

Zero Carbon Act for Public Issues

Betsan Martin 3 July 2018

Key Questions

The Zero Carbon Act will set targets for New Zealand to reduce our emissions to net zero by 2050. It will also establish the Climate Change Commission.

Net Zero emissions is the total of all emissions of Greenhouse Gases minus the amount of Green House Gases sequestered, or stored either from forests, soil storage or by other means, or by offsetting from buying carbon credits from overseas.

The Zero Carbon Act will contribute to fulfilling NZ's obligations deriving from ratification of the Paris Agreement, which sets a target of no more than 2degrees warming, striving for 1.5degrees by mid 21st Century.

The Discussion paper 'Our Climate Your Say' proposes taking an assessment of the risks of climate Change in NZ and asks whether the Act should include Adaptation plans for sea level rise, droughts and floods (p.12, 42,45)?

Cross party agreement to the Zero Carbon Act is the key to durability of the Act and continuity of policy. Cross party agreement provides long term policy certainty. At present the National Party supports a Climate Change Commission. The Parliamentary Commissioner for the Environment has suggested, in the interests of achieving a cross party agreement, that the Act set up a Commission and be empowered to set targets, carbon budgets, recommend policies for a Just Transition and for adaptation plans.

The Zero Carbon Act needs include Te Tiriti o Waitangi in the framework for implementing the Zero Carbon Act, and includes partnership and consultation responsibilities and provisions to ensure that Treaty Settlement Agreements (settled and to be settled) are upheld.

Changes in the economy to achieve net zero emissions will mean availing ourselves of technological innovation and also changing the profile of work and employment, The Act should include provisions for Just Transitions so that those involved in 'emitter' industries are supported to use their skills in industries associated with the new economy , including with provisions for education, training and income support.

Targets:

The MFE Discussion paper gives three questions:

Net zero carbon dioxide by 2050: this target would reduce net carbon dioxide emissions in New Zealand to zero by 2050 (but not other gases like methane or nitrous oxide, which predominantly come from agriculture).

Net zero long-lived gases and stabilised short-lived gases by 2050: this target would reduce emissions of long-lived gases (including carbon dioxide and nitrous oxide) in New Zealand to net zero by 2050, while stabilising emissions of short-lived gases (including methane).

Net zero emissions by 2050: this target would reduce net emissions across all greenhouse gases to zero by 2050.

Targets are a matter of ambition – how much reduction to require and in what time frame? These choices are suggested by these three questions, but it is not quite that simple.

Target structure:

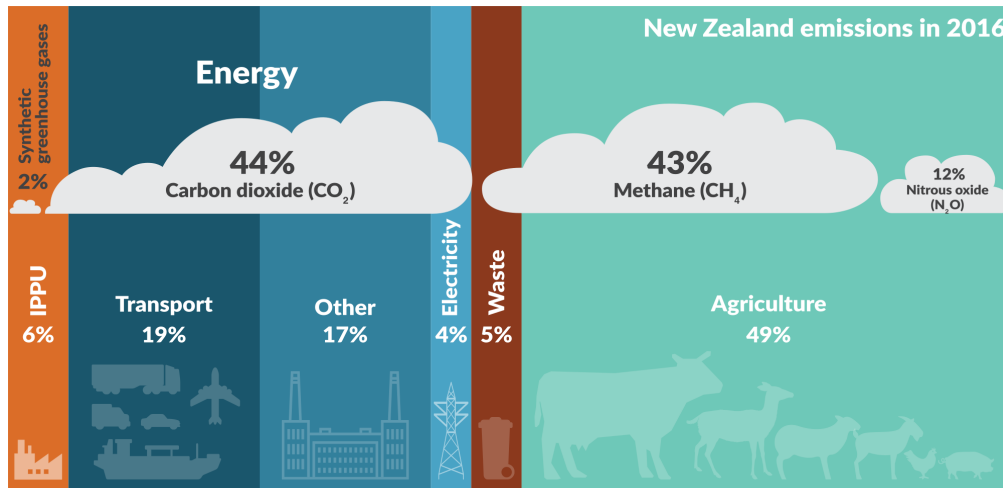
Plans need to be made as stepping stones to reach zero carbon by 2050 and for this emissions budgets are included in the bill. These set limits for how much greenhouse gas can be emitted in specified time periods – likely to be five yearly for monitoring purposes and new targets will be set periodically.

New Zealand has a particular Green House Gas profile, made up of long lived gases (mainly Carbon dioxide CO₂, and Nitrous Oxide N₂O) which stay in the atmosphere for thousands of years and therefore more or less permanently force global warming. Long lived gases come from burning fossil fuels and some N₂O from agriculture.

Alongside this Methane is a short lived gas, about 25 years, but has a very strong impact on warming. Methane comes mainly from livestock farming. The NZ profile shows that 49% of our GHG's come from agriculture, of which 43% are from Methane.

NZ is fortunate to be 80% renewable energy – from hydro and geothermal. This could be increased to 100%.

Figure 1: Emissions profile of New Zealand



Ministry for Environment

There is quite a lot of debate about managing the short lived and long lived gases, with favour for a 'two baskets' approach – initiated by Generation Zero's analysis for the Zero Carbon Act, and adopted by the MFE discussion paper. However this isn't clear in the three choices.

Two Baskets: Carbon Dioxide, Nitrous Oxide and Methane

There is strong support for ensuring we reduce CO₂ from the use fossil fuels – oil and coal. Long lived gases have an accumulative effect, and whatever is in the atmosphere now and in

years to come is locked in and will continue to force atmospheric warming even if we stop all emissions tomorrow.

Because of the importance of agriculture to our economy, and because of the profile of methane and its effects for about a generation, we also need to set limits on methane emissions. This is fraught in NZ because of significant dairy and livestock farming. Studies show that dairy is just as productive when less cows are run (with cost savings from less 'inputs' fertilizer, irrigation etc). De-intensifying dairy is also good for our rivers and aquifers. There is a good case to be made for de-



McKenzie Basin farm conversion

intensifying dairy, and for diversifying agriculture so that we produce more crops, and incentivize changes land use such as more manuka trees and honey for example.

There is some concern that by making the distinction between short and long lived gases we will concentrate on the all important CO₂ emissions and leave methane alone – in other words, continue to allow emissions from agriculture at current levels of dairy to continue.¹

Setting targets for reducing CO₂ emissions is the centre-piece of stabilizing greenhouse gases and halting global warming. The price of carbon is one policy instrument to contribute to this. In essence a price on carbon acts as a market signal to increase the cost of using fossil fuels and deter their exploitation. The present ETS arrangement allows fossil carbon emitters to plant commercial forests which shifts their carbon liabilities on to the next generation, liabilities which fall due at future dates when, at the time of harvesting the carbon price will be much higher.

Today a unit of carbon is trading at about \$20.50 per unit scenarios in the discussion document suggest it could be \$100-\$275. Vivid Economics suggests annual average emissions prices for 2018-2050 may be \$76-\$100 per ton of CO₂, while NZIER suggests a range of \$272-\$845 per ton, depending on innovation.²

Transport is the key driver of NZ's CO₂ emissions, and has to be the basis of policy under the Zero Carbon Act.

One of the major initiatives for reducing net emissions by offsetting, is the plan to plant 1 billion trees.

Just transitions

Iwi/Māori interests include governance partnership through Tiriti o Waitangi, as well as Māori economic and enterprise interests which include freshwater, agriculture, forestry, fishing, energy all of which require climate change responses. Māori land in coastal areas is particularly exposed to climate impacts with damage predicted to property and to marae, wāhi tapu and to ancestral taonga.

¹ <https://www.newsroom.co.nz/2018/06/24/128713/a-curious-anomaly-in-the-mackenzie-basin>

² Simon Watts, Newsroom 26 June 2018

Alongside that we have disproportionate Māori social deprivation with higher rates of unemployment (especially youth unemployment) and ill-health and lower educational achievement and income levels. This profile needs to be addressed and remedied in just transition policies.

Agricultural changes will sit alongside other changes - away from fossil fuels. The announcement to stop new oil and gas exploration was a landmark decision in March this year. It also raises the importance of jobs and business and investment certainties. The important thing about the Zero Carbon Act is that changes can be factored into the economy and people who work in industries such as oil, gas and coal need to be supported into new forms of employment – with full training/education and income support. A new unit for 'Just Transitions' has been established in MBIE to achieve this.

Best Options

There is debate on how to achieve Net Zero Carbon equivalent (CO₂, N₂O, Methane) emissions.

This outline follows the arguments for the most ambitious target. Some of the options are not clear in the MFE options.

If we consider Option 3 – Net zero emissions by 2050, we need to be specific about preference for a two basket approach. Generation Zero calls this Option3*. However two baskets has some riders, discussed below.³ We should not settle for stabilizing methane at current levels (ie no changes in livestock agriculture). Advice on targets for lowering methane can be provided by the Climate Change Commission.

The different treatment of gases should lead to Different Abatement Obligations, so that those who emit short-lived gases would be obliged to offset them with short-term offsets (such as pine trees which have about the same life-time as methane) and those who emit long-lived gases would be obliged to offset them with permanent offsets,(such as native forests). This means the emissions of each gas should either be reduced, or be offset in accordance with its inherent characteristics.

A very valuable approach has come to light proposing 'Differentiated Abatement Obligations, from Guy Salmon. This works with the 'polluter pays' principle; until now New Zealand has not regulated fully for polluter pays – as in freshwater⁴. Differentiated Abatement Obligations offers fairness to future generations because the offsets proposed will have benefits relative to each of the short and long term gases. It works with a principle of shared responsibility by all sectors (universal) and avoids some bearing the burden (eg CO₂

³ The split targets? Or the single CO₂-eq target? Either would be legitimate. Having split targets in primary legislation would provide more clarity. But using the single CO₂-eq target in primary legislation would be more consistent with international norms. The Productivity Commission, who also advocate for two baskets, suggest that the latter is the safer approach, given the uncertainties around putting a short-lived target into law (see Prod Comm report, pages 215-216). A further option is for *all* of these targets to go into primary legislation. (Notes from Generation Zero)

⁴ NZ has historically regulated point-source polluters and required them to abate their pollution at their own expense, but until 2011 we exempted the non-point source pollution that comes from farm runoff. This failure to apply the PPP has had the perverse effect of encouraging the expansion and intensification of livestock farming and NZ's freshwater quality has declined rapidly, even as industrial and sewage outfalls were being cleaned up. (G. Salmon 28 June 2018)

/transport/ industry) while others evade obligations(methane - agribusiness).

This would enable the Zero Carbon act to focus on net zero emissions by 2050, with the different types of gases being addressed through differential abatement obligations and costs.

Climate Change Commission

The functions of the proposed Climate Commission of providing expert advice; monitoring our progress; and holding the government to account are very important for implementing the Zero Carbon Act.

The primary role of the Climate Change Commission will be to set targets and monitor progress, and be effective as a watchdog.

The climate Commission needs to have a Te Tiriti o Waitangi frame of reference with representation of the NZ Māori Council, Iwi and Māori scientists.

One of the options is whether the Commission should consist of experts and or stakeholders. An argument in support of experts is to ensure that NZ policy stays aligned with the latest science. Stakeholders, on the other hand have vested interests in the transition process.

There is a case to be made for including stakeholders as long as they represent *all* stakeholder: some businesses are set to face costly transitions and such businesses may be perverse to zero emissions and transitions and seek to lobby for weak policy; other businesses benefit – those paving the way in renewables and technology; an equally powerful voice must be ensured for those who are vulnerable to the most negative climate impacts.

Possibly there could be a mixture of democratically elected Commissioners and appointments to ensure the required expertise and Māori representation. The Commission must be accountable to the public for their decision-making.

Finally, it is important that our transition to a net zero emissions economy is comprehensive and coordinated across all sectors; overall responsibility for these plans should lie with the government.