

SUBMISSION

On

Climate Change Response (Emissions Trading Reform)

Amendment Bill

to

Committee Secretariat
Environment Committee
Parliament Buildings
Wellington

en@parliament.govt.nz

Date: 17th January 2020

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About the Fertiliser Association of New Zealand

- 1 Replacing nutrients harvested in produce is essential for farming systems. Managing the supply and the cycling of nutrients in New Zealand's primary industry production systems serves the interests of all New Zealanders, both for economic benefit and environmental management.
- 2 The Fertiliser Association of New Zealand promotes and encourages responsible and scientifically based nutrient management.
- 3 To promote good management practices, the Association develops training programmes for rural professionals (with over 200 certified nutrient management advisers), funds research, participates in government and local body working groups, and works closely with other organisations in the agricultural sector.
- 4 Founded over 70 years ago, the Association is funded by member companies to address issues of common public good. Members Ballance Agri-Nutrients Limited and Ravensdown Limited manufacture, distribute or market around 98% of all fertilisers sold in New Zealand.
- 5 The co-operative base of the Association members means the industry is not driven by product sales, but by delivering best value to its farmer shareholders. The shareholders' best interests in nutrient management are aligned with effective and efficient use of nutrients.
- 6 Nitrogen fertiliser is a key component of agricultural productivity, and itself is a small part of the overall current New Zealand total greenhouse emissions, at 5.7 percent of agricultural emissions. While the proportion is small, the industry has a key pan-sector role to play in management of nutrient cycling across all farm types - dairy, beef & lamb, arable and horticultural farms. The industry has the systems and expertise to aid agriculture's transition to a lower greenhouse gas emissions future in a productive and profitable way.
- 7 For over 30 years the Association has been investing in industry good tools for understanding and managing the nutrient cycle on farms. Along with MPI and AgResearch, the Association is an owner and investor in OverseerFM¹.
- 8 In combination with the primary sector groups, the Association administers and supports the Nutrient Management Adviser Certification Programme.
- 9 The Association member companies employ the largest group of farm environment / nutrient advisers in New Zealand.

¹ OverseerFM is a modelling tool which helps farmers estimate the long-term annual average nutrient cycle (included nutrient loss as greenhouse gas) for their farm systems. (see: <https://www.overseer.org.nz/overseerfm>)

Submission In-brief

- 10 We continue to support development of a predictable transition pathway for reducing carbon emissions for New Zealand agriculture, so that New Zealand has the best chance of maintaining its successful export industry in an increasingly unpredictable international trading environment. Clear signals, and consistency in approach, allowing certainty for investment, is critical to a successful transition for the agricultural sector.
- 11 We believe that farmers and growers should have choice about the most effective way of managing emissions on their land. We continue to support farm scale accounting for greenhouse gas emissions, including nitrogen fertiliser.
- 12 Nitrogen fertiliser is an integral part of the farm system and most importantly, is the driver of the cheapest form of feed for livestock. Its role in the nutrient and feed cycle, drives other farm decisions which impact on farm greenhouse gas emissions.
- 13 Farm level accountability means that farmers and growers can have an integrated view of the impact of greenhouse gas emissions from fertiliser as part of their overall emissions.
- 14 Mandatory farm scale environmental reporting is already, or very soon will be, a requirement for most New Zealand farms including horticultural and arable farms, to achieve water quality targets through regulation.
- 15 Farm level accountability fits with the intent of the *He Waka Eke Noa* proposals. There appears to be a conflict between the intent of *He Waka Eke Noa* to have a farm level system for managing greenhouse gas emissions, and how government proposes to implement it in the current proposals.
- 16 Robust systems of farm accountability will need to consider impacts of both greenhouse gas and emissions to water.
- 17 It is unclear how work to build and deliver a system for estimating and benchmarking farm level greenhouse gas emissions will be effective if it does not consider the emissions associated with fertiliser, as part of the farm nutrient cycle which drives greenhouse gas emissions.
- 18 It is unclear how Farm Environment Plans would be effective if they do not consider fertiliser greenhouse gas emissions as well as emissions to water.
- 19 Farm level accountability would give farmers and growers choice as to how they might offset their fertiliser emissions with mitigations on farm.

- 20 Farm level accountability avoids duplication of administration and risk management costs. Under the current proposals, the overall costs to the primary industry sector will be increased by requiring a separate layer of reporting at supplier level for nitrogen fertiliser, and at farm level for other farm based emissions.
- 21 The proposals for a supplier level 'greenhouse gas price' added to the price of fertiliser will have limited impact on farmer choice as the costs of greenhouse gas emissions will largely be invisible to the farmer and grower. The proposal will therefore impose considerable administrative cost but will not give effect to behaviour change.
- 22 The industry recognises the costs and difficulty of implementing an on-farm accounting mechanism, and is well placed to assist with addressing the administrative challenge of farm level accountability of nutrient losses, including greenhouse gas emissions.
- 23 If government progresses with the current proposal of a supplier level of accountability for fertiliser emissions, a clear and effective process for updating emissions factors is needed to ensure that the regulation keeps pace with innovation.
- 24 The emission factors for different nitrogen fertiliser products defined in the ETS regulations could be referenced to the National Inventory, and ACVM Regulations.
- 25 We recommend that any revenue generated from pricing fertiliser emissions should be recycled to support investment in nutrient product research or delivery of nutrient advice to farmers.
- 26 Phase down of any free emission allocation for agriculture should be linked to realistic options and opportunities to make genuine farm greenhouse gas emissions reductions and greenhouse gas emissions efficiencies.
- 27 Publication of emissions data is supported subject to a suitable time lag in public reporting to protect commercial sensitivities.

The Association Submission

- 28 We continue to support development of a predictable transition pathway for New Zealand agriculture so that New Zealand has the best chance of maintaining its successful export industry in an increasingly unpredictable international trading environment. Clear signals and consistency in approach, allowing certainty for investment, is critical to successful transition for the agricultural sector.
- 29 Furthermore, if New Zealand is to contribute to any meaningful control of global atmospheric temperature change, it is imperative that the approach taken with New Zealand agricultural emissions can be adopted by others, while still ensuring food security through efficient primary production systems.
- 30 We believe that farmers and growers should have choice about the most effective way of managing emissions on their land. We continue to support farm scale accounting for greenhouse gas emissions, including from nitrogen fertiliser.
- 31 Nitrogen fertiliser is an integral part of the farm system and most importantly, is the key driver of feed options for livestock. The role of nitrogen in the nutrient and feed cycle drives the other choices in farm decisions which impact on farm greenhouse gas emissions. For these reasons fertiliser emissions should be integrated in the farm system accounting. Choices of feed supply including options for pasture, supplementary feed, fodder crops etc, can have an impact on methane and nitrous oxide emissions from livestock. Fertiliser management should be integrated into the accounting and decisions for managing farm scale emissions.
- 32 However, this is not the currently proposed approach, which requires fertiliser to be accounted for a processor level, for the reasons presented in the Regulatory Impact Assessment (RIA), paragraph 101.
- 33 These considerations and more, are discussed further below.

Farm level accountability means that farmers and growers can have an integrated view of the impact of greenhouse gas emissions from fertiliser as part of their overall emissions.

- 34 The Association supports giving farmers flexibility for controlling their greenhouse gas emissions with innovative farm systems, using a farm scale point of obligation. The Association opposes the blunt processor level accounting for parts of the greenhouse gas nutrient cycle of the farm operation.

- 35 Our position is that a more integrated on-farm approach will avoid adverse or unintended outcomes, and in particular will enable better alignment between government's climate and water policies and market led farm assurance systems.
- 36 Farm level accountability means that farmers and growers can have an integrated view of the impact of greenhouse gas emissions from fertiliser as part of their overall emissions.
- 37 Mandatory farm scale reporting of nitrogen fertiliser use, and nitrogen leaching losses, is already or very soon will be a requirement for most New Zealand farms, to achieve water quality targets under regional council regulation. Hence greenhouse gas emissions reporting for fertilisers at farm level can be readily provided for at little additional cost or effort, even for arable and horticulture farms. It will be desirable that there is good alignment between farm scale water quality and greenhouse gas emissions reporting requirements/mechanisms.
- 38 Signals on emission reduction need to be visible to the farmer to be effective in bringing about change at the farm level. For example, the agricultural sector has been reporting on emissions at a processor level since 1 January 2011 – including for fertiliser, but with no accountability at farm level it will not be likely to change farmer behaviour.
- 39 Recognizing greenhouse gas emissions from fertiliser at farm scale will encourage farmers to consider the whole farm system, including fertiliser emissions, while at supplier level the fertiliser greenhouse gas emissions will not be known to farmers.
- 40 The effect of a supplier level point of obligation on reducing fertiliser greenhouse gas emissions will very limited or negligible, and will not justify the administrative cost imposed on the primary industry sector.
- 41 The consumption of nitrogen fertiliser is relatively inelastic to price. Therefore, a tax on nitrogen fertiliser would need to be cripplingly high to effect any behaviour change.

Farm level accountability fits with the intent of the *He Waka Eke Noa* proposals

- 42 There appears to be a conflict between the intent of *He Waka Eke Noa* - primary sector commitment to have a farm level system for managing greenhouse gas emissions, and how government proposes to account at the supplier for fertiliser emissions.
- 43 The intent of *He Waka Eke Noa* is to progress the agricultural sector towards a wider consideration of the farm system, rather than compartmentalized environmental outcomes. Excluding fertiliser emissions from such consideration appears counter intuitive.

- 44 It is unclear how work to build and deliver a system for estimating and benchmarking farm level greenhouse gas emissions will be effective if it does not consider the emissions associated with fertiliser.
- 45 It is unclear how good farm practice principles and guidelines for Farm Environment Plans could be robust if they do not consider the impacts of fertiliser.
- 46 It is unclear how Farm Environment Plans could be effective if they do not consider fertiliser emissions.

Farm level accountability can allow farmers and growers to offset their fertiliser emissions against mitigations on farm

- 47 Farms will vary significantly in terms of their ability to offset carbon on farm. Some farms will have significant offsetting opportunities which can be realized if there is ability to intensify some other areas of the farm. Farmers and growers need to be able to integrate the net effect of both their emissions and their offsetting on farm.
- 48 At a farm scale point of obligation, the price of carbon could be accounted for all emissions and offsets in one transaction.

Farm level accountability avoids duplication of administration and risk management costs

- 49 It is not sensible to build a separate reporting system for the 5.7% of agricultural emissions associated with fertiliser. Livestock emissions account for over 92 % of on-farm 'biological' emissions.
- 50 Under the proposals the vast majority of farms will face dual administration and risk management costs – associated with accounting for livestock emissions on farm and also associated with accounting and taking responsibility for emissions of fertiliser at the supplier level.
- 51 At a supplier level, costs associated with developing new reporting systems, changes to accounting and financial systems, price fluctuations, and participation in NZU actions will all need to be considered as part of administration of ETS obligations. It is likely that farmers will need to consider the same issues in the duplicated administration costs to meet the on-farm component of their obligations.
- 52 The Regulatory Impact Analysis document justifies supplier level accounting for fertiliser on the basis that it would be less costly than accounting for fertiliser emissions on-farm for some

farms. The Analysis suggests that 5,000 non livestock farms would be required to prepare farm plans if accountability for fertiliser emissions rested at the farm level. The analysis does not consider that many of these 5,000 farms are mixed use farms, but are classified for statistical purposes by farm type based on the dominant economic return (51% or more) of the farm's land use activities.

http://archive.stats.govt.nz/browse_for_stats/industry_sectors/anzsic06-industry-classification/farm-types-used-in-ag-prod-stats.aspx). Many of these farms, being mixed use, are also likely to be required to develop on-farm accounting systems for their livestock emissions.

- 53 While arable and horticultural farms (which are not part of a mixed farm system with livestock) would not be required to report on methane and livestock related emissions, these farms will likely be required to produce farm environment plans, and account for nitrogen cycling and nitrogen leaching losses on their farms as part of regional council regulations. If this is the case, greenhouse gas emissions relating to fertiliser use can be provided for at little or no extra cost.
- 54 It is recognised the processor level accounting appears, at first glance, to be an administratively easy, less costly and more expedient method to apply greenhouse gas emissions accounting for nitrogen fertilisers. However, the proposals need to be tested against their likely effectiveness at achieving emission reductions. Supplier level accounting for fertiliser does not provide any real cost saving, as it simply adds an additional layer of accounting which is unlikely to lead to reduction in emissions associated with fertilisers.
- 55 Forward purchasing of fertiliser by companies will require consideration and accommodation of emissions pricing. With the protracted period between manufacture/ procurement shipping, storage, sale and application of fertiliser products and the accounting period at which processor accounting obligation is realised, there will be a significant risk of differences in the carbon price incurred by the processor and the price at the time of procurement. This will require significant hedging to provide for carbon price obligations. The fertiliser supplier must anticipate carbon prices at the time of product procurement, gather the cost from customers at the time of sale, and realise the price obligation at the time of surrender of units. These become further additional costs for the agricultural sector.

Industry can assist the transition

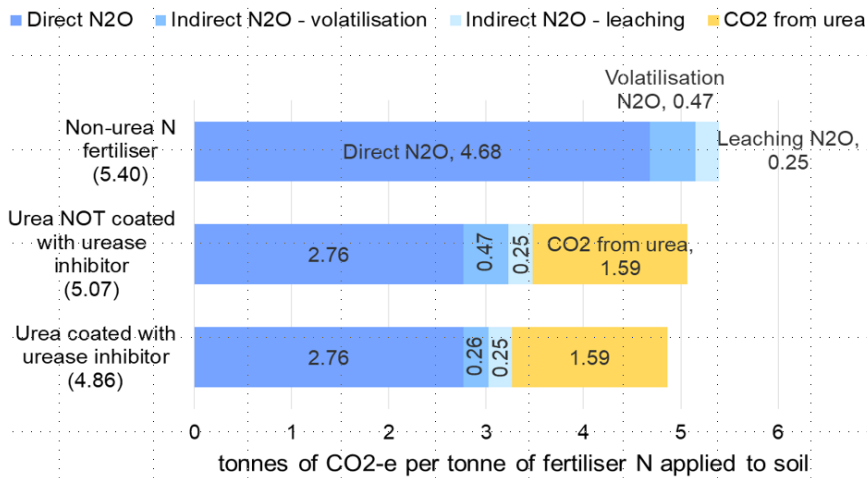
- 56 We recognize that developing a farm level system for reporting and accounting on emissions will be expensive and challenging. The fertiliser industry can assist.
- 57 We have already committed to supply of audited data on fertiliser use to enable calculation of emissions on farm.

- 58 We can continue to support tools like OverseerFM which assist farmers to build an overall picture of emissions and the mitigations that may work on farm to reduce them.
- 59 We will continue to invest in capability development, and skills. Over the past 25 years the Fertiliser industry has been investing in the tools, skills and capability required for certified and documented nutrient management decisions at farm level. This includes investment and development of a certification system for Nutrient Management Advisers including an endorsement for greenhouse gases. Currently there are over 200 certified Nutrient Management Advisers, with 58 of these endorsed for greenhouse gas emissions.

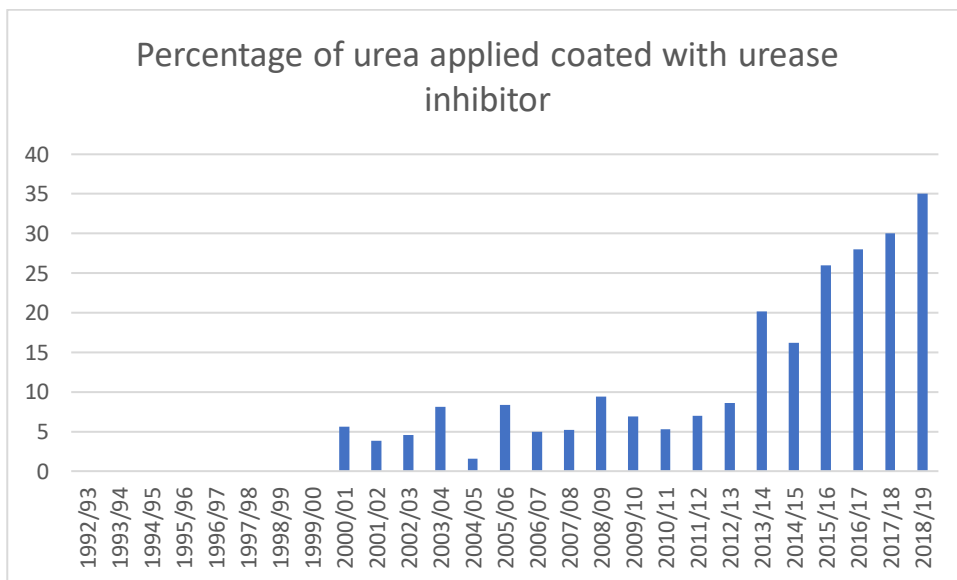
Developing and updating emissions factors

- 60 If government progresses with a supplier level of accountability for fertiliser emissions, there are a range of implementation issues that need to be considered.
- 61 There needs to be a clear and effective process for updating emissions factors to ensure that the regulation keeps pace with innovation.
- 62 The current *Climate Change (Agriculture Sector) Regulations 2010* provide for calculation of emissions from importing or manufacturing synthetic fertiliser containing nitrogen based on an emissions factor of 5.72. When introduced this represented the emission factor associated with calculation of on farm emissions associated with nitrogen fertiliser application under the New Zealand greenhouse gas emissions inventory. Subsequently improvements have been made to the inventory and revised emissions factors for nitrogen fertilisers approved. These changes have not been reflected in the agricultural sector regulations.
- 63 We now have a better understating of emissions associated with different types of nitrogen fertiliser. Currently the inventory has separate emissions factors associated with urea, with non-urea based nitrogen fertilisers, and with urea coated with urease. Retaining a single emission factor in the ETS regulations would not reflect the fact that significant innovation has occurred and is likely to continue. For example, the inventory currently estimates the emissions for coated urea at 85% of the figure included in the ETS. This means that farmers could be required to pay a carbon price for fertiliser products that is greater than what is calculated as a liability under the New Zealand greenhouse gas inventory.
- 64 See MPI's summary of current emissions factors used in the New Zealand inventory below:

Emission Factors for Nitrogen Fertiliser, Split by Gas and Emissions Source Emissions figures expressed in tonnes of CO₂-e per tonne of fertiliser N applied to soil



65 The increased detail in the inventory reflects the innovation that has occurred in the industry and the shift to using smart fertiliser products. New Zealand agriculture has the highest rate of use of fertilisers N with urease inhibitors in pastoral farming worldwide. The use has been heavily promoted by the industry and is now 35% of urea product sold. See industry data use below:



66 The industry has promoted use of urease coated fertiliser as it both reduces the emissions associated with the product, but more importantly it allows the farmer and growers to reduce the amount of nitrogen fertiliser they apply, yet achieve the same production benefit. Typically, farmers can reduce their application by 10% using coated fertilisers and achieve the same result as uncoated product.

- 67 If farmers and growers replaced all urea with urea coated with inhibitor there could be an overall reduction in greenhouse gas emissions of up to 150,000 tonnes CO₂-eq. (a drop of 7% in fertiliser emissions).
- 68 We expect continued innovation in the type of products available on the market as research on new inhibitors continues. There is a risk that limiting emissions factors in the regulation to a single or a limited range of emissions factors will stifle innovation and be a barrier in the pathway to market. The process of regulatory update can be slow. As an example, there have been discussions with MPI and MfE on the need to update the existing ETS emissions factor for nitrogen fertiliser or almost three years, with no outcome.
- 69 We suggest an alternate approach for the specification of emissions factors for fertiliser to be used in greenhouse gas accounting. Emissions factors used in the New Zealand greenhouse gas inventory should be incorporated by reference. The New Zealand greenhouse gas inventory has a rigorous process for evaluation and testing of emissions factors and a clear process for approving emissions factors to international standards. These ETS agricultural emissions factors can be referenced to inventory approved factors.
- 70 We also suggest that there should be an additional approval process. Currently MPI are working to amend the ACVM Act to include registration of inhibitor products. As part of this process MPI will consider product effectiveness. If an inhibitor is registered under the ACVM process, its verified emissions reduction effectiveness should be incorporated by reference in the *Climate Change (Agriculture Sector) Regulations*.

Revenue generated is recycled to support investment in nutrient product research or delivery of nutrient advice to farmers.

- 71 Government has previously committed that any revenue generated from pricing agricultural emissions will be recycled back into advice or research on mitigation.
- 72 Should government progress with a supplier level of accountability for fertiliser, we recommend that government should consider how revenue generated from pricing fertiliser emissions should be recycled to support investment in nutrient product research or delivery of nutrient advice to farmers.

Allocation phase down

- 73 Phase down of the allocation for agriculture should be linked to realistic options and opportunities to make genuine farm greenhouse gas emissions reductions or emissions

efficiencies. It should be noted that globally, food security and food supply through to 2050 is a significant challenge recognised by the Food and Agriculture Organisation of United Nations. Systems established in New Zealand which can be adopted globally to reduce greenhouse gas emissions while still enabling viable agricultural production will have a far greater impact on global temperature rise than a stringent control on New Zealand agricultural emissions which cannot be adopted wider.

Publication of emissions data

- 74 For the fertiliser industry there are just two farmer owned cooperatives which supply the vast majority of fertiliser products. Although total nitrogen consumption data in New Zealand becomes publicly available through StatsNZ and industry reporting, the publication of emissions data is potentially commercially damaging. Public transparency of emissions reporting is supported subject to a suitable time lag in public reporting to protect commercial sensitivities.

Concluding comment:

- 75 Thank you for the opportunity to lodge this submission. We would welcome opportunity to present to Select Committee Hearings to further explain this submission or answer any questions on this submission.

Vera Power

Chief Executive

Fertiliser Association of New Zealand