TO THE

ENVIRONMENT SELECT COMMITTEE

ON THE

Climate Change Response (Zero Carbon) Amendment Bill

BY

Beef + Lamb New Zealand Ltd

SUBMISSION TO THE ENVIRONMENT SELECT COMMITTEE ON THE CLIMATE CHANGE RESPONSE (ZERO CARBON) AMENDMENT BILL

Submission on publicly notified Amendment Bill

Government Bill 136-1 amends the Climate Change Response Act 2002

(the principal Act)

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The specific provisions of the proposal that Beef + Lamb NZ Ltd submission relates to and the decisions it seeks from the Select Committee are as detailed on the following pages. The outcomes sought and the wording used is as a suggestion only, where a suggestion is proposed it is with the intention of 'or words to that effect'. The outcomes sought may require consequential changes to the Amendment Bill or restructuring of the Bill, or parts thereof, to give effect to the recommended amendments.

Beef + Lamb New Zealand Ltd wishes to be heard in support of its submission. Beef + Lamb New Zealand intends to provide further technical information and data to underpin its position at the hearing.

General Submission

INTRODUCTION

1. 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 vision is 'Profitable farmers, thriving farming communities, valued by all New Zealanders'.

2. The sheep and beef sector is essential to maintaining the vibrancy of rural communities and their cultural, societal, and environmental wellbeing, as well as contributing regionally and nationally to the country's economic wellbeing. The New Zealand sheep and beef sector's total value of production was $10.4 billion in 2018, with exports worth $7.5 billion and domestic sales worth $2.9 billion. The sector has 80,000 employees, 59,000 of those are directly employed and an additional 21,000 are indirectly employed. The sector exports over 90 percent of its production and is New Zealand's second largest goods exporter and New Zealand's largest manufacturing industry. The health and wellbeing of the sheep and beef sector within New Zealand is important to the economy of the country, accounting for 3.2 percent of gross domestic product.

3. B+LNZ is actively engaged in environmental management, with a particular emphasis on building farmers' capability and capacity to support an ethos of environmental stewardship, as part of a vibrant, resilient, and profitable sector based around thriving communities. Protecting and enhancing New Zealand's natural capital and economic opportunities and the ecosystem services they provide is fundamental to the sustainability of the sector and to New Zealand's wellbeing for current and future generations.

4. B+LNZ supports the general purpose of this Bill in providing a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the objectives of the Paris Agreement to limit the global average temperature increase to well-below 2^0 Celsius above pre-industrial levels, and pursuing efforts to achieve 1.5^0C.

5. The sheep and beef sector understand the importance of keeping temperature rise within prescribed limits as critical to the wellbeing of New Zealand and the world as we currently know it. As Kaitiaki of their land and the natural resources it is home to, sheep and beef farmers are at the forefront of the impacts of climate change. Farmers are already seeing those changes on an everyday basis and are already adapting their management. They will continue to do so, as they have adapted to changes in the past.

6. Sheep and beef farmers are up to the challenge of playing their part in the actions needed to achieve the Paris Agreement. This is why B+LNZ has, through its Environment Strategy, committed to leading the sector to working towards being carbon neutral by 2050.

7. Having a stable and well signaled set of targets to achieve New Zealand's commitment to climate change domestically is critical in empowering and supporting communities' ability to adapt to local and international variables as quickly and efficiently as possible. There is no doubting that the challenges facing New Zealand are significant, and will require step changes in how New Zealand values and manages the natural resources that support our way of life.

8. Farmers, and sheep and beef farmers have an in-built capacity for change. The shifts in the industry in the 1980s when subsidies were removed and farming businesses were restructured are an extreme example, that saw new farming systems develop to maximise economic opportunities within the constraints of the natural environment. However, the policy changes of the 1980's were not without significant costs to the industry, farming businesses, and the rural communities they supported. These changes, at the less extreme end, saw sheep and beef farmers adapt to climatic, societal, consumer and regulatory requirements, provided there was the flexibility and time to do so.

9. Since 1990[1] sheep numbers have reduced by over 50%, while the volumes of production are just 8% less. This has been achieved through a range of improvements, termed eco efficiency gains, including improved genetics and breeding, feed management, reproductive rates, and increased individual animal size. Beef cattle numbers likewise have reduced by around 20% since 1990[2]. These reductions in capital stock while improving productivity has resulted in not only improvements in environmental performance such as 21% reduction in nitrate leaching per kg saleable product, but has been accomplished while the sector has increased its exports by 83% to over $9 billion.

10. As a result, **absolute** GHG emissions from the sheep meat sector are 40% less than they were in 1990, for 8% less product produced, and for the beef sector including dairy beef is 10% less than 1990 levels. Collectively, the sheep and beef sector GHG emissions are 30% lower than in 1990. The emissions **intensity** (emissions per kg of product) continues to improve at the rate of about 1% per year since 1990. However, it is important to note that there are biological and biophysical limits to the scale and magnitude of eco efficiency gains that can be accomplished. Further restrictions on systems which have already adopted a number of these changes are likely to come at a significant cost to the viability and resilience of these businesses moving forward.

11. As Kaitiaki, sheep and beef farmers are also host to 2.8million[3] hectares of native biodiversity, including 1.4million hectares of native forest. This is the second largest holding of native forest and native biodiversity – bettered only by the Crown estate. In some regions, such as the East Coast, there is more native biodiversity on sheep and beef farm land than in the Crown estate. Added to this is an estimated 180,000 hectares of forestry blocks.

12. The sheep and beef sector takes an integrated and holistic view to the sustainable management of natural resources. The sector is actively seeking solutions that enable

[1] Agricultural Production Statistics, Statistics New Zealand.
[2] ibid
[3] Norton D., Pannell J., 2018. Desk-top assessment of native vegetation on New Zealand sheep and beef farms.

and empower multiple benefits across New Zealand's range of natural assets including biodiversity, aquatic ecosystem health, soils, climate, and healthy vibrant communities.

13. Climate policy and climate adaptation pathways should be transformative in design, enabling and empowering individuals and communities to build resilience across all their well-beings, including ecosystem services, community and cultural wellbeing, and economic wellbeing. While climate policy and adaptation pathways need to provide for clear and timebound outcomes to enable business and community certainty including investment certainty, they will also need to provide carefully crafted frameworks which enable flexibility and innovation and provide for business and community adaptation.

14. As such it is imperative that domestic climate policy is not created in silo and that instead it provides a transformational policy foundation which will deliver not only on New Zealand's climate change commitments but will also enable and empower New Zealand's sheep and beef sector to continue to build diverse, resilient, productive landscapes for the benefit of all New Zealand and in maintaining vibrant thriving communities.

Figure 1: B+LNZ's Environment Strategy

ZERO CARBON AMENDMENT BILL STRUCTURE & APPROACH

15. The purpose of the Climate Change Response (Zero Carbon) Amendment Bill (the Bill) is to provide a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels.

16. The overarching purpose of the Bill seeks to balance the guiding principles agreed by Cabinet to frame the development of climate change policy: leadership at home and abroad; a productive, sustainable, and climate-resilient economy; and a just and inclusive society.

17. B+LNZ supports the intention of the Bill in creating a durable framework, and stable and enduring institutional arrangements for climate change action that will future proof New Zealand, that is world leading, and that will contribute significantly to the global effort on climate change, while continuing to provide for and enhance the wellbeing of New Zealanders.

18. Specifically, B+LNZ supports an approach which provides for flexibility, innovation, and adaptation within the sheep and beef sector and our rural communities, while providing clear timebound based Greenhouse Gas (GHG) targets. Approaches to climate change and climate policy which are consistent across society and our primary sectors, and which epitomise adaptation-based policy frameworks empowering flexibility and innovation, will be more effective and efficient at achieving climate change outcomes, along with other well-beings, than alternative approaches. Policy and adaptation pathways should provide for integrated and holistic outcomes across all capitals including socio-economic, cultural, biodiversity, soil, and aquatic ecosystem health.

19. There are many elements of the Bill that B+LNZ supports. Our high-level views are presented below, and more detailed and specific feedback is provided in Appendix 1 Further Technical Amendments

20. B+LNZ supports the general intent of the Bill in establishing an independent Climate Change Commission that will provide advice to government on five-yearly budgets, along with the ability to advise government on changes to the emissions targets as required.

21. B+LNZ also supports the general intention for the Climate Change Commission to develop emissions-reduction plans, national risk assessments and the establishment of national adaptation plans. These proposals are discussed further in the sections below.

22. B+LNZ has applied a consistent, principled and precautionary approach to determining appropriate targets for GHG, based on the existing wealth of national and international science on climate change, and in recognition that this field of evidence and expertise is rapidly evolving.

23. The principles B+LNZ adhere to are:

    - Establishment of a consistent and equitable framework where emitters are asked to contribute to addressing climate change in a manner which is proportional to the impact they are having on additional warming and their contribution to limiting warming to the Paris Agreement goals.

- That a split gas approach is adopted, and that the targets for each gas are determined by a science-based assessment, the most 'efficient and effective'[4] approach to each gas, and their impact on achieving the Paris Agreement;

- Farmers should have the ability to offset emissions using the full suite of tools available to meet their 2050 outcomes;

- Targets should avoid the likelihood of perverse outcomes and unintended consequences for all forms of capital - environmental, social, cultural and economic;

- Avoiding the potential for emissions leakage – i.e. reductions in emissions efficient production by New Zealand in markets is then filled by less emission-efficient products from other producers. Climate change is a global issue.

24. On this basis, B+LNZ supports the setting of national emission targets setting carbon dioxide (CO_2) and nitrous oxide (N_2O) emissions to net zero, and biogenic methane (CH4) to levels supported by science, recognising biogenic methane does not have to go to zero to stop contributing to warming.

25. B+LNZ has already set an aspirational target for the sector to work towards net carbon zero by 2050, and the sector has already made significant gains towards this goal, as set out under paragraphs 9 and 10 above.

26. B+LNZ supports the establishment of robust and appropriate targets for biogenic methane (CH_4) but differs from the Government in their assessment of what those targets should be. B+LNZ accepts the clear scientific evidence[5] that a 10% gross reduction in methane by 2050 is required to ensure no additional warming. The science also suggests that a further net reduction of around12% in methane by 2050 may be required depending on the success in emissions reductions of the rest of the world.

27. B+LNZ supports the Bill providing a National Climate Change risk assessment, and associated requirements, which takes an integrated and holistic view of the dynamic and interconnected relationships between individuals, society, the environment, and the economy, in assessing the implications of climate change and climate change policy.

28. B+LNZ also supports the development of a National Adaptation Plan and associated requirements, which must take into account the dynamic and interconnected relationships between climate change and climate change policy on individuals and communities, including effects on Iwi and Māori, the environment, and the economy.

[4] Efficient and effectiveness tests include: a) effects based; b) equitable in that the cost of meeting the targets is commensurate with level of impact; c) provide for adaptation, flexibility, and innovation; and d) provide for a wider suite of well-beings including: i) socio-economic outcomes; ii) cultural wellbeing; iii) community resilience; and iii) wider environmental well-beings – biodiversity, soils, freshwater ecosystem health, and ecosystem services. Evaluations must identify other reasonably practicable options for achieving the objectives (can include best practicable options). Evaluations must contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.

5 Parliamentary Commissioner for the Environment. 2018. A note on New Zealand's methane emissions from livestock.

29. The pathway forward for addressing climate change and in limiting climate warming, is the pathway that pulls us together as a country. Our first relationship is made possible by the Treaty of Waitangi and this needs to be reflected in the leadership roles, the collaborative relationships, and the community responses that emerge through this process. Our response to climate change needs to build a sense of partnership and connection across our communities. It needs to be locally led and designed in such a way as to build social cohesion (he waka eke noa) and promote social equity.

BEEF + LAMB NEW ZEALAND'S POSITION

- B+LNZ is taking a consistent, principled and science-based approach to emissions reductions and offsetting.
- B+LNZ supports the establishment of robust and appropriate targets for biogenic methane (CH_4) but differs from the Government in their assessment of what those targets should be.
- B+LNZ accepts the clear scientific evidence that a 10% gross reduction in methane by 2050 is required to ensure no additional warming from biogenic methane.
- Science also suggests that **up to** a further 12% reduction in net methane by 2050 may be required depending on the emissions reductions achieved by the rest of the world.
- B+LNZ's view is that that any emissions reductions above 10% should be net, up to a maximum of 22%.
- B+LNZ supports the introduction of limitations on how much fossil fuel derived carbon dioxide emissions can be offset by trees through the inclusion of gross CO_2 targets.
- B+LNZ notes that all gases must be managed to achieve a continuous downward trajectory.
- B+LNZ supports the requirements to provide a National Climate Change Risk Assessment and National Adaptation Plan, which takes an integrated and holistic approach to providing positively across capitals – social, cultural, environment and economic.

30. The following section provides a summary of B+LNZ's substantive feedback and recommendations on the Bill.

31. In Appendix 1 we provide additional technical comments that the Select Committee should consider.

PART 1: CLIMATE CHANGE COMMISSION, EMISSION REDUCTION, ADAPTION

32. B+LNZ supports the addition to the purpose of the Bill to provide a framework by which New Zealand can:

- develop and implement clear and stable climate change policies that contribute to the global effort under the Paris Agreement;
- recognise and respect the Crown's responsibility to the Treaty of Waitangi; and
- which establishes a Climate Change Commission and its roles and responsibilities.

33. If the objective of the Bill is to meet New Zealand's commitment to the Paris Agreement, then the Paris Agreement goals on mitigation and adaptation should be better reflected in the Bill.

34. B+LNZ recommends that the purpose statement of the Bill, contained in Clause 4 Section 3 amended purpose, be changed to better reflect the mitigation and adaptation goals contained in Articles 2(a) and 2(b) of the Paris Agreement, in particular the importance of maintaining food production.

BEEF + LAMB NEW ZEALAND AMENDMENTS SOUGHT

B+LNZ seeks the following specific amendments:

- That clause 4, section 3 amended purpose be amended to either
  - *(aa) provide a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the aims of the Paris Agreement to:*
    - *holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels*
    - *increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production. Or;*
  - *(aa) provide a framework by which New Zealand can develop and implement clear and stable climate change policies that contribute to the aims of the Paris Agreement as contained in its Articles 2(a) and 2(b).*
- That the criteria in sections 5L, 5Q, 5Z and 5ZN be amended to include the text from the Paris Agreement that efforts to limit the global average temperature increase above pre-industrial levels "*do not threaten food production*"

Part 1A Climate Change Commission

35. B+LNZ generally supports the proposal for an independent Climate Change Commission, but provides the following suggestions aimed at strengthening its advice.

36. B+LNZ recommends amendment to Clause 5D, to specify that at least one member of the commission must have international scientific expertise in climate change.

37. B+LNZ believes that it is critical that members are a mix of scientists with expertise in climate science, and members with a practical understanding of the economic impact of responses to climate change and impacts of climate change policy.

38. B+LNZ also considers that under Clause 5L the distributional impacts across socio-demographic groups and between regions should be considered by the Commission in exercising its powers. Impacts on, and consideration of, New Zealand's natural capital should also be matters considered by the Commission.

39. B+LNZ believes that section 5N(2)(b) is vague and lacks specificity on what advice the Commission is to provide on New Zealand's Nationally Determined Contributions (NDCs) under the Paris Agreement (in a report requested under section 5K).

BEEF + LAMB NEW ZEALAND AMENDMENTS SOUGHT

B+LNZ recommends that two sub-clauses be added to section 5H(1):

a) recognised expertise in climate science; and
b) experience working in or with New Zealand industry.

B+LNZ recommend that in section 5L a bullet point be added between (e) and (f) that reads "*(xx) the distributional impacts on New Zealand's sectors, communities and regions*".

B+LNZ recommends that the following amendment to section 5N(2)(b) would enable the Commission to specifically advise on the form (e.g. split gas vs all gases etc) and level of successive NDCs, to ensure some level of consistency between New Zealand's successive NDCs and targets/budgets under this Act:

- in section 5N(2)(b), after "*about*" include "*the form and level of*"

PART 1B EMISSIONS REDUCTION

Subpart 1 – 2050 target

Carbon Dioxide (CO_2)

40. B+LNZ supports the target of net zero for CO_2 by 2050.

41. However, while B+LNZ advocates for the right trees to be planted in the right places as part of good farm management, B+LNZ is concerned the current net zero target allows for all CO_2 emissions to be offset through forest plantings. The potential impacts this would have on a range of other goods such as strong regional communities, landscapes, freshwater health, biodiversity, and biosecurity, in addition to climate impacts, is of concern.

42. The current net zero CO_2 target does not signal the need to drive gross emissions of CO_2 from fossil sources down as quickly and as far as required. Carbon dioxide emissions are a fundamental driver of current global climate change and as such are the issue that must begin to be addressed immediately in real terms i.e absolute emissions reductions.

43. Therefore, a gross CO_2 emissions target is needed in order to send a clear signal that a real reduction in emissions is required, supported by the net zero target for 2050. B+LNZ suggest that the gross target for CO_2 should be at least 50% by 2050, consistent with its position on methane gross and net targets. B+LNZ also suggests that the Climate Change Commission be tasked with determining the exact level of this target.

44. It is also necessary to signal to New Zealand that CO_2 emission reductions will need to go well below net zero after 2050.

45. The Parliamentary Commissioner for the Environment (PCE), in his recent 'Farms, forests and fossil fuels'[6] report recommended gross targets for carbon dioxide[7], since it is part of the slow geological carbon cycle, and net targets for methane and nitrous oxide[8] as they form part of the global fast biological carbon cycle. The Bill is in direct opposition to this approach.

46. The PCE recommended this due to concerns that there would be very little reduction in absolute CO_2 emissions, and less incentive to invest in emission reduction technologies, under a net zero target.

47. B+LNZ supports the conclusions reached in the PCE's report and requests that report be used as the basis of determining a suitable gross emissions level for CO_2.

48. The PCE modelled that under a net zero CO_2 2050 target, gross CO_2 emissions were likely to only be reduced by 40 percent by 2050, with 60 percent of CO_2 emissions simply offset by trees. This is why B+LNZ recommends that a gross CO_2 emission reduction target should be set at least 50% below current levels.

49. The PCE also estimated that 5.4 million hectares of land would be planted in trees by fossil fuel emitters, which is about 70 percent of the effective land in sheep and beef farms.

50. In the last few months there have been reports of increased sales of sheep and beef farms for afforestation, driven in part by changes in afforestation policy and the Overseas Investment Office rules for overseas investors, and in part by carbon speculation.

51. B+LNZ is working to establish the scale of this shift, which is challenging to quantify because of a lack of transparency of OIO applications under consideration, delays in domestic sale data due to later settlement dates, and a lack of data on intended use of land sold domestically. Of concern to us is that it takes relatively little change to alter the fabric of a rural community – the loss of two or three families can make a huge

[6] Parliamentary Commissioner for the Environment (PCE) 2019. Farms, Forests and Fossil Fuels. Wellington: PCE
[7] Parliamentary Commissioner for the Environment (PCE) 2019. Farms, Forests and Fossil Fuels. Wellington: PCE, para 13 page 6, and bullet point 1 page 15.
[8] Parliamentary Commissioner for the Environment (PCE) 2019. Farms, Forests and Fossil Fuels. Wellington: PCE, page 10 para 2, page 14 para 2, page 15 bullet point 2.

difference to the viability of a local school, which provides a focal point for a community. The risk of policy tipping in the wrong direction even slightly is so great that we encourage a precautionary approach to analysis of the impact of forestry policy on rural communities.

52. The conversion of good quality soils and the more productive land use classes to forestry will result in poor outcomes for New Zealand's primary sector and the country as a whole both short and long term.

53. Allowing all CO_2 to be offset will drive further afforestation, particularly as carbon prices increase, with the potential for speculation to drive the carbon price, instead of reducing emissions.

54. Once converted, these forests are effectively permanent, unless the technology for carbon capture and storage is developed. The risk is that widespread afforestation will simply defer the hard decisions about decarbonising the economy.

55. For this reason, B+LNZ strongly urges that a gross reduction target of a minimum of 50% be included in the Bill for CO_2 for 2050 and recommends that the Commission be tasked with determining the exact level of this target.

BEEF + LAMB NEW ZEALAND AMENDMENTS SOUGHT

B+LNZ recommends that the Bill be amended so the Commission can review the target for CO_2 and advise on setting budgets for CO_2, based on the appropriate level needed to manage landscape change, contribute to meeting the Paris Agreement commitments, and the need to achieve real CO_2 reductions.

B+LNZ seek the following specific amendments:

- a gross target of at least 50% for CO_2 for 2050 is included in the Bill;
- the Climate Change Commission be tasked with determining the exact level for this gross CO_2 target;
- that the Bill be amended so that it is explicit that CO_2 must be reduced to below net zero after 2050;
- that the Climate Change Commission should take account of the wider socio-economic impacts of potential land use change when setting its budgets;
- that when reviewing and advising on emission reduction targets and emission budgets, the Climate Change Commission must ensure that the targets and budgets for each gas are determined by a science-based assessment of the most efficient and effective approach to reducing each gas, and their impact on achieving the objectives of the Paris Agreement and of this Bill;

BEEF + LAMB NEW ZEALAND AMENDMENTS SOUGHT CONTINUED

- Section 5Q(2) criteria be amended, with a subclause requiring the Commission to take into account land use change, including permanent conversion of productive land as carbon sinks, in consideration of targets;
- Section 5Z(2) criteria be amended, with a subclause requiring the Commission and the Minister to have regard to land use change, including permanent conversion of productive land as carbon sinks, in consideration of emissions budgets;
- Section 5Z(2)(b) should include a new sub-clause that reads "the most efficient and effective approach to reducing different gases based on their respective impacts on achieving the objectives of this Bill".

Nitrous Oxide (N_2O)

56. B+LNZ notes that the Bill has incorporated the sector's ambitious target of net zero for N_2O by 2050, which recognises that it is a relatively long-lived gas with significant warming potential. Analysis done for the Biological Emissions Reference Group (BERG)[9] to identify possible options for reducing N_2O emissions found very few available to sheep and beef farmers.

"*Eliminating nitrogen fertiliser also results in very minor emission reductions (and similar reductions in profitability) of 1-3% for the North Island intensive and hill country farms and the South Island intensive farm; it was not applied to the South Island hill country farm model since no N fertiliser is applied routinely in this farm system. These results are consistent with the fact that N fertiliser in sheep & beef systems is generally used as a tactical option to respond to seasonal and market variability rather than as a continuous baseline input. Overall usage is generally limited, especially on hill country farms. As noted above (5.2), eliminating N inputs entirely could exacerbate challenges from seasonal feed supply/demand imbalances, control of shrubby weeds, and ability to maintain performance of both breeding and finishing stock*"[10].

57. While N_2O emissions from sheep and beef are low, they have reduced by 38% for sheep and 7.1% for beef cattle since 1990, primarily because of changes in stock numbers.[11] As such the majority of the sheep and beef sector N_2O emissions will need to be offset until new tools become available, in working towards the target over time.

Biogenic Methane (CH_4) Gross v Net Targets

58. B+LNZ welcomes that a split gas approach has been taken in the Bill as this recognises that methane is a short-lived gas and its behaviour and impacts are very different to

[9] Reisinger A., Clark H., Clark D., Lambert G. 2017. On-farm options to reduce agricultural GHG emissions in New Zealand. Report to the Biological Emissions Reference Group.
[10] Reisinger A., Clark H., Clark D., Lambert G. 2017. On-farm options to reduce agricultural GHG emissions in New Zealand. Report to the Biological Emissions Reference Group. para 5, page 56.
[11] New Zealand's Greenhouse Gas Inventory 1990 – 2017. MFE. 2019

long-lived gases. Reducing biogenic CH_4 beyond a certain rate[12] leads to active cooling[13]. However, the corollary of this is that increases in biogenic CH_4 add substantially to warming (Appendix A).

59. While B+LNZ support the inclusion of CH_4 targets, B+LNZ strongly questions the approach that has been taken by the Government in determining the specific biogenic methane targets for the Bill.

60. B+LNZ requests a full examination of the targets during the Select Committee process.

61. The Bill proposes gross reductions of biogenic methane to 10% below 2017 levels by 2030 and 24% - 47% below 2017 levels by 2050.

62. B+LNZ recognises that from a scientific perspective gross methane emissions[14],[15] are required to be reduced to ensure no additional contribution to warming beyond current levels. In B+LNZ's view a reduction of 10% of gross methane emissions by 2050 is the scientifically agreed minimum to achieve climate neutrality for methane.

"*If New Zealand wished to ensure that its livestock methane emissions cause no additional future warming relative to the warming caused by those emissions to date, it would have to reduce those methane emissions by about 10-22% below current levels by the year 2050, and 20-27% by 2100*"[16].

"*By contrast, reducing New Zealand's livestock methane emissions by 22% (as a best estimate) below today's levels would avoid additional warming from those emissions in 2050 relative to today, if the world as a whole undertakes actions consistent with the Paris Agreement. Additional reductions would be needed beyond 2050 to maintain this level of warming into the more distant future. Reducing New Zealand's emissions by more than 22% below today's levels by 2050 would reduce the warming caused by New Zealand's livestock methane emissions below today's levels*"[17].

63. Science also suggests that up to a further 12% net methane reduction i.e. up to 22% in total, may be required, if all other targets are achieved and if other countries take strong action and meet the Paris Agreement goals. However, given that the absolute level of methane emissions required is not certain and that we believe that farmers should have the opportunity to offset their on-farm emissions, the use of a net target for methane for the 12% reductions above the 10% gross reductions seems appropriate [18].

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[12] Allen, MR, Fuglestvedt, JS, Shine, KP, Reisinger, A, Pierrehumbert, RT, & Forster, PM: A new use of Global Warming Potentials to compare cumulative and short---lived climate pollutants, *Nature Climate Change*, **6**, 773---776 (2016).
[13] Allen, MR, Shine, KP, Fuglestvedt, JS, Millar, RJ, Cain, M, Frame, DJ, & Macey, AH: A solution to the misrepresentations of CO2-equivalent emissions of short—lived climate pollutants under ambitious mitigation. *Npj Climate and Atmospheric Science*, **1**(1), 16. https://doi.org/10.1038/s41612---018---0026---8 (2018).
[14]Parliamentary Commissioner for the Environment. 2018. A note on New Zealand's methane emissions from livestock.
[15] Reisinger, A. 2018. The contribution of methane emissions from New Zealand livestock to global warming. Report to the Parliamentary Commissioner for the Environment.
[16] Reisinger, A. 2018. The contribution of methane emissions from New Zealand livestock to global warming. Report to the Parliamentary Commissioner for the Environment. para 1, page 5
[17] Reisinger, A. 2018. The contribution of methane emissions from New Zealand livestock to global warming. Report to the Parliamentary Commissioner for the Environment. para 3, page 5.
[18] https://www.oxfordmartin.ox.ac.uk/blog/new-zealands-farmers-have-a-chance-to-be-climate-leaders/

64. Additionally, B+LNZ fundamental principles are:

- Farmers should be able to utilise all the resources on their land to offset their own emissions and have access to the same offsetting tools as other emitters, to meet their commitments.

- Farmers should be able to have their on-farm offsets recognised for biological emissions (CH_4 & N_2O), and this should be provided for by the national targets.

- All forms of scientifically supported offsets should be recognised.

65. If farmers have to reduce their emissions, it is vital they also get to count the genuine sequestration occurring on their farms. Such an approach would have flow-on benefits not only for climate change, but also for efforts to protect and enhance biodiversity, aquatic ecosystem health, and protect and enhance the health of soils. Such an approach will incentivise the planting of the right trees on in the right places on farms and assist in building resilient and diverse landscapes underpinned by pastoral production systems, maximising ecosystem services to communities and the wider New Zealand public.

66. B+LNZ understands the rationale given for gross (rather than net) reduction in methane is that "*trees absorb CO_2 – not methane*". B+LNZ consider this justification is simplistic and fails to consider integrated and holistic policy frameworks which deliver multiple benefits to society, and fails to take into account the developing science[19] around the role trees play in the environment in relation to affecting warming.

67. It is also more principled for short-lived biogenic methane to be offset by trees than it is for long-lived CO_2 from fossil fuels. The Parliamentary Commissioner for the Environment writes[20]:

"*Biological methane, nitrous oxide and trees are part of the biological cycle, and the duration and benefits forest sinks can provide is roughly aligned with the duration of warming caused by methane and nitrous oxide emissions*".[21]

"*Using forestry to offset biological emissions makes more sense, as forests and farms are part of the fast biological carbon cycle and nitrogen cycle, and the durations of the warming impacts of biological emissions are better aligned with the duration of the benefits of the trees*".[22]

68. To recap, on the basis of policy consistency, and achieving our Paris Agreement Commitments, **B+LNZ supports a 10% gross methane reduction by 2050, as the science indicates this would be consistent from a climate perspective to net zero for carbon**

[19] Greenhouse Gas Fluxes From Tree Stems Article *in* Trends in Plant Science · March 2019 DOI: 10.1016/j.tplants.2019.02.00

[20] Parliamentary Commissioner for the Environment (PCE) 2019. Farms, Forests and Fossil Fuels. Wellington: PCE

[21] Parliamentary Commissioner for the Environment (PCE) 2019. Farms, Forests and Fossil Fuels. Wellington: PCE. para 3, page 10.

[22] Parliamentary Commissioner for the Environment (PCE) 2019. Farms, Forests and Fossil Fuels. Wellington: PCE. para 4, page 13.

dioxide and nitrous oxide. Any reductions above a 10% gross target for methane, up to a maximum of 22% would need to be a net target.

69. Additionally, in B+LNZ's view any reductions above 22% by 2050 would be asking methane to do more than a net zero carbon dioxide target. **B+LNZ would not support a target above 22% reductions by 2050.**

BEEF + LAMB NEW ZEALAND AMENDMENTS SOUGHT

B+LNZ supports a 10% gross methane reduction by 2050, as the science indicates this would be consistent from a climate perspective to net zero for carbon dioxide and nitrous oxide.

B+LNZ seeks that any reductions above a 10% gross target for methane, up to a maximum of 22%, should be a net target.

Additionally, in B+LNZ's view any reductions above 22% by 2050 would be asking methane to do more than a net zero carbon dioxide target. B+LNZ does not support a target above 22% reductions by 2050.

Reduction in Methane (CH_4) of 10% by 2030

70. B+LNZ notes that there is no 2030 reduction target for carbon dioxide or nitrous oxide. No scientific justification, to our knowledge, has been provided on how the 2030 target for methane was derived.

71. Information provided under the Official Information Act suggests that the 10% by 2030 target was arrived at fairly late in development (March 2019), and that officials were tasked with finding a rationale for the target [23].

72. The rationale for the target appears to be that it is an extrapolation of the IPCC SR1.5 report scenarios. However, officials advised the Minister that: "*The IPCC does not prescribe any policy approach or target (for 2030), and the global emissions reductions do not necessarily apply to an individual country, but given the weight placed on its scenarios in the 2050 target formulation we recommend that this be considered in any decision on a 2030 target.*"[24]

73. In its supporting Q&A material on the Bill prepared for the Minister for the Environment on 3 May, it was implied that the 10% by 2030 target was based on the work of the Biological Emissions Reference Group (BERG)[25].

[23] Mfe to Hon James Shaw, "Climate Change Bill: advice on target formulation and legal accountability", 28 March 2019.
[24] Mfe to Hon James Shaw, "Climate Change Bill: advice on target formulation and legal accountability", 28 March 2019. para 19, page 5.
[25] The BERG was a joint agriculture industry-government working group of Beef + Lamb NZ, DairyNZ, Deer Industry NZ, Federated Farmers, The Fertiliser Association of NZ, Fonterra, HortNZ, Ministry for Primary Industries (MPI), and Ministry for the Environment (MfE).

74. Modelling done for the BERG[26] concluded that about a 10% reduction in absolute biological emissions (both nitrous oxide and methane) from pasture based livestock is possible with existing technologies. The report states:

"Modelling suggests that if there was widespread adoption of currently available mitigation options (mainly farm management practices) an up to about 10% reduction in absolute biological emissions from pasture based livestock is possible. However, the ability of farmers to implement such practices varies widely, and while some farmers might achieve such reductions without significant negative impacts on profitability, for others the impact could be large. A greater than 10% reduction in absolute biological emissions will likely require a combination of on-farm mitigation and land-use change".

75. The 10% reduction figure stated in the BERG is based on both nitrous oxide and methane emissions and is net not gross.

76. The 10% by 2030 has no credible basis and there are no 2030 targets for the other gases.

77. **B+LNZ therefore seeks that the gross 10% methane reduction by 2030 target be deleted**

Reduction in Methane (CH_4) of 24 – 47% by 2050

78. B+LNZ understands that the methane reduction figure of 24-47% is taken directly from a table in the IPCC Report Summary for Policy Makers[27] on page 16. The table shows four illustrative model pathway scenarios to meet the global temperature goals.

79. The table in the IPCC report specifically states[28]:

"*Indicators have been selected to show global trends identified by the Chapter 2 assessment. National and sectoral characteristics can differ substantially from the global trends shown above." The Notes to the table also state "These pathways illustrate relative global differences in mitigation strategies, but do not represent central estimates, national strategies, and do not indicate requirements.*"

80. Indeed, the main report specifically warns that the scenarios "*cannot be assessed as 'requirements' for 1.5°C*" (2.1.2).

81. The Meat Industry Association submission includes a response from one of the lead authors of the report on the inappropriateness of taking a single figure out of context and in isolation[29]:

"One thing I would urge, as an author of the recent IPCC Special Report on 1.5°C, don't justify targets simply by following what happens in the IPCC's 1.5°C scenarios.

[26] Reisinger A., Clark H., Clark D., Lambert G. 2017. On-farm options to reduce agricultural GHG emissions in New Zealand. Report to the Biological Emissions Reference Group.
[27] Global warming of 1.5^{0}C. Summary for Policymakers. 2018 Intergovernmental Panel on Climate Change
[28] ibid
[29] Meat Industry Association of New Zealand. Submission on Climate Change Response (zero carbon) Amendment Bill. 2019. para 82, page 10.

Those scenarios are based on economic models of the relative cost of different ways of reducing emissions. Some of the inputs to these models, like the estimated "cost" of a large fraction of the population turning vegetarian, are deeply subjective. The scenarios provide background information, but I would not rely on them as a basis for national policy"[30].

82. As also noted in an earlier section, the government has been selective in the methane ranges from the IPCC report, and has taken a different (and even more ambitious approach) for nitrous oxide. Overall this means that the ZCB combined proposed targets for nitrous oxide and methane are far more ambitious for agriculture than in the IPCC 1.5-degree report.

83. B+LNZ also strongly questions the gross 24-47% reduction targets for methane as this would mean that methane is being asked to "cool" the planet prior to 2050, while the targets of net zero for carbon dioxide and nitrous oxide, would only see these gases not contribute any additional warming from 2050. This means these gases would continue to warm the planet until 2050.

84. B+LNZ requests that the Select Committee investigate thoroughly the most recent science on the warming impact of methane and determine what a suitable reduction target should be.

85. Dr Andy Reisinger identified in his report for the Parliamentary Commissioner for the Environment that a gross reduction in methane of 10% to 22% is asking the same of methane as a net zero target for CO_2. The reason for a range is that Reisinger identified that methane needs to be reduced by more if other countries are meeting their Paris Commitments.

86. Moreover, a further recent report from Dr Reisinger clearly shows that gross reductions of methane of 24% and 47% result in cooling, an outcome unmatched by any other target in the Bill.

87. The recent article by Dr Michelle Cain, also from Oxford University, notes that a gross 24% reduction in biogenic methane[31]:

"…*would actually generate enough cooling to compensate for the warming generated by all the non-methane greenhouse gases emitted by New Zealand as they approach net zero.*

In other words, the 24% reduction in methane would offset the warming impact of all the other emissions. New Zealand could declare itself climate neutral immediately, well before 2050, and only because farmers were reducing their methane emissions".[32]

88. Dr Andy Reisinger suggested in his most recent paper that methane should be asked to cool to offset previous warming and the residual warming from past methane emissions,

[30] Leach, Global methane emissions pathways consistent with 1.5°C warming, July 2019.
[31] https://www.oxfordmartin.ox.ac.uk/blog/new-zealands-farmers-have-a-chance-to-be-climate-leaders/
[32] ibid

but B+LNZ notes that a similar approach is not taken for carbon dioxide, despite the ongoing warming from previously emitted CO_2 lasting for millennia.

89. The IPCC SR1.5 report states[33];

"*A.2 Warming from anthropogenic emissions from the pre-industrial period to the present will persist for centuries to millennia and will continue to cause further long term changes in the climate system, such as sea level rise, with associate impacts (high confidence), but these emissions alone are unlikely to cause global warming of 1.5^{0}C (medium confidence).*

A.2.1 Anthropogenic emissions (including greenhouse gases, aerosols and their precursors) up to the present are unlikely to cause further warming of more than 0.50C over the next two decades (high confidence) or on a century time scale (medium confidence)".

BEEF + LAMB NEW ZEALAND AMENDMENTS SOUGHT

B+LNZ are seeking a policy framework including climate change targets that encourages and incentivises farmers to integrate trees onto farms, which will help address climate change, but also deliver other co benefits such as aquatic ecosystem health, protect and enhance biodiversity values, and protect the health and versatility of our soils.

B+LNZ seek that section 50(1)(b) is amended to the following:

(b) gross emissions of biogenic methane in a calendar year are 10% less than 2017 emissions by the calendar year beginning on 1 January 2050;

(c) net emissions of biogenic methane above the gross reductions required in (b) in a calendar year are up to 12% less than 2017 emissions by the calendar year beginning on 1 January 2050.

Subpart 2 Setting Emissions Budgets

90. B+LNZ supports the intent of setting emissions budgets to signal trajectories of reduction and provide certainty to New Zealand society and industry.

91. However, B+LNZ are concerned that the reference to 'carbon dioxide equivalent' metric in section 5V(1) could tie New Zealand to budgeting on the basis of GWP100. Emerging science suggests that GWP100 significantly overstates the warming impact of short-lived GHGs, such as biogenic methane, and the appropriateness of alternative metrics is under active consideration in IPCC committees. B+LNZ believes it is essential that New Zealand's climate change response is able to adopt new approaches as accepted science evolves.

[33] Global warming of 1.5^{0}C. Summary for Policymakers. 2018 Intergovernmental Panel on Climate Change. paragraphs 1 and 2, page 7.

92. Section 5V(1) also refers to the 'net quantity' of CO2 equivalent, which seems inconsistent with the setting of gross targets for some gases and net targets for others. The same inconsistency appears in section 5U(4), where it states that 'the Minister must ensure that the **net** budget emissions do not exceed the emissions budget for the relevant emissions budget period' (emphasis added). It is unclear to us how net and gross targets would interact if an emissions budget is set in net terms.

BEEF + LAMB NEW ZEALAND AMENDMENTS SOUGHT

B+LNZ recommends that section 5V(1) be amended to read:

'Each emissions budget must state the total emissions that will be permitted for the relevant emissions budget period, expressed using a metric recognised by the IPCC.'

Subpart 3 Role of Commission in Setting Emissions Budgets

93. B+LNZ's view is that to meet climate targets while continuing to also meet broader goals around societal wellbeing, the Commission needs to be able to consider a wide range of socio-economic factors and policy levers.

94. While we support the Commission having the ability to consider 'anticipated technological developments including the costs and benefits of early adoption of these' (section 5Z(2)(b)(iii)) we do see the need to exercise caution when forecasting the potential of as-yet-unproven technologies. To illustrate, B+LNZ has been an investor in the Pastoral Greenhouse Gas Research Consortium for over 16 years and have yet to see a technological breakthrough. While there is research that shows promise, including vaccines, these technologies are years, if not decades away – if they ever reach proof of concept at all.

95. Our point is not that future developments should be disregarded, but rather that considering them carries with it a substantial amount of uncertainty and risk. In our view, this should be reflected in a differential weighting being applied to this consideration. After all, future budgets will be able to reflect proven technological advances and so the results of research and development will still ultimately be reflected in the budgeting process.

BEEF + LAMB NEW ZEALAND AMENDMENTS SOUGHT

B+LNZ recommends that section 5Z(2)(b)(viii) be expanded to require the Commission to consider wider socio-economic impacts arising from the distribution of impacts across regions and generations, not simply the climate change impacts.

B+LNZ further recommends that a discount be given to the consideration of future technological developments under section 5Z(2)(b)(iii) to reflect that increased risk and uncertainty associated with assessing the potential of unproven technology

PART 1C ADAPTATION

96. B+LNZ support Part 1C on Adaption.

97. B+LNZ support the requirement through the Bill to provide a National Climate Change risk assessment, and associated requirements, which takes an integrated and holistic view to the dynamic and interconnected relationships between individuals, society, the environment, and our economy, in assessing the implications of climate change and climate change policy.

98. B+LNZ also support the development of a National Adaptation Plan and associated requirements, which must take into account the dynamic and interconnected relationships between climate change and climate change policy on individuals and communities, including effects on Iwi and Maori, the environment, and the economy.

99. As set out in the introduction to this submission, the sheep and beef sector is diverse not only in relation to their farming systems which can include horticulture, tourism, and arable farming, along with pastural based animal production systems, but also in relation to the landscapes that they occur on. Understanding the natural capital of their land and linking farming systems to this in a way that enables flexibility and adaptation within their biophysical limits is fundamental to the ongoing viability and resilience of the sector moving forward.

100. The vision of the sector as reflected in our Country of Origin Brand promise is one where our farming systems operate within the natural rhythms of the land, where environmental diversity and resilience is fostered and protected, and where our animals have a life worth living. As such understanding and valuing the interconnected natural of our natural resources, along with our businesses and our wider communities is fundamentally important to the sector.

101. The sheep and beef sector is also essential to maintaining the vibrancy of rural communities and their cultural, societal, and environmental wellbeing, as well as contributing regionally and nationally to the country's economic wellbeing. The New Zealand sheep and beef sector's total value of production was $10.4 billion in 2018, with exports worth $7.5 billion and domestic sales worth $2.9 billion. The sector has 80,000 employees, 59,000 of those are directly employed and an additional 21,000 are indirectly employed. The sector exports over 90 percent of its production, and is New Zealand's second largest goods exporter and New Zealand's largest manufacturing industry. The health and wellbeing of the sheep and beef sector within New Zealand is important to the economy of the Country, accounting for 3.2 percent of gross domestic product.

102. As such, climate policy and climate adaptation pathways should be transformative in design, enabling and empowering individuals and communities to build resilience across all their well-beings, including ecosystem services, community and cultural wellbeing, and economic well-being. Climate policy and adaptation pathways should therefore be integrated and while they need to provide for clear and timebound outcomes to enable business and community certainty including investment certainty, they will also need to provide carefully crafted framework[s] which enable flexibility and provide for adaptation.

APPENDIX 1 FURTHER TECHNICAL AMENDMENTS SOUGHT BY B+LNZ

B+LNZ has a number of further technical recommendations and suggestions to improve the Bill. These recommendations are detailed in this appendix.

Part 1 Climate Change Commission, emission reduction, and adaptation

Section 6 Section 4 amended (Interpretation)

Gross emissions means New Zealand's total emissions from the agriculture, energy, industrial processes and product use, and waste sectors (as those sectors are defined in the New Zealand Greenhouse Gas Inventory).

B+LNZ recommends that relevant parts of the Bill are reviewed to ensure they are consistent with New Zealand's commitments under the Montreal Protocol and its Kigali Amendment on phasing out hydrofluorocarbons.

Net emissions means gross emissions combined with emissions and removals from land use, land use change and the forestry sector.

This definition should define the LULUCF sector as is done for gross emissions. The definition should be amended to read "net emissions means gross emissions combined with emissions and removals from the land use, land use change and forestry sector (as those sectors are defined in the New Zealand Greenhouse Gas Inventory)".

New Zealand Greenhouse Gas Inventory means the official annual estimate of all greenhouse gas emissions that have been generated in New Zealand since 1990 by human activities.

The reference to "removals" in the definition does not appear here. There is no explanation for this deletion. The definition of New Zealand Greenhouse Gas Inventory should therefore be amended to read "New Zealand Greenhouse Gas Inventory means the official annual estimate of all greenhouse gas emissions **and removals** that have been generated in New Zealand since 1990 by human activities".

Part 1A Climate Change Commission

Section 5I Members' term of office

While section 5I provides for continuity through overlapping terms, its current wording does not provide for any maximum term, any review of membership or any means of removing a member. Life membership of the Commission may not be appropriate.

Amend section 5I to provide for a maximum term after which a review of membership is required, and the means by which a member may be removed.

Part 1B Emission reduction

Subpart 1 – 2050 target

Section 5O Target for 2050

The current wording of section 5O(1)(a) has a requirement for gases "in a calendar year'… are zero by the calendar year beginning 1 January 2050.." only requires that emissions have reached net zero in any year before 2050, without the requirement that they must remain at net zero from the time they reach net zero, or that they may increase from current levels assuming a rapid reduction just before 2050.

When taken alongside the lack of a gross target for the non-biogenic methane gases, this would indicate that it is intended that these gases will be able to increase up until just before 1 January 2050.

Section 5P Target Reviews

The ability of the Commission to change the 2050 target is limited as it is enshrined in legislation and will require a change to the Act as part of the Parliamentary process to make such a change. As such it has the potential to be slow and cumbersome and not responsive. The Commission can only recommend.

This only provides for a 2050 target to be changed. Where the target contains gross targets for emissions reductions, this could be significantly limiting and could result in perverse outcomes. An earlier date would allow an inappropriate target to be amended more responsively.

Additionally, it is unclear how soon after providing the advice to the Minister the Commission can or must release the advice publicly. A time frame should be included to ensure transparency and that the advice is made publicly available promptly.

Section 5P(4) provides the Minister with 12 weeks to present the advice to the House. It is unclear if the Commission is able to release the advice as soon as the Minister has received the advice, or if it is only able to be released after it has been presented to the House, or some period between the two. This should be made explicit.

Section 5P(3) should be amended to read "The Commission must make the advice publicly available within one week of providing it to the Minister."

Section 5Q Recommendations to amend 2050 target

The listed areas for focus are deficient in that they do not include impacts on natural capital alongside social and economic capital. For example, unintended consequences of actions arising out of meeting a target such as mass planting of inappropriate species and the impact on landscape values, invasive weed spread or water balances within catchments.

Additionally, equity implications should not be constrained to intergenerational equity, and broadened to include equity across sectors of the economy.

A sub-bullet point should be added under section 5Q(2)(a) that would read "(x) New Zealand's natural capital"

Section 5Q(2)(a)(vii) should be amended so that it reads "(vii) equity implication (including generational equity and equity across sectors of the economy)".

Provision could also be made for a 'force majeure' clause, for example in the case of a large earthquake creating significant damage to hydro-generation facilities.

Section 5R Government response to target review recommendations

This section provides the Minister with 12 months to respond to a CCC recommendation on a target review. This seems to be a long timeframe, so unless further explanation is provided we would recommend shortening this period.

The way section 5R(2) is currently drafted requires the Minister to present a copy of the Government's response to a target review recommendation to the House of Representatives 'as soon as practicable' after providing it back to the Commission. B+LNZ recommends that a clear timeframe, expressed in weeks, replaces the word 'as soon as practicable'. Section 5T Purpose of this subpart

Section 5T (a) requires the meeting and maintaining of the 2050 target. This suggests that the 2050 target must be maintained in perpetuity. However, the IPCC and others are very clear that targets will be needed for the period 2050 to 2100. The current wording misses a vital opportunity to signal to all New Zealanders that emissions reductions will be needed after 2050 through to 2100.This section appears to be inconsistent with section 5U(3)(g) which clearly envisages budgets being set beyond 2050, yet it is the 2050 target that must be maintained.

Section 5U Duty of Minister to set emissions budgets and ensure they are met

Section 5U(3)(g) clearly anticipates budgets beyond 2050, however section 5T(a) restricts the budgets to meeting and maintaining the 2050 target. It will be difficult to meet section 5T(b) in terms of predictability under these circumstances. With a requirement for budgets in advance, there must be a new target set no later than 2040.

Section 5U(4) requires that the Minister must ensure that the net budget emissions do not exceed the emissions budget for the relevant emissions budget period. It is unclear how the Minister will achieve this absolute requirement and what might be the outcome if the emissions budget for a period is not met.

Section 5V Contents of emission budgets

Section 5V(2) should be amended so that it reads "*(2) Each emissions budget must include all greenhouse gases and sectors of the economy*."

Section 5W How emissions budgets to be met

Section 5W(1) should be amended so that it reads "*Emissions budgets must be met, as far as possible, through domestic emissions reductions and domestic removals taking into account the appropriate limit on the amount of offshore mitigation advised by the Commission in section 5X*".

Section 5W(2) should be amended so that it reads "In considering how an emissions budget should be met, the Commission and the Minister must include consideration of the following:". The current wording denotes a lack of certainty and is value-laden.

Section 5X Commission to advise Minister

Sections 5W(2) (a), (b), and (c) should be reflected in section 5X1(a) as they relate to the Commission and should be part of its recommendations.

Section5Z(2)(b)(iv) should be amended so that it reads "*the need for emissions budgets that are technically and economically feasible for meeting the targets set in section 5O*" The current wording is value-laden as 'ambitious' is a subjective term. Budgets will have a purpose of achieving the emission reduction targets set by the Bill, which set the overall ambition of the Bill, so budgets should not be more or less ambitious than the overall ambition of the Bill.

'Economically feasible' will need to be defined as what might be considered economically feasible in a national sense, may still require or result in businesses becoming economically unsustainable, and therefore economically feasible.

A conflict exists between the requirement in this section for budgets that are technically and economically feasible and a target that relies on technologies that are still highly speculative and are not likely to be available for 20 years at least, if at all.

Further, the requirement for gross biogenic methane targets only, prohibits the use of a significant technically and economically feasible technology.

Section 5ZD Requirement for emissions reduction plan

Section 5ZD should be amended to read "*The Minister must prepare and publish a plan setting out the policies and strategies for meeting emissions budgets set to meet the targets contained in section 5O*". Currently emissions reduction plans are relevant to emission budgets which are in turn relevant to achieving the 2050 targets. However, plans should also be prepared to meet the 2030 target (noting again that B+LNZ disagrees with the 2030 biogenic methane emissions reduction target).

A Sub-bullet point should be added between (b) and (c) in section 5ZD(3) that reads "*a description of the distributional impacts expected from the emissions reduction plans*". Before a strategy to mitigate the impacts can be included as per current sub-bullet (c), these impacts must be known and transparently described.

Section 5ZH Commission to report annually on results of monitoring

Clarity should be provided around the methodologies to be used for these reports. There is a need for consistency between the reports provided by the Commission and the reports provided by government as part of its international climate change reporting obligations, however this needs to be done without duplication of effort.

Section 5ZH(1)(a) should be amended to read "(a) measured emissions as reported in New Zealand's latest available Greenhouse Gas Inventory" and section 5ZH(1)(b) should be amended to read "(b) *measured removals as reported in New Zealand's latest available Greenhouse Gas Inventory*".

Section 5ZH(2)(a) should be expanded to specify which methodologies should be used to determine the latest projections of greenhouse gas emissions and removals. It may be confusing but explainable if these methodologies and ensuing projections were different to the projections produced by the government as part of New Zealand's international reporting obligations under the UNFCCC.

Impediments as well as opportunities should also be identified in any report, as should the emergence of any perverse outcomes that have arisen or are developing. A new sub-bullet

point should be added under section 5ZH(2) to read "(c) *an assessment of impediments to the emissions reduction plan and progress on its implementation, and an assessment of any perverse outcomes that have arisen or are arising as a result of the plan or supporting policy and implementation*."

It would be valuable to include a clause requiring the Commission to make enquiries and ascertain the cause/s of any under or over achievement by talking directly with those affected/affecting the meeting or not of the budget.

Section5ZI(5) This section appears to restrict questioning of the Minister on the non-achievement of the budget to Parliament.

It is suggested that there is a provision for those groups that may be identified as under- or over- performing to respond, other than through the media, as they will not be aware of the contents of the report until it is tabled.

Subpart 5 Effect of 2050 target and emissions budgets

Section 5ZJ(2) provides for a court to make a declaration, together with the award of costs. It is not clear who the court is awarding costs to or against and it is therefore suggested that this be made more transparent.

Section 5ZK(1) provides for a body, if they think fit, to take into account the 2050 target or an emissions budget into account in the exercise or performance of a public function, power or duty conferred under other law.

Clarification is needed on whether this provides Regional Councils and Territorial Local Authorities with the power to include the meeting of budgets and targets as considerations in any or all of the exercise of their powers including the granting of resource consents, or the making of rules specifically or generally to address the meeting of targets and emissions budgets.