



OraTaiao submission on: The Climate Change Commission's 2023 draft advice to inform the strategic direction of the Government's second emissions reduction plan

Your details

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3. Are you submitting as an individual, or on behalf of an organisation?

I am submitting on behalf of an organisation: OraTaiao: NZ Climate and Health Council.

About OraTaiao:

OraTaiao: The New Zealand Climate and Health Council is an organisation calling for urgent, fair, and Tiriti-based climate action in Aotearoa; we recognise the important co-benefits to health, well-being and fairness from strong and well-designed mitigative policies.

OraTaiao values the relationship we have with the Climate Change Commission. We welcome ongoing discussion to build a database of high quality evidence for maximising the health co-benefits of climate action.

Our vision is Āhuarangi Ora, Tangata Ora, 'Healthy Climate, Healthy People'. We honour Māori aspirations, are committed to the principles of te Tiriti o Waitangi and strive to reduce inequities between Māori and other New Zealanders. We are guided in our practice by the concepts of manaakitanga (caring and compassion), ngākau pono (Integrity), pūkengatanga (credibility), mahi toa (boldness), whakatauirā (leading by example) and meaningful partnership with Māori at all levels.

OraTaiao has grown over a decade to more than 1000 health professionals with these strategic priorities:

1. Advocate for a much faster just transition to a low emissions, climate-resilient Aotearoa, that:
 - fairly contributes to limiting global warming within 1.5°C as a good global citizen;
 - grows health and gains equity in ways that are fast, fair, and founded on tikanga and Te Tiriti o Waitangi.
2. Add our unique climate-health and equity expertise to the work for climate justice and improve Aotearoa's contribution to global climate action.

As well as individual and organisational members, we are backed by 22 of New Zealand's leading health professional organisations for our Health Professionals Joint Call to Action on Climate Change and Health (see orataiao.org.nz/friends_and_supporters). This support includes the New Zealand Nurses Organisation, Public Health Association, the Royal Australasian College of Physicians and the Australasian College of Emergency Medicine, plus numerous other specialist colleges. Together, these organisations represent tens of thousands of our country's health workforce.

As an organisational member of the Climate and Health Alliance, and of the Global Climate & Health Alliance, we work with a worldwide movement of health professionals and health organisations focused on the urgent health challenges of climate change - and the health opportunities of climate action. OraTaiao signed the Doha Declaration on Climate, Health, and Wellbeing of December 2012, which reflects this international perspective.

Chapter 1: Introduction

In your view, are these frameworks effective for identifying the key actions for the Government to take as part of its second emissions reduction plan to ensure that:

- **emissions budget 2 is achieved, and**
- **Aotearoa New Zealand is well situated for emissions budget three and beyond?**

[Somewhat agree](#)

Why or why not?

Prioritisation framework - role of Māori

[OraTaiao recommends that the prioritisation framework separates out the item "Crown-Māori relationship, te ao Māori and specific effects on Iwi/ Māori" so that there are seven priorities. That is because this priority is much much broader than simply equity.](#)

[We are deeply conscious that if the intent of Te Tiriti o Waitangi had been consistently and conscientiously complied with since signing, then Māori sovereignty would have prevailed, and Māori political and social systems would have prevailed, - rather than the colonial extractivist culture where climate change is but a symptom of imbalance between humans and the ecosystems within which we live.](#)

OraTaiao urges a co-governance approach for Aotearoa so that Māori may co-lead the journey to a sustainable future for all. This demands full resourcing. We acknowledge that the Commission has in Chapter 5 indicated the utmost importance of Māori leadership, an equitable Te Tiriti partnership, and direct investment in Māori for relevant climate action. We agree that the current approach to emissions reductions should be reassessed through a co-design process to create an environment where Iwi/Māori can fully exercise their rangatiratanga, participate in decision making, and protect their taonga.

Prioritisation framework - Co-benefits, especially Health

OraTaiao commends the Commission in offering better recognition of the health co-benefits of climate action and the increased discussion of this throughout the draft advice. We strongly recommend that optimising health co-benefits be included as an individual point in the “Fundamentals for Success”. This would better reflect the overall advice contained in the document, and give clear advice to policymakers.

This is where a growing body of high-quality credible research both in Aotearoa and internationally which confirms that well-designed climate action that optimises health co-benefits is self-funding - and delivers a double dividend of both real health gains now and avoided human health harms by reducing climate risk later (eg [Hamilton et al. Lancet Planetary Health 2021](#)) .

OraTaiao urges the Commission to advise the Government to **maximise** health co-benefits - ie. climate action that has health co-benefits. It's bizarre seeing safe cycleways debated for over a decade now, when good research showed these give returns of multiple times of the invested money in climate and health gains ([Macmillan et al, 2014](#)). Yet more than half a billion dollars is poured yearly into propping up huge high-emitting industries. For less public money, entire cycleway networks could be constructed quickly across all Aotearoa's urban areas within two-three years - as befits an age of a rapidly changing climate, where equity and human health is prioritised.

In general:

OraTaiao strongly agrees with the Commission that:

- quickly cutting gross domestic emissions is the priority and will be better for NZ, both future-proofing our economy and avoiding the uncertain access, integrity and cost of offshore credits (this includes setting up all the systems, policies and infrastructure asap that will accelerate our emissions descent through the next two emissions budgets, and subsequent budgets - and blocking limiting infrastructure legacies).
- scientific pressure for minimal emissions will continue this century - and may quickly mean negative emissions (removals) at the rate the world is currently responding to this existential crisis
- reliance on forestry must be carefully managed and regulated by the Government to protect and maximise public interest over this decade and the decades ahead
- Government must lead by transparently specifying and widely promoting the intended level of gross emissions reductions for the second and third emissions budgets for planning certainty for everyone (and promoting even more emissions reductions - for high certainty of living within emission budget limits, regardless of population increases and other challenges)

Policy framework

Of the three main pillars of policy intervention: (i) pricing to influence investments and choices, (ii) action to address barriers, and (iii) enabling innovation and system

transformation; OraTaiao urges prioritising part of pillar (ii), i.e., prioritising addressing the barriers experienced by Māori and those least advantaged in Aotearoa, with sufficient resourcing to ensure policy solutions are primarily driven by Māori and those least advantaged in Aotearoa.

12. Other evidence

Is there additional evidence or reference material related to this chapter that you think the Commission should consider as we generate the final advice we provide to government?

This might include things like:

- Reports from expert bodies
- Examples of actions from other jurisdictions

OraTaiao understands that the Commission's draft advice focuses on key actions that will help the Government keep Aotearoa's emissions within the pre-set second and third Emissions Budget limits - not what's needed to meet NZ's latest NDC. The Commission notes that evaluation of Government progress with the first Budget and evaluation of emissions reduction targets will happen later - even though these evaluations will impact the second and third Budget emissions limits.

OraTaiao appreciates the Commission's challenge of trying to organise work streams. But we would like to see strong recognition in the Commission's draft advice that the **second and third Budget limits are already far too big**. This recognition must include the Global Stocktake scheduled this year before COP28 begins. Given previous analysis by various independent international NGOs of total NDC global ambition, the Global Stocktake is likely to show that global ambition must double.

Indeed, under 5ZC(2) of the Climate Change Response Act 2002, the Commission must also have regard to:

(x) responses to climate change taken or planned by parties to the Paris Agreement or to the Convention:

(xi) New Zealand's relevant obligations under international agreements.

Added to this potential doubling of global average effort, OraTaiao has previously expressed concern that NZ's NDC is set at average ambition (that is, halving emissions by 2030) rather than reflecting NZ's prior commitment to the Paris principle of differentiated responsibilities.

The Climate Equity Reference Project (CERP) capacity/responsibility IPCC Pathway 1 analysis for NZ has ranged from 117% reductions on 1990 levels at a medium progressivity approach, to 133% reductions at high progressivity levels. Both reductions were based on historic responsibility levels dating from 1850. We also cite Oxfam Aotearoa's report ([published in September 2020](#)), which concluded that **NZ's fair share of effort meant cutting emissions to reach net zero before 2030** - and although the report acknowledged this was not feasible, Oxfam recommended that shortfalls could be offset by greater climate finance for developing nations beyond our fair share.

Chapter 3: A path to net zero

15. Do you agree that gross emissions reductions are required to achieve and sustain net zero emissions?

Fully agree

Why or why not?

Investing quickly now in getting our own country 'net-zero ready' will mean considerable savings later, as well as increasing our credibility and advocacy capacity in international climate talks. Any proposed delays must be thoroughly costed over our longer term, considering whanaungatanga with our Pacific neighbours and rising offshore mitigation costs. We understand that the Treasury has significant concerns about the future cost uncertainty and potential price volatility of purchasing offshore credits. This is building climate debt with what is effectively a blank cheque.

Investing in our own country now makes much more sense for many reasons. From OraTaiao's perspective (as outlined later in this submission), there's a range of climate health equity policies that justify immediate action on health merits alone – climate protection more than doubles their value. Around **one-fifth** of our government spending is directly on health - largely on long-term conditions directly responsive to healthy climate action, such as physical inactivity and unhealthy diets that result from transport and food environments that promote unhealthy behaviours.

16. Do you agree with our assessment of the risks and implications of carbon removals in meeting and maintaining net zero emissions?

Fully agree

Why or why not?

OraTaiao agrees with the need for strong Government direction this century of the volume, timing and nature of forestry removals - where forestry has important public well-being implications.

17. Do you agree with our proposed recommendation 1?

Proposed recommendation 1

We propose that in the emissions reduction plan for the second budget period the Government:

- 1. Commit to a specific level of gross emissions for the second and third emissions budgets, no less ambitious than 362 MtCO₂e and 322 MtCO₂e respectively and ensure that its policy choices align with delivering this outcome.*

Do not agree

Why or why not?

As OraTaiao outlines in question 11, we strongly believe that the emissions budgets are much too generous for Aotearoa to fairly contribute to the global effort to limit warming within 1.5 degrees (let alone with the confidence usually expected with significant threats to human health). We also believe that progress to date both domestically and globally must drive much smaller budgeted emission levels.

However, we do strongly agree with the Commission that the Government must transparently commit to a specific level of domestic gross emissions reductions for each of the second and third emissions budgets. We strongly agree that this gives households, communities, businesses and investors more predictability for planning. We would also like to see the Government **widely promote** these reduction levels - plus promote the understanding that the more NZ cuts now, the better our future.

Please call out the **wide variation in Government policy delivery expectations** - this is not acceptable for this existential crisis. Aotearoa needs **99.9% certainty in limiting our emissions within budgets** (and preferably emitting even less). So worst-case low-impact policy implementation predictions need to limit emissions to the specified levels (as almost certain outcomes), and the best-case high-impact predictions need to deliver even more emissions cuts.

The emissions levels are **outer budget limits** for that time period - they are not a target to reach with a few years' slippage from Government policies that may or may not work at the scale and timing hoped for. There will be wildcards ahead - as the COVID-19 pandemic reminds us. The faster Aotearoa decarbonises, the better and more secure our future.

We strongly agree with the Commission that Aotearoa cannot afford accumulating more emissions through delays. Atmospheric limits are real - and oblivious to population growth, pandemics, political inertia, and economic headwinds.

18. Do you agree with proposed recommendation 2?

Proposed recommendation 2

We propose that in the emissions reduction plan for the second budget period the Government:

0. *Communicate indicative levels of gross emissions and carbon dioxide removals from forestry out to 2050 and beyond to guide policy development.*

Fully agree

Why or why not?

OraTaiao agrees with this need for transparency and promotion - with the caveat that we strongly believe (as stated earlier) that emissions levels for the budgets need to be much lower, and that maximising health co-benefits means many policies self-fund ahead of climate change risk reductions.

We also agree with the need for strong Government direction this century on the volume, timing and nature of forestry removals - noting that forests have important public well-being implications.

Chapter 4: Emissions pricing

21. Do you agree that the NZ ETS should play an important role in driving decarbonisation?

Fully agree

Why or why not?

NZ's ETS has been around for more than a dozen years now - the time for transition measures is long over. That the world faces the existential challenge of climate changes should not come as a surprise for anyone in industry, nor that we all need to do all we can to minimise climate risks and give ourselves the best chance of adapting to the extreme events now and ahead.

We recognise that the ETS is generating insufficient revenue (for recycling in the Climate Emergency Response Fund, for example) due to free allocations, uncertainty over political commitment leading to low market confidence and unsold units, and a floor price which is too low.

22. Do you agree with our assessment that the current NZ ETS structure creates a high risk that afforestation will displace gross emissions reductions?

Fully agree

Why or why not?

OraTaiao agrees with the Commission's assessment of high risk and we are conscious that the permanence of carbon sinks in the form of *pinus radiata* monoculture are highly vulnerable to risks such as fire. The capacity to offset emissions through forestry, must be solely in government and iwi/Māori hands. The scale at which we need to reduce domestic emissions compatible with contributing to the global effort to limit warming within the humanly adaptable 1.5 degrees, means that the capacity for domestic removals is a very precious limited resource. It is too precious to be used at the whim of a current materially rich minority to offset high emissions lifestyle decisions. The use of domestic removals must be for the wider collective good, and hence best placed in government and iwi/Māori hands, with best-practice public consultation on use.

23. Do you agree with the first part of our proposed recommendation (proposed recommendation 3a)?

Proposed recommendation 3a

We propose that the emissions reduction plan for the second budget period must:

0. *Make the emissions pricing system consistent with delivering the specific levels of gross emissions for the second and third budgets, and with the 2050 net zero target, by:*

1. ***implementing an amended NZ ETS that separates the incentives for gross emissions reductions from those applying to forestry.***

Fully agree

Why or why not?

NZ's ETS must rapidly become a tool that helps drive fast domestic gross emissions cuts.

24. Do you agree with the second part of our proposed recommendation (proposed recommendation 3b)?

Proposed recommendation 3b

We propose that the emissions reduction plan for the second budget period must:

0. *Make the emissions pricing system consistent with delivering the specific levels of gross emissions for the second and third budgets, and with the 2050 net zero target, by:*
 2. ***developing an approach that can provide durable incentives for net carbon dioxide removals by indigenous forests through to and beyond 2050.***

Fully agree

Why or why not?

OraTaiao sees the use of domestic removals as for the wider collective good, and hence best placed in government and iwi/Māori hands, with best-practice public consultation on use. We agree with the Commission's assessment that the need for net zero emissions will endure beyond 2050 - and we believe that with a high risk of global overshoot based on current unambitious commitments and slow action, that negative emissions may be needed much sooner than expected. Indigenous native bush is better than exotic *pinus radiata* forests, and offers further co-benefits in biodiversity restoration.

25. Other aspects that should be included

Are there other aspects of the NZ ETS or emissions pricing that you think should be covered in our advice?

Your answer:

Yes, the NZETS is such a key decarbonisation tool and has been propping up costly climate pollution for far too long - so recommendation 3b must contain third and fourth sub-clauses as follows:

3. immediately removing half of ETS free credits, selling the remaining half to industries and creating a Carbon Border Mechanism instead.

4. urgently pricing agricultural pollution prior to 2025 at the same percentage as other industries covered by the ETS, and rapidly raising this percentage, so phasing out this farming subsidy before 2030.

OraTaiao urges the immediate removal of half the free ETS credits, and selling the remaining half to industries. The time for government-subsidised transition within the ETS is over.

Excluding agriculture from facing the costs of climate pollution is unacceptable - especially when agriculture generates half of Aotearoa's gross emissions, including dangerous nitrous oxide and methane (the latter gas is increasingly seen as a lever to pull quickly as the world nears 1.5 degrees). NZ's industrial agriculture is not 'feeding the world' - rather, it's creating markets for western-style diets from rising incomes, supplying milk powder for non-essential food items, and promoting infant milk powder rather than health-protective breast-feeding.

Rapidly reducing our dependence on fossil fuels and cutting consumption with a more circular economy that has eliminated waste, also decreases the need for export earnings from high-emitting industries like agriculture.

Agriculture must pay for pollution at the same rates as other industries - and overall, those rates must be much higher by phasing out percentage protection so that industries face the full price of their pollution before 2030. The ETS is an important tool to drive fast efficient domestic gross emissions cuts, not continue to prop up high emitting industries.

Addressing barriers directly matters. OraTaiao urges the introduction of Carbon Border Mechanism so that overseas industries face the same price for pollution as domestic industries. This is a much better, more efficient approach - because this deals directly with competition concerns, by lifting expectations for all high-emitting industries, whether here or offshore. Other countries do this, [e.g. those in Europe](#). It also simplifies a shift to consumption-based carbon accounting, recommended in Chapter 15 of the draft advice. New Zealand can't afford to subsidise high-emissions - and neither can the rest of the world. This is a race to the top, not the bottom. It's time to target government funding for the best and fairest outcomes for human health and well-being now and in the decades ahead.

26. Other evidence

Is there additional evidence or reference material that you think the Commission should consider as we generate the final advice we provide to government?

This might include things like:

- Reports from expert bodies
- Examples of actions from other jurisdictions

Consider the work of the European Union to introduce a Carbon Border Mechanism (https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en).

Chapter 5: Whāia ngā tapuwae

27. Do you support the overall advice in this chapter?

Fully agree/Somewhat agree/Neutral/Do not agree/Don't know

Why or why not?

28. Do you agree with our proposed recommendation 4?

Proposed recommendation 4

We propose that the emissions reduction plan for the second budget period must:

0. *Accelerate Iwi/Māori emissions reductions in conjunction with climate change initiatives, by exploring and implementing a mechanism to allocate resourcing direct to Iwi and increase funding to Māori landowners (Te Ture Whenua entities).*

[Somewhat agree](#)

Why or why not?

OraTaiao would like to see “sufficient” added to this recommendation - so that this reads: ‘...and implementing a mechanism to allocate **sufficient** resourcing direct to Iwi and...’

Accelerating Māori emissions reductions must be enabled in a way that does not impose on rangatiratanga over Māori lands and remaining resources. A just transition to a low

emissions Māori economy is complex, especially given that many Māori lands are likely a carbon sink, as [pointed out](#) by the Federation of Māori Authorities.

29. Do you agree with our proposed recommendation 5?

Proposed recommendation 5

We propose that the emissions reduction plan for the second budget period must:

0. *Ensure Iwi/Māori can drive the integration of mātauranga Māori into policy design, development, and implementation at central and local government level, by delivering sufficient resources to Iwi/hapū.*

Fully agree

Why or why not?

Ensuring Māori have rangatiratanga over the integration of mātauranga Māori into policy design, development, and implementation at central and local government level, is essential. Aotearoa urgently needs the values, expertise and experience of Māori to learn to live in greater harmony and respect with each other and with all life we share this place.

30. Other evidence

Is there additional evidence or reference material that you think we should consider? Is there any evidence that you would like to provide on ao Māori, Māori responses to emissions reduction or the Crown-Māori relationship that could increase our knowledge of key issues and risks?

This might include things like:

- Reports from expert bodies
- Examples of actions from other jurisdictions

OraTaiao refers the Commission to

- the [Lancet Planetary Health 2022](#) article 'Navigating fundamental tensions towards a decolonial relational vision of planetary health' by Prof. Papaarangi Reid, and former OraTaiao co-convenors A/Prof Dr Rhys Jones and A/Prof Alexandra Macmillan - and the articles that they cite, including
- 'The determinants of planetary health: an Indigenous consensus perspective' ([Redvers et al. 2022](#)) and
- 'On the possibility of decolonising planetary health: exploring new geographies for collaboration' ([Hoogeveen et al. 2023](#)).

Chapter 6: Maintaining and enhancing wellbeing through the transition

31. Do you support the overall draft advice in this chapter?

Fully agree/Somewhat agree/Neutral/Do not agree/Don't know

Why or why not?

32. Do you agree with proposed recommendation 6?

Proposed recommendation 6

We propose that the emissions reduction plan for the second budget period must:

0. *Enable a fair, inclusive, and equitable transition for New Zealanders by expanding the scope of the Equitable Transitions Strategy to include compounding impacts of climate change and adaptation as well as mitigation.*

Fully agree

Why or why not?

OraTaiao agrees strongly with the Commission that adaptation must be included in the Equitable Transitions Strategy.

We have long been aware that internationally and domestically, climate changes hit those least advantaged and least responsible, first and worst. This is deeply unfair - and means increasing equity must be a high priority within climate and other government policies, and adaptation strategies which reduce inequities actively included in the Equitable Transitions Strategy.

As the Commission points out, NZ must also consider consumption emissions - and this logically supports greater wealth redistribution to reduce health harms and health inequity, and curb high-emissions consumption.

The immediate health harms during climate disaster events are the visible tip of the iceberg, but the rates of death and illnesses from all causes also rise significantly during the months that follow a disaster, a long tail of health harm. See evidence in [Leppold et al. Lancet Global Health 2022](#).

Te Whatu Ora is leading a Health Adaptation Plan - and we refer the Commission to this work underway, led by Vicktoria Blake, as Interim Head of Sustainability.

33. Do you agree with proposed recommendation 7?

Proposed recommendation 7

We propose that the emissions reduction plan for the second budget period must:

0. *Make use of existing mechanisms to manage impacts of climate policies in the interim, rather than delaying climate action.*

Fully agree

Why or why not?

Delaying climate action is not an option - we know too well from decades of delay, that delay simply limits future options. Conversely, bold action now inspires more action by more NZers and encourages innovation, which widens our options. For many health reasons, including taha hinengaro/mental and taha wairua/spiritual health, Aotearoa needs action that grows active hope. We humans are social creatures, encouraged and inspired by the actions of those around us.

OraTaiao appreciates the Commission's approach in identifying barriers - and we urge alternative solutions such as a Carbon Border Mechanism or increasing minimum income levels (with rental price restrictions) and other adaptive support, driven especially by Māori and those who are least advantaged. Delaying climate action on the basis of harm to those who will also be harmed first and worst by climate changes, calls for a smarter approach. And yes, we already have many tools at hand.

OraTaiao strongly agrees with the Commission's statements that:

'Weakening action on climate policy during times of adverse economic conditions – which climate change is only likely to exacerbate – is not sustainable and will greatly compromise the ability to meet the climate change targets in the Act.'

Ultimately, a fair, inclusive, and equitable transition means pursuing in parallel issues of social and economic equity and tackling climate change. One set of issues cannot be used to justify inaction in the other.'

34. Are there any other issues or aspects of wellbeing that you think should be addressed in our advice?

Are there any gaps in our advice related to opportunities and barriers for maintaining or enhancing wellbeing through the transition to a thriving low-emissions resilient economy?

I think you have missed the following:

A 2021 international study by Hamilton et al. modelling the health co-benefits of NDCs and implementation policies, which reported that if nine nations (Brazil, China, Germany, India, Indonesia, Nigeria, South Africa, the UK, and the USA – together responsible for 70% of greenhouse gas emissions) – adopted commitments consistent with the Paris Agreement and centred health in their climate policies, the health co-benefits would outweigh the mitigation costs. By 2040, the nine nations (half the world's population) could benefit from an annual reduction of 1.6 million air pollution-related deaths, 6.4 million diet-related deaths, and 2.1 million physical inactivity-related deaths by 2040.

The international study's health benefits were attributable to the mitigation of direct greenhouse gas emissions and the commensurate actions that reduce exposure to harmful pollutants, as well as improved diets and safe physical activity. Such reductions in non-communicable diseases (NCDs) can substantially contribute to achieving the Sustainable Development Goal target of reducing NCDs, which currently account for 70% of all deaths globally.

While Aotearoa has some important contextual differences to the countries included in this study (e.g. population size and density), this study indicates that our health co-benefits are likely to be substantial from an ambitious responsible NDC that centres health equity in mitigation policies, potentially outweighing mitigation costs, and significantly reducing non-communicable diseases. These diseases currently account for 89% of deaths annually in Aotearoa – including 27,000 deaths each year. NCDs are also the primary cause of preventable ethnic and socioeconomic health inequalities in New Zealand. In other words, these are health equity policies that justify immediate action on their own merits alone – climate protection probably more than doubles their value.

We also note that around one-fifth of government spending is directly on health, largely on long-term conditions directly responsive to healthy climate action. That said, everyone's right to the highest attainable standard of health must motivate the Commission to account for health co-benefits in their draft advice. Early Government action in response to our COVID-19 pandemic threat has shown how highly NZers value health and survival, let alone strong public support for safer climate changes. Moreover, maximising health co-benefits from well-designed climate action centred on human health, could give a shared and unifying focus for building greater government and public support both within Aotearoa.

Back in February 2021, despite a year of global pandemic pressure, the WHO's former Director General, Dr Margaret Chan summarised the need for healthy and ambitious climate action: "With climate change action consistent with the Paris Agreement and a Health in All Policies approach to climate policies, the public health implications are overwhelmingly

positive. Such interventions will reduce the burden of non-communicable diseases in the short term and climate-related risk factors in the long term, with the number of lives saved this century potentially in the hundreds of millions. Thus, achieving net zero emissions is the most important global health intervention now and for decades to come.” In Dr Chan’s words: “Health benefits will outweigh the costs of mitigation policies, even without considering the longer-term health and economic benefits of avoiding more severe climate change.”

Regarding what the Commission describes as the current difficulty in quantifying many of these wellbeing benefits, ideally there could be calculation of New Zealand-specific estimates for the [Hamilton et al 2021 analysis](#), in particular adopting the methodologies in its online Supplementary appendix at [https://www.thelancet.com/cms/10.1016/S2542-5196\(20\)30249-7/attachment/230fb504-a229-4f2e-b00d-3a15f092d871/mmc1.pdf](https://www.thelancet.com/cms/10.1016/S2542-5196(20)30249-7/attachment/230fb504-a229-4f2e-b00d-3a15f092d871/mmc1.pdf).

In the interim, a ready approximation would be to use risk factor estimates from the New Zealand Burden of Disease Study 2020 (‘Longer, Healthier Lives: New Zealand’s Health 1990-2017’) (NZBDS) at <https://www.health.govt.nz/news-media/news-items/global-burden-disease-study-provides-important-insights-health-new-zealanders> to gauge the scale of possible health benefits each year to New Zealand from healthy climate change-mitigating action. This would be at least in minimal terms of the annual life years loss and disability-adjusted years loss by New Zealanders from key health risk factors that would be improved by good uptake of particular climate change-mitigating healthy actions, assigning a nominal (but reasonable) halving of risk:

- Here, the ~8.5% of total DALYs lost in NZ in 2017 from dietary risks, ~1.6% from low physical activity and ~1.4% from air pollution (from [the report’s figure 36](#)) would equate to (1.16m total DALYs x 11.5% =) ~133k DALYs lost.
- Nominally halving this loss, by effective climate action affecting mobility, diet and air quality, would gain the equivalent of ~67,000 DALYs each year – which is equivalent to **~1600 disability-free statistical lives saved** from death and disability averted (method at <https://pharmac.govt.nz/assets/annual-report-2001-2002.pdf> page 25, [life expectancy](#) in 2022 = 82 years; 67k ÷ (82/2)).

A better summary of health co-benefits of reduced ghg emissions is in material published in the New Zealand Medical Journal in 2021 (in response to the Commission), as Chambers et al ‘[New Zealand’s Climate Change Commission report: the critical need to address the missing health co-benefits of reducing emissions](#)’. We recommend this as a source to help the Commission quantify the potential health gains from climate action in New Zealand.

Key references:

Chambers T, Hales S, Shaw C, Baker M, Ball J, Cleghorn C, Wilson N. New Zealand’s Climate Change Commission report: the critical need to address the missing health co-benefits of reducing emissions. N Z Med J. 2021;134:109-118. <https://journal.nzma.org.nz/journal-articles/new-zealands-climate-change-commission-report-the-critical-need-to-address-the-missing-health-co-benefits-of-reducing-emissions>

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Supporting references:

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Fu-Chun MCF (Margaret Chan). Accelerating towards net zero emissions: the most important global health intervention. Lancet Planet Health. 2021;5(2):e64-e65. [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(20\)30296-5/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(20)30296-5/fulltext)

Chapter 7: Agriculture

36. Do you support the overall draft advice in this chapter?

Somewhat agree

Why or why not?

Excluding agriculture from facing the costs of climate pollution is unacceptable - especially when agriculture generates half of Aotearoa's gross emissions, including dangerous nitrous oxide and methane (the latter gas is increasingly seen as a lever to pull quickly as the world nears 1.5 degrees). This conclusion is supported by the Commission's own prioritisation framework, as the current free pass for nitrous oxide and biogenic methane arguably represents the biggest 'gap' in policy that must be filled to meet New Zealand's emissions budgets to 2030 and beyond. NZ's industrial agriculture is not 'feeding the world' - rather, NZ is creating markets for western-style diets from rising incomes, supplying milk powder for non-essential food items, and promoting infant milk powder rather than health-protective breast-feeding.

Rapidly reducing our dependence on fossil fuels and cutting consumption with a more circular economy that has eliminated waste, also decreases the need for export earnings from high-emitting industries like agriculture.

Agriculture must pay for pollution at the same rates as other industries - and overall, those rates must be much higher by phasing out percentage protection so that industries face the full price of their pollution before 2030.

Addressing barriers directly matters. OraTaiao urges the introduction of a Carbon Border Mechanism so that overseas industries face the same price for pollution as domestic industries. This is a much better, more efficient approach - because this deals directly with competition concerns, by lifting expectations for all high-emitting industries, whether here or offshore. New Zealand can't afford to subsidise high-emissions - and neither can the rest of the world. This is a race to the top, not the bottom. Its time to target government funding for the best and fairest outcomes for human health and well-being now and in the decades ahead.

37. Do you support our proposed recommendation 8?

Proposed recommendation 8

We propose that the emissions reduction plan for the second budget period must:

0. *Enhance advisory and extension services to farmers to enable them to respond to pricing and accelerate the adoption of emissions-efficient practices, appropriate land-use diversification, and emerging technologies to reduce gross emissions. These services should be co-designed and implemented in partnership with industry and Iwi/Māori.*

Fully agree/Somewhat agree/Neutral/Do not agree/Don't know

Why or why not?

38. Do you support our proposed recommendation 9?

Proposed recommendation 9

We propose that the emissions reduction plan for the second budget period must:

0. *Advance the agricultural emissions pricing system to:*
 1. *enable recognition of a broader range of emissions-reducing practices and technologies*
 2. *incentivise gross emissions reductions in line with the 2050 target.*

Somewhat agree

Why or why not?

39. Are there any other aspects of the agriculture sector that you think should be covered in our final advice?

Your answer:

Emissions reduction goals must be clear and strong, specifying how many emissions each sector must cut during the second and third budgets - not vague 'efficiency' goals. Quantifying emissions avoids efficiency gains made irrelevant by production increases.

Chapter 8: Built environment

41. Do you support the overall draft advice in this chapter?

Fully agree/Somewhat agree/Neutral/Do not agree/Don't know

Why or why not?

42. Do you support our proposed recommendation 10?

Proposed recommendation 10

We propose that the emissions reduction plan for the second budget period must:

0. *Implement an integrated planning system that builds urban areas upward and mixes uses while incrementally reducing climate risks.*

Somewhat agree

Why or why not?

OraTaiao strongly suggests changing recommendation 10 to read:

'We propose that the emissions reduction plan for the second budget period must:

*Implement an integrated planning system that builds urban areas upward, **with safe walkways and cycleways, generous car share and easy public transport access, and mixes uses while incrementally reducing climate risks.***

43. Do you support our proposed recommendation 11?

Proposed recommendation 11

We propose that the emissions reduction plan for the second budget period must:

0. *Incentivise comprehensive retrofits to deliver healthy, resilient, low emissions buildings.*

Somewhat agree

Why or why not?

OraTaiao would like to see recommendation 11 modified to read:

*'Incentivise comprehensive retrofits to deliver healthy, resilient, low emissions buildings - **so that all rental housing is retrofitted well before 2030 as healthy, resilient, low emissions and affordable to live in.***

There is already a substantial body of credible high-quality evidence led by OraTaiao member Prof Phillipa Howden-Chapman and others, that demonstrates the high health gains from healthy housing. It's time to accelerate this transition to healthy, resilient, low emissions housing for everyone who is reliant on rental accommodation, and those on low incomes who will need subsidy support to upgrade their home. As we experience more climate changes, the ease and affordability of rapidly cooling homes during increasingly frequent and intense heatwaves, will become more critical to health, including preventable deaths.

References:

Howden-Chapman P, Matheson A, Crane J, Viggers H, Cunningham M, Blakely T, et al. Effect of insulating existing houses on health inequality: Cluster randomised study in the community. *BMJ*. 2007;334(7591):460-4.

<https://www.bmj.com/content/334/7591/460>

Howden-Chapman P, Pierse N, Nicholls S, Gillespie-Bennett J, Viggers H, Cunningham M, et al. Effects of improved home heating on asthma in community dwelling children: randomised controlled trial. *BMJ*. 2008;337:a1411.

<https://www.bmj.com/content/337/bmj.a1411.long>

Grimes A, Denne T, Howden-Chapman P, Arnold R, Telfar-Barnard L, Preval N, et al. Cost benefit analysis of the Warm Up New Zealand: Heat Smart Programme. Wellington: Motu, Covec, He Kainga Oranga/Housing and Health Research Programme, University of Otago, Department of Mathematics, and Victoria University for the Ministry of the Environment; 2012

<https://www.healthyhousing.org.nz/resources/cost-benefit-analysis-warm-new-zealand-heat-smart-programme>

44. Do you support our proposed recommendation 12?

Proposed recommendation 12

We propose that the emissions reduction plan for the second budget period must:

0. *Prohibit the new installation of fossil gas in buildings where there are affordable and technically viable low emissions alternatives in order to safeguard consumers from the costs of locking in new fossil gas infrastructure.*

Fully agree

Why or why not?

This prohibition could take place immediately. Some of the gas sector seems to be now reassuring householders that fossil gas can be easily replaced by hydrogen gas, so gas infrastructure is still useful. Fossil gas also causes human health harm, eg estimates of burning fossil gas for power (and heat) generation causing >2,800 premature deaths from air pollution (from PM2. 5, NO2 and ozone) [in 2019 in the EU-27 and UK](#).

Chapter 9: Energy and industry

47. Do you support the overall draft advice in this chapter?

Somewhat agree

Why or why not?

See below for changes to the recommendation 13 and our reasoning.

48. Do you support our proposed recommendation 13?

Proposed recommendation 13

We propose that the emissions reduction plan for the second budget period must:

0. *Prioritise and accelerate renewable electricity generation build and ensure electricity distribution networks can support growth and variability of demand and supply.*

Somewhat agree

Why or why not?

OraTaiao would like to add both extra words to the first clause, plus another clause, to recommendation 13, so that this now reads:

'We propose that the emissions reduction plan for the second budget period must:

- 1. Prioritise and accelerate renewable electricity generation build and ensure electricity distribution networks **incentivise energy conservation, and** can support growth and variability of demand and supply,*
- 2. **Accelerate the just transition to public and locally-owned, nature-friendly, renewable electricity.***

Localised energy generation enables greater resilience and capacity for local cooperation to reduce health harms in climate disasters.

Since deregulation in the early 1990s, the focus of the electricity sector has been profit, not energy efficiency and conservation, with domestic consumers allegedly paying double that of commercial users to heat their homes ([Bertram 2019](#)).

In a country like NZ blessed with plentiful renewable electricity generation potential, it is completely unacceptable that some households are not able to warm their homes to levels needed for healthy living.

As climate change-connected heatwaves increase in frequency and intensity, the capacity of everyone, regardless of income level, to cool their homes affordably, is also a human health issue. Energy poverty causing health harm must end - now.

49. Do you support our proposed recommendation 14?

Proposed recommendation 14

We propose that the emissions reduction plan for the second budget period must:

0. *Pursue more widespread process heat decarbonisation and establish mechanisms for other industrial sectors and processes to decarbonise.*

Somewhat agree

Why or why not?

OraTaiao would like to see a mix of 'carrot and stick', with regulation and faster phasing in of full pollution pricing for industries before 2030, combined with subsidies and loans where these are relatively efficient for accelerating significant emissions cuts. Other measures to reduce barriers to fast action (such as the [Carbon Border Mechanism](#)) may be more efficient. Funding measures need to be weighed up against Government maximising health co-benefits with well-designed climate actions that centre human health. The nature of the industry must also be considered - for example, nitrogen fertiliser companies must rapidly become a sunset industry, and thus, subsidies are not appropriate. Direct regulation may make more sense - likewise supporting NZ-owned companies rather than internationally owned companies where profits head offshore and regulation may be better.

50. Are there any other aspects of the energy and industry sector that you think should be covered in our final advice?

Your answer:

Training workers in decarbonising must be part of the Equitable Transition Plan.

Emissions reduction goals must be clear and strong, specifying how many emissions each sector must cut during the second and third budgets - not vague 'efficiency' goals. Quantifying emissions avoids efficiency gains made irrelevant by production increases.

All new oil, gas and coal exploration and extraction on land and at sea, must end now - and current extraction must be rapidly phased out early on in the second emissions budget. We know that we can not afford the climate threat to human health and well-being from continuing to burn fossil fuels. This is a sunset industry where the just transition starts now. There are also [well-documented](#) non-climate health harms from burning fossil fuels.

Chapter 11: Transport

57. Do you support our proposed recommendation 16?

Proposed recommendation 16

We propose that the emissions reduction plan for the second budget period must:

0. *Simplify planning and increase funding of integrated transport networks that optimise public and active transport. For major population centres, the Government should also complete cycleway networks by 2030 and take steps to complete rapid transport networks by 2035.*

Do not agree.

Why or why not?

OraTaiao proposes a much stronger recommendation 16, which includes car share (cars for hourly hire) as public transport. Our recommendation is:

*Simplify planning and **accelerate** funding of integrated transport networks that optimise public and active transport as the dominant mode of travel for urban centres. For major population centres, the Government **must set up affordable non-profit public transport car share service within 5-10 minutes' walk of most people by 2026**, complete cycleway networks by **2026**, and prioritise completion of rapid transport networks by **2030**.*

OraTaiao is pleased to see the Commission's recognition of car share as emissions reducing transport. Car share is a critical component of active and public transport - it frees households up from private car ownership where travel is mostly by active and/or public transport. And as the Commission recognises, each car share vehicle removes about 11 private vehicles. So car share acts as an enabler and amplifier for the health, climate and budget gains of active and public transport.

But car share has to be seen as affordable and widespread to give people the confidence to let go of their under-used privately owned vehicle. And capacity to rent the right vehicle easily and cheaply for long distance trips across NZ. Car share is not for everyone - but everyone wins from less cars on the road. Car share is like the carrot of active & public transport planning - removing the "what about our carparks?!" from so many cycleway and walkway consultations.

We must accelerate the spread of affordable car share networks in urban centres, so that most people will be within 5-10 minutes' walk of a car share vehicle for hire. It's time to recognise car share as vital public transport and fund accordingly.

Unlike rapid transit networks, car share networks could be set up very quickly. Minimal infrastructure is needed, apart from designated car parks - and this is easy, given each car share vehicle displaces around 11 privately owned vehicles and the parking spaces that these occupy. More affordable car share membership could be targeted too, with much cheaper rates for community services card holders.

58. Do you support our proposed recommendation 17?

Proposed recommendation 8

We propose that the emissions reduction plan for the second budget period must:

0. *Rapidly resolve the barriers to scaling up vehicle charging infrastructure.*

Fully agree/Somewhat agree/Neutral/Do not agree/Don't know

Why or why not?

59. Do you support our proposed recommendation 18?

Proposed recommendation 18

We propose that the emissions reduction plan for the second budget period must:

0. *Develop incentives to accelerate the uptake of zero emissions commercial vehicles, including vans, utes, and trucks.*

Somewhat agree

Why or why not?

This could be as simple as low-interest loans that are paid off at the petrol purchase rate that fossil-fuelled vehicles' operation requires.

Other measures may be needed to encourage more localism and grouping jobs in neighbourhoods, so that the travel distances between jobs and home reduce substantially, likewise the volume of commercial vehicles actually needed.

There may be more of a role for e-bikes too for commercial use - especially if the roll-out of safe urban cycleways could accelerate at the rate justified by health co-benefits.

Reducing fossil fuel pollution also has immediate health gains - so this could be designed to be cost-neutral overall for the Government. Be ambitious about the expected uptake rate

60. Are there any other aspects of the transport sector that you think should be covered in our final advice?

Your answer:

Emissions reduction goals must be clear and strong for domestic aviation, and we assume, soon, international aviation too. This means specifying how many emissions each sector must cut during the second and third budgets - not vague 'efficiency' goals. Quantifying emissions avoids efficiency gains made irrelevant by production increases.

OraTaiao would like to see an immediate ban on airport expansion, until such time as the majority of flight distances are fuelled by renewable energy. That's the time to expand - not now, when expanding airports and building new airports such as proposed for Tarras, like roading expansion projects, simply increases fossil-fuelled flights and emissions.

NZ already has the fourth highest domestic flight emissions in the world - even ahead of the much larger land mass that is Canada. The domestic longer-distance expansion we desperately need is in convenient affordable alternatives to aviation and private fossil-fuelled vehicle use. This may include affordable rental EVs across Aotearoa as public transport to complement urban car share.

Reference:

Callister P, McLachlan RI. Managing Aotearoa New Zealand's greenhouse gas emissions from aviation. J Royal Soc NZ. 2023. <https://www.tandfonline.com/doi/full/10.1080/03036758.2023.2212174>

Chapter 12: Waste and fluorinated gases (F-gases)

65. Are there any other aspects of the waste sector and F-gases that you think should be covered in our final advice?

Your answer:

More detail is needed on F-gases and other warming gases emitted by the NZ health sector, and ways to address these.

Anaesthetic gases

This summary cites how over six hours (a typical day) of anaesthesia at fresh gas flow (FGF) of 1L/min is said to produce the carbon dioxide equivalent (CO₂e) of driving a car over 500km when using N₂O, over 1000km when using desflurane, or 100km when using Fi isoflurane, per anaesthetist. The most used GHG emitting volatile anaesthetics in NZ, mostly in hospitals, is desflurane, sevoflurane, N₂O, and to a lesser extent isoflurane. Desflurane

has the highest GWP (2450), followed by N₂O (298), then sevoflurane (510), and isoflurane (130).

Asthma inhalers

Likewise F-gases are commonly used, mostly in the community, as propellants in a common type of inhaler manage and treat asthma. There are two primary types of inhalers in Aotearoa New Zealand: dry-powder inhalers (DPIs) and metered dose inhalers (MDIs). MDIs contain hydrofluorocarbons (HFCs) and rely on the driving force of the propellant to atomise droplets containing drug and excipient. The propellant comprises the bulk of the MDI formulation. 800 million HFC MDIs are currently manufactured annually worldwide, using approximately 11,500 tonnes of HFCs in 2018 ([UN Environment Programme, 2018](#)). MDIs make up over 70% of the inhalers prescribed in New Zealand for asthma management. One 200 dose salbutamol MDI releases approximately 28 kg of carbon dioxide equivalent per inhaler. The equivalent DPI releases approximately 1 kg of carbon dioxide equivalent per inhaler.

Early research results shared with OraTaiao from an assessment by Christchurch Hospital staff has estimated that inhaler usage in New Zealand in 2018 resulted in almost 59 ktCO₂-eq of GHG emissions. 57 ktCO₂-eq was due to MDI use.

From a clinical perspective, [the most recent asthma guidelines \(2020\)](#) recommend monotherapy with a combination DPI as first-line therapy in most situations. Hence, scaling back the use of MDIs (especially relievers like salbutamol), in favour of DPIs (especially combination inhaled steroid preventer/LABA long-acting relievers) is a great win-win both for the health of people living with asthma and for our climate.

76. Publishing permission

May we publish your submission?

(Required)

Yes – you may publish any part of my submission

77. Reasons to withhold parts of your submission

The Commission is subject to the Official Information Act 1982 (the OIA). This means that when responding to a request made under the OIA, we may be required to disclose information you have provided to us in this consultation.

Please advise us if you think there are any reasons we should not release information you have provided, including commercially sensitive information, and in particular:

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I think these parts of my submission should be withheld, for these reasons:

78. Follow-up contact

If needed, may we contact you to follow up for more detail on your submission? [Read more about our privacy policy.](#)

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Yes – you may contact me.

79. Further updates

Would you like to receive updates about the progress of this project?

[I'd like to receive updates about this specific project.](#)

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20/06/2023

