Nelson Tasman Climate Forum Submission on three Climate Change Commission Consultations

Review of 2050 emissions target; Advice on emissions budgets; Inclusion of international shipping and aviation emissions in 2050 target

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1. REVIEW OF 2050 TARGET

We feel strongly about more ambitious targets.

- We have found personally significant in terms of ambition the recent research on the cryosphere and the polar overturning currents, and the recent work on the possibility of a much hotter ocean surrounding NZ, further increasing the likelihood of extreme weather.
- We support your arguments that methane targets are insufficient. We find the criterion of 'no additional warming' unacceptable.
- We support your arguments that current Aotearoa New Zealand targets for long-lived gases fall below carrying our fair share by all four IPCC burden-sharing perspectives. We're strong proponents of 'fair share'.
- More ambitious targets are also in our self-interest: given the future extent and consequences of climate change in Aotearoa New Zealand (think 2022 Nelson atmospheric river, Auckland floods, Cyclone Gabrielle) are critically dependent on the decisions and actions of people and governments elsewhere on the globe, especially the Global south, our principal leverage to mitigate those consequences is to foster the goodwill of all our fellow people by the commitment we show to rapidly reducing our own emissions. We need to think globally, act locally.

We propose that targets be cast in a form that helps to devolve responsibility for climate action to local governments, community organisations, businesses and households.

- Only central government can apply the budgets in their present form. We propose that casting the budgets also as a necessary rate of emissions reduction per annum would bring lower levels of social organisation, including households, into the circle of those who must take responsibility for climate action.
- Following on from this, it is only at the level of community organisations and households that it becomes reasonable to urge behaviour change (in diet, in consumption of clothes and appliances, in travel, etc) - a level utterly essential for

successful transition to a very low-emissions economy. It is reasonable to acknowledge these players as part of the picture of emissions reduction, and to consider providing targets and budgets in forms usable by them.

- We favour targets with close way-points (e.g. 2030). We find this much more helpful to people as they can envisage themselves in this context, and it helps them relate to the central IPCC (2023) finding that net global GHG emissions need to fall by 43% to limit global warming to 1.5°C (>50%) with no or limited overshoot.

Question on population

The increase in population each budget period will progressively make the task of emissions reduction more difficult. Should this be addressed?

Consumption emissions

Our focus in setting targets and budgets is on production emissions. Yet the concept of consumption emissions is also a very useful part of the whole picture, especially in promoting behaviour modification. Is there a way of arriving at targets for consumption emissions?

Demand reduction

You've mentioned demand reduction as a means of emissions reduction in your documents. We think it needs much more emphasis on reducing energy uses and material throughput as a major principle in achieving a very low-emissions way of life. A further step in this direction involves broadening our systems perspective to an overshoot framework.

Overshoot framework

We strongly urge you to adopt an ecological overshoot lens[1] to your recommendations regarding solutions to the climate crisis. Ecological overshoot data indicate that human demands on natural sources and sinks already significantly exceed nature's capacity to

[1] E.g. https://theconversation.com/critics-of-degrowth-economics-say-its-unworkable-but-from-an-ecologists-perspective-its-inevitable-211496

function. Adopting an overshoot lens would ensure that suggested climate "solutions" do not worsen further disruption to affected ecosystems.

Further comments on how we reach targets

We realise that Commission's task is not to develop the policies that will allow us to meet the budgets to reach our targets, but we'd like to make a point here.

For our economy and society to work well for all in the future we need to consider how low income families can cope with high energy prices and inability to purchase means for cutting household emissions.

We need seriously to plan to compensate the impact of ambitious carbon budgets on poor families. This can be done by policies that give compensation packages to low income people, or, far better, policies that shift the problematic level of income and wealth inequality in this country. We see reducing inequality as climate policy. Rationing with Tradeable Energy Quotas[2] is worth considering.

[2] https://www.degrowth.nz/blog/teq?categoryId=297356

2. CONSULTATION ON CHANGING THE 2036-2040 BUDGET

- We support changing the 4th emissions budget to 134 Mt CO2e.
- We support your suggested changes to budgets 1,2 and 3.
- We support excluding offshore mitigation from these budgets.
- We support your suggested rules to measure progress.

We feel offshore mitigation needs to be covered in more depth. We fear that if offshore emissions have not been adequately discussed beforehand, Government Ministers will start to think of offshore mitigation as an easy Plan B over making the changes needed onshore. Issues that should be addressed include:

- how is the allowable proportion judged?
- is it timed for the end of the budget period?
- how is the quality of a project judged, the project monitored and the outcome evaluated?
- what offshore mitigation is happening now, both here and elsewhere?
- what are the implications of not doing this, including implications for potential recipients?
- how is offshore mitigation to be handled, if no other country is selling?
- how is offshore mitigation to be handled, if the cost is beyond our ability to pay?

3. INCLUSION OF INTERNATIONAL SHIPPING AND AVIATION EMISSIONS IN 2050 TARGET

Our submission here focusses on international aviation. Its structure follows the consultation questions.

Chapter 2: Key issues

Is there any further information or evidence the Commission should consider on the national and global context or technology opportunities for making decisions on including international shipping and aviation emissions in the 2050 target?

We consider social aspects (e.g. behaviour modification, climate justice, power structures, ethics) need more consideration here as key issues.

- We advocate for the principle that the burden of responsibility for the full social and environmental costs of dumping aviation emissions into our atmosphere should be borne by those who fly.

  There is an extraordinarily uneven income-related distribution of flying[3], while its climate impact affects everyone on our planet, especially mainly poorer humans. At most 1% of the world population likely accounts for more than half of the total emissions from passenger air travel. The air industry and its lobby are keen to portray air travel as a normality[4].

  The social cost of carbon is a well-established concept overseas—and is greatly higher (e.g. US$ 225 per tonne[5]) than recognised by carbon prices in our ETS. Given the

[3] https://www.sciencedirect.com/science/article/pii/S0959378020307779
[4] https://partner.sciencenorway.no/climate-change-global-warming-transport/1-of-people-cause-half-of-global-aviation-emissions-most-people-in-fact-never-fly/1773607
[5] https://www.eco-business.com/news/the-social-cost-of-carbon-is-now-us225-per-tonne-what-this-means-for-asia/

international nature of the current consultation, we believe it would be appropriate for the Commission to provide an indication of the full (international) social costs of aviation to/from Aotearoa New Zealand and whether we are adequately addressing these[6]. We note one of the discussion document references finds 73% and 88% of premature mortality caused by aviation emissions over Europe and North America, respectively, occur outside those regions[7]. Does something similar apply to international aviation to/from Aotearoa New Zealand.

- The recent advisory judgement of the International Tribunal for the Law of the Sea finding that States must control greenhouse gases from international shipping and aviation[8] adds to the legal framework for Aotearoa New Zealand taking action.

- An International Council on Clean Transportation assessment on decarbonising aviation notes that ICAO estimates that up to $2.8 trillion will be needed to achieve even a low-effort decarbonization scenario and $4 trillion for a high-effort scenario. Financial support from the public sector will be needed to unlock that much investment, and likely still other economic policies, like mandates, will be needed to incentivize (and fund) decarbonization[9].

  We request the Commission acknowledge climate justice as a paramount social concern in any consideration of public financial support in Aotearoa New Zealand for the aviation industry transition to net zero, including providing compensation for low income families for cost increases arising from bringing aviation emissions into our emissions targets.

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[6] We welcome the Aotearoa New Zealand International Climate Finance Strategy, Tuia te Waka a Kiwa (https://www.beehive.govt.nz/sites/default/files/2022-08/International%20Climate%20Finance%20Strategy%20-%20low%20res.pdf).

[7] https://dx.doi.org/10.1088/1748-9326/abb2c5

[8] https://www.theguardian.com/environment/article/2024/may/21/greenhouse-gases-are-pollutants-that-kill-marine-life-court-rules

[9] https://theicct.org/stack/net-zero-aviation-mar22/

- A recent paper[10] quantifies the effects of CO2 emissions on human health in a way that evokes ethical questions and could be posed to potential fliers to reduce demand:
  - Several studies are consistent with the "1000-ton rule," according to which a future person is killed every time 1000 tons of fossil carbon are burned (order-of-magnitude estimate).
  - Consumers should be warned about the consequences of excessive or preventable fossil fuel use. For example, airline flight tickets could have a warning label: "Whereas smoking a cigarette takes 10 min off your life, an intercontinental return flight takes 13 days off the life of a future person". Better still, the number of lost days for the specific flight in question could be calculated.

- The discussion document's initial analysis on global action states that even if international aviation (and shipping) achieve significant emissions reductions, practical limitations of the technology expected to be available mean that reaching goals of net zero emissions would require emissions reductions in other sectors, or increased CO2 removals such as through forests.

  We suggest this analysis needs also to consider the IPCC finding that 'demand-side mitigation and new ways of providing services can help avoid, shift, and improve final service demand. Rapid and deep changes in demand make it easier for every sector to reduce greenhouse gas emissions in the short and medium term … The greatest 'Avoid' potential comes from reducing long-haul aviation and providing short-distance low-carbon urban infrastructures'[11].

- We see ICAO's wording of its net zero ambition – a collective long-term global aspirational goal[12] – as reflecting the significant risks and uncertainties in abating aviation emissions[13]. We recommend the first reference in the discussion document (p.

[10] https://www.mdpi.com/1996-1073/16/16/6074
[11] https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter05.pdf
[12] https://www.icao.int/environmental-protection/Documents/Assembly/Resolution_A41-21_Climate_change.pdf
[13] E.g. https://ojs.victoria.ac.nz/pq/article/view/8232

28) to ICAO setting a target to reduce international aviation emissions to net zero by 2050 acknowledge ICAO's more cautious wording.

- We recommend the Commission confirm progress (if any) towards Aotearoa New Zealand updating its 2016 national action plan to reduce emissions from international aviation, as we committed to at COP 26.

- The discussion document notes Ara Ake's estimate that replacing international aviation fuel using only woody biomass would require 128% of the waste woody biomass supply available in Aotearoa New Zealand. We recommend the CCC also consider the implications of preferential access to renewable energy for SAF production[14]. The implications on land use and other energy sources at such potential scale warrant elaboration.

Chapter 3: Potential impacts and the choice to make

What is necessary to enable an effective and equitable Crown–Māori relationship around international shipping and aviation emissions and the 2050 target?

How could different te ao Māori worldviews influence the decisions on whether, and if so how, to include international shipping and aviation emissions in the 2050 target?

What specific impacts and opportunities for iwi/Māori should be considered if international shipping and aviation emissions were included – or remain outside – the 2050 target?

Enabling an Effective and Equitable Crown–Māori Relationship

To enable an effective and equitable Crown–Māori relationship around international shipping and aviation emissions and the 2050 target, several steps are necessary.

1. **Inclusivity in Decision-Making**

- Establish formal mechanisms for Māori participation in decision-making processes. This could include advisory committees, working groups, or co-governance arrangements.

[14] https://www.sciencedirect.com/science/article/pii/S0048969723025044; https://royalsociety.org/news-resources/projects/low-carbon-energy-programme/net-zero-aviation-fuels/

- Ensure that Māori representatives are chosen through processes that are considered legitimate by iwi and hapū.

2. **Recognition of Te Tiriti o Waitangi (Treaty of Waitangi)**

- Embed the principles of Te Tiriti o Waitangi in all policy and decision-making processes. This includes the principles of partnership, protection, and participation.
- Acknowledge Māori sovereignty and self-determination (tino rangatiratanga) in environmental governance.

3. **Capacity Building**

- Invest in capacity-building initiatives for Māori communities to enhance their ability to engage effectively in discussions about emissions and climate policy.
- Provide resources for technical expertise, research, and policy analysis within Māori organizations.

4. **Cultural Competence**

- Ensure that Crown officials and policymakers receive training in cultural competence and understand te ao Māori (the Māori worldview).
- Foster a respectful and reciprocal relationship that values Māori knowledge and perspectives.

5. **Transparent Communication**

- Maintain open and transparent communication channels between the Crown and Māori, ensuring that information is shared in a timely and accessible manner.
- Use culturally appropriate methods for consultation and communication.

Influence of Te Ao Māori Worldviews on Decisions

Te ao Māori worldviews can significantly influence decisions on whether and how to include international shipping and aviation emissions in the 2050 target.

1. **Holistic Perspective**

- Māori worldviews emphasize the interconnectedness of all living and non-living things. This holistic approach may advocate for comprehensive inclusion of all emission sources to address climate change effectively.

2. **Kaitiakitanga (Guardianship)**

- The principle of kaitiakitanga stresses the responsibility to care for the environment for future generations. This may lead to strong support for including international shipping and aviation emissions within the 2050 target to ensure sustainable practices.

3. **Manaakitanga (Care and Respect)**

- Decisions might be influenced by the principle of manaakitanga, promoting actions that benefit the wider community and respect the natural world, potentially favouring stringent measures on emissions.

4. **Rangatiratanga (Self-Determination)**

- Māori may seek to exercise their rangatiratanga by advocating for policies that align with their values and priorities, which could include strong environmental protections.

Impacts and Opportunities for Iwi/Māori

If emissions are included:

1. **Environmental Benefits**

- Potential for significant environmental benefits through reduced pollution, which aligns with Māori values of kaitiakitanga and the protection of natural resources.

2. **Economic Opportunities**

- New opportunities in green technologies, renewable energy, and sustainable practices that could be harnessed by iwi and Māori enterprises.
- Potential for Māori to lead in developing innovative solutions and practices that align with their environmental values.

3. **Regulatory Impact**

- Potential increased regulatory burden on Māori businesses involved in international shipping and aviation, necessitating support and resources to transition to low-emission practices.

If emissions remain outside:

1. **Environmental Risks**

- Continued environmental degradation and adverse effects on ecosystems that are significant to Māori, potentially conflicting with kaitiakitanga.

2. **Economic Impact**

- Risk of missing out on economic opportunities in the transition to a low-carbon economy, which could disadvantage Māori businesses and communities.
- Potential for Māori to be disproportionately affected by the negative impacts of climate change, such as sea-level rise and extreme weather events.

3. **Inequity and Justice**

- Potential perception of inequity and lack of commitment to comprehensive climate action, which could strain Crown–Māori relations and undermine trust.

In conclusion, enabling an effective and equitable Crown–Māori relationship requires genuine partnership, respect for Māori worldviews, and active participation in decision-making processes. Considering the specific impacts and opportunities for iwi and Māori communities is crucial in shaping a fair and inclusive approach to international shipping and aviation emissions within the 2050 target.

Is there any further information or evidence the Commission should consider on the potential impacts or policy options if international shipping and aviation emissions were included in the target?

We are aware that international aviation is exempt from GST (including linking domestic flights), ETS, and fuel excise duty[15].

[15] https://blog.planetaryecology.org/2023/12/22/an-aviation-emissions-reductions-plan-for-aotearoa

The discussion document states that there ***may*** be legal barriers to Aotearoa New Zealand adopting some forms of aviation emissions pricing. The Chicago Convention and Aotearoa New Zealand's air services agreements exempt aviation fuel from customs duties and any similar charges. This means a direct tax on aviation fuel ***may*** breach international obligations (emphasis added).

The legal uncertainties here are an important matter that the Commission needs to resolve. We also ask the Commission to provide advice to Government on applying the same fiscal parameters to domestic and international aviation.

Which of these options for whether international shipping and aviation emissions should be included in the 2050 target do you support? What are your reasons and evidence for that?

- ***Include in the 2050 target.***
- ***Do not include in the 2050 target at this point.***
- ***Amend the Climate Change Response Act to reconsider this issue in future reviews of the 2050 target.***

We support inclusion of international aviation and shipping emissions in the 2050 target (Option 1).

We find the Commission's initial assessment persuasive, particularly that it will lead to faster emissions reductions in sectors that are emissions-intensive and, especially in the case of aviation, heavily benefit the prosperous and most heavily impact the non-prosperous. Furthermore, we recognise taking strong action on these emissions in some small way contributes to Aotearoa New Zealand's principal lever to mitigate the future consequences of climate change here, fostering the goodwill of our fellow people across the globe upon whose emissions decisions we depend.

Chapter 4: Options for measuring emissions

If international shipping and aviation emissions were included in the 2050 target, which of these options for counting the emissions would you support? What are your reasons and evidence for that?

We support Option 2 (to/from next port), and the first option therein (50% of emissions by all vessels/aircraft).

This would align with the well-considered tracking of ISA emissions elsewhere (e.g. the EU includes CO2 emissions from all ships over 5,000 gross tonnage travelling internationally in or out of EU ports, regardless of the flag they fly, and counts 50% of the emissions from those voyages).

Is there any further information or evidence the Commission should consider on other impacts from international shipping and aviation contributing to climate change?
If international shipping and aviation emissions were included in the 2050 target, which of these options for addressing other impacts would you support? What are your reasons and evidence for that?

- ***Option 1: Include other impacts through a multiplier.***
- ***Option 2: Exclude other impacts from the target at this point.***
- ***Option 3: Reconsider in future 2050 target reviews – or possibly earlier if there was a significant change.***

The discussion document cites recent research that found contrails and cirrus clouds did not reduce at the levels expected when few international flights were operating during the pandemic. It concludes that previous model-based estimates may have significantly overestimated the amount that aviation is involved in the formation of contrail and cirrus cloud types. This uncertainty needs some resolution before using a multiplier (Option 1).

We therefore support Option 3, with reconsideration when there is greater scientific certainty over the extent of non-CO2 emissions.

If international shipping and aviation emissions were included in the 2050 target, which of these options for the structure of a target would you support? What are your reasons and evidence for that?

- ***Option 1: Include in the net zero component of the target.***
- ***Option 2: Separate combined international shipping and aviation gross component of the target.***
- ***Option 3: Separate gross international shipping and aviation components of the target.***
- ***Option 4: Separate net international shipping and aviation components of the target.***

We support Options 1 or 3.

Option 3 would enable emissions budgets to be framed to the specifics of the international shipping and aviation industries, including consideration of non-economic factors such as climate justice within gross emissions reduction pathways.

Option 1 would be more pragmatic. For it to be adopted however, rigorous treatment of the net component is imperative, especially the primacy of gross emissions reductions.

It carries a risk that the aviation sector could crowd out other sectors if complementary policies are not strong enough, effectively allocating a larger share of the fixed carbon budget to a small, highly mobile segment of the population[16].

We note fundamental difficulties in using biofuels from forests to achieve net zero (assuming this wouldn't be done on agricultural land) e.g.

- planting trees does not lock carbon away again deep underground, rather the introduced fossil carbon remains part of the active carbon cycle and is at risk e.g. wildfire
- whilst emissions from burning biomass are instantaneous, their removals from the atmosphere are not and may take a long time … there is a lag between when the carbon is emitted and when an equivalent amount is removed from the atmosphere and stored in new biomass[17].

[16] https://blog.planetaryecology.org/2023/12/22/an-aviation-emissions-reductions-plan-for-aotearoa/
[17] https://www.sciencedirect.com/science/article/pii/S0048969723025044

We note and support the Commission's recommendation that the Government amend the NZ ETS to separate the incentives for gross emissions reductions from those applying to forests[18], and the Parliamentary Commissioner for the Environment's recommendation to progressively remove forestry from the NZ ETS[19].

We think these two resources could provide additional helpful resources:

1. The Oxford Principles for Net Zero Aligned Carbon Offsetting (the "Oxford Offsetting Principles")[20].
2. High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities. Integrity matters: net zero commitments by businesses, financial institutions, cities and region.

We endorse the recommendations in the Chair's Note in the UN Expert Group report to address the core concerns around the use of net zero pledges that make greenwashing possible[21]:

- Non-state actors cannot claim to be net zero while continuing to build or invest in new fossil fuel supply. Coal, oil and gas account for over 70% of global greenhouse gas emissions. Net Zero is entirely incompatible with continued investment in fossil fuels. Similarly, deforestation and other environmentally destructive activities are disqualifying.
- Non-state actors cannot buy cheap credits that often lack integrity instead of immediately cutting their own emissions across their value chain. As guidelines emerge for a high-integrity voluntary credit market, credits can be used above and beyond efforts to achieve 1.5°C aligned interim targets to increase financial flows into underinvested areas, including to help decarbonize developing countries.

[18] https://www.climatecommission.govt.nz/public/Advice-to-govt-docs/ERP2/final-erp2/ERP2-Final-Advice-for-web.pdf
[19] https://pce.parliament.nz/publications/going-with-the-grain-changing-land-uses-to-fit-a-changing-landscape/
[20] https://www.smithschool.ox.ac.uk/sites/default/files/2024-02/Oxford-Principles-for-Net-Zero-Aligned-Carbon-Offsetting-revised-2024.pdf
[21] https://www.un.org/sites/un2.un.org/files/high-levelexpertgroupupdate7.pdf.

- Non-state actors cannot focus on reducing the intensity of their emissions rather than their absolute emissions or tackling only a part of their emissions rather than their full value chain (scopes 1, 2 and 3).
- Non-state actors cannot lobby to undermine ambitious government climate policies either directly or through trade associations or other bodies. Instead they must align their advocacy, as well as their governance and business strategies with their climate commitments. This includes aligning capital expenditures with net zero targets and meaningfully linking executive compensation to climate action and demonstrated results.
- To effectively tackle greenwashing and ensure a level playing field, non-state actors need to move from voluntary initiatives to regulated requirements for net zero. Verification and enforcement in the voluntary space is challenging. Many large non-state actors— especially privately held companies and state-owned enterprises —have not yet made net zero commitments which raises competitiveness concerns. This picture is changing fast, but it still requires the resolve of governments and regulators to level up the global playing field. This is why we call for regulation starting with large corporate emitters including assurance on their net zero pledges and mandatory annual progress reporting.

Different global models have put the gross emission reductions possible for shipping at up to 91% and for aviation up to 65% accounting for emissions involved in the production of their fuels. If not accounting for emissions involved in producing fuels, reductions could be up to 100% if full adoption of alternative fuels is achieved.

• If international shipping and aviation emissions were included in the 2050 target, are those more ambitious levels of gross emissions reductions appropriate to target or are there other circumstances that should be considered? What are your reasons and evidence for that?

– High ambition of emissions reduction – near or at what models have shown is possible

– Moderately ambitious emissions reduction

– Emissions remain the same or increase

• If international shipping and aviation emissions were included in the 2050 target, should the existing net zero component of the target's level of emissions reduction be changed to match any residual international shipping and aviation emissions?

We support *very high* ambition emissions reductions, for ethical reasons, and to enable us to pass on a healthy climate to future generations and to protect the planet's biodiversity.

As noted, aviation is an activity primarily of the prosperous, while its climate impact affects everyone on our planet, especially mainly poorer humans. For example, each year of the current annual rate of international aviation emissions to/from Aotearoa New Zealand (4.1 MtCO2e; discussion document, p. 64) will cause the death of about 1200 mainly poorer future humans (using the 1000 ton rule). A BAU scenario of continuing growth in aviation demand while other sectors decarbonise, and where international aviation (and shipping) could consume over 20% of the world's remaining carbon budget (p. 28), would be the height of inequity.

If (as seems likely) bringing about rapid aviation emissions reductions cannot be achieved through technological change and will require behaviour modification (demand reduction), we need to find the compassion, wisdom and social cohesion to have demand reduction become a social norm. "Think before you Fly"

Lest some find very high ambition emissions reductions uncomfortable, let's bear in mind that that the current Commission consultation relates only to fuel. The technology and infrastructure of international aviation is additionally highly energy and emissions intensive.

We understand the question of how to deal with residual international shipping and aviation emissions inside the 2050 target is asking whether this should require consequentially greater reductions in other sectors (and overcompensating after 2050). In principle, we consider any residual aviation and shipping emissions should be the responsibility of those industries. We recognise that accounting for them separately from other GHGs could be difficult to implement.

We also propose there be 2030 and 2040 targets (or emissions budgets).