FACT SHEET

Sheep and beef sector perspectives on the Zero Carbon Bill

May 2019

Sheep and beef farmers care about the environment and are committed and willing to play their part in helping New Zealand to address the climate change challenge. Farmers are already experiencing the impacts of climate change through the increased occurrence of droughts and extreme weather systems.

We are looking for an equitable framework, where each sector is making its contribution based on their impact on warming.

The government's current proposal is asking agriculture to do more than other sectors for a number of reasons and goes well beyond international recommendations.

What does 'Net Carbon Zero' mean in an agricultural Context?

Net carbon zero is essentially short-hand for trying to achieve no additional warming.

Because carbon lasts for thousands of years in the atmosphere, every unit of carbon emitted accumulates and adds to warming. It is only when carbon is net-zero that it is no longer adding to warming.

The agricultural sector supports an equivalent approach being taken for biological emissions.

Based on the current science, an equivalent commitment by agricultural to achieving net carbon zero, is:

- nitrous oxide going to net zero (because this is a long-lived gas); and
- methane being reduced by between 10-22 percent by 2050

Any reduction in methane by greater than a 22 percent reduction by 2050 is essentially asking methane to cool the planet, which is a similar effect that a tree has on warming as it stores carbon.

What is the government's proposal?

The government's Zero Carbon Bill proposal is:

- Carbon dioxide reduced to net-zero by 2050;
- Nitrous Oxide reduced to net-zero by 2050;
- Gross methane emissions reduced by **10 percent by 2030** and by **24-47 percent by 2050**.

It is proposed that carbon dioxide and nitrous oxide emissions can be offset by trees, but methane cannot.

The government are proposing a review of the 2050 methane target in 2024, based on a number of criteria, including what other international partners are doing.

What is the sheep and beef sector's position?

We support a split gas approach and welcome a review of the 2050 targets in 2024.

We support the ambitious net zero target for nitrous oxide and carbon dioxide being reduced to net-zero by 2050 as it aligns with our science based approach of each gas playing their role.

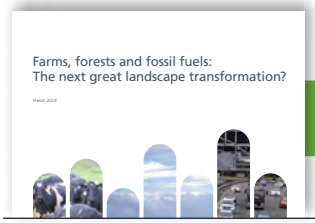
We do not support the government's proposed targets for methane. We support methane being reduced by between 10-22 percent by 2050, which when combined with the net zero target for nitrous oxide would be a total agricultural emissions reduction of between 33-41 percent by 2050.

On the face of it, the government's proposed methane targets may sound reasonable, but they are essentially asking methane to cool the climate from within the next couple of years, while fossil fuel emitters are able to continue to add warming until they get to net-zero in 2050.

We would like inclusion in the review criteria for 2024 that no gas should be asked to do more than the other gases.

We would also like the targets for methane to be net. It is unacceptable that carbon and nitrous oxide are able to be offset using trees while methane cannot.

This is completely the opposite approach to that recommended by the Parliamentary Commissioner for the Environment in his recent report on ***Farms, Forests and Fossil Fuels*** because he was concerned the current policy would simply allow fossil fuel emitters to plant trees without making changes:



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What does the science say?

The science is still evolving on how much methane needs to be reduced to not add additional warming.

Research by world leading climate change scientists at the Oxford Martin School, Oxford University and Victoria University of Wellington calculates that if methane is decreasing by 0.3 percent a year then it is not contributing to warming.

They estimate a 10 percent reduction by 2050 would mean that methane is no longer contributing to additional warming:

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Research by the previous Parliamentary Commissioner for the Environment indicated a range of 10-22 percent reduction by 2050 would be required for methane to not contribute to additional warming, with 22 percent based on all other countries meeting their Paris commitments.

This is because of the relationship between the various gases:

A note on New Zealand's methane emissions from livestock

August 2018

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The UN International Panel on Climate Change (IPCC) last year recommended a reduction of 35 percent in all non-CO2 gases (including methane and nitrous oxide) to prevent the world by going over a 1.5 degree increase in temperature. Combined the IPCC therefore recommended a 35 percent reduction in agricultural emissions:

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Our understanding is that the IPCC recommended a 35 percent cut in methane and other non-CO2 gases because it wanted to prevent the globe going above a 1.5 degree increase. It identified that carbon dioxide could not be reduced quickly enough, and recommended a 35 percent cut in methane because it wanted to use methane to "cool" and offset an inability to reduce carbon fast enough.

Based on the New Zealand greenhouse gas inventory, the targets the government announced today would mean a total reduction in New Zealand agricultural gases of between **43-60 percent by 2050**, which go far beyond the IPCC's recommendation of a **35 percent for agricultural emissions** (35 percent nitrous oxide and 35 percent methane).

The NZ government has selectively used parts of the IPCC report (going well beyond the nitrous oxide recommendation and keeping the methane ranges) and the combined targets that have been announced are effectively asking more of New Zealand agriculture than even the IPCC recommend to keep within the 1.5 degree target.

It is not fair or equitable to use one gas to compensate for an inability to address another. All gases should be expected to make an equal contribution to reducing warming impact.

The following table summarises the combined effect of a range of reductions in methane and nitrous oxide going to net zero:

Table: Combined effect of reductions in methane and nitrous oxide going to net-zero

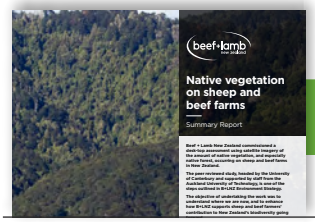
2050 reductions					
Methane reduction	10%	22%	24%	35%	47%
Nitrous oxide	net zero	net zero	net zero	net zero	net zero
Total agriculture reduction	**33%**	**41%**	**43%**	**51%**	**60%**

This table highlights why the 10-22 percent reductions for methane supported by the NZ PCE and other science fit with the IPCC's recommendations. Reductions for methane in this range, coupled with net zero nitrous oxide, achieve the IPCC's objectives on reducing non-CO2 gases by around 35 percent - in this case between 33-41 percent. Science supports this level of reductions; but not the 43-60 percent proposed by the NZ government.

Sheep and beef farmers are a significant source of sequestration – *much of which wont be recognized under the Government's proposal*

The New Zealand sheep and beef sector is a significant source of sequestration, much of which is currently not eligible to be counted as a credit and will be locked out by the governments proposal.

Research last year by Canterbury University identified 1.4 million hectares of native forest on sheep and beef farms. Most of this forest is believed to be regenerating since the end of subsidies, but because it is pre-1990, it can't be counted as a credit under the Emissions Trading Scheme.



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B+LNZ has commissioned research to measure the amount of sequestration happening as a result of these trees, but it is expected to be significant and go a long way to making our sector carbon neutral.

The government is proposing that gross methane emissions will have to be reduced, without access to offsets.

The New Zealand agricultural industry is leading the world in researching tools to reduce emissions

The New Zealand agriculture sector has contributed about $75 million to the PGGRC since 2003. The PGGRC is a joint venture between industry and government that is funding the research of cutting-edge methane and nitrous oxide mitigation technology, such as methane vaccines, inhibitors and low emission feeds.

New Zealand is a founding member and secretariat host of the Global Research Alliance. The GRA has 56 member nations and is focused on research, development and extension of technologies and practices that help deliver ways to grow more food (and more climate-resilient food systems) without growing greenhouse gas emissions.

While research continues, there are no new tools to reduce methane emissions available now. Estimates of how much new tools might deliver are dependent on the research actually resulting in usable tools, which is by no means certain.