



Infrastructure New Zealand's Submission to the Climate Change Commission on its May 2024 Tranche of Advice Regarding The Review of the Emissions Reduction Targets, Emissions Budget Four and Whether International Aviation and Shipping Emissions Should Be Included In The 2050 Targets.

1. Introduction

- 1.1 Infrastructure New Zealand thanks the Climate Change Commission for this opportunity to submit on the three pieces of interconnected advice included in this tranche of advice.
- 1.2 INZ is New Zealand's membership organisation for the infrastructure sector. We promote best practice in national infrastructure development through research, advocacy, and public and private sector collaboration. Our members come from diverse sectors across New Zealand and include infrastructure service providers, investors, and operators.
- 1.3 While INZ has submitted as New Zealand's leading infrastructure member organisation, our members may make their own submissions raising those issues specific to their areas of interest or expertise.
- 1.4 We have prepared our response to the Commission's draft advice on the 2050 target, international aviation/shipping emissions inclusion in the targets and Emissions Budget 4 in one tranche, recognising, as the Commission has in its release of the documents, the interactions between the advice outputs.

2. General Comments

- 2.1 Infrastructure New Zealand is supportive of this tranche of advice from the Commission and supports the move to include the three pieces of advice in one consultation round in recognition of the interconnections between them.
- 2.2 Timing and process
 - 2.2.1 The timing of this consultation on the draft advice, when we don't have the full information from the emissions reduction monitoring report which is due out in July, makes it difficult to assess progress and thus limits our ability to provide informed comment and advice.



2.2.2 We understand the review period for international aviation and shipping emissions, as outlined in the Act, is driving the timelines in this consultation. However, the consultation focuses on the previous Government's policy settings, as at July 2023, which significantly limits the ability for submitters to engage productively with the scenarios and assumptions described in these consultation documents.

2.3 New Zealand has a fiscal, economic, moral, and environmental imperative to act. Recent research demonstrates that a 1% increase in global temperature is expected to lower global GDP by 12% at peak¹. The latest United Nations Emissions Gap Report outlines that at present, the world is expected to overshoot 1.5 C limit under the Paris Agreement and has a 66% chance of limiting 21st century warming to 3.0 C with current policy settings in place². In this context, Infrastructure New Zealand welcomes this tranche of advice and is very supportive of the Commission's role as an independent advisor.

2.4 The transition must be orderly, fair, and planned well in advance to set up the right incentives for investment, to give developers confidence in investing in assets with lifespans of 50-100 years. Certainty, clarity, and regulatory consistency are important principles that should inform decision making during the transition.

2.5 The certainty encouraged by the cross-party agreement and recent recommitment to the 2050 target does not necessarily extend to the 'how' of getting there. Many of the assumptions within this advice about the stability of policy direction, particularly around transport emissions reduction, are subject to risks and challenges in the current environment that may hamper New Zealand's success in meeting emissions budget limits.

2.6 On international aviation and shipping emissions and their potential inclusion into New Zealand's 2050 targets, we have the opportunity to be a fast follower and introduce changes in line with international progress so as to strike the right balance between ambitiously reducing emissions in hard-to-abate industries, while managing the effects on New Zealand consumers and exporters. A fast follower, and international advocator approach will allow for the right policy, regulatory and investment settings to be in place to facilitate an effective transition.

3. Key points and themes that inform our response to the Commission's draft advice in this consultation

3.1 The bar for changes to the targets New Zealand is working towards should be, and is, high. The 2050 target in particular is one that has achieved cross-party agreement, which is rare in our politics. This is important, and should not be changed without significant reason and a reaffirming of cross-party support. Our view is that, with the exception of extending the target past 2050 to increase certainty over the long term,

¹ [The Macroeconomic Impact of Climate Change: Global vs. Local Temperature | NBER](#)

² [EGR2023.pdf \(unep.org\)](#)



- 3.2 other changes are not justified. We do not comment here on changes to the inclusion/exclusion of agricultural emissions.
- 3.3 New Zealand needs to keep up with world trends to retain market access for our exports. This is reflected in the international aviation/shipping emissions discussion in so far as policy change will curtail our market penetration adding to our existing distance related disadvantages. We must influence the orthodoxy rather than attempt to create new precedent. However, New Zealand can play a critical role in decarbonising aviation and international shipping, if we can leverage our existing and future potential renewable electricity generation mix.
- 3.4 National grid capacity and investment is a risk to the assumptions the Commission has made on renewable uptake and transport electrification throughout the draft advice. This should be considered in more detail where appropriate in final advice, given the focus on transport electrification throughout the Fourth Emissions Budget scenario analysis.
- 3.5 We support the Commission's view that gross emissions reduction should be the focus of New Zealand's decarbonisation plans. We can benefit from the co-benefits created by gross emissions reductions and avoid expensive offshore carbon unit purchases, alongside improved outcomes for infrastructure resilience in the face of increasingly frequent adverse weather events.
- 3.6 Relatedly, though out of scope for these pieces of advice, it is worth noting the central role the ETS has to play in supporting New Zealand's ability to meet our existing or updated 2050 targets and the emissions limit under the fourth emissions budget. At present, as the Commission has issued advice on, current emissions pricing settings fail to incentivise the right mix of gross emissions reduction and afforestation investment.
- 3.7 INZ is supportive of limitations to offshore mitigation. Gross emission reduction should be the focus if we are to leverage the co-benefits that come with the green transition. Offshore mitigation except for use under force majeure events – including rebuild and recovery after major natural disasters are recommended to stay at zero. INZ supports this but notes that natural and weather-related disasters are becoming more common in New Zealand and across the world. Our worry is that this is used to create an overdependence on overseas mitigation when disasters occur regularly, disincentivising investment (policy and financial) in creating low emissions recovery and rebuild strategies, and a comprehensive strategy for reconstruction and future adaptation planning that avoids substantial cost in the first place (including managed retreat). Further guidance through the Commission's advice to complement what is stated in 5Z (2) Climate Change Response (Zero Carbon) Amendment Act 2019 would be helpful.
- 3.8 The pace of these changes, particularly any inclusion of international aviation and shipping emissions should strike a balance between recognising the importance of New Zealand's green transition to our continued access to overseas markets, and the pace at which overseas measurement and ETS integration methods progress, as well as New Zealand's relative disadvantages as an island country isolated from major market. In



particular, we would like to see any inclusion of international aviation emissions move in line with the implementation of CORSIA.

4. Review of the 2050 emissions reduction targets

4.1 The current target does not require further emissions reductions after 2050. INZ supports extension past 2050 – certainty and a long term plan to drive towards are important parts of the investment environment. Support for this would be dependent on cross-party support for the extension (which we appreciate is outside of the scope of the Commission’s work) in order to set an enduring direction of travel in addition to the current target.

4.2 Are the changes the Commission identifies significant enough to trigger a change to the target?

4.2.1 While INZ appreciates that there has been change, particularly to our understanding of the climate science, increased population growth, and a higher than expected level of afforestation, INZ’s view is that clarity and consistency of the target is important – including for our international reputation. Investment in New Zealand’s green transition domestically and internationally will rely on a level of target and policy level certainty.

4.2.2 INZ supports the view that EV technology development was foreseeable in 2019.

4.2.3 We also support the view that changes to New Zealand’s fiscal or economic circumstances haven’t been significant enough to warrant a change to the targets – we acknowledge that economic environment has worsened, including over Covid-19 quite significantly, but that we still have relatively low debt on an international scale. We also note that climate change adaptation and natural disaster recovery are worth investing in.

4.2.4 INZ’s view is that the changes highlighted by the Commission don’t meet the bar for change to the target, which would create a level of uncertainty in direction for government investment and expectations of industry which inform investment in long-lived assets. The only change we’d support would be an extension of the net-zero carbon reduction target, where this extension is supported across the House to ensure longevity of the direction of travel (which we appreciate is outside of the Commission’s scope).

4.2.5 As above in section three, we are concerned about the overreliance of using offshore mitigation during force majeure events, given the increasing likelihood of them occurring.

5. Fourth Emissions Budget

5.1 It is critical that we meet our internationally agreed, ambitious targets, to play our role in addressing climate change, maintain our international reputation, and protect access



for our exporters. However, we must be honest and realistic about how we plan to meet those targets.

5.2 Any change to existing budgets should reflect the need to balance certainty and predictability with improvements to GHG inventory methodologies. We recommend that the first emissions budget is not altered, and that changes to budgets two and three are minimal and reflect only GHG inventory methodological changes.

5.3 We also comment here on the analysis of technological uptake and other policy settings – the direction of some of which have faced challenges in the intervening months since analysis was completed which have informed the emissions budget scenario analysis.

5.4 **Proposed changes to budgets one, two and three:**

5.4.1 The Commission is recommending two changes to the existing emissions budgets – the first is a reduction in the first emissions budget from 290 MtCO₂e to 281 MtCO₂e – to reflect recent methodological changes to GHG inventory. Reductions in second and third emissions budgets are also recommended to reflect above change, as well as increases in the expected rate of tree planting. Proposed reductions are from 305 to 286 MtCO₂e in second budget, and 240 – 221 MtCO₂e in the third.

5.4.2 INZ's view is that changes to budgets two and three based on GHG inventory methodology changes are warranted, but that, in the near term, the value of predictability and certainty trumps the need for change. We do not recommend a change to the limit on emissions in emissions budget one.

5.4.3 Acknowledging our above support for changes to budgets two and three, we however note that the Commission's own assessment of other reasons to change the limits suggest that higher than anticipated rates of afforestation are not expected past 2023, despite these rates being included as a reason to reduce the limit. We urge caution in reducing the limit on this basis.

5.4.4 As mentioned, we do not support changes to the first budget as certainty in the near-medium term is incredibly important for policy development and investment already underway over that period. Given the wider uncertainty for the sector at present as the Government develops its policy settings and pipeline of investment over the next few months, we do not support additional change to the environment for investment decision making.

5.5 **Assumptions in Emissions Budget Four**

5.5.1 EB4 should set an ambitious level of emissions reduction for New Zealand in the period between 2036-2040, and be realistic about the risks to our ability to meet the emissions reductions required.

5.5.2 Here, we point out risks to a selection of the assumptions the Commission has made or has not included, which would benefit from further consideration ahead of the final advice.



- 5.5.3 We also recommend that the Commission clearly highlights the risks presented by a lack of consistent policy on electrification and mode shift in the mid to long term across successive governments.

5.6 Key risks to transport electrification and system change which could be explored in more depth in final advice

- 5.6.1 We note that transport emissions reduction represents the largest single expected decrease in the emissions budget scenario, and that this is expected to be achieved largely through electrification and mode shift. We support this view and the need to electrify but note that significant investment and more consistent policy direction will be needed to ensure that this is successful.
- 5.6.2 A key risk that we suggest should be explored in more detail within the scenario analysis section is that the expected reductions in transport emissions in the short to medium term may not be as realistic as we would hope. Many of the assumptions across the tranches of advice focus on EV uptake and VKT emissions reduction. EV uptake in particular appears to be reactive to policy change at least in the short-medium term. The expectation in fourth Emissions Budget (EB4) is that by 2040 more than 85% of the light vehicle fleet is electric faces headwinds given the decline from EV purchases making up 39.22% in of vehicle sales in December 2023 to 3% in January 2024 and 6% in February 2024. These changes are largely attributed to the conclusion of the Clean Car Discount in December 2023. While the Government has expressed a goal of increasing electric charging infrastructure provision and has reaffirmed its commitment to our net zero goals, the success of these and other measures to drive electrification in the coming months and years have an important influence on the realism of the scenarios which the Commission has based its projections of realistic emissions reduction upon. Additionally EV and hybrid vehicles must now pay RUC which acts as an additional deterrent to uptake. We suggest that a focus on the need for policy consistency, and an analysis of the risks of uncertainty is included in final advice.
- 5.6.3 We also note that KiwiRail has undertaken research into how freight might decarbonise by looking into different fuel options such as biofuels, battery electric and hydrogen fuel sources for freight transport. Its analysis has shown that low carbon road freight technology will not develop in sufficient time to meet the Government's target of 35% reduction in freight emissions by 2035, implying that rail will play a significant part in reducing emissions, with the rail share of a growing freight market increasing over time. It has investigated the current cost of decarbonisation by using battery electric and overhead electric lines for rail versus diesel at the recent fuel prices. These initiatives would attract a significant share of the freight market if aligned with higher New Zealand Unit pricing under the ETS for higher emissions road freight options.
- 5.6.4 At present, Government commitments to emissions reduction via transport funding at least in the draft Government Policy Statement on Land Transport are



comparatively limited given the size of the challenge and mode shift opportunity as above. We note the very brief reference to climate change and emissions reduction in the draft GPS and have recommended elsewhere that the Government should explain how its investment will meet emissions reduction targets and emissions reduction plan expectations. Updated analysis that reflects the current Government's intentions would be helpful to illuminating the impact of these draft funding commitments for New Zealand's long term pathway towards emissions reduction. New Zealand's rail infrastructure requires significant development and investment to support mode shift for freight and ETS settings may also need to be adjusted to support improved pricing signals to incentivise this change, alongside government investment.

- 5.6.5 We also note that councils are at present constrained in their ability to meet their share of local roading and public transport investment given the other demands on their budgets. Councils are responsible for many of the investments that contribute to mode shift, including the development of safe corridors for active transport, the development and maintenance of reliable and affordable public transport networks, as well as investment in local roads to service electric vehicles alongside other vehicles. Substantial water infrastructure investment requirements in particular are pushing up against other council priorities, including a focus on mode shift. More widely, Councils are proposing significant rate increases, and are looking to cut costs in a constrained economic environment. The Commission's analysis of behaviour change and local roading investment in the analysis presented would benefit from further engagement with the impact of these constraints.
- 5.7 Grid capacity and resilience will continue to present a risk to the emissions reduction expectations outlined in the demonstration pathway via electrification.
 - 5.7.1 Electrification of our energy system is one of our biggest energy challenges. Significant transmission and distribution network investment is expected to be required over the coming decades to support the transition to net zero emissions. At present there is a lack of coordination between participants across the electricity system to ensure that the right investment is made in the right places. Without effective and deliberate coordination, there is a risk that each of the Electricity Distribution Businesses (EDBs) will take their own approach – resulting in a heavily fragmented system. INZ expects that a more joined-up approach is likely to support more efficient outcomes for grid and network development, and will result in a healthier sector to support that development. We encourage the Commission to point out the criticality of a functioning, affordable generation, transmission and distribution network of electricity providers to support decarbonisation efforts across the economy.
 - 5.7.2 We also note the importance of resilience in the power system as electrification demand grows and climate change related weather events increase in frequency. The increase in climate change and extreme weather events can have devastating effects for customers when the electricity infrastructure is impacted. For example,



Vector stated that nearly 26,000 homes and businesses lost power during the Auckland Anniversary weekend floods and media reports suggested that nearly 225,000 lost power during Cyclone Gabrielle in February 2023.

- 5.7.3 We recommend that this is analysed in more detail in the analysis for the fourth emissions budget, in addition to the focus on transport electrification, noting that the success of electrification is wholly dependent on a reliable, affordable and resilient electricity network.

5.8 The role of the ETS in facilitating New Zealand's ability to meet the fourth emissions budget limit

- 5.8.1 This Government has signalled its intention to rely heavily on the Emissions Trading Scheme to reach emissions reduction targets and budgets.
- 5.8.2 We support the Commission's view here and elsewhere that at present the ETS is highly unlikely to drive adequate gross emissions reduction and will result in an over reliance on forestation and sequestration to meet our net emissions reduction targets and budgets, and await the Ministry for the Environment's report back on reform to the ETS and proposed permanent forest category.
- 5.8.3 Forestry brings with it risks for infrastructure assets in the context of increasingly common climate events like cyclones and flooding, which if not properly managed can add significant costs and delays to infrastructure development, and further decarbonisation efforts.
- 5.8.4 We saw in the aftermath of Cyclone Gabrielle the damage that forestry slash can cause critical infrastructure links for communities. Bridges across Hawke's Bay and Tairāwhiti were severely damaged and destroyed by forestry detritus, cutting local communities off from the rest of the country, and emergency services.
- 5.8.5 Forest fires in Canada and Australia in previous years have had significant negative effects both domestically and internationally. Smoke pollution in the United States and here in New Zealand after the respective forest fires carried health impacts and the frequency of which is likely to only worsen as the planet warms.
- 5.8.6 We cannot artificially separate decarbonisation and climate resilience, so, while we acknowledge that afforestation is appropriate in some areas, it is encouraging to see the Commission consider the implications of a reliance on afforestation, including for our infrastructure assets and the communities they serve. We support the Commission's focus on this and note the material challenges that come with forestry, especially during extreme weather events.

6. International aviation and shipping emissions



- 6.1 INZ does not have any specific comment on the inclusion of aviation and international shipping emissions in the net zero 2050 targets. However, we wish to highlight some challenges and opportunities.
- 6.2 New Zealand faces some fundamental geographical challenges like distance to, and size of market. We need to be careful in our policy initiatives, including for decarbonisation of aviation and shipping, to not further dissuade, or materially increase costs, for connections to New Zealand.
- 6.3 New Zealand is a taker of international aviation and maritime services and are dependent in large part on global developments. A 'fast-follower' approach to the inclusion of international aviation and shipping emissions to our 2050 targets.
- 6.4 We strongly recommend, however, that New Zealand continues to influence international standards and commitments, like CORSIA. There are material risks in the shipping and aviation industries if we are to be a leader.
- 6.5 Domestic initiatives, like including international aviation in the Emissions Trading Scheme should accompany a robust and thorough impact analysis, including assessment of international best practice. For example, the EU has included international aviation emissions in its ETS, but only within the European Economic Area, to avoid difficult carbon accounting, and avoid unfair disadvantages for its people.
- 6.6 However, New Zealand is exceptionally well-placed to be a large producer of zero-carbon fuels, given our abundance of wind energy. While hydrogen electrolysis, and further processing to ammonia, is in its infancy, there presents significant future opportunity for New Zealand to invest in an oversupply (relative to domestic demand) of renewable generation, for onwards processing³.
- 6.7 Future governments will need to carefully balance the economic opportunities that come from being a green fuel producer and the global emissions reduction impact, against the potential risk to New Zealand decarbonisation efforts and the domestic cost of electricity and green fuels.

7. Conclusion

- 7.1 Infrastructure New Zealand thanks the Climate Change Commission for the opportunity to submit on its draft advice on the 2050 target, international aviation and shipping

³ [PwC New Zealand offshore wind study](#)



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emissions inclusion in the target and Emissions Budget 4.

7.2 We look forward to reading the final advice.

Yours sincerely,

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