

# Joint Submission from Beef + Lamb New Zealand and Deer Industry New Zealand to:

The New Zealand Productivity Commission  
on the  
Low-emissions economy draft report - April 2018

21 June 2018

## About the submitters

### **Beef+Lamb New Zealand**

1. Beef+Lamb New Zealand (B+LNZ) is an industry-good body funded under the Commodity Levies Act through a levy paid by producers on all cattle and sheep slaughtered in New Zealand. Its mission is to deliver innovative tools and services to support informed decision making and continuous improvement in market access, product positioning and farming systems.

### **Deer Industry New Zealand**

2. Deer Industry New Zealand (DINZ) is a levy funded industry-good body established by the Deer Industry New Zealand Regulations 2004 under the Primary Products Marketing Act 1953. DINZ's functions (under regulation 5(1)) include the following:
  - to promote and assist the development of the deer industry in New Zealand; and
  - to monitor, and from time to time report on, the economics and efficiency of all components of the deer industry.

## Low Emissions Economy Draft Report

3. B+LNZ is concerned that some of the assumptions of future stock numbers in the base modelling used for this report, may differ significantly from those held by B+LNZ and therefore conclusions drawn may not reflect likely pathways.
4. The basic data used in modelling and appearing in the Seventh National Communication<sup>1</sup> projects sheep numbers continuing to decrease at the same rate as they have in the past to be 27% below 2015 numbers by 2030 and follow closely a simple linear regression line of population changes to date. Fitting the regression line out to 2050 results in sheep numbers reaching zero around 2050.
5. B+LNZ discussed this with MPI officials who advised that, the numbers at 2030 are projected on the basis of government's 2017 (pre-election) forestry and water quality policies.
6. These projections are of concern to the sheep and beef sector as they do not reflect the sector's expectations for the short to medium term. On the contrary, the sector believes that sheep population numbers are levelling out and stabilising and that the changes in the past have come to an end for a range of reasons.
7. B+LNZ's work in international markets has identified a promising future for New Zealand red meat including sheep meat, and to this end has recently launched their Taste Pure Nature origin brand as part of the Red Meat Story.
8. Using these projections more widely in modelling work that informs policy decisions may result in unrealistic expectations as far as the land-use change from sheep and beef farming to afforestation is concerned. There are numerous references to marginal or marginally economic sheep and beef farming in the draft report which B+LNZ believes are erroneous and potentially misleading
9. Adopting the projection out to 2050, this would result in 27.6 million (i.e. all) sheep removed from production. This would result in approximately 2.8 million hectares of land becoming available, assuming a stocking rate of 10 stock units per hectare which is the present average stocking rate in New Zealand (based on B+LNZ's Sheep and Beef Survey of commercial sheep and beef farms). This figure is identical to the upper estimate of the land that is needed to change use and be afforested to offset the country's emissions.
10. Currently sheep and beef farms in New Zealand are returning good profits for farmers and sheep and beef farm debt levels are generally low. The sector contributes substantially to the national economy, with export value in excess of \$7 billion dollars to 30 June 2017.
11. B+LNZ would be concerned if the projections of sheep numbers based on the impact forest and water policy of the day, are then used as the basis for concluding that because sheep numbers are projected to drop there will be plenty of available land for forestry.
12. B+LNZ submits that additional modelling is needed that examines scenarios where sheep numbers do not drop significantly below current levels and the impact that has on land-use change and the policies needed to generate the desired level of afforestation.

13. B+LNZ notes with concern the references to unproductive or marginal sheep and beef farms. B+LNZ suggests that there would be value in having some of the modelling re-run based on plateauing sheep numbers and sustained financial returns to ensure that the outcomes proposed are reflective of possible futures.
14. B+LNZ expects that if targets are set that depend on any one sector having to take on a bigger emissions reduction load than those they generate, then this is a discussion that needs to be had explicitly.

### Short-lived and long-lived gases

15. B+LNZ and DINZ are pleased to see recognition of the differences between short- and long-lived gases and the differing roles and impacts they have on warming. In particular, the recognition that while the long-lived gases CO<sub>2</sub> and N<sub>2</sub>O must be reduced to net zero, CH<sub>4</sub> does not need to be reduced to zero to halt its warming action, rather stabilised or reduced to achieve a stable temperature. From a national and global perspective, the level of reduction in methane levels has yet to be determined. Setting methane reduction targets that are beyond the sector's level of contribution, in order to offset emissions by other sectors, must be accompanied by measures that ensure fairness.
16. Long-lived gases add cumulatively to the atmosphere as "stock" gases, whereas methane from ruminants as a "flow" gas continuously recycles carbon between grass, ruminant, atmosphere and back to grass.
17. Reductions in methane emissions effectively cool the climate. From this perspective, the sheep and beef sector's emissions profile of emissions at 30% below 1990 levels is important. While a portion of that reduction has been through reductions in the sheep flock, there have also been significant improvements in emissions intensity – the amount of green-house gases (GHGs) produced per kilogram of product, such that meat production across the sector has dropped by just 8%.
18. The difference between the sources of methane is important as methane arising from fossil fuels effectively adds to net levels of carbon in the atmosphere and hence warming, whereas methane from livestock creates no net change in atmospheric carbon.
19. It is important not to lose sight of the ultimate goal of limiting temperature rise to well below 2 degrees when looking at policy approaches and not to treat short- and long-lived gases as if they are the same.
20. B+LNZ and DINZ believe that separate targets should be established for methane and in setting those separate targets, government will need to be explicit about what it is aiming to achieve - to halt additional warming (roughly constant or slightly declining methane levels), to reduce them to levels at some baseline year e.g. 1990 or 2005, (declining to a historic level) or to be used to actively reduce warming in order to compensate for the continued emissions of long lived gases (significant reductions in methane levels).
21. Recent research and greater knowledge would seem to support the differential approaches. (Allen, M.R. et al. 2018. A solution to the misrepresentations of CO<sub>2</sub>-equivalent emissions of short-lived climate pollutants under ambitious mitigation. *Climate and Atmospheric Science* (2018)1:16)

### Agriculture in the ETS

22. B+LNZ agrees that the sheep and beef sector must play their part in the changes needed to limit climate warming and take responsibility for its GHG emissions, and that there is a need for its farmers as owners

of a significant land resource to look for ways they can contribute to the rapid carbon sequestration needed through afforestation that will allow the country as a whole time to transition to a low carbon emissions economy.

23. The issue will be what an effective and fair policy setting for the different gases would be. Thought will need to be given to how and if the ETS could be amended to reflect the differences between the warming impacts of the gases. As part of this, consideration should also be given to whether the ETS is the most appropriate vehicle for managing methane and the equity of pricing methane emissions where their reductions are actively cooling the atmosphere.
24. It may be that an alternative approach is needed. For example, the setting of targets for agricultural methane that reflect the need to prevent any increase in warming as the first target and then reductions that are focused on cooling the climate to offset for example agricultural nitrous oxide emissions or the addition of trees to achieve this offset. This could be followed by further reductions in methane to generate further cooling that would be used to offset other gases in the wider community, with some form of recognition or reward to encourage further action.
25. There are a number of options that could be explored: B+LNZ and DINZ would welcome the opportunity to work with officials and the Climate Change Commission to look more closely at how this might work in a way that provides rigour and certainty around the meeting of targets.
26. B+LNZ and DINZ support recommendation R8.1 on the establishment of separate long-term domestic targets for short- and long-lived gases and the need to carefully consider the appropriate legislative instrument to express the different gas targets.
27. Any policy that aims to incentivise practice change must reward positive contributions as well as penalise the negative. To this end, policies must recognise the contribution – such as woodlots of less than 1 ha – as well as penalise emissions.

## Land-use change

28. Land use change will be key to providing time for the country to transition to a low emissions economy. As with any land use change, this can happen in ways that no one predicted, driven by a range of factors and in this case not just climate change.
29. A critical factor in enabling land use change is ensuring the flexibility to change land use with as few artificial constraints and unintended consequences as possible. Climate change is not the only environmental impact that must be managed; others include water quality and quantity, biodiversity and soil health. Restrictive or distorting regimes for managing one pollutant such as grand-parenting reduce the ability for land uses to be matched with the most productive use of a particular piece of land. Instead it locks in past land-uses and constrains the ability of individual farmers/businesses to move more quickly to new land-use patterns. In the same way, afforestation should occur on land where it is most suited and does not reduce the use of the land for more sustainable environmental, social and economic uses.

## Point of Obligation

30. B+LNZ and DINZ fully support the point of obligation being at the farm gate. It is the farmers who must work out how changes can most effectively be made to their farm and farming system to meet not just emissions reduction and sequestration goals, but the wider balancing of environmental, social and economic sustainability requirements for their particular circumstances.
31. Deer, sheep and beef farms are diverse across many factors (e.g. scale, production focus, livestock mix, climate, topography and soils). For this reason, there must be flexibility to allow the right mix of land use for a range of goals including restricting global warming.
32. Establishing the point of obligation at the processor level for the red meat sector will not drive innovative behaviour change in farmers resulting in mitigation of emissions which is the key to generating land-use change that includes significant carbon sequestration to offset the country's long-lived gas emissions.

## Carbon Neutrality at the farm gate.

33. B+LNZ has already set a goal of sector neutrality by 2050 for the sheep and beef sector.
34. For sheep and beef farmers to achieve carbon neutrality at the farm gate, they must be able to balance their emissions with the sequestration occurring on their farm. For instance, a recent study (about to be released) looking at the level of biodiversity present on sheep and beef farms has demonstrated that there are more than 1.3 million hectares of native forest that will sequestering carbon.
35. In addition, many farms have woodlots, shelter belts or other trees, many of which are actively sequestering carbon. Where there are drivers to do so, for example being counted in a farm's overall carbon balance and contribution to neutrality, farmers will be incentivised to add to these or establish new tree plantings that will add to their carbon balance.
36. While many of the tree plantings may not qualify for the current ETS, they will still be adding to a farm's overall contribution to sequestration. Many farmers will look to actively enhance such opportunities because it is the right thing to do. This does not however mean they will be seeking to enter the ETS as the administrative costs and obligations may be considered to be too high and too uncertain.
37. There is a significant need to have clear and stable policy relating to both climate policy and afforestation programmes for which there is cross-party agreement, to avoid changes often associated with changes of government.

## Afforestation

38. Many sheep, beef and deer farms have woodlots or other forest blocks that would qualify for the ETS, and many more have others that do not meet the current definitions used for the NZ ETS. There is scope within the international rules around qualifying forest to include reduced size specifications.
39. B+LNZ and DINZ believe this should be explored further, including possible domestic policy approaches, independent of international rules, particularly if it incentivises greater rates of tree planting.
40. An area for further exploration is what will happen in 2051 if the low-emissions future is a bit slower in arriving in the form of transformative technologies. In particular, an understanding of what will be needed

in terms of forestry offsets after the new crop of commercial forestry reaches maturity. While harvesting and replanting will address sequestration of committed carbon, there will be more sequestration needed to offset the additional emissions.

## Farm Dumps

41. One area that needs further exploration is the matter of farm dumps. B+LNZ is puzzled by the high levels of methane reported as being emitted. Knowledge of the average sheep, beef and deer farm waste disposal indicates that there is not a lot of biodegradable material other than household waste in these.

## On-going Research Needs

42. While considerable progress has been made in research into technologies that would be expected to reduce biological emissions, these are still at best some years off. At this stage, New Zealand cannot afford to take our collective foot off the pedal and needs to ensure ongoing funding of this vital research being undertaken in New Zealand.

43. Given the differential impacts of methane on warming, all parties need to contribute as the benefits are spread across the whole of New Zealand and could be applied to overseas ruminant farming systems.

## Conclusion

44. B+LNZ and DINZ would welcome the opportunity to work with both the Productivity Commission and officials to explore further how an effective and fair system can be developed that will drive the emissions reductions and sequestration needed to assist in a fair transition to a low emissions future.

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