

# Personal Submission on the Zero Carbon Bill

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I support the need to create certainty around NZ's response to the challenges of our changing climate.

However, I believe that the principles and actions set out in the discussion document:

- will be insufficient to avoid exceeding 2°C of warming;
- do not represent a fair and inclusive transition to a low carbon economy.

Hence I add four caveats to the Government's intentions:

1. Social Justice is an overarching principle to apply when setting our emissions targets.
2. Agriculture is not the principle driver of global warming - CO<sub>2</sub> is.
3. Net Zero emissions is not sufficient to achieve < 2°C of warming.
4. Retaining the NZETS will limit our capability for effective climate actions

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## 1. Social Justice as an overarching principle

The overarching principle of social justice must apply in developing the Zero Carbon Bill.

The commitment to a "fair and inclusive" transition in the discussion document falls short of efforts to ensure social justice in the transition.

Social justice implies equality in terms of the distribution of wealth, opportunities, privileges and obligations. Not just for New Zealanders, but for all peoples of the world and for future generations.

For example, our climate actions within the Zero Carbon Bill, must recognise the rights of people in developing countries to achieve the same standard of living and privileges that we take for granted. As the Earth cannot sustain our level of consumption of resources, it follows that our obligation is to reduce our consumption of the things we want but do not need.

The work of the Global Footprint Network suggests that our present use of global resources, requires 1.7 Earths to meet our demand. If every person lived like New Zealanders do, we would require 3 Earths to meet the demand for resources. Such levels of resource use are clearly not sustainable, pointing up the need for an economic system that works within planetary boundaries and not just our national boundaries.

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## 2. CO<sub>2</sub> is the principle driver of global warming

The principle driver of climate change - our mining and burning of fossil fuels that add new carbon to the atmosphere - must go to zero.

So the 2050 reduction target must focus predominantly on the release of new carbon to the atmosphere, and less on the recycling of existing carbon gases.

New carbon is defined as carbon that is locked into the earth as coal, oil and natural gas, and therefore, is not already within the existing carbon cycle.

Existing carbon gases include methane from biological sources - principally enteric fermentation in ruminant animals.

The discussion document proposes a choice between three "best" targets.

1. net zero carbon dioxide. This option excludes nitrous oxide and so cannot be supported.
2. net zero long-lived gases and stabilised short-lived gases. This option does not distinguish between new and recycled greenhouse gases and so cannot be supported.
3. net zero all gases (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O). This option ignores the fundamental differences between short and long-lived gases and so cannot be supported.

In place of the “best” target options advocated in the discussion document, I propose one that:

- (i) targets gross zero emissions of CO<sub>2</sub> from fossil fuel sources by 2050 (2016: 84% of total CO<sub>2</sub>)
- (ii) targets a level of tree planting that effectively sequesters atmosphere carbon dioxide
- (iii) targets methane being stabilised at 1990 levels (2016: a 4% reduction to 1990 levels)
- (iv) for N<sub>2</sub>O, targets:
  - gross zero emissions from manure management (2016: 1% of total N<sub>2</sub>O)
  - 50% reduction of N<sub>2</sub>O from agricultural soils (2016: 94% of total N<sub>2</sub>O)
  - gross zero emissions from the application of nitrogenous fertilisers to land

In arriving at these recommended targets, I note that:

1. Agricultural methane emissions are entirely derived from carbon already within the carbon cycle. They add no new carbon to the atmosphere.
2. The extent to which methane contributes a “more potent” greenhouse gas, it needs to be taken in to account that NZ methane emissions have been declining since 2011 and that the growth of NZ methane emissions have been low at 5.6% since 1990 (ref 2016 Greenhouse Gas Inventory). It could be argued therefore, that our methane emissions are already stabilised.
3. More than 50% of our national methane emissions in 2016 are accounted for in dairy and beef products that are exported. Accounting for these emissions on a production basis, rather than a consumption basis, unfairly shifts the burden of accountability to New Zealand farmers who are generally price takers, rather than price makers, and thus have limited ability to recover the imposed costs of meeting the nation's climate commitments.

Taking these factors in to account, I believe it fair and reasonable for New Zealand to re-state our commitments to the Paris COP21 Climate undertakings in terms of stabilising methane emissions at 1990 levels and achieving a CO<sub>2</sub> reduction in terms of new CO<sub>2</sub>.

To put the matter at issue more directly: Agriculture is not the driver of global warming that the bald 49% of total emissions figure promotes.

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### 3. Zero Net Emissions is not sufficient

The third caveat is that a goal for “net zero emissions” is not adequate because it assumes an unspecified level of gross carbon emissions with offsetting to achieve a targeted net position.

Offsetting by planting trees and purchasing international carbon credits is not sustainable because the supply of land suitable for tree planting is limited, and the Government cannot guarantee that it will be able to purchase international carbon credits indefinitely.

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### 4. NZ ETS versus a Carbon Tax

The fourth caveat is about the NZETS being replaced with a Carbon Tax. The current political pragmatism around there not being enough differentiation between an ETS and a Carbon Tax to make the change worth the effort, ignores the ineffectiveness and abuses of the ETS that have occurred to date. A carbon tax would recognise other means of carbon sequestration (eg biochar) and existing emissions reduction technologies (eg farm dairy effluent treatment systems to reduce nitrous oxide and methane emissions (and nitrogen leaching)).

Adopting a Zero Carbon Bill that includes for these four caveats represents a significant departure from what the rest of the world are doing and so constitutes an opportunity for NZ to become a world climate leader.

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