.

Submissions on price settings, governance and transitional arrangements

He Waka Eke Noa recommends:

1. A review of methane targets that is based on the latest scientific knowledge and looks to prevent additional warming arising from New Zealand livestock product production. This must be completed prior to pricing commencing in 2025.
2. A requirement to balance the following factors in setting levy rates is embedded in legislation:
 - Trajectory of emissions reductions towards emissions targets
 - Availability and cost of (current and future) on-farm mitigations
 - Social, cultural, and economic impacts on farmers, regional communities, and Māori agribusiness
 - Best available scientific, mātauranga Māori, and economic information
 - Emissions leakage from production moving offshore
 - Impact on food security (both domestically and internationally).
3. Levy rates should be set by the Minister on the advice of an Independent Oversight Board appointed by all He Waka Eke Noa partners, the Independent Māori Board and the Climate Change Commission. Advice from all bodies will be given due consideration by the Minister when making decisions.
4. The levy rates should be:
 - set at the level required to incentivise emissions reductions while maintaining the viability of the primary sector
 - set at the minimum level needed to balance the factors outlined in 2. above, provide for incentives, research and development and administration costs,
 - and for the first five years capped at no more than 8 cents per kg of methane in 2030, with a starting level of no more than 5 cents in 2025 (noting that there are expected to be fewer mitigations and therefore less funding required for incentives at the outset).
5. Partners commit to providing levy relief on a case-by-case basis, as a transition measure, with strict eligibility criteria that includes where:
 - access to sequestration (both NZ ETS and He Waka Eke Noa) is severely restricted by national and local body regulation and
 - there is no access to effective mitigation technologies and
 - emissions pricing is having a severe impact on the viability of otherwise viable farming operations.

This will be regularly reviewed as mitigations are developed.

The levy relief mechanism will be formally reviewed in 2028. This review will consider the need for a future levy relief mechanism after 2030.

Partners recommend that groups of farmers can approach the Implementation Agency for relief. However, given the heterogeneity of farms and farm businesses within any group or sector, decisions would still be based on individual farm circumstances.

6. Annual monitoring of emissions reductions at the sub-sector level, including the drivers of emission reductions, to inform price setting and any transitional levy price relief.
7. Incentive payments are a discounted off the levy bill, not paid for via a separate rebate system.
8. An urgent review of ETS Forestry settings.

Rationale

While national emission reduction targets have been out of scope of the He Waka Eke Noa process and recommendations, Partners are united in their view that the targets must be reviewed based on the latest scientific knowledge including GWP*, and look to prevent additional warming from livestock emissions. This must be completed prior to pricing commencing in 2025.

It is important to emphasise that emissions pricing is not the primary driver of change in the He Waka Eke Noa-recommended system. Partners recognised that a price on emissions that is large enough to drive change alone would result in unacceptable damage to the New Zealand agricultural sector.

Pricing is primarily a means to fund the activities that will support farmers and growers to make the changes needed to reduce emissions. In particular, the funding of incentive payments to support the use of new technologies is expected to drive greater reductions in emissions than a price. Incentive payments have been used effectively in other countries as the primary mechanism for reducing agricultural emissions.

The He Waka Eke Noa pricing recommendations had sought to balance a number of key tensions that exist when seeking to be the first globally to price agricultural emissions ahead of widespread mitigation solutions.

By removing key aspects of the interconnected recommendations, the government proposals do not adequately balance and manage the tensions that exist in a 'whole of sector approach' to emissions pricing and, therefore, present strong risks to the viability of the sector.

All the modelling conducted to support analysis (He Waka Eke Noa sectoral impacts, Beef + Lamb NZ modelling, DINZ case studies, and government modelling) indicate that the impact of this would be a larger number of farms – mainly sheep, beef, and deer farmers although potentially also in the dairy sector if market returns reduce and margins lessen or mitigation technologies are delayed – becoming unviable due to emissions pricing. This would add to the strong existing pressure of current ETS forestry settings that incentivise blanket afforestation of productive farms with exotic and monoculture pine trees.

While we do not agree with some key assumptions in the government modelling, it has flagged a risk that the current proposals do not have appropriate safeguards to ensure a just transition pathway for reductions that avoids long-term constraint on NZ productive assets and export revenue through land-use change as a result of short-term limitations in mitigation options.

There is general agreement from Partners that it is not the role of the pricing system to shelter fundamentally unprofitable or unsustainable farming enterprises, but that it is appropriate to look at ways farms that meet specific criteria could be supported to transition to lower-emissions systems and still remain viable.

GHG pricing is being imposed on top of mounting costs of compliance for land users. Costs associated with compliance with freshwater rules and constraints caused by emerging biodiversity regulation risk exacerbating financial stresses and mental health challenges in rural communities.

We know there is a very wide distribution of farm profitability even within sub-sectors. We also know their access to mitigation technologies and sequestration is not uniform across the sector. This means any transitional support/relief must be appropriately targeted.

Individual farming decisions aggregate up to community impacts. There could be a risk of avoidable severe impacts on rural communities in the short term while work takes place to commercialise effective mitigation technologies.

Price setting must be designed to incentivise changes required to achieve lower emissions while limiting unintended detrimental consequences at a sector- and sub-sector level. The criteria must consider, support and resource Māori agribusiness to lead and manage their own transition and adaptation, and give recognition to Whenua Māori that may be constrained by regulations, policies or legal structures. This approach to price setting will highlight, recognise and seek to mitigate and avoid the impact and inequities faced by Whenua Māori, and must include recognition of additional sequestration on Whenua Māori.

He Waka Eke Noa therefore recommends the following as a package of measures to best support the dual objective of reducing emissions in line with targets while maintaining a viable productive primary sector and to best support farmers and rural communities through to the point where mitigation technologies are commercially available to farmers:

1. A requirement to balance the following factors in setting levy rates and have these embedded in legislation:

- Trajectory of emissions reductions towards emissions targets
- Availability and cost of (current and future) on-farm mitigations
- Social, cultural, and economic impacts on farmers, regional communities, and Māori agribusiness
- Best available scientific, mātauranga Māori, and economic information
- Emissions leakage from production moving offshore
- Impact on food security (both domestically and internationally).

2. Levy rates should be set by the Minister on the advice of an Independent Oversight Board appointed by all He Waka Eke Noa partners, the Independent Māori Board and the Climate Change Commission. Advice from all bodies will be given due consideration by the Minister when making decisions.

Partners have been consistent throughout the He Waka Eke Noa process that the most important objective in designing decision-making processes is that good-quality evidence and science-based decisions are made. Considerable expertise, technical knowledge, and real-world data sits within the sector, and we want to ensure that this is leveraged to support modelling, the understanding of potential impacts, and ultimately effective decision-making. This supports confidence of those affected by the decisions and better overall outcomes.

It is recommended an Independent Oversight Board (Oversight Board) is established that would work closely with the Independent Māori Board and sector bodies to provide advice to Ministers on the appropriate levy rates, the price of sequestration, and the value of incentive discounts used to incentivise the adoption of mitigation technologies. The Board will also have a key role in providing advice on how recycled revenue will be used.

The Oversight Board members should be appointed:

- In accordance with a skills matrix agreed by industry and Government; and
- By an appointments committee whose members are jointly agreed by industry and Government.

The agreed skills matrix and the appointments committee process seeks to provide industry with confidence in the process while maintaining independence of the Oversight Board.

The Oversight Board should include specific experience and expertise including:

- Primary sector knowledge
- Farms systems and farm management (dairy, horticulture, arable, deer, sheep, and beef)
- Independent Māori Board representation (iwi, hapū and whānau perspectives and Māori agribusiness)
- Agricultural economics
- Knowledge of agricultural science, research and development and adoption needs
- A commercial understanding of the markets in which New Zealand produce is sold.

It is important to emphasise that the establishment of the Oversight Board is not about the sector setting prices for itself. Instead, its key focus will be to call for and assess information and data from the sector to develop high quality advice to government.

The Oversight Board will have the capabilities required to make high-quality evidence and science-based recommendations to government. This will support confidence of those affected by the decisions and lead to better overall outcomes.

Ministers will also receive advice from the Independent Māori Board and the Climate Change Commission. This approach ensures the independence and transparency of the decision-making process. The sole focus of the Oversight Board and Māori Board on the implementation of the system complements input by the Climate Change Commission that could be expected to reflect its broader mandate and functions.

Ministers would still be the ultimate decision-makers after taking account of advice by the Oversight Board, the Independent Māori Board and the Climate Change Commission. The critical thing for the sector is that Ministers have the benefit of expertise and sector-specific knowledge to inform their decision-making.

3. The levy rates should be:

- **set at the level required to incentivise emissions reductions while maintaining the viability of the primary sector**
- **set at the minimum level needed to balance the factors outlined in 1. above, provide for incentives, research and development and administration costs, and**
- **for the first five years capped at no more than 8 cents per kg of methane in 2030, with a starting level of no more than 5 cents in 2025 (noting that there are expected to be fewer mitigations and therefore less funding required for incentives at the outset)**

There is significant uncertainty about the future effects of emissions pricing, including the emissions reductions that will be achieved and the impacts on farm profits. This uncertainty stems from factors that include the simplifying assumptions used in the models, evolving understanding of emissions factors for differing livestock species, uncertainty over other factors affecting farm finances (costs of inputs, interest rates, commodity prices), the uncertainty over the costs, availability, and effectiveness of mitigation technologies, and uncertainty around the type and extent of land-use change, particularly away from animal production.

When the ETS was introduced, a cautious approach was taken to pricing and a cap placed on the carbon price. The Government's own modelling has demonstrated the need to take a cautious approach to the levy price in the initial phases and to test the framework.

Given this uncertainty, it is recommended that, in addition to the factors for setting levy rates and the role of the Oversight Board, that the methane levy rate be capped at no greater than 8c/kg for methane for the first five years, with an initial rate of no more than 5c/kg methane.

This recommendation supports a cautious approach to pricing. It helps to avoid unintended consequences for rural communities, would fit within the system proposed by He Waka Eke Noa and government, and avoid additional administration costs or implementation complexity.

Levy rates need to be as low as needed to achieve the objectives of reducing emissions, increasing integrated sequestration, and minimising impacts on primary sector production and profitability and export revenue. As noted above, emissions pricing is not the primary driver of change in the He Waka Eke Noa system. Pricing is primarily a means to fund incentives for farmers and growers to make the changes needed to reduce emissions and has been designed to work alongside other drivers of change e.g., signals from processors, banks etc.

Partners believe a lower starting price will still be effective in supporting behaviour change, particularly optimisation where possible, in the transition to cost-effective mitigations being available for NZ farming systems. It is important that the incentive payments are directly discounted off the levy bill to create a clear and strong reward for uptake of approved technologies.

Government modelling suggests that a methane price of 8c/kg methane could lead to greater emission reductions than necessary to meet the 2030 biogenic methane target. He Waka Eke Noa modelling indicated that a lower methane price of around 5c/kg would still generate enough income to support incentives, fund R&D, and make a contribution to administration costs. He Waka Eke Noa sequestration would be paid for from the revenue raised through the nitrous oxide levy (and that was set to cover the cost of the sequestration recognised in the system, fund incentive discounts for approved actions for nitrous oxide reduction, fund research and development for nitrous oxide reduction and cover a share of administrative costs). This system avoided raising the estimated \$100- \$140 million 'surplus' levy flagged in the government proposals.

Government is seeking feedback on whether the biogenic methane levy should be updated annually or every three years. Our recommendation is a levy rate range that is fixed for the initial 5 years with more regular 3-yearly reviews after that. This would apply to both the methane levy and the nitrous oxide levy (see next section).

It is critical to minimise price uncertainty to give farmers confidence to invest in the activities that will support emissions reductions and farm viability. Setting a range enables flexibility to adjust as needed to avoid build-up of levy surplus or deficit. This would be consistent with the way government manages other levy income accounts. Changes to methane price within the range could be made in consultation with the Oversight Board within the 5-year period.

Government has indicated that it is considering allowing Ministers to make out-of-cycle levy adjustments in exceptional circumstances if a review cycle is longer than 1 year. Partners would like to work with government to establish and agree clear criteria for any adjustment due to 'exceptional circumstances', noting that the primary role of pricing is to fund the activities that will support farmers and growers to make the changes needed to reduce emissions.

4. The provision of levy relief on a case-by-case basis, as a transitional measure

Farmers who don't have access to mitigations or sequestration should be able to apply for temporary levy relief if the viability of their business is severely impacted by the levy cost.

Partners agree that it is not the role of the pricing system to shelter fundamentally unprofitable or unsustainable farming enterprises, but that it is appropriate to look at ways farms that meet specific criteria could be supported to transition to lower-emissions systems in a way that allows them to remain viable.

We know farmers' access to mitigation technologies and sequestration is not uniform across the sector. This means any transitional support/relief must be appropriately targeted.

There are some important principles that Partners agree on, such as:

- the transitional support mechanism should not shelter fundamentally unprofitable or unsustainable farming enterprises, but that it is appropriate that farms that meet specific criteria be supported to transition to lower emissions systems in a way that allows them to remain viable. This will help to mitigate the impact of unintended consequences for farming and wider rural communities.
- transitional support/relief must be appropriately targeted to farms that meet agreed criteria.
- taking a sub-sector, or species approach would result in an approach that is too broad brush as it might capture some diverse businesses that have options but have not taken action to reduce their emissions. Where the levy price would affect sections of agriculture sector this would be dealt with through the already agreed price-setting decision-making criteria, not through levy relief.

Levy relief could be accessed based on strict eligibility criteria that includes where:

- access to sequestration (both NZ ETS and He Waka Eke Noa) is severely restricted by national and local body regulation; and
- there is no access to, or ability to implement, effective mitigation technologies; and
- where emissions pricing is having a severe impact on the viability of otherwise viable farming operations.

In order to address potential administrative inefficiencies in a case-by-case approach, further exploration is needed into a mechanism that enables groups of farms that meet the agreed criteria and have similar characteristics e.g., location and climate, farm type, species mix, and regional rules, to receive levy relief.

The key concern for Partners is to design this in a way that is not unnecessarily wide and broad-brush, and is appropriately targeted to those farms who need support to transition to lower-emissions farming systems and still remain viable.

Further detailed design of the transitional price relief mechanism is required. Partners stand ready to work with government on this to find a fair and practical solution in this area.

5. Annual monitoring of emissions reductions at the sub-sector level

Sub-sector monitoring that helps to identify sub-sector tracking toward targets and the source of emissions reductions (e.g., land-use change, improving productivity, or uptake of next mitigation technologies), must happen to understand the effectiveness and any unintended consequences of emissions pricing (e.g., emissions leakage) and other policies.

This will be used to inform system improvements e.g., price settings, incentives, and transitional price relief. It could also inform related policy areas e.g., ETS forestry settings.

6. An urgent review of ETS Forestry settings as part of sequestration strategy for NZ (see sequestration recommendations for more detail)

New Zealand policy settings are artificially incentivising the afforestation of productive farms with a monoculture of pine trees. This afforestation is already having a negative impact on many rural communities.

Partners have worked hard to avoid adding to this pressure (particularly on sheep, beef, and deer farms), through the design of the He Wake Eke Noa pricing scheme and in the sequestration categories recommended (i.e., limited recognition of exotics). The He Waka Eke Noa sequestration criteria have been designed to reward planting, protection and enhancement within farms which would ensure ongoing food production, sustained community employment and critical export returns while also delivering to the sectors and New Zealand's climate change goals.

However, experience to-date indicates that without change to ETS forestry settings, there are likely to be increasing numbers of productive sheep, beef, and deer farms lost to carbon forestry and, without the checks and balances from the He Waka Eke Noa recommendations, the Government's emissions pricing proposals will add additional pressure to the strong existing incentives for wholesale afforestation. Government policy has created these incentives, and this requires urgent attention. This reinforces the rationale for a cautious approach to pricing agricultural emissions.

Price of Nitrous Oxide

In brief

Nitrous oxide should be priced only to the extent needed to drive the practice change wanted.

He Waka Eke Noa-recommended system

He Waka Eke Noa recommended setting a unique price for agricultural long-lived gas emissions¹ at a level required to fund the total amount of sequestration recognised in the system; fund incentive discounts for approved actions for nitrous oxide reduction; fund research and development for nitrous oxide reduction and cover a share of administrative costs.

This reflected an assumption that current and future eligible sequestration under He Waka Eke Noa, plus uptake of available technologies to reduce nitrous oxide emissions, represents a credible plan for primary sector long-lived gas emissions till 2028. A primary sector strategy would be needed to be completed by that time to determine a longer-term pathway.

Government proposals

Government's proposal is to link the levy price for long-lived agricultural gases, including nitrous oxide emissions, to the price of NZUs in the NZ ETS market. Government's rationale is that this reflects an already market-determined price and provides a transparent and practical basis for determining the long-lived gas levy price.

Under the government proposal, the price would initially have a 95% proportional discount and this would reduce by 1% point per year. The price would be updated annually to keep it in line with trends in the NZU price and capture the phase-out of the proportional discount each year.

Submissions on price of Nitrous Oxide

He Waka Eke Noa continues to recommend a unique price for nitrous oxide not linked to the NZ ETS. It is recommended that:

1. The levy rate for long-lived gas emissions initially be fixed to 2030 and set at the level required to:
 - Fund the total amount of sequestration recognised in the system
 - Fund incentive discounts for approved actions for nitrous oxide reduction
 - Fund research and development for nitrous oxide reduction
 - Cover a share of administration costs.
2. When the fixed period has ended the intent of the Partnership is that the price for long-lived gas emissions will be set based on the cost of reductions and offsetting required to achieve any sector strategy on reducing long-lived gas emissions.
3. There is a price ceiling for long-lived gases that is not more than if agriculture entered the NZ ETS with 95% phasing down by 1% point per annum. This is not intended to be a reference point for setting the levy rate, but simply to operate as a price cap.

¹ Agricultural long-lived gases are predominantly nitrous oxide from livestock (around 50% of agricultural long-lived gas emissions) and fertiliser (around 20% of agricultural nitrous oxide emissions) and a small amount of CO₂ from urea (around 7%).

Rationale

An important principle underpinning the He Waka Eke Noa recommendations is of pricing emissions only to the extent needed to drive the practice change wanted, rather than risk charging more than needed to achieve system objectives.

In their advice to government on [emissions budgets](#), the Climate Change Commission set out illustrative scenarios on what budget achievement could entail across the different greenhouse gases. These illustrative scenarios show carbon dioxide emissions from the industrial processing, transport and energy sectors is expected to make significantly deeper cuts than nitrous oxide emissions to meet net zero emissions of long-lived greenhouse gases by 2050. Across the three budget periods carbon dioxide is expected to make cuts of 10%, 26% and 56% respectively, while nitrous oxide cuts expected are 5%, 11% and 17%.

This separate trajectory for reductions of nitrous oxide means that linking the price of nitrous oxide emissions to the carbon price does not make sense and could provide a more onerous burden on nitrous oxide than is necessary to meet the emissions budget and net zero 2050 target.

Sector Partners acknowledge that a primary sector strategy is needed to determine a pathway for agricultural long-lived gas emissions in the longer term. The strategy would need to consider the options and costs to reduce long-lived gas emissions, how He Waka Eke Noa eligible sequestration would be counted in the context of a primary sector net target for long-lived gases, and progress on expanding and improving the NZ ETS. Once a strategy is in place, the intent is that the price for long-lived gas emissions will be set based on the cost of reductions and offsetting required to achieve any sector strategy to reduce long-lived gas emissions.

Sequestration

In brief

It is critical that if emissions are priced, all credible forms of sequestration are also recognised and rewarded.

Partners recognise the need for an efficient solution for the recognition of sequestration and agree that an approach in which a farmer (business owner) commits to meet recognition obligations is an important attribute of the system.

He Waka Eke Noa-recommended system

He Waka Eke Noa recommended that the sequestration reward be offset against the emissions price through the pricing system ($A + B - I - C = \$$)

The categories and accounting method of vegetation eligible for recognition recommended were:

Categories of vegetation and baseline	Category detail (summary)	Accounting approach
Permanent categories		
<u>Indigenous vegetation established before 1 January 2008</u>	At least 0.25ha of land wholly or predominantly in indigenous woody vegetation either planted, regenerated, or a combination. Stock must be excluded from the area. Stock exclusion can include fencing, geographic boundaries and/or dense vegetation that stock can't access.	Annual rate based on additional sequestration from management action OR Annual rate based on sequestration from Active Ecological Management
<u>Indigenous vegetation established on or after 1 January 2008</u> (or where there is evidence it was established between 1990 and 2008)	At least 0.25ha of land wholly or predominantly in indigenous woody vegetation either planted, regenerated, or a combination, that was in pasture prior to 1 January 2008 (unless there is evidence of establishment between 1990 and 2008).	Annual sequestration rate based on yearly accumulation of carbon
<u>Riparian vegetation established on or after 1 January 2008</u> (or where there is evidence it was established between 1990 and 2008)	Plantings suited to margins and banks of waterways including wetlands, minimum of 1m wide from the edge of the bank of the waterway/wetland. Predominantly woody vegetation.	National average sequestration rate based on yearly accumulation of carbon
Cyclical categories		
<u>Cyclical vegetation established on or after 1 January 2008</u> (or where there is evidence it was established between 1990 and 2008) Not eligible if it meets the definition of a forest in the NZ ETS	<ul style="list-style-type: none"> a) <u>Perennial cropland</u>: An orchard and/or vineyard greater than 0.25ha in size. b) <u>Scattered forest</u>: Minimum of 0.25ha for any area counted with minimum stocking rate of 15 stems per hectare. c) <u>Shelterbelts</u>: A linear vegetation feature consisting of one or more rows of trees and/or shrubs planted on or after 1 January 2008 with a minimum linear canopy cover of 90%. 	Average carbon stock regardless of whether vegetation is past average age or is in second or subsequent rotations

	d) <u>Woodlots/tree-lots</u> : Up to 1ha and at least 0.25ha of tree species that have greater than 30% canopy cover.	
--	---	--

Any vegetation areas rewarded would be registered against the title and would face a liability if cleared.

He Waka Eke Noa also recommended that the NZ ETS be improved and updated to allow more vegetation categories to be included and that vegetation types eligible under He Waka Eke Noa could be transitioned into the NZ ETS as it is expanded and improved.

Government proposals

The government proposals on sequestration are:

- That a separate contractual system for sequestration be introduced from 2025 and transitioned to the NZ ETS once it is expanded.
- The categories of vegetation eligible for the contractual system include only:
 - Management of existing indigenous vegetation not currently eligible for the NZ ETS
 - Riparian margins planted post 2007
- That the contractual system would involve:
 - A portion of the levy money collected being set aside for sequestration
 - Farmers applying for recognition of eligible vegetation
 - Contracts being set for a number of years at a set rate
 - Contracted vegetation being maintained during the contract period or face a liability
 - No liability post the contract ending
 - Contractual payments potentially aligning with future biodiversity incentives.
- The development of a co-investment approach be enabled to help fast-track new categories' entry into the NZ ETS. Under this approach, the burden of proof for including new categories of sequestration in the NZ ETS would lie with those undertaking and paying for the necessary science and measurement. There would be government direction, oversight and independent third-party verification of the science.

Submissions on sequestration

Building on the original He Waka Eke Noa recommendations and the government proposals, Partners recommend:

1. That a declaration-based approach linked to the emissions payment system (calculator) be used for sequestration. The system should be as easy as possible for farmers to engage with, whilst still ensuring the necessary integrity and assurances are achieved. For example, the declaration could be integrated within the calculator, with business owners making their declaration and accepting the relevant conditions using a 'tick box' approach. This approach is commonplace with many on-line terms and conditions. The declaration would be the final step in a sequestration submission, and credits would not accrue without the declaration box being ticked.
2. The declaration-based approach adopts the following principles:
 - Terms and conditions of the declaration are commensurate with the reward received
 - Trust-based compliance which uses random audit and penalties to deter false declarations
 - Digital mapping to minimise administration costs.
3. That the Partners work with government to pilot the declaration-based system from mid-2023; develop, test, refine and agree the system from both end-user and administrator perspectives.
4. That the same categories that were put forward in the He Waka Eke Noa Recommendations Report be eligible for payment from 2025.
5. That the emissions factors used in the case study modelling in the He Waka Eke Noa Recommendations Report, noting these are informed by published NZ reports, be used as the starting point for the emissions factor determination process.
6. That the initial price for sequestration will be linked to the NZ ETS carbon price but be discounted to reflect that only some He Waka Eke Noa sequestration counts towards national targets and requires a lower burden of proof than the NZ ETS.
7. That there is an immediate need for a sequestration strategy for NZ (and its subsequent implementation) that focuses on:
 - a. sustainable land use ('right-activity right-place')
 - b. resilient and thriving rural communities
 - c. maintaining and growing food and fibre exports
 - d. nature-based solutions (linking freshwater and indigenous biodiversity policy)
 - e. current barriers and incentives for integrated land management
 - f. exploring the risks, interconnections and opportunities between He Waka sequestration (farm-level off-setting), the NZ ETS (general off-setting) and the Voluntary Carbon Market (general off-setting and in-setting).
8. That the following categories should be transitioned to the NZ ETS as soon as practicable:
 - a. Additionality for pre-1990 permanent vegetation
 - b. Post 1989 (2008) riparian vegetation.
9. That post-1989 (2008) permanent vegetation should also be encouraged into the NZ ETS through simplification of the ETS application process.
10. That a co-investment approach should be enabled to fast-track new categories to enter the NZ ETS, but that this should be only for the initial research to establish the credibility of the category.

Rationale

Declaration approach

The Partners accept the need for an efficient solution for the recognition of sequestration and consider a declaration-based approach could provide such a mechanism, but it should be linked to the calculator for ease of use by farmers.

The declaration could sit in the background of the calculator e.g., a farmer could enter their sequestration information, and this could generate a declaration that the farmer could tick and submit as part of their emissions return.

Partners agree that it makes sense for sequestration to not be directly linked into legislation, but from a practicality perspective believe it could still be included in the calculator and used to generate the necessary documentation. It also allows for all the He Waka Eke Noa sequestration categories to be made available from 2025, as there are no requirements for the methodologies to be set out in regulations

From a farmer viewpoint, whether the recognition of sequestration is linked directly or indirectly to the pricing system is inconsequential; it is the ability for it to be included in their balance sheet that matters. However, from an administrative efficiency viewpoint the sequestration reward needs to be directly linked into the emissions pricing system, i.e., once the declaration is approved the sequestration reward is automatically deducted from the farms emissions levy rather than paid out through a separate system.

One of the key considerations for a declaration-based approach is ensuring the application and audit processes are commensurate to the reward received and administratively efficient. As the declaration -based approach is akin to a closed voluntary carbon market, this negates any concerns around meeting national inventory reporting requirements, and equity with other stakeholders operating under the Forestry ETS or not captured by the farm definition. It also allows system-specific terms and conditions including eligibility criteria and process rules. Again, this provides for innovative and expedient method development so all categories can be available from 2025.

As an example, rewards under a given threshold could be treated in a similar way to the MPI drought recovery advice fund. The application would include property details, a standardised table in which the areas of each vegetation category are listed, and a digital aerial map of the property depicting these areas, alongside a declaration based on a standard set of terms and conditions, including being subject to random audit and penalties for false reporting. Correctly filling in this information would be sufficient to gain the reward. Rewards over the threshold would have greater expectations placed upon them, e.g., the digital mapping would have to demonstrate it met a given standard.

The use of pre-approved digital mapping service providers or maps already approved via another regulatory process could also be explored as a mechanism to reduce the need for the checking of individual applications, particularly for rewards over the threshold; the service providers' performance would be audited as opposed to individual farmers and growers. This is how Chartered Accountants operate under the tax system.

A final point in support of a declaration system is that it overcomes some of the concerns many Māori landowners have with regard to the ETS in particular – i.e., an unwillingness to place a burden on the land that will affect future generations.

The Partners recommend that a pilot is set up to develop, test, refine and agree the declaration system for sequestration. The objectives would be to ensure it is simple and efficient from both end-user and administrator perspectives. The Partners would like to work with government in undertaking this.

Sequestration categories

As outlined below, the proposed He Waka Eke Noa sequestration categories are all credible, but as the declaration system is akin to a closed voluntary carbon market and the carbon price is discounted, some discretion can be afforded. At a minimum, the system should meet the Ministry for the Environment guidelines for voluntary carbon offsetting:

- Pre-2008 managed indigenous vegetation will receive only the additional carbon stocks. While there is a paucity of data around indigenous vegetation sequestration, there is sufficient published data^{2,3} to provide an interim emissions factor while the science is improved, at which point the category may be refined and added to the Forestry ETS.
- Post-2007 indigenous vegetation will receive total carbon stocks. It will use 2008 imagery as the determination point due to poor 1990 imagery. To date this has provided a barrier for indigenous vegetation entering the Forestry ETS. As a safeguard a declaration will be required that the land was in pasture prior to 1990. This will apply for the term of the declaration. The emissions factor used is the same as the Forestry ETS. Where a farmer can provide evidence of establishment between 1990 and 2008 that vegetation can be eligible for total carbon stocks.
- Post-2007 riparian, scattered forest and shelterbelts will receive total carbon stocks. The categories allow for woody vegetation to be recognised at a lesser density and width than the Forestry ETS requirements, and the emissions factors used reflect this. While there is a paucity of data around the sequestration rates for each of these categories, again there is sufficient data to provide an initial estimate of the emissions factors while the science is improved, at which point some of these categories, specifically riparian and scattered trees, may be added to the Forestry ETS. Where a farmer can provide evidence of establishment between 1990 and 2008, that vegetation can be eligible for total carbon stocks.
- Post-2007 woodlots will receive total carbon stocks. They use the same eligibility criteria and emissions factors as the Forestry ETS but allow for smaller areas (between 0.25 ha and 1 ha or <30 m width). Where a farmer can provide evidence of establishment between 1990 and 2008, that vegetation can be eligible for total carbon stocks.

Impact of sequestration

Recent farm-scale modelling shows that the indigenous vegetation offset potential will make a considerable difference to the emissions cost faced for some farms, and that riparian vegetation also creates an opportunity to alleviate the impact of the emissions cost for many more. Also, while the eligible cyclical categories make up only small areas, when combined they provide a notable benefit, particularly for sheep, beef and deer farms.

Examples include hill-country farms with small areas of multiple categories, e.g., scattered small areas of remnant indigenous forest, dense shelterbelts used to block southerly winds, and newly fenced and planted riparian areas to exclude stock; and hill-country farms with large areas of one

² Paul T., Wakelin S. & Klinger S., Quantifying carbon sequestration in farm vegetation (2021), MPI

³ Burrows L., Easdale T., Wakelin S., Quinn J., Graham E. & Mackay A., Carbon Sequestration potential of non-ETS land on farms (2018), MPI

category, e.g., large areas of spaced poplar plantings to control slip erosion on hillsides along with areas of spaced willow plantings to control gully erosion.

The cost benefit of including the cyclical categories is a reason given for not including them. However, as the sequestration declaration system will likely involve some user-pays, the administration setup costs for the system are effectively the same regardless of the number of categories added, and the methodologies are largely already defined at the level required for a declaration-based system. Adopting an approach that allows an individual farm to undertake the cost benefit, rather than excluding specific categories that may be significant for some farms, is the more pragmatic approach. Applying the averaging (rather than saw-tooth) accounting method to cyclical categories further reduces the administrative burden of accounting for the anticipated harvest and replanting of these categories.

Understandably farmers feel strongly that if they are to be charged for their livestock emissions, then all their areas of permanent and cyclical vegetation should also be acknowledged. Appropriate recognition and reward of sequestration will provide a significant incentive for farmers to play their part in reducing emissions knowing that the system is fair and equitable and that they are being offered the opportunity to justly and viably transition to a lower carbon farming system.

However, it should be noted not all farms have the opportunity to sequester carbon due to the environment or regulations prohibiting exotic plantings and the circumstances in which they farm, particularly high-country stations.

From a wider New Zealand perspective, it makes sense to encourage farmers to optimise sequestration in their business. Integrated sequestration within food production businesses is a win for New Zealand in that the on-farm sequestration helps reduce our warming impact, while, maintaining food production, employment, export revenue and the ongoing vibrancy of rural communities. Recognising and rewarding this type of vegetation on farms will also enhance the associated benefits of shade and shelter, erosion control, biodiversity etc. Rewarding it will give the right signals to farmers; not rewarding the full suite recommended by He Waka Eke Noa will act as a massive disincentive.

New technologies

The declaration system also provides an opportunity to explore the wider adoption of remote-sensing mapping technologies. These are now at a point where reliable commercial services are readily available and, with limited ground truthing, can accurately classify, measure and track the different vegetation types over time. This will provide for a streamlined application process (particularly for small areas of vegetation) alongside a mechanism to remove manual audits, minimising administration costs. The sequestration declaration system would offer an opportunity to pilot the practical implementation of such technologies for future use in the NZ ETS.

Transitioning categories to the NZ ETS

While the Partners agree that a co-investment approach should be enabled to support the introduction of new sequestration categories into the NZ ETS, this should be for initial research purposes only. Once the science is known, i.e., that the vegetation sequesters carbon at a given rate, it should be for government to translate this into the NZ ETS (develop the methodology) in a timely manner, and not for sectors or individuals to bear this cost.

Sequestration strategy for NZ

Lastly and most importantly given the perverse outcomes that are now occurring in rural areas through the current NZ ETS carbon price and associated policy settings, there is a need for the

Government to reflect urgently upon the status quo and develop and implement an overarching strategy for sequestration in NZ.

This needs to have a focus on enabling sustainable land use (right activity – right place); resilient and thriving rural communities; maintaining and growing the value of food and fibre exports, while linking with other relevant policy initiatives such as freshwater, biodiversity and sustainable food and fibre production, alongside emissions reductions and off-sets. Removing current barriers (administrative costs and knowledge) and providing enhanced incentives for integrated land management (as opposed to wholesale land-use change) is key to achieving these outcomes.

The He Waka Eke Noa declaration system (farm-level off-setting), the NZ ETS (general off-setting) and Voluntary Carbon Market (general off-setting and in-setting) must all be considered as part of this strategy, including how they could be aligned to drive optimal socio-economic outcomes for NZ.

The He Waka Eke Noa Partnership is well placed to actively support the development of this strategy.

Nitrous Oxide slope

In brief

Slope makes a significant difference to the nitrous oxide emissions from livestock excreta, specifically urine, and should be included in the methodology for calculating emissions.

He Waka Eke Noa-recommended system

He Waka Eke Noa recommended that slope should be included in the simple methodology.

Government proposals

Government proposals exclude slope because government does not think it will be ready for inclusion by 2025.

Submission on Nitrous Oxide slope

He Waka Eke Noa continues to recommend that slope be included in the simple methodology.

Rationale

Slope makes a significant difference to the nitrous oxide emissions from livestock excreta, specifically urine.

Nitrous oxide emissions from urine deposited by sheep grazing medium and steep slopes are approximately one sixth of the emissions from sheep on flatland or low slopes. Similarly, cattle grazing medium and steep slopes emit a third of the nitrous oxide from urine deposited on flatland or low slopes⁴. This is illustrated in figure 1.

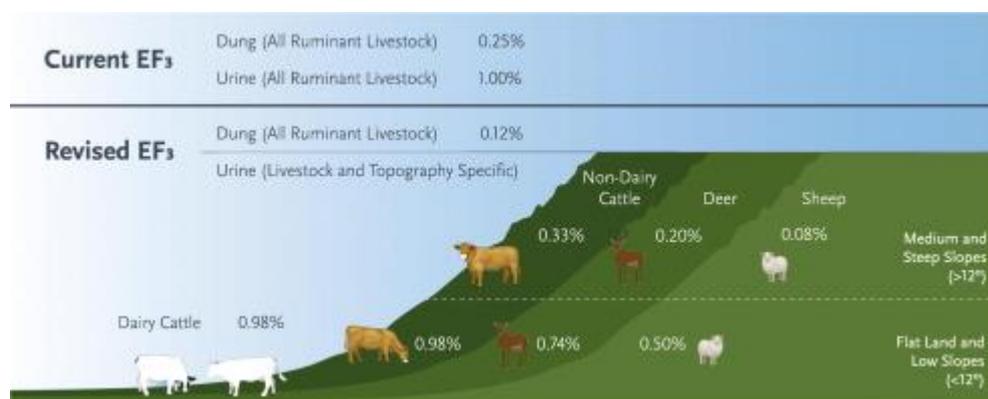


Figure 1: Nitrous oxide emissions from livestock

⁴ van der Weerden, Noble, Luo, de Klein, Saggarr, Giltrap, Gibb & Rys (2020), Meta-analysis of New Zealand's nitrous oxide emission factors for ruminant excreta supports disaggregation based on excreta form, livestock type and slope class

The inclusion of slope has significant benefits to the cost faced by extensive red-meat farms. Around 79 per cent of sloped land on sheep, beef and deer farms is classed as medium (12–24 degrees) or steep (greater than 24 degrees) sloped land⁵.

For the two He Waka Eke Noa extensive farming case studies - North Island Hill Country and South Island High Country - a 5 and 7 per cent emissions cost reduction is gained respectively through the application of the new slope emissions factors for urine (see tables 1 and 2).

Table 1: Benefits of including slope for extensive red meat farms (\$85 T/CO₂-e; 95% free allocation)

Scenario	Total Emissions Cost	Fertiliser N ₂ O/ ha	Dung N ₂ O/ ha	Urine N ₂ O/ ha	Slope urine N ₂ O/ ha reduction	Total urine N ₂ O cost	Total N ₂ O urine cost reduction	Total emissions cost reduction
Nth Island Hill	\$7,254	0.034	0.122	0.487	0.183	\$ 1,050	\$ 394	5%
Sth Island High Country	\$11,320	0.009	0.063	0.254	0.114	\$ 1,651	\$ 743	7%

Table 2: Benefits of including slope for extensive red meat farms (\$138 T/CO₂-e; 90% free allocation)

Scenario	Total Emissions Cost	Fertiliser N ₂ O/ ha	Dung N ₂ O/ ha	Urine N ₂ O/ ha	Slope urine N ₂ O/ ha reduction	Total urine N ₂ O cost	Total N ₂ O urine cost reduction	Total emissions cost reduction
N. Island Hill	\$23,600	0.034	0.122	0.487	0.183	\$ 3,409	\$ 1,278	5%
S. Island High Country	\$36,829	0.009	0.063	0.254	0.114	\$ 5,362	\$ 2,413	7%

As extensive red-meat farms face the greatest impact from the emissions cost, it is important that slope emissions factors are incorporated within the simple methodology from the outset, particularly if the equitable objective is to be met.

The government discussion document raises concerns around the ability for the slope methodology to be implemented in the simple farm-level methodology by 2025. In the 2022 NZ Greenhouse Gas Inventory publication, direct N₂O emission factors for dung and urine have already been disaggregated based on livestock type (for dairy cattle, non-dairy (beef) cattle, sheep, and deer) and hill slope category. A ‘nutrient transfer model’ is then used to calculate the amount of dung and urine deposited onto the different hill slope categories. As a credible method already exists through the national inventory, this could be applied to the farm-level simple method.

Another concern raised is how farmers will input the data and how the audit of this will occur. Once the slope input parameters for the method are confirmed, farm mapping service providers have indicated they would easily be able to provide auditable slope maps for individual farms. Alternatively, the Ministry for the Environment developed a low slope map for the stock exclusion regulations. A similar approach could be used for the first-generation farm-level emissions calculator; the slope data would be automatically inputted once the farm boundaries were defined.

⁵ Ministry for the Environment. 2022. *New Zealand’s Greenhouse Gas Inventory 1990–2020*. Wellington: Ministry for the Environment

Point of obligation for Synthetic Fertiliser Emissions

In brief

Synthetic-N fertiliser is included in the pricing calculation at the farm-level to make it easier for farmers to understand their total nitrous oxide emissions and how synthetic N-fertiliser use can reduce these.

He Waka Eke Noa-recommended system

He Waka Eke Noa recommended that synthetic N-fertiliser be priced at farm-level.

Government proposals

The government discussion document is consulting on whether fertiliser should be priced at farm level or at supplier/manufacturer level through the NZ ETS.

Submission on Point of obligation

He Waka Eke Noa continues to recommend synthetic-N fertiliser be priced at the farm-level.

Rationale

The decision between farm-level or NZ ETS pricing for synthetic N-fertiliser is a trade-off between the increased benefit farm-level pricing provides for behaviour change and the ability to provide for future mitigations (the effective objective), and the benefit the NZ ETS provides from an administrative cost and fairness perspective (the practical and equitable objectives).

Unlike the fertiliser use profile of most other countries (where fertiliser use is dominated by the growing of crops⁶), pastoral farms make up 92% of synthetic N-fertiliser use in NZ (figure 2). Tactical applications of synthetic N-fertiliser are used to grow additional feed to fill seasonal feed gaps. Feed consumption and type is the key driver of livestock emissions (methane and nitrous oxide from excreta).

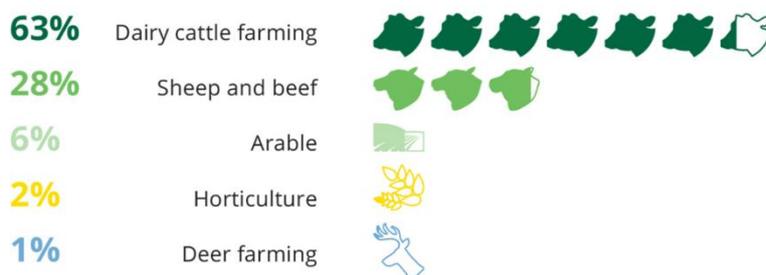


Figure 2: Synthetic N-Fertiliser use by farm sector

The inclusion of synthetic N-fertiliser within the farm-level pricing system would better support whole-of-farm GHG emissions reduction decision-making. Noting the different targets for methane (% reduction) and nitrous oxide (net-zero), a farm-level pricing system would make it easier for farmers to understand their total nitrous oxide emissions and how synthetic N-fertiliser use can

⁶ In the European Union Fodder crops and Grassland make up 22% of synthetic-N fertiliser use and Grain and Horticultural 78% <https://www.fertilizerseurope.com/fertilizers-in-europe/facts-figures/>

reduce these. It also would allow for the interactions between the different farm-management areas (stocking policy, feed consumption and type, and fertiliser use) to be better explored and sustainable farm-mitigation strategies developed that reduced both methane and nitrous oxide emissions. Farm-level pricing therefore would be more likely to result in enduring GHG reductions than pricing synthetic N-fertiliser through the NZ ETS. A farm-level pricing system also would provide the potential to benchmark farm synthetic-N fertiliser emissions to support farmers with their emissions decision-making.

Farm-level fertiliser pricing would provide an opportunity to encourage and reward best-practice fertiliser use. There are significant government and privately funded research projects currently exploring how to minimise nitrous oxide emissions from synthetic N-fertiliser use. A farm-level pricing system would provide an opportunity to reflect this science and encourage best-practice fertiliser use in the different NZ farming environments (landform, soil, and climate).

Farm-level pricing also would provide for the range of current and future synthetic N-fertiliser mitigation technologies, for example incorporation, field application of inhibitors and precision placement. It would also encourage greater innovation in both technology and practice. The NZ ETS can only recognise a change in fertiliser type and total synthetic N-fertiliser use.

The price signal itself would likely have very limited direct impact upon synthetic N-fertiliser emissions. At \$85 CO₂-e and 95% free allocation there is a \$21 T/N applied price signal and at \$138 CO₂-e and 90% free allocation there is a \$70 T/N applied price signal. Anecdotal historical evidence suggests that a price differential >\$100 per tonne would be needed to impact behaviour change. Justification for this includes the fact that farmers and growers already manage large fluctuations in fertiliser price (urea price +/- \$900 over the last 5 years).

Farm-level pricing also would better support and integrate with government policies and sector initiatives around freshwater ecosystem health improvements, including the setting and achievement of catchment limits and targets required under the National Policy Statement for Freshwater Management, and the Freshwater Farm Plan regulations.

While the partnership acknowledges there are slight administrative cost and fairness benefits of an NZ ETS pricing system, these are considered of lesser importance.

The NZ ETS would have a marginally lower administration cost for the regulator. It would also have a marginally lower administration cost for farmers and growers. The farm-level pricing system will be implemented regardless of where synthetic N-fertiliser is priced so this administration cost will occur regardless. The inclusion of synthetic N-fertiliser within the farm-level methodology and the audit of this is a simple task (fertiliser type and quantity multiplied by an emissions factor, and the proposed trust-based compliance system). The additional time for farmers to enter this data is also minimal, particularly if a couple of strategic data integrations are enabled.

The NZ ETS would capture all users of synthetic N-fertiliser not just farms over the farm definition threshold. NZ fertiliser use data indicates that non-agricultural synthetic N-fertiliser use, and synthetic N-fertiliser applied to properties under the proposed emissions threshold is minimal, approximately 2-3% of total use.

Organic Fertiliser

In brief

External applications of organic-N fertiliser and lime continue to be excluded from the farm-level pricing system and considered separately to on-farm manure management.

He Waka Eke Noa-recommended system

He Waka Eke Noa excluded the external application of organic-N fertiliser and lime from inclusion in the farm-level emissions pricing system; government representatives provided no indication these would need to be included if a farm-level system were selected.

Government proposals

The government consultation document is unclear around whether organic N-fertiliser emissions would need to be included in the farm-level methodology.

Submission on organic fertiliser

He Waka Eke Noa recommends that external applications of organic-N fertiliser and lime continue to be excluded from the farm-level pricing system.

Rationale

The government consultation document appears to confuse external organic N-fertiliser applications with livestock manure management. Manure management would be accounted for in the farm-level simple methodology (and NZ ETS) through an emissions factor applied to each livestock type and class, i.e., excreta from livestock directly applied to soil and the application of dairy cow effluent would be incorporated into the emissions factor for each livestock type and class.

External organic N-fertiliser applications, e.g., organic N-fertiliser from poultry or mushroom compost, are still limited in their use in NZ. While there is a risk of future pollution swapping (as has started to occur post the introduction of the National Environmental Standard for Freshwater, Synthetic N-Cap) organic N-fertilisers would currently be extremely challenging to price at farm-level. The numerous products and more importantly the variability in their composition, both between products and batches, means organic N-fertiliser emissions should be excluded from the pricing methodology until such time as research is undertaken to develop specific emissions factors, and the range of products then classified accordingly.

Collectives

In brief

All farmers and growers should be able to be part of a collective to report and pay for their emissions.

He Waka Eke Noa-recommended system

He Waka Eke Noa included provision for a range of collectives to be enabled for the purpose of reporting and paying for emissions. A collective was defined as a group that chose to work together to report and pay for their emissions.

Government proposals

The government discussion document states that government is looking into workable ways to allow some collectives (such as Māori agribusiness, iwi, hapū and whānau groups) to be enabled from 2025, with a wider range of collectives to be enabled at a later date. It gives no justification for why this could not be possible earlier.

Submission on collectives

He Waka Eke Noa recommends that a wider range of collectives be enabled from 2025.

Rationale

In the Partners' view, there is no reason why enabling systems and processes would not support a more broadly defined range of collectives to be recognised.

Greater use of collectives can minimise the burden on farmers, allowing participants to benefit from a common pool of resources and the benefits associated with operating at scale, and minimise scheme participants' frustration from the potential duplication of similar engagement with multiple different agencies.

Interim Processor option/Farm-level implementation

In brief

A simplified farm-level system, delayed if necessary, would provide greater benefits and opportunities than starting with a processor-level system.

He Waka Eke Noa-recommended system

He Waka Eke Noa recommended a farm-level pricing system with emissions pricing from June 2025 to better reflect the farming calendar year. It recommended a simple starting system that would become more detailed in 2027.

Government proposals

Government proposals also reflect a desire to start with a simple farm-level system, however the proposals state that if the farm-level pricing system is not on track to be implemented by 2025, an interim processor levy is implemented.

Submissions on Interim Processor option and Farm-level implementation

Partners do not support the introduction of an interim processor-level levy in 2025 if the farm-level system is not ready.

Partners continue to recommend:

1. Starting with a transitional farm-level levy, with pricing of emissions from June 2025 and transition to the full farm-level levy in 2027.
2. The key features of the transitional farm-level levy are:
 - Pricing of 2025/26 emissions
 - 'Stage 1' centralised calculator using the 'simple method' including slope
 - Incentive discounts for approved actions on-farm
 - A commitment from primary-sector bodies, processors, and government to support participation and registration by farmers to be ready to participate in the pricing system from 2025. This would include key milestones.
 - Support from rural professionals including on-farm advisors, bankers and accountants, meat, milk, and fertiliser processors
 - Registration system could be standalone or through another existing system e.g., IRD.

In addition Partners recommend:

3. An updated approach to sequestration which includes a separate contractual/declaration within the calculator with the full suite of sequestration categories available from 2025.
4. Urgent development of a detailed implementation plan with clear roles and responsibilities for He Waka Eke Noa sector Partners and other delivery Partners; this plan must include dates for delivery of a more detailed calculation system, by 2028 at the latest.
5. Government urgently utilise the expertise in the agritech sector to fast-track development of an IT system.

Rationale

In developing the recommendations, Partners looked closely at the challenge of establishing a farm-level pricing system from 2025 and worked through how they might be overcome. The Partners are proposing a simplified version of a farm-level levy starting in 2025, transitioning to a full farm-level levy in 2027.

A farm-level levy should be established by 2025 and government should meet shorter timeframes for the development of legislation, regulations and the IT system build. To reduce the risks associated with this, the Partners are proposing getting started from July 2025 with mandatory reporting on 2024/25 emissions, followed by the pricing of 2025/26 emissions from July 2026; a simplified approach to the farm-level levy would be used for these.

Starting emissions pricing from July 2025 would enable alignment with the farming calendar and effectively extend the timeframe for implementation by a year. The data-reporting requirements for the simple emissions pricing methodology strongly align with a farm's financial reporting data. Most farms in New Zealand have a financial balance date of May 31 (dairy) or June 30 (sheep and beef). Aligning with this would avoid the need for farmers and growers to collect data from 2023/24, and then to undertake a part-year analysis.

The shifting of pricing from a start date of January to a start date of June/July is a pragmatic solution and would be inconsequential in terms of emissions reductions.

The key features of the transitional farm-level levy would be:

- **'Stage 1' centralised calculator:** a 'Stage 1' farm-level centralised calculator would use the 'simple method'. This is significantly more accurate than an 'output x national emission factor' calculation that would be used in a processor-level system i.e., it could capture some on-farm efficiencies. The 'detailed method' would be available from 2027 (i.e., 2026/27 emissions).
- **Incentive discounts for approved actions on-farm:** the available technology in 2025/26 is likely to be sheep genetics, coated urea, and feed additives e.g., 3NOP.
- **A commitment from primary-sector bodies, processors, and government to support registration by farmers to be ready to participate in a pricing system from 2025.** This would include key milestones that build on current He Waka Eke Noa milestones for emissions reporting and farm planning. This would help to reduce key compliance risks that relate to registration (the work involved with identifying who should register and whether they have) and reporting (the work involved with verifying the right data has been submitted).
- **Support from rural professionals,** including on-farm advisors, bankers and accountants, meat, milk, and fertiliser processors.
- **Registration and payment system** could be standalone or through another existing system, e.g., IRD payment system.

Detailed Calculation

Government proposals do not set a date for the expected implementation of the detailed calculation. Moving to a detailed calculation is important for the recognition of emissions reductions, the key purpose of the farm-level pricing system. The detailed calculation would allow a more accurate assessment of individual farm systems and provide for a greater range of farm efficiencies and mitigations to be accounted for. It is important that government commits to a date (2028 or sooner) for the implementation of the detailed calculation and include this commitment in the implementation plan.

Technology

The government proposals do not embrace the need for data integration to ensure an administratively efficient system or the use of new digital technology.

Many farmers and growers already digitally capture the data required for the emissions pricing calculator. Data integration is key to avoiding duplication; farmers and growers having to re-enter their data into the calculator. Data integration could be a relatively simple process for government if approached in the right way, i.e., government publishes its specifications/data standards (how the data must be imported), service providers will then integrate where they see a commercial advantage to do so (as per the IRD approach). Data integration does not require the central calculator administrator to undertake one-on-one integration processes with each individual provider.

An open-source approach to the calculator is also key for increasing understanding and equipping farmers and growers with the knowledge they need to make emissions reductions. Publishing the source code for the calculations within the emissions pricing calculator would allow service providers to integrate this within their software services, e.g., farm-management or farm-accounting software. This would allow farmers and growers to more easily explore their emissions reduction opportunities (e.g. through scenario analysis).

Technology should also be embraced in the audit process to reduce administration costs; this includes minimising the amount of farm data that is captured and stored, alongside streamlining the audit process. Audit should be based on exceptions reporting (significant change from the baseline or inputs significantly outside of industry norms) and, for sequestration, embrace the use of remote-sensing technologies.

Processor-levy

An alternative option of starting with processor-level pricing for two years from 2025 was considered by the Partnership in the development of its recommendations. The key disadvantages are that the development of a temporary system could detract from the development of the long-term farm-level system and alienate the farming community, which gave overwhelming feedback in opposition to such an approach (processor-level levy with emissions management contracts option). This could lead to increased overall costs and a delay in moving to farm-level pricing. Processor-level pricing without farm-level incentives is also largely ineffective in reducing emissions, so the chances of meeting emissions reduction targets would be reduced.

Partners consider a simplified farm-level system, delayed if necessary, is better than a processor-level system transition to a farm-level system. This is because a farm-level system would start all

farmers and growers on a journey and provide greater long-term benefits and opportunities such as capturing emissions efficiencies. It would also avoid the administrative costs associated with developing and implementing one system and transitioning this to another within a short timeframe. We should 'start the way we mean to carry on', rather than risk losing momentum through such a significant change early in the evolution of the pricing system.

Revenue Recycling

In brief

All levies should be invested back into the primary sector for research and development to support further emissions reductions and support lower-emissions food and fibre production. Revenue will also need to contribute to the administration costs of the system.

He Waka Eke Noa-recommended system

He Waka Eke Noa recommended the revenue from the levy be invested back into the primary sector and cover appropriate administration costs.

A System Oversight Board with expertise and representative from the primary sector alongside an Independent Māori board, would set the strategy for use of levy revenue.

Government proposals

Government proposals largely reflect the He Waka Eke Noa recommendation, however the consultation document does state that levy revenue could be used to purchase offshore mitigation if agriculture emissions do not reduce.

In addition, the Cabinet minute accompanying the discussion document (CAB-22-MIN-0422) states that Cabinet agreed to investigate recovering the \$338.7 million allocated to the Centre for Climate Action on Agricultural Emissions in Budget 2022, from agricultural emissions levy funds.

Submission on revenue recycling

He Waka Eke Noa continues to recommend the revenue from the levy be invested back into the primary sector and cover appropriate administration costs (see cost-recovery recommendations below).

He Waka Eke Noa does not support any use of ring-fencing of farm levies collected through He Waka Eke Noa to offset any of the Government's \$338m existing commitment to climate change research and adaptation. This funding was committed by the Government and the Government should follow through with the investment of this amount in its entirety. [B+L change].

He Waka Eke Noa does not support the use of levy revenue to purchase credits offshore or repay government investment in science and technology for mitigating emissions from agriculture.

Rationale

Investment in agricultural mitigation is a public good. New Zealand inc stands to benefit from the intellectual property that will be developed through this investment. Budget 2022 announcements did not flag that funds would need to be repaid.

The sector does not consider under any circumstances levy revenue should be used to purchase emissions reductions offshore. Investing levy revenue back into the sector would be the best way to achieve Partners' shared objectives of reducing agricultural greenhouse gas emissions and increasing integrated sequestration on farm while supporting a profitable and productive agriculture sector.

Establishment and Operational cost recovery

In brief

There are benefits to government and to farmers and growers from adopting a farm-level pricing system and this should be reflected in the cost-recovery model.

He Waka Eke Noa-recommended system

He Waka Eke Noa recommended some administration costs be paid for by the government and some by participants (farmers and growers).

Government proposals

Government is proposing that the system be self-funded. It is understood this would mean that the establishment and operation of the regulatory pricing system would be solely covered by farmer participants in the pricing system.

Partners do not consider this to be fair or in alignment with government cost-recovery principles.

Submissions on establishment and operational cost recovery

Partners recommend the administration costs for the establishment and operation emissions pricing system should be split between the Government and farmers and growers based on the relative benefit received, alongside existing government guidelines.

Rationale

There are benefits to government and to farmers and growers from adopting a farm-level pricing system and the cost-recovery model should reflect this.

Farmers and growers are provided an opportunity to have their farm-specific emissions and a greater range of mitigations recognised, which has the potential to lower their emissions cost.

Government is provided an opportunity to accurately report NZ's agricultural greenhouse gas emissions alongside showing how it is meeting its international emissions reduction commitments and associated national targets.

There would also be a cost to government if a processor-level levy were adopted (the backstop) so this needs to be considered.

The Auditor General and Treasury have both produced guidelines around cost recovery. These include principles around equity, effectiveness and efficiency, justification and transparency.

The principles contained in these guidelines should be applied in combination in the analysis of where the costs and benefits of pricing emissions fall.

Government Modelling on sector impacts and emissions leakage

Partners have significant concerns with the credibility of the government sectoral impact and emission leakage modelling. The modelling does not reflect a plausible baseline from which the impacts of pricing have been analysed, appears incomplete and makes questionable assumptions around sequestration rates, mitigations and their potential adoption. These issues mean it is very difficult to interpret the potential impact of government proposals.

Nonetheless the government modelling does show it is possible to meet the emissions targets at lower prices than those modelled by He Waka Eke Noa and it also demonstrates the vulnerability of sheep, beef and deer farmers to a price on emissions. B+LNZ and DINZ conducted additional analysis that indicated the He Waka Eke Noa modelling underestimated the potential impacts on their farmers of various prices on emissions. The government modelling highlights this risk and reinforces the importance of taking a cautious approach to the price and of including the original sequestration proposal in full. We cannot let the consequences set out in the government modelling come to pass and system settings will need to be adjusted to mitigate this risk.

Key concerns regarding government modelling are:

Baseline issues

- The modelling baseline should be a reflection of what is predicted to happen with no pricing policy – i.e. what happens under business as usual. This means the impacts of the proposed policy can be assessed relative to business as usual.
- The government sector impact modelling baseline shows the land area in sheep and beef reducing by 1.16m ha from 2020 to 2030, from an area of 8.754 m ha. Statistics NZ data shows sheep, beef, crop, deer land at 7.626 m ha in 2020 and 7.519 m ha in 2021. This significant discrepancy in the 2020 starting point significantly alters any interpretation of the business-as-usual baseline.
- The baseline projection for 2030 shows a predicted increase of about 450,000 ha of dairy land. The baseline does not incorporate responses of farmers to the NPSFM. The modelling includes some land-use change as a result of riparian planting but does not reflect the implications of nutrient limits, which will result in farms adopting freshwater management mitigation options that generate co-benefits on GHG emissions and changes in the economic structure of farms (e.g. stocking rate reductions, investment on irrigation systems).
- The baseline therefore contradicts the reality of what is occurring now and expected to continue to occur in terms of both sheep and beef and dairy land-use area.
- The production figures for the 2030 baseline are also not in line with historical trends. The baseline predicts a 30% increase in beef production in 2021-22, with 2030 considered to be unrealistic.
- B+LNZ figures show that lamb and mutton production in 2021-22 was 431,700 tonnes, which is significantly lower than the 777,000 tonnes the government is predicting for 2030.
- Similarly, the government modelling has 305,000 tonnes of wool production in 2030 when actual production in 2021-22 was 128,700 tonnes.

Incomplete information

- The government modelling shows that a large share of sheep and beef land will switch toward scrub (500,000-1m ha), but does not differentiate between profitability and productivity reductions resulting from whole-farm losses from the sector and reductions occurring on those farms remaining in the sector. This means we are unable to ascertain the impacts at farm scale and compare the results to the He Waka Eke Noa modelling.
- There is no scenario of the impact of the levy only, without the use of technology, technology incentives, or sequestration payments. This means that it is difficult to understand the impacts of the different components of the system on farming businesses and the sector.
- The modelling does not consider flow-on effects of land-use change on rural communities that could result in further land-use change. For example, several farm sales to forestry in a community could mean the closure of rural schools and small businesses. This, in turn, could cause other farmers to sell up and leave the area/sector.

Mitigation and sequestration assumptions

- The government modelling uses different sequestration rates to the HWEN modelling with no evidence or referenced work to support the use of those sequestration rates.
- The government modelling shows that for dairy, high incentive payments do not suffice to induce high rate of adoption of Bromoform bolus. Less than 1% of dairy land adopts this option and the analysis does not identify the drivers keeping adoption low.
- Meanwhile the modelling of the bolus scenario results in a significant change, in the dry-stock sector, of a farming system shift from sheep to cattle. In reality, there are multiple reasons that a farmer may not make the switch from sheep to cattle, but the model does not adequately address these drivers.

Emissions leakage modelling

- The emissions leakage modelling is based on the FAO's Tier 1 calculation of country emissions data. The FAO Tier 1 emissions data is not an appropriate basis for modelling potential emissions leakage risk because it is known to overestimate significantly the emissions intensity of New Zealand milk relative to other countries due to its use of calculation defaults that are based on global proxies, and that do not accurately reflect New Zealand farming models.
- By basing global emission impact modelling on data derived from a Tier 1 emissions calculation, the numbers presented in the consultation paper significantly underestimate the dairy emissions leakage that would arise from the government's pricing proposal.

Conclusion

- The government modelling of impacts and emission leakage has significant anomalies that make it very difficult to understand the impact of the government policy proposals.
- The modelling undertaken by He Waka Eke Noa, with government input and peer review alongside further modelling by B+LNZ and case studies by DINZ, highlight there will be an impact on profit and production as a result of a price on emissions. It is not acceptable for these adverse consequences to come into being, and as such we need to take a cautious approach to pricing that protects the viability of all sectors.