

Zero Carbon Bill Submission

I am pleased to make this submission on the Zero Carbon Bill. My name is James Hughes, and I am a professional working in the fields of climate change, natural hazards and resilience. I am a Chartered Professional Engineer, and a Member of IPENZ.

Personal / organisation details

Given names: James

Surname: Hughes

Address:

2050 target

1. What process should the Government use to set a new emissions reduction target in legislation?

Pick one:

- the Government sets a 2050 target in legislation now
- the Government sets a goal to reach net zero emissions by the second half of the century, and the Climate Change Commission advises on the specific target for the Government to set later.

Optional comment

I support setting a 2050 target in legislation now. Setting a consensus-based target in legislation now will promote political accountability, clarity, and long-term certainty.

There are, however, some good reasons to seek advice from the Climate Change Commission about complex aspects of the long-term target. In particular, it would be valuable to ask the Commission for expert advice on the target level for short-lived greenhouse gases within the overall net zero target.

2. If the Government sets a 2050 target now, which is the best target for New Zealand?

Pick one:

- net zero carbon dioxide:** Reducing net carbon dioxide emissions to zero by 2050
- net zero long-lived gases and stabilised short-lived gases:** Long-lived gases to net zero by 2050, while also stabilising short-lived gases
- net zero emissions:** Net zero emissions across all greenhouse gases by 2050.

Optional comment

I support a 2050 target which is ambitious, clear, and science-based, which allows for the practicalities of New Zealand's emissions, particularly from agriculture.

It is important to take a science-based approach to ensure our emission reduction efforts are as impactful as possible. This means adopting a "two basket" approach, which recognises the difference between long-lived greenhouse gases (such as carbon dioxide and nitrous oxide) and short-lived greenhouse gases (such as methane).

My view, however, is that the two basket approach needs further research / explanation from a scientific point of view. 'Stabilisation' of short-lived gases is unclear, and there appears to be no consensus around at what level stabilisation would occur, and what would inform this level. I would suggest the Climate Commission investigate this as a priority.

Additionally, I note that the concept of 'net zero' could be met, largely through the use of forestry carbon sinks. While increasing indigenous and plantation forestry has multiple benefits, this only *buys time* in terms of emissions reduction, and ultimately

decarbonisation of the economy will be required. Figure 1 below (Young, 2017¹) indicates how increased forestry planting can achieve zero Carbon by 2050, however net emissions rise again shortly after as the plantations mature. Therefore additional forest planting only delays but does not avoid the need for other changes in the economy.

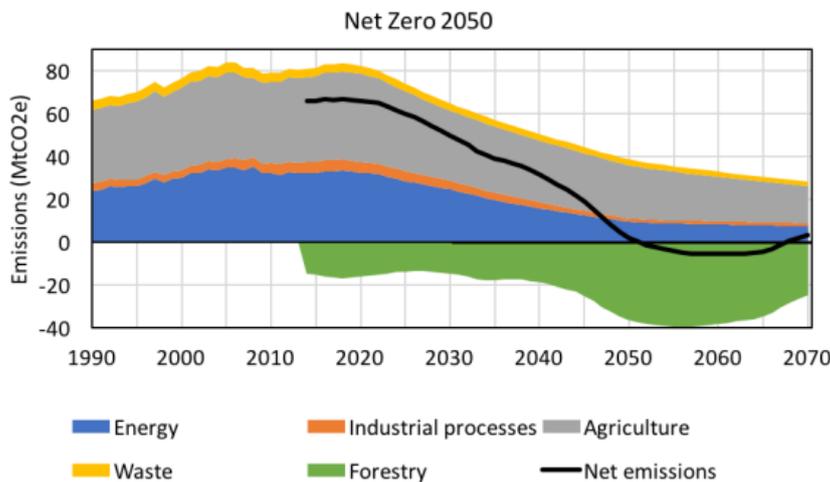


Figure 1 Emissions to 2070 (Young, 2017)

I support the Parliamentary Commissioner for the Environment’s comment that: *“Each tonne of emissions offset by forestry is a tonne not reduced at source. Relying too heavily on forestry could lead to continued high levels of gross emissions. Pressure to reduce these after 2050 could entail a more costly and disruptive transition than a deeper transition commenced earlier.”*

I therefore suggest the Climate Commission consider establishing a gross emissions reduction target as well as a net one.

Finally I understand that international aviation and shipping emissions would currently be excluded from the emissions budgets. I think there is risk in doing so, as if/when there is international agreement to include them, NZ will need to catch up. I understand the UK do account for these emissions under the UK Climate Change Act.

3. How should New Zealand meet its targets?

Pick one:

- domestic emissions reductions only (including from new forest planting)
- domestic emissions reductions (including from new forest planting) and using some emissions reductions from overseas (international carbon units) that have strong environmental safeguards.

¹ 2050 Pathway for New Zealand, Paul Young (2017)

Optional comment

A clear domestic emissions path will help communities and businesses plan for their future, incentivise New Zealanders to seize a first-mover advantage in clean industry and technology, and provide certainty for low-carbon investments.

Relying on international carbon credits (even if the credits have integrity) creates uncertainty about what reductions need to be achieved in New Zealand. It also means we are investing in other countries' low emission transitions, rather than our own.

4. Should the Zero Carbon Bill allow the 2050 target to be revised if circumstances change?

Pick one:

- yes
 no.

Optional comment

The 2050 target should only be revised in exceptional circumstances. The purpose of the Zero Carbon Act is to provide accountability, certainty and flexibility. It will provide accountability and certainty by setting clear, legally-binding emission reduction targets. It will retain flexibility by permitting different governments to use different policies to meet these targets, in response to changing circumstances and new technology.

Despite the importance of accountability and certainty, there are some situations where it is appropriate to change the 2050 target. For example, if there is a significant change in scientific knowledge or international law (such as the Paris Agreement becoming more ambitious). Any revision should require input from the Climate Commission and approval by Parliament.

Emissions budgets

5. The Government proposes that three emissions budgets of five years each (ie, covering the next 15 years) be in place at any given time. Do you agree with this proposal?

Pick one:

- yes
 no.

Optional comment

Yes. Legally-binding emission budgets, set 10-15 years in advance so that 3 budgets are in effect at all times, at a level recommended by the Climate Change Commission and approved by Parliament, are a cornerstone of the Zero Carbon Act. I support the budgets being 5 years in duration, and the first 3 emission budgets being set shortly after the introduction of the Zero Carbon Act.

One area that is unclear is what penalties or 'consequences' exist if budgets are not met. What mechanisms there are for legal enforcement, and what effect enforcement or penalties (financial or otherwise) would have requires further clarification.

6. Should the Government be able to alter the last emissions budget (ie, furthest into the future)?

Pick one:

- yes, each incoming Government should have the option to review the third budget in the sequence
- yes, the third emissions budget should be able to be changed, but only when the subsequent budget is set
- no, emissions budgets should not be able to be changed.

Optional comment

There are pros and cons to this. Altering a budget will simply change the shape of the pathway to the 2050 target, and therefore may not be a significant issue.

Not altering the budget will provide more clarity and certainty, however being flexible due to changing circumstances may also have its benefits.

7. Should the Government have the ability to review and adjust the second emissions budget within a specific range under [exceptional circumstances](#)?

Pick one:

- yes
- no.

Optional comment

I agree that it may be appropriate to change an upcoming budget after an exceptional natural disaster, such as a major earthquake. Revising a budget in this situation would not likely necessitate changing the long-term 2050 target.

I do not support being able to revise an emissions budget in response to 'economic changes'.

8. Do you agree with the [considerations](#) we propose that the Government and the Climate Change Commission take into account when advising on and setting budgets?

Pick one:

- yes
- no.

Optional comment

In addition to the published set of considerations, I also suggest that the following be considered:

- Opportunities for significant co-benefits to be realised (eg biodiversity, water quality, employment, community enhancement)
- Opportunities for aligned benefits in adapting to climate change risks and enhancing resilient. For example investing in on-site water supply (rainwater tanks) will reduce water use, lessen impact on natural resources, and reduce emissions from pumping.

Government response

9. Should the Zero Carbon Bill require Governments to set out plans within a certain timeframe to achieve the emissions budgets?

Pick one:

- yes
 no.

Optional comment

Yes. I support the Zero Carbon Act introducing a strict time frame to publish policy plans after setting an emission budget. This could be in the order of six months.

10. What are the most important issues for the Government to consider in setting plans to meet budgets? For example, who do we need to work with, what else needs to be considered?

Comment

I believe these issues are potentially similar to the 'considerations' referred to in Q8 – ie:

- Knowledge and international experience (around efficacy)
- technology relevant to climate change and emissions reductions
- economic circumstances and, in particular, the likely impact of the decision on the economy and the competitiveness of particular sectors of the economy
- fiscal circumstances and, in particular, the likely impact of the decision on taxation, public spending and public borrowing
- social circumstances and, in particular, the likely impact of the decision on fuel poverty
- energy policy and, in particular, the likely impact of the decision on energy supplies and the carbon and energy intensity of the economy
- the government's obligations under the Treaty of Waitangi

- the three government objectives for climate change policy: sustainable economy, global and local leadership and creating a just and inclusive society.

Climate Change Commission

11. The Government has proposed that the Climate Change Commission [advises on and monitors](#) New Zealand's progress towards its goals. Do you agree with these functions?

Pick one:

- yes
 no.

Optional comment

I support the Climate Commission having two functions: (a) providing expert advice, and (b) monitoring our progress and holding the government to account.

12. What role do you think the Climate Change Commission should have in relation to the New Zealand Emissions Trading Scheme (NZ ETS)?

Pick one:

- advising the Government on policy settings in the NZ ETS
 makes decisions itself, in respect of the number of units available in the NZ ETS.

Optional comment

The Climate Commission should only advise on ETS settings, it should not make final decisions. The ETS has substantial distributional consequences. It affects people's rights and resources. Consequently, it would be inappropriate for the Commission to have decision-making functions in relation to the ETS.

13. The Government has proposed that Climate Change Commissioners need to have a range of [essential and desirable expertise](#). Do you agree with the proposed expertise?

Pick one:

- yes
 no.

Optional comment

I broadly agree with the range of expertise listed:

- climate change policy (including emissions trading)
- resource economics and impacts (including social impacts, labour markets and distribution)
- te Tiriti o Waitangi, te reo me ona tikanga Māori and Māori interests

- climate and environmental science including mātauranga Māori
- experience with addressing adaptation challenges like planning, insurance and local government
- risk management
- engineering and/or infrastructure
- community engagement.

Adapting to the impacts of climate change

14. Do you think the Zero Carbon Bill should cover adapting to climate change?

Pick one:

- yes
- no

Optional comment

I support the Climate Commission having a focus on adaptation. This provides an integrated and consistent (long term) approach. Also, there are a number of synergies between mitigation and adaptation. Addressing both areas through the same governance framework will promote coordination, co-benefits and efficiencies.

I note that the adaptation task is significant in scale and complexity given the potential exposure faced by NZ communities. Adaptation action needs to be well resourced, and capacity provided to those Councils, communities etc least able to manage.

I concur with the findings of the Climate Adaptation Technical Working Group, and suggest further thought be given to the establishment of the Local Government Risk Agency (or similar) and how this would interface with the adaptation responsibilities of the Climate Commission.

15. The Government has proposed a number of new [functions](#) to help us adapt to climate change. Do you agree with the proposed functions?

Pick one:

- yes
- no.

Optional comment

Yes. I support the Government being required to prepare a national climate risk assessment, and a national policy plan to address these risks. Progress reviews, in contrast, should be led by the Climate Change Commission.

As summarised in the recent CCATWG report, our current adaptation approach to climate risk is ad-hoc, uncoordinated and actors have not begun to take action. The absence of clear signals from central government creates uncertainty for

private actors about who should bear the costs of risk prevention and compensation. Local authorities face significant disparities in their ability to effectively plan and fund adaptation measures. They also lack the incentives to prioritise long-term strategy over short-term electoral pressures when faced with decisions on adaptation. Our current approach increases the likelihood of adaptation decisions being unfair and cost-inefficient.

National climate change risk assessment: I support and endorse the need for a national risk assessment. This needs to be carefully framed and designed to ensure it is achievable and replicable. The national level focus should be carefully determined as opposed to what may be better assessed at a regional or local level. Thought should be given to standardising data sets and establishing reporting requirements from others (eg national infrastructure providers) to facilitate the risk assessment. The degree of effort to undertake such an assessment should not be underestimated, and as such, perhaps this is not undertaken by the Commission. Instead the Commission could report on the result, and make recommendations.

National adaptation plan: I agree that the Zero Carbon Act should require the Government to prepare a national adaptation plan, updated at least every five years, which addresses the risks identified in the national risk assessment. I agree that responsibility should lie with Government, and not the Commission.

Regular review of progress towards implementing the national adaptation plan: I agree that the Commission should be responsible for reviewing adaptation progress – as this requires independence and expertise.

16. Should we explore setting up a targeted adaptation reporting power that could see some organisations share information on their exposure to climate change risks?

Pick one:

- yes
 no.

Optional comment

I support the establishment of an adaptation reporting power. I believe this reporting power will:

- Provide information to better enable the Government to understand the scope of climate change risks and plan accordingly.
- Incentivise organisations to devote their own resources to developing high-quality adaptation plans.
- Promote positive flow-on effects to other organisations by providing 'good practice' examples of how to assess and address climate risks. This can lead to cross-sector information networks for sharing adaptation risk.

I believe this could ultimately be a mandatory requirement for entities such as Crown entities, state-owned enterprises, local and central government, and private companies that provide public services.

Guidance and support will be required in order to undertake the assessments – especially for smaller Councils. The proposed Local Government Risk Agency (or similar) could fulfil this function if appropriately resourced.

Closing

I thank you for the opportunity to make this submission.

Kind regards

A handwritten signature in blue ink, reading "J Hughes". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

James Hughes