



Deer Industry New Zealand and The New Zealand Deer Farmers Association

Submission on He Pou a Rangi / Climate Change Commission – 2021 Draft Advice for Consultation

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Introduction

Deer Industry New Zealand ('DINZ') is a levy funded industry-good body established to promote and assist the development of the deer industry in New Zealand. DINZ's levy payers are producers and processors of venison and velvet. There are roughly 1,400 deer farmers and 10 processing plants that slaughter deer, of which 8 slaughter only deer.

The New Zealand Deer Farmers' Association (NZDFA) is a voluntary subscription based Incorporated Society (established in 1975) and acts as an industry-good body established to represent the interests of New Zealand deer farmers, families and staff and to promote and assist the development of the deer farming industry in New Zealand. The NZDFA has approximately 1250 subscription paying members and is nationally represented by a 4-person Executive Committee (including the NZDFA Chairman).

New Zealand is the world's largest producer of farmed deer. The main products marketed from deer are venison and velvet antler and approximately 95% of products are exported. In the year ending 30 September 2020, deer products were worth around \$300 million in export receipts to New Zealand. The national herd was estimated at 850,000 in 2020.

Farming deer is an example of New Zealand ingenuity and is still a relatively recent endeavour (the first deer farm licence was issued in 1970) but provides diversified markets and additional revenue to and complementary land use with other pastoral farming options. Indeed about 80% of deer farmers also farm other livestock species and/or arable crops.

DINZ is a signatory to the "*He Waka Eke Noa – Primary Sector Climate Action Partnership*" and is therefore committed to supporting deer farmers minimise their emissions through farming efficiently and increasing on-farm carbon sequestration where appropriate.

High Level Observations

We wish to acknowledge our support for some high-level messaging in the draft advice:

- Recognition that all New Zealanders, not just farmers, have to make major changes in reducing their emissions activity.
- The real challenge lies in reducing emissions of long-lived gases, especially carbon dioxide and nitrous oxide.
- As a result, separation of methane (short-lived gas) from carbon dioxide and nitrous oxide (long-lived gases) allows a more targeted approach to reducing, mitigating or managing these different emissions.
- Recognition that our livestock farms are the most efficient in the world and that replacing them with carbon forests, on all except our least productive land, makes very little long-term sense – environmentally, socially or economically.
- Recognition of the benefits provided by smaller blocks of native vegetation integrated within landscapes, and that indigenous habitats have multiple environmental benefits such as long-term stable sequestration and enhanced biodiversity.
- Identifying that environmental policy should be more joined up across climate change, freshwater, biodiversity and soils.

We also note that most deer farmers are mixed livestock farmers (typically including sheep and/or beef cattle). As deer farms occupy the same topography as sheep and beef farms and production systems are similar (annual production of meat or velvet), the issues and solutions are generally the same for both sets of land uses. For this reason DINZ and NZDFA **endorse the submissions from Beef + Lamb New Zealand Ltd (B+L NZ) and the Meat Industry Association (MIA).**

In particular we refer to those organisations' position on treatment/metrics for biogenic methane being different from nitrous oxide and carbon dioxide. **The use of GWP₁₀₀ as a metric for methane is inappropriate and we support and refer to the approach suggested by B+LNZ and MIA** with subsequent required reduction levels for methane.

We also wish to bring to the Commission's attention that deer farming, like sheep and beef farming is overwhelmingly an *extensive* (not intensive) farming operation: Stocking rates are typically from 3 stock units per hectare to 19 stock units per hectare with imported feed supplements accounting for less than 5 % of the total feed budget. They are also generally low input systems (e.g. minimal use of irrigation and fertilisers) but are extremely sensitive to increased costs of production. By way of contrast, more intensive dairy milking platforms might start at 18 stock units per hectare and range up to 28 stock units per hectare.

Consultation Questions

Proposed emissions budget advice

Question 1: Do you support the principles we have used to guide our analysis? Is there anything we should change, and why?

- **Principle 1 – Align with 2050 targets.** We note that the legislated targets represent an aspiration based on political will and received advice at the time. That advice is likely to change over time as greater knowledge and understanding of impacts of various emissions is developed. We would support the Commission in raising the discussion on a regular and frequent basis around the knowledge used to inform these targets. An example could be a more robust analysis of the level of short-lived gases that helps achieve our international commitments.
- Broad support for the other principles and in particular principle 2 – focus on decarbonising the economy.
- **Principle 6 – Increase resilience to climate impacts.** We note that elsewhere in the draft advice, large areas of forestry are requested, which does appear to be at odds with reducing risks from drought, forest fires and storms (essentially replacing diversified land use with monocultural land use will increase the impacts of these extreme events). Conversely DINZ and B+LNZ advocacy for land use appropriate to the land resource (e.g. Land Use Capability) would spread risk through diversified land uses.

Question 2: Do you support budget recommendation 1? Is there anything we should change, and why?

- We note that the Commission recognises the limitations of GWP₁₀₀ for meeting the overarching global goal of limiting warming to 1.5°C above pre-industrial levels. The Commission should be explicit in acknowledging this while wishing to achieve “consistency with international obligations relating to Inventory reporting”.
- We recognize that budgets are set with the legislated targets in mind but also consider that the Commission could provide narrative around the feasibility and societal capability of meeting these targets with current technology and available resources.

Question 3: Do you support our proposed break down of emissions budgets between gross long-lived gases, biogenic methane, and carbon removals from forestry? Is there anything we should change, and why?

- We strongly support the differentiation between long-lived gases and biogenic methane, as well as the recognition that long-term holdings of native vegetation could offset/mitigate long-lived nitrous oxide emissions.
- As with other red meat organisations, DINZ and NZDFA have concerns regarding the amount of biogenic methane reductions required under these budgets, particularly

with respect to the limited available options to reduce methane emissions from deer farming.

- Current deer numbers are slightly higher than 1990 - the most recent available data from 2017 shows an increase in emissions of 12 % since 1990 although this represents only 1.3 % of the total agriculture sector:

Table 5.2.1 Trends and relative contribution of enteric fermentation from livestock categories between 1990 and 2017

Livestock category	Emissions (kt CO ₂ -e)		Change from 1990		Share of Enteric fermentation category (%)		Share of total Agriculture sector (%)	
	1990	2017	%	kt CO ₂ -e	1990	2017	1990	2017
Dairy cattle	5,928.0	13,560.1	128.7	7,632.1	22.4	49.0	17.3	34.9
Non-dairy cattle	5,723.4	5,298.0	-7.4	-425.4	21.7	19.2	16.7	13.6
Sheep	14,085.7	8,253.1	-41.4	-5,832.6	53.3	29.9	41.1	21.2
Deer	434.1	486.0	12.0	52.0	1.6	1.8	1.3	1.3
Minor livestock	249.5	49.3	-80.2	-200.2	0.9	0.2	0.7	0.1

Note: Percentages presented are calculated from unrounded values.

(Source: New Zealand’s Greenhouse Gas Inventory 1990–2017, page 170)

- We consider that with limited options to reduce methane and only a modest increase in absolute emissions since 1990, deer farming would be disproportionately penalised/impacted if it was required to make reductions in methane to levels as implied by the Commission’s budgets.

Question 4: Do you support budget recommendation 4 (limit offshore mitigation)? Is there anything we should change and why?

- We support budget recommendation 4 while there is the real possibility of accessing non-credible emissions markets overseas. If a credible international carbon market emerges, then the Commission should reconsider this.

Question 5: Do you support enabling recommendation 1 (cross-party support)? Is there anything we should change, and why?

- We support recommendation 1. Cross party support is a clear signal of general agreement and acceptance of the advice provided by the Commission. Lack of support undermines the willingness of society to make significant changes in behaviours.

Question 6: Do you support enabling recommendation 2 (coordination across Government)? Is there anything we should change, and why?

- We support recommendation 2. DINZ strongly considers that landowners will take a holistic approach to land management and that actions to address greenhouse gas emissions may be more effective where they are aligned with other desired

outcomes such as improved water quality, enhanced native biodiversity or strong, resilient rural communities.

Question 7: Do you support enabling recommendation 3 (Māori)? Is there anything we should change, and why?

- We agree with this recommendation.

Question 8: Do you support enabling recommendation 4 (local government)? Is there anything we should change, and why?

- We support this recommendation in principle but note that targets and actions to achieve those targets should remain at a national level (e.g. a national target to replace fossil fuelled cars with electric cars should not result in one region or city banning petrol cars).

Question 9: Do you support enabling recommendation 5 (public consultation)? Is there anything we should change, and why?

- We support this recommendation. Our preference is that consultation is open and transparent, including access to analysis used to inform targets or policy decisions. We also consider that stakeholders across the spectrum should have the opportunity to consult together to avoid multiple separate conversations and increased likelihood of creating barriers or distrust.

The Path to 2035

Question 10: Do you support our approach to focus on decarbonising sources of long-lived gas emissions where possible? Is there anything we should change and why?

Question 11: Do you support our approach to focus on growing new native forests to create a long-lived source of carbon removals? Is there anything we should change and why?

- DINZ and NZDFA strongly support the approaches described in questions 10 and 11 but with the following observations and caveats:
 - There appears to remain a strong reliance on use of exotic forestry to offset ongoing carbon dioxide emissions, at least until 2035. Inevitably this must result in increased (permanent) land use change and it is hard to see how and where this land use change can be directed without negative economic and social impacts. Ultimately if there is a significant change in land use from extensive drystock farming to monocultural plantation forestry we would view this as penalising land use that was inherently environmentally sustainable in all other respects.
 - Conversely, we fully support encouraging native afforestation on private land that provides for much longer-term of carbon sequestration and could effectively account for offsetting of livestock nitrous oxide emissions due to several aspects:

- Planting or retiring small areas of land that is unsuitable for pasture or cropping on extensive farms creates a much more diversified and sustainable business and optimum land use.
 - Offsetting emissions within the boundaries of the same business is a more honest “carbon neutral” approach compared with offshore mitigations.
 - Encouraging native afforestation is likely to provide co-benefits to the business through increased biodiversity, improved soil health or erosion control, better water quality outcomes and animal welfare (e.g. shade and shelter)
- However as with exotic forestry we would wish to ensure that policies do not allow or encourage wholesale land use change to native afforestation. In one respect the lack of any income coupled with the loss of export revenue from food production would be exacerbated by native afforestation compared with exotic afforestation.

Question 12: Do you support the overall path that we have proposed to meet the first three budgets? Is there anything we should change and why?

- **Biogenic methane.** DINZ and NZDFA consider that for deer farming a 25 % reduction by 2050 will be challenging with current technology. We are of the view that for extensive deer farming systems there is limited ability to improve efficiency (e.g. produce the same amount of venison from less feed). Based on previous reports from the Biological Emissions Reference Group and our own case studies of deer farms we estimate that deer farms may *in some cases* be able to achieve 5 % reductions given current technology and biological ceilings for animal performance.
- While greater reductions may be possible for other (more intensive) livestock systems, if further reductions in methane were required this would have to be from reducing numbers of deer (and a subsequent reduction in revenue for the business).
- This highlights the critical need for continued investment in new technologies (especially methane vaccines and inhibitors) and the accelerated rollout of low emissions genetics (currently available for sheep and potentially could be developed for cattle and deer in the future). But until these are available, we regard the reduction targets for methane as unrealistic for deer farming. Given the small size of the deer industry a reduction of 10-15 % of the national herd in 2030 and a 20 % reduction by 2050 would undermine the sustainability of the industry.
- **Industry and heat.** DINZ notes that this is an issue for venison processing (deer slaughter premises, DSPs) and refers to MIA’s comments on this path which also apply for DSPs.
- **Agriculture.** We query the assumption that ongoing productivity and efficiency improvements in agriculture will result in dairy and sheep and beef animal numbers each reducing by around 15% from 2018 levels by 2030. Productivity improvements under current technologies have biological limits (including animal health and

welfare considerations) that would prevent historic trends from continuing at the same rate into the future. Productivity improvements have been driven by improved animal performance and feed utilisation, and do not guarantee a reduction in feed consumed, and therefore total biogenic emissions. This view has also been expressed by Pastoral Greenhouse Gas Research Consortium in its submission.

- The deer industry is investing heavily in practice change activities to improve productivity and efficiency. We have seen an increase in fawning rates, survival to sale and carcass weights in recent years.
- In particular for deer a major focus over recent years has been improving fawning rates (hinds seldom give birth to twins) – industry and research opinion is that while gains can still be made through application of good management practices, we are approaching the limit in achieving fawning rates of around 90%. Further, with the extensive farming system that provides optimal feed, ample space and minimal stress, we do not foresee significant lifts in survival rates to slaughter. In short, without advances in genetics (such as low methane emitting breeds) or reducing feed maintenance requirements over winter (e.g. by housing animals inside), we struggle to think of new approaches to reach optimal slaughter weights with less feed (and hence fewer emissions).
- The Commission’s approach that farmers will achieve a reduction in methane emissions by shrinking herds, and reducing feed consumed, but maintaining levels of meat production due to productivity improvements has major limitations, particularly for deer farming.

Question 13: Do you support the package of recommendations and actions we have proposed to increase the likelihood of an equitable, inclusive and well-planned climate transition? Is there anything we should change, and why?

- As we have outlined our concerns with the ability for deer and drystock farmers to reduce methane to levels suggested by the Commission, as well as the scale and distribution of exotic and native afforestation required (seemingly at the expense of deer farms), DINZ and NZDFA cannot determine if the package of recommendations will increase or decrease the “likelihood of an equitable, inclusive and well-planned climate transition”.
- Further analysis of the social, economic and distributional impacts as a result of applying these recommendations would be beneficial to all stakeholders, and in particular to rural communities that have ongoing and real concerns as to the future viability of their communities and local economies.

Question 16: Do you support the package of recommendations and actions for the agriculture sector? Is there anything we should change and why?

- We support the package of recommendations but wish to note the following:
 - While we are partners in *He Waka Eke Noa – Primary Sector Climate Action Partnership*, we view pricing on biological emissions as a tax on food production since the price can not be passed on to the customer or final

consumer. Such a tax needs to be set a level that encourages efficiency and behaviour change where appropriate, but still allows for a profitable and sustainable (farming) business to operate.

- We endorse the proposal to create options for alternative farming systems and practices. Deer farming exists in businesses that are typically diversified in terms of products, land use and provision of ecosystem services. What we would seek from regulation is a framework that encourages innovation and sets environmental outcomes to be met (e.g. low rates of sediment loss, presence of key native species/habitats, no net increase in emissions)
- In line with encouraging innovation, we endorse continued support for research into new technologies that will allow our farmers to make significant and cost-effective emissions reductions. DINZ currently invests in the Pastoral Greenhouse Gas Research Consortium and supports its submission on the Commission's draft advice.

Question 17: Do you support the package of recommendations and actions for the forestry sector? Is there anything we should change and why?

- We have already noted our concern on the scale and distribution of new afforestation, but also support the Commission's sentiment that *"reliance on forestry as a carbon sink could divert action away from reducing gross emissions in other sectors"*.
- We share other primary industry organisations' concerns that that current Government policy – in particular, allowing all greenhouse gas emissions to be offset by forestry credits – will simply result in conversion of productive farmland to pine forest as permanent carbon storage.
- We support any actions that encourage farmers or other landowners to retire or afforest small areas within the business that are less useful for food production or other purposes. However we note that large scale conversion of land that is deemed unsuitable for pasture could be detrimental to farming as these areas are also important in the overall production cycle at least for drystock (e.g. for fawning or shade and shelter).

Question 19: Do you support the package of recommendations and actions to create a multisector strategy, and is there anything we should change?

- We support these recommendations that focus on the need for climate change policy to be joined up with other environmental policy – in particular biodiversity, freshwater and soil health/conservation. It is also important that a multi-sector strategy applies the principles of equity and fairness to achieve its outcomes.

Rules for Measuring Progress

Question 20: Do you agree with Budget recommendation 5 on the rules for measuring progress? Is there anything we should change any why?

- We fully support the inclusion of smaller blocks of trees in NDC accounting. Deer farming, as with other drystock farming occurs on multiple landforms, topography and soils. The farming businesses reflect this diverse landscape through multiple stock classes and species, improved and unimproved pastures, erosion control plantings, retired gullies, riparian zones, wetlands and water ways.
- Rough estimates of carbon sequestered in woody vegetation on four deer farms ranged from 7 % to 62 % of annual emissions (or 0 % to 42 % if Emissions Trading Scheme criteria were applied). Particularly if farmers are to face a price on emissions, we would wish to see recognition of carbon sequestered on-farm.
- The Commission acknowledges that there are sources of emissions and removals that are currently not part of New Zealand's international accounting approach. For domestic purposes we do not support measuring progress to be aligned with New Zealand's international accounting approach if this excludes these emissions and removals.

The global 1.5°C goal and Nationally Determined Contribution for Aotearoa

Question 21: Do you support our assessment of the country's NDC? Do you support our NDC recommendations?

Question 22: Do you support our recommendations on the form of the NDC?

- We refer the Commission to submissions from B+LNZ and MIA and note that adopting an approach to appease perceived international opinion ignores the fact that New Zealand has adopted a split-gas approach in legislation and is based on accepted *different impacts* on warming and is therefore logical and scientifically robust.

Eventual reductions in biogenic methane

Question 24: Do you support our assessment of the possible required reductions in biogenic methane emissions?

- We do not support the Commission's assessment (reduce total biogenic methane emissions by between 12-26% below 2017 levels by 2030 and 25-59% below 2017 levels by 2050) on the basis that no analysis has been provided. We also note our earlier assertion that we consider a 5 % reduction for deer farms to be an upper limit with current technologies.
- The Commission states that *"Reaching the higher range of biogenic methane reductions (26% by 2030 and 59% by 2050) without new technology would likely*

*require reduced agricultural production from livestock and **land use change**.*” The implication for deer farming is that it would face a herd reduction of about 20 % by 2030 – for a small industry this level of reduction could significantly impact on critical mass and economies of scale.

- We note that the advice from the Report of the Biological Emissions Reference Group (BERG), 2018 is consistent with our view: “A variety of mitigation options* exist across the sector that collectively reduce biological emissions by 5–10% without necessarily reducing on-farm profitability... Land use change is generally required to achieve a reduction of more than 10%.”

* for methane and nitrous oxide combined

- We also object to the assertion that “*Aotearoa could make a greater than average reduction in biogenic methane.*” If the Commission acknowledges that New Zealand farmers are among the most efficient in the world at producing food, it would seem that we are requiring our farmers to do more than what is possible and certainly disproportionately more than other producers of food elsewhere. This is neither fair nor equitable.