

Submission on Climate Change Response (Zero Carbon) Amendment Bill

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I am a retired MP and small farmer and grandmother with a special interest in climate change for the last 30 years. I attended the Kyoto Conference of the Parties to the Framework Convention on Climate Change in 1997 then further conferences in the Hague 2000 and Copenhagen 2009 (at my own expense). I have watched numerous international efforts, of which people had high hopes of a binding international regime to limit climate chaos, come to nothing. I beg you, for the sake of our children, to implement the strongest possible framework, with no loopholes, for NZ to do its fair share towards a safe future.

At the moment we are far from doing this. While small in absolute terms, NZ's share in global warming to date is more than 4 times its share of global population and about 1.5 times greater than its share of the global land area.

Overview

I strongly support the intention of this Bill, in particular the incorporation of a 1.5deg global temperature maximum in the Purpose; the creation of a Climate Commission; and 5 yearly budgets for carbon emissions.

However without some changes the Bill will be completely ineffective. As it stands, it sets out some great principles but allows Business as Usual, where NZ has the 5th highest per capita emissions in the OECD, to continue unabated. It needs, particularly, a clearer purpose; a status as the overriding legislation in resource use; and ways to hold public authorities to account.

The Purpose (section 4)

This clause is so full of unclear statements it legally means nothing.

“NZ can develop” - but doesn't have to.

“contribute to the global effort” - anything we do could be said to contribute. This needs to be measurable. Should we contribute on an equal per capita basis with other developed countries; should measuring the effort take into account the cumulative emissions over the last 100 years, including our deforestation?

The purpose should be, in lay language, to “provide a framework for binding policies to decarbonise the NZ economy in order to meet our fair share of the global effort to fulfill our commitments under the Paris Accord and any future agreements, consistent with a global target of 1.5 deg above pre-industrial levels”. I defer to others in the drafting.

It must be clear that this is the overriding purpose of all parts of this Act and all other purpose clauses for sub-parts must be consistent with it.

To achieve this purpose the Act must require all other legislation to be consistent with it too, rather as the Human Rights Act is supposed to be, but unfortunately hasn't been interpreted this way. This will require amendment of some other legislation, in particular the RMA.

If the 2004 amendment to the RMA is allowed to stand, most decisions capable of giving effect to this Bill will be ruled out of scope in consent hearings. This Bill should include a consequential removal of clauses 104E and 70A from the RMA, perhaps with a threshold above which it is mandatory to consider climate change impacts under a new sub clause in S7 which would make climate change a matter of national importance..

Compliance

The effect of budgets, targets and guidance, as set out in the Bill are completely nullified by clauses 5ZJ and 5ZK, which effectively say “you can do all this if you like, but just ignore it if you prefer.”

I have never seen a clause in any other legislation that provides for the whole Act to be completely ignored. 5ZJ should be deleted, and 5ZK should be required, not permissive, and amended thus:

(1) **Every** person or body **shall** take the relevant target and emissions budget into account in the exercise or performance of a public function, power, or duty conferred on that person or body by or under law.

(2) 5ZK (2) should be deleted.

I agree that ministers should not be held to account for failure of the whole economy to meet an emissions budget. This is backwards looking and there is nothing the minister can do to comply at that stage. However this must not be confused with the need to hold public authorities to account for their plans and policies which would undoubtedly breach the budgets and targets. For example, a proposal to cut public transport services and put the money into new motorways; or a decision to build new coal burning infrastructure. This is future-oriented and the authority should be accountable, through judicial review if necessary, for proposals which will clearly blow the carbon budget and should not be allowed.

Emissions reduction plans for meeting the target and budget are mandated in 5ZD. It is important to ensure they are capable of doing this. A small amendment “...policies and strategies capable of meeting ...” would clarify this.

Plans should be published at least 2 years before the start of the period to which they relate to give time for those responsible to prepare.

It is important that there be a requirement for local government to do their share in implementing the Act as so much of what is needed is under their purview. This should be done by including local authorities under 5ZL, so that the Minister can issue guidance to local authorities in the same way as to government departments. This requirement is in the UK Climate Change legislation (ss 61ff) and needs to be in ours too.

Targets

It is good to specify a 2050 target of zero to set the direction of travel. However it is naive to think that such targets, for 30 years out, will remain unchanged throughout that time. The science already suggests we need to act faster. What ultimately matters is how much greenhouse gas we emit, cumulatively, before meeting the target. Therefore going slow now and speeding up later will not achieve nearly as much as going hard now, while there is a lot of low hanging fruit, and easing off later as the task gets harder. That is why strong 2030 targets are crucial.

Methane

There is a lot of argument about the long term target for methane, but much more important than that is the short term target – 2030. Rapid and strong action is essential to bend the curve before it gets even further out of control. I agree with those arguing that methane does not need to go to zero, because it decays relatively quickly to carbon dioxide and water. However, the corollary is that we need to act fast now, because measured over twenty years methane is 84 times more powerful (IPCC 2013) than carbon dioxide. If we delay in cutting methane so much damage will have been done it will be too late to benefit from the rapid decay after that.

Waiting for better technology as some farmers are requesting – technology which we have been waiting for, in my experience since I attended Kyoto in 1997, and which may never arrive – is like waiting for a better fire engine while watching the house burn down.

Fortunately dairy farmers (the main source of biogenic methane) do not need new technology to make a significant dent in their methane emissions. Research has been around since at least 2007 when farm resource allocation modelling for MAF policy indicated more profitability and reduced GHG/N leaching from reducing the “marginal cost” cow number in the Waikato.

This was validated in 2015 when Alison Dewes published her thesis showing that reducing herd sizes in the Waikato by 20% on average would reduce methane (and nitrous oxide) emissions while enhancing profitability.

Peter Fraser provided the theoretical basis with his “marginal cow” theory shortly afterwards, applying a standard economic theory to dairying. As numbers of cows build up on a farm, pushed by urea fertiliser, imported feed like palm kernel and high veterinary costs, the returns increase – until the point when the costs equal the returns. From that point on, every additional cow makes a loss rather than a profit. On such a farm, cutting stock numbers, feeding the remaining animals better on just grass, cutting out or reducing the use of urea to force more growth, cutting out palm kernel and other imported feed, is the most profitable thing they can do as well as the most environmentally sustainable. The “below average” and “average” cow is capable of producing more milk at lower cost, reducing work and stress for the farmer with smaller herds to milk. Yet many farmers still resist strongly.

In contrast, state-owned Pamu (previously Landcorp) has improved its profitability by reducing cow numbers by a third, also reducing nitrogen inputs, nitrate leaching, and of course methane.
<https://www.newsroom.co.nz/2019/07/11/673094/when-less-is-better>

This story about the Roper farm in Taranaki has also been widely publicised:
<https://www.ruralnewsgroup.co.nz/dairy-news/dairy-general-news/treedom-in-taranaki>

A dairy cow must first use what it eats to maintain its own health and body weight. Once maintenance feed intake has been achieved any additional feed can be used to improve production of meat or milk for that animal. Methane is associated with feed consumed, but not linearly. The best figures I could obtain were from Barrie Ridler of the Lincoln University Dairy Farm who has published in depth on the topic. He advised me that a specific animal producing 300kg Milk Solids (MS) per season will eat 14-16 kg/day of dry matter (DM) per kg Milk Solids. An animal producing 400kg per season will eat 12 kg DM per kg MS. (*Barrie Ridler, pers comm, July 2019*)

He also pointed out that the problem of non-linearity causes an equity problem in applying such data to the industry. If Output charges on each kg MS produced (or per cow or per ha) are applied (especially if based on some form of grand-parenting), the most efficient farmers will be penalised in comparison to the inefficient farmers.

So although reducing a herd by 20% will not reduce methane by the full 20%, substantial reductions can be achieved by applying more balanced and knowledgeable farm management.

Smaller herd numbers with increased profitability will also reduce nitrous oxide, nitrates in waterways, and soil pugging.

My conclusion on this is that a 10% target for reducing methane by 2030 has not only been shown to be easily achievable but profitable. It would therefore be counter productive to lower this very low target still further. Having said that, these figures are averages. Some farms have already reached their marginal cow and are operating very efficiently and profitably. Others, and they may not know it, would be financially better off if they reduced their herd by 30%. This is important in view of the decision announced 16/7/19 to assess responsibility for emissions at the farm level. Some method other than a cost per cow, or equal obligations to reduce stock numbers must be found in the interests of fairness.

As climate change bites this target will have to be strengthened and at that stage it will be more difficult. It would be doing farmers a terrible disservice to reduce the 10% target and encourage them to do nothing, therefore suppressing their motivation to link better environmental outcomes with better economic thinking.

The rest of the economy has stretch targets to meet our obligations. Targets for farming should not be driven just by what is comfortably achievable.

Understanding the “marginal cows” is the key to an almost painless transition to a better environment and better profitability on most farms. Applying this knowledge will reduce methane levels by at least 10% and provide less financial and farmer stress as an added benefit.

Farming is important to the NZ economy, but not so important that it should claim special privileges to pollute. The agriculture industry as a whole comprises half of all greenhouse emissions, but contributes less than 7% of the National GDP

<https://i.stuff.co.nz/environment/113806480/greenhouse-gas-emissions-have-barely-budged-in-a-decade-new-data-shows>

“Net Zero” and offsets

A target of “net zero” must include a definition of “net”. To what extent are offsets – carbon sequestered in growing forests and trading carbon units overseas - legitimate ways of reducing emissions? I submit that carbon reduction should be within the NZ economy. Only by lowering our gross emissions will we build the resilience to cope with the future. International trading relies on other countries, who mostly have fewer opportunities than we do, to make our reductions for us and is not sustainable. In the past it has been largely a scam with the atmosphere seeing no real reduction from such trading.

The use of forestry offsets should be limited. At most, 30% of emissions reductions should be allowed from forestry, and this percentage should gradually decrease. Regardless of these numbers, the Bill should state what “net zero” actually means.

Clause 50 should be amended by adding

“No more than 30% of the target may be met by removals”.

However it seems peculiar that tree planting is available as an offset for carbon dioxide and not for methane on farms. Sequestering carbon in trees (which are short term) is much more appropriate for biological methane, which is also relatively short lived, than for industrial or transport related carbon dioxide. Also, most farms have less productive areas they could well plant in trees.

The Commission

As others have said, the Commission should report to Parliament, not to the minister of the day.

I **disagree** with some colleagues that the Commission should be a decision making body. It is tempting to give them this role because they are experts. However only governments are accountable to the public through the democratic process and that is where ultimate decision making should lie. A provision that the government must respond via Parliament and transparency of all the papers is important.

Biodiversity- the protection of nature

Our economy is unusually dependent on nature, based as it is on farming, forestry and fisheries. The Bill needs to recognise and protect the role of nature in buffering extreme climate change effects (eg dune systems, mangroves protecting against storm surges); sequestering carbon long term (healthy native forests, kelp forests storing "blue carbon"); capturing water in dry ecosystems (eg tussock grasslands, wetlands) and generally providing resilience as we adapt to different ecological circumstances.

It is vital therefore that our efforts to mitigate climate change do not damage that resilience, but actively promote it. The most obvious risks are in large scale forestry if it involves monocultures of exotic species in inappropriate places. Other risks include introduction of species which turn out to be pests. The Bill should acknowledge this, and also ocean acidification which would be devastating to our fisheries. It is vital that these risks are stated in the Bill so that adaptation can prevent actions that would damage biodiversity.

International shipping and aviation

For too long a lack of international agreements has prevented the inclusion of emissions from international aviation and shipping from any pricing or regulatory system. This should be remedied.

References

These mainly relate to farming emissions, and particularly to methane and its relationship to cow numbers and feed, as this area seems to be the least understood.

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