SUBMISSION

On

Action on Agricultural Emissions

to

Ministry for Environment

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**Action on Agricultural Emissions – Submission on Discussion Document**

**Introduction**

Ravensdown exists to enable smarter farming for a better New Zealand. As a farmer-owned co-operative, Ravensdown’s products, expertise and technology help farmers reduce environmental impacts and optimise value from the land. Ravensdown is a science-focused organisation delivering quality agri-products, technologies and services, and is an integral part of the food creation process, whether the food is grown for livestock or for humans.

Ravensdown is not driven by product sales to its farmer shareholders, but through delivering best value to its farmer shareholders. The shareholders’ best interests in nutrient management are aligned with effective and efficient use of nutrients.

Nitrogen fertiliser is a key component of agricultural productivity, and itself is a very small part of the overall current NZ total GHG emissions. While the proportion is small, Ravensdown has a key pan-sector role to play in management of nutrient cycling across all farm types - dairy, beef & lamb, arable and horticultural farms. Ravensdown has the systems and expertise to aid agriculture’s transition to a lower GHG emissions future in a productive and profitable way.

**General Comments**

Ravensdown notes that the Action on Agricultural Emissions document focusses on nitrogen (N) fertiliser as a subset of all fertiliser, whereas Ravensdown’s focus is on nitrous oxide (N₂O), including N₂O from fertiliser and livestock urine patches. We also note that 4% of N₂O emissions derive from fertiliser and 17% from livestock urine patches (Interim Climate Change Committee (2019). Action on Agricultural Emissions). Fertiliser contributes to 2% of New Zealand’s carbon dioxide (CO₂) emissions (Interim Climate Change Committee (2019). Action on Agricultural Emissions).

New Zealand remains the only country working on reducing greenhouse gas emissions in a manner that penalises farmers. Others rely on a subsidy system, if they even attempt to address the issue at all.

Urease inhibitors on all N fertiliser currently used in NZ could save in the order of 100,000 CO₂-e per annum. This equates to a comparable or greater reduction that would be achieved at a processor point of obligation each year until 2025. Urease inhibitors allow farmers to apply 9% less N fertiliser while providing the same nitrogen response.

Ravensdown submits annual returns to the Emissions Trading Scheme (ETS) on N₂O and carbon emissions however currently the multipliers are incorrect and are considerably higher than New Zealand’s national inventory calculations. We have been asking for three years for these to be aligned. It is vital that this occurs before the introduction of a fertiliser point of obligation.

Ravensdown has introduced a nitrification inhibitor (Eco-n) previously in 2004, for dairy farm urine patches, and would introduce it again if the Codex pathway for doing so provided more certainty and was not as time and financially arduous.

Eco-n went through to the IPCC to become an approved mitigation in 2009, giving a reduction in NZ’s reported emissions because of its use. We are aware that the introduction of a urease inhibitor or nitrification inhibitor would erode the urea market, and our farmer co-operative is very accepting of this.
Basic Questions

1. What is the best way to incentivise farmers to reduce on-farm emissions?

Ravensdown considers that there are a number of ways that farmers could be incentivised to reduce their on-farm emissions.

The point of obligation for reductions should be at the farm level. A farm level obligation motivates farmers to understand their emissions profile and therefore maximise the opportunity to reduce their liability.

The management of greenhouse gases should be integrated into the Farm Environment Plan (FEP). FEPs can deliver a strategic five-year perspective on priorities tailored for the individual farm and provide a vehicle to enable an integrated system (across all drivers – climate change, water policy, biodiversity etc). The FEP can be supported by annual reporting mechanisms which demonstrate progress on farm. Ravensdown supports the use of Overseer as a tool already capable of modelling the on-farm GHG footprint, and modelling scenarios for reductions of that footprint using current mitigations and offsets. Current Overseer nutrient budgets have a GHG footprint already so many dairy farmers already have a GHG footprint. The use of FEPs also crystallises Good Management Practice (GMP) as the preferred tool for implementation.

In addition, recognition of on-farm mitigations (e.g., indigenous planting, riparian planting, shelter belts, woodlots) as appropriate offsets for biogenic methane emissions is needed. Similarly, offsets for all gases should be allowed.

Ravensdown considers that price is an appropriate instrument to use as an incentive and agriculture should be part of the ETS.

2. Do the pros of pricing emissions at farm level outweigh the cons, compared with processor level, for (a) livestock and (b) fertiliser. Why or why not?

Yes, for both livestock and fertiliser.

In order to achieve reductions in emissions, behaviour change is needed and we consider that is best achieved at the farm level.

Nitrogen fertiliser elasticity of demand is low, meaning any imposts would need to be quite high to influence usage, particularly as nitrogen fertiliser on pastoral farms is around half the cost of alternative supplementary feeds. The use of N fertiliser in the arable and horticultural sectors is often the difference between a profitable crop and no crop, so usage is unlikely to reduce, with such a blunt instrument as pricing.

A perceived pro for a processor level system is that the mechanism is simple when based on a quantum of milk solids or lambs. However, we would prefer a more meaningful approach, rather than a system that is simply a tax on farmers, and on production.

A potential con for farm level obligation is where there are no livestock e.g., horticulture, but this could be solved at the processor level. Ravensdown proposes that farmers and growers have choice on who reports on GHG obligations on their behalf. Ravensdown considers it is important that the point of obligation remain with the farmer, to ensure behaviour change. While the liability associated with emissions best rests with the farmer, flexibility on who reports on behalf of the farmer will reduce compliance costs. Reporting could range from self-reporting, processor reporting on behalf of their supplying farmer or farm advisors reporting on behalf of a farm. The key focus needs to be to ensure that whoever does the reporting has the skills and capability to ensure accurate reporting of on-farm emissions.
The introduction of farm level accounting requires human resources, and capability and systems to support it. This can be achieved several different ways, for example:

a) Phased introduction of responsibility for emissions (e.g. by farm type, financial turnover or emissions type)

b) i) use of simple models/look up tables where detailed assessment is not warranted

ii) use of detailed sophisticated modelling where it is warranted or chosen by the farmer. Sophisticated modelling may be warranted where it provides a clear advantage to the land manager, or where it is already required, (e.g. for water quality regulation).

3. What are the key building blocks for a workable and effective scheme that prices emissions at farm level?

Responsibility should be at the farm level with a phased introduction for reporting and for obligations, allowing development of the capability to deliver farm-scale reporting.

An emissions reduction plan with monitoring will be strongest if conducted in cooperation with industry bodies. We propose that government works with industry to help deliver the systems required to achieve the emissions reductions sought. This represents a key step towards achieving a farm level pricing policy that will work for the sector and deliver the emissions reductions sought. The Government will benefit greatly from the sector’s support to deliver an on-farm emissions management programme or pricing options.

It is preferable that robust reporting level at farm scale is linked with other environmental reporting, equity is gained through the use of a single model (e.g., Overseer) and that there is an audit process.

4. What should the Government be taking into consideration when choosing between Option 1: pricing emissions at the processor level through the NZ ETS and Option 2: a formal sector-government agreement?

In Ravensdown’s view, the criteria for selection need to consider which of the two options provides more certainty, equity and achievement of milestones.

When reviewing Option 1 and Option 2 of the proposals for transition Government needs to take the long-term view and needs to consider what is going to be the most cost-effective and enduring way of achieving emissions reduction in the long term.

It will need to recognise that the key challenge at the moment is how we start to bend the emissions curve. There is uncertainty about what the final target may be in 2050, but we now need to shift the focus to how we create a system that will deliver cost-effective emissions reductions in the future, and maintain our market advantage.

Support, goodwill and commitment from the rural community will be essential if seeking to rapidly implement behaviour change to achieve ambitious GHG targets. A formal sector agreement and collaborative approach to climate change will help provide the strength of commitment to achieving environmental limits.
5. As an interim measure, which would be the best: Option 1: pricing emissions at the processor level through the NZ ETS with recycling of funds raised back to the sector to incentivise emissions reduction or Option 2: a formal sector-government agreement? Why?

Ravensdown has reservations regarding the introduction of Option 1, namely that there would be delays in implementing the recycling of funds back to the sector. We also consider that fertiliser needs representation in the sector-government discussions.

An interim measure should be a first step towards a consistent, phased introduction of the mechanism and systems used to achieve mitigations and GHG reductions over the long-term.

Ravensdown believes this will best achieved through farm scale reporting and farm level point of obligation. A phased introduction can be achieved through a formal sector-government agreement, with good sector support. The interim measures should be measures which are aligned and support the preferred long-term approach, and not require a significant shift in focus at a later date. “Start as you mean to go on”, with interim measures providing the first steps and strong signals for continued investment and capability in the approach. It should support business investment and development without the spectre a change part way through. Whichever steps are implemented it should be signalling and supporting farm scale accounting and not processor level accounting.

6. What additional steps should we be taking to protect relevant iwi/Maori interests, in line with the Treaty of Waitangi?

[no response]

7. What barriers or opportunities are there across the broader agriculture sector for reducing agricultural emissions? What could the Government investigate further?

Ravensdown supports a split target approach with short-lived gases, such as methane, having separate reduction targets compared to the long-lived gases, such as nitrous oxide and carbon dioxide.

Achieving methane target reductions will require technological developments and breakthroughs in order to be met. While there is promising work currently being done on vaccines, feed additives, and genetics, these are unlikely to influence the 2030 methane target. The relative importance of methane in the composition of its GHG totals compared to virtually any other developed country means that international research is unlikely to be targeted towards biogenic methane reduction.

Under current technologies, a key aspect of achieving a carbon-neutral status is the use of plantation forestry as a carbon sink. The impact of extensive exotic forestry on rural communities and the economy will be significant and negative. Plantation forestry is only a temporary solution. The addition of carbon greatly enhances the profitability of a forestry investment for the first harvest with the reverse based on current economics for the remaining harvests. A number of whole farms have already been sold to be substantially planted into forestry and more are very likely to follow.

Ravensdown suggests that some form of offsets (both nationally and internationally) should be provided for short-lived gases. Offsets for gases which have a global warming effect should be supported. Ravensdown would like to see better recognition of other farm planting (i.e., indigenous planting, riparian planting, shelterbelts, woodlots) that don’t currently meet the carbon sink eligibility criteria.

Currently, barriers exist in NZ to the introduction of internationally well-established nitrification inhibitors for coating onto nitrogen fertilisers. This is due to such products not having WHO Codex Maximum Residue Limits. Products include DCD and DMPP and DMPSA. Even after recent Codex approvals of new Guidelines
for Rapid Risk Analysis Following Detections in Food, it is unclear how NZ should deal with products which may have detections over 1 part per billion. Government assistance to overcome such barriers and uncertainty is sought.

8. What impacts do you foresee as a result of the Government’s proposals in the short and long term?

In the long-term, GHG emissions accounting and reporting at the farm level will become ‘business as usual.’ The transition in the short term needs to managed and timed carefully, and ideally coordinated with other changes in regulatory requirements at both a national (e.g., pending NES and NPS requirements that will impact on farmers) and regional (e.g., resource consent requirements for farming land use activities, implementation of Good Management Practice) level. Compliance costs for farmers are ever-increasing and farmers need to be given time to plan the financing of the work programme required to comply with the suite of new regulations.

Ravensdown is concerned that an interim processor-level position becomes permanent. Agriculture is very trade exposed and NZ is alone in its approach (referring to the burden on farmers). Ravensdown is concerned at the risk that the NZ approach gets out of kilter with global approach to the treatment of agricultural emissions.

9. Do you have any other comments on the Government’s proposals for addressing agricultural emissions?

The Government should continue to support research into methane mitigations.

Additional questions on free allocation of emissions units

A. Do you agree that the method for free allocation of emissions units at processor level should be output-based?

Should a decision be made that nitrogen fertiliser is affected by processor level point of obligation, then the allocation for nitrogen fertiliser products should be linked to how Ravensdown currently reports to the ETS. However, reporting and allocation may potentially shift to monthly. This reporting is for each nitrogen fertiliser product imported by Ravensdown and sold for agricultural use. Tonnage is multiplied by the nitrogen content and then multiplied by a factor reflecting the emissions conversion to CO\textsubscript{2}-e. Currently the emission factor determined by the ETS does not align with NZ inventory reporting to IPCC. However once corrected to IPCC reporting protocols (which includes differentials for nitrification inhibitor treated nitrogen fertiliser) the allocation rate percentage can be applied to the reported CO\textsubscript{2}-e.

B. Do you agree that free allocation of emissions units should be provided at the same time emissions obligation are due? Why or why not?

Ravensdown prefers that the free allocation of emissions units is provided monthly to allow for fluctuations in carbon price.

C. Do you agree with the ICCC that allocation factors should be updated in line with business-as-usual improvements intensity? Why or why not?

Yes – Climate Change Commission advice, if accepted, should be executed simultaneously with any emissions intensity improvements.
D. Do you agree the process for making decisions on any phase down of free allocation of emissions units should be set in legislation and informed by the Climate Change Commission? Why or why not?
Yes because it reduces the risk of a change of government amending regulations that haven’t gone through a full parliamentary process.