



New Zealand Institute of Forestry

Te Pūtahi Ngāherehere o Aotearoa Incorporated

Review of the 1st to 4th emissions budget, 2050 Emissions Reduction Target and Inclusion of international Transport

Consultation Submission

Climate Change Commission
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Table of Contents

1. Introductory Comments	3
2. About the Submitter	3
3. Summary 2nd 3rd & 4th Budgets	4
4. Summary 2050 target	5
5. Summary - International Transport Emissions	6
Submission	6
6. Revisions 1st, 2nd and 3rd Budgets.	6
7. 2050 Target	13
8. Including International Air and Ocean Transport in the Emissions Budget	17
9. General Comments	22

1. Introductory Comments

Thank you for the opportunity to submit on the review of the 2050 emissions reduction target and interim emissions budgets consultation.

If appropriate, the New Zealand Institute of Forestry (NZIF) wishes to be heard in support of its submission.

2. About the Submitter

Incorporated in 1929, the New Zealand Institute of Forestry (NZIF) is a professional body representing approximately 900 members. Our primary objectives are to advance the profession of forestry and promote the sustainable management of all forest types in New Zealand. We serve as an independent advocate for forestry, ensuring the highest standards of practice and advice in the industry.

NZIF offers Continuing Professional Development (CPD) opportunities, enforces a stringent code of ethics, and upholds performance standards. We fulfill a critical quality assurance role, setting benchmarks for professionalism and the quality of advice and practice within the forestry sector.

Our members are dedicated to the professional management of all forests, including plantation and natural forests, with a focus on conservation, protection, and commercial interests. They are employed in diverse roles across forestry companies, consulting businesses, research institutes, educational facilities, government departments, and specialist service providers.

The qualifications and areas of expertise of our members reflect the multifaceted nature of forestry management. They hold degrees and expertise in traditional forestry, science, economics, law, microbiology, hydrology, engineering, and resource management.

NZIF operates a regulated registration scheme, ensuring the proper registration and conduct of forestry professionals. This scheme applies to forest professionals providing forestry advice to both public and private entities, as well as those fulfilling various roles within the sector. Through this scheme, we maintain the integrity and professionalism of the forestry profession in New Zealand.

3. Summary 2nd 3rd & 4th Budgets

- NZIF notes (as per CCC webinars) the actions proposed to reach the budgets *are a minimum*, and failure to achieve the actions (afforestation etc.) will result in a failure to meet the budgets.
- NZIF understands the rationale the Commission has used to arrive at the draft 4th emissions budget but we *consider the model needs further amendment*.
- NZIF accepts the basis for revisions of emissions budgets across the period due to methodological changes. These represent essential recalibrations.
- NZIF *does not believe there is any significant change in forestry* or the use of forests as an offset. Cyclones and fire have occurred throughout history (e.g. Bola). NZIF believe significance as reflected in risks of forest loss is better managed through the adoption of a loss factor. Losses themselves due to fire and wind are not a new or significant risk in their own right.
- NZIF note and agree some adjustment should be made as a result of recent increased planting. However, *we note planting rates are very likely to drop below the minimum targets* (in fact are dropping as we write) for the next few years.
- While any future planting rates for new forests are speculative and cannot be modelled yet in future budget recommendations, we believe a section looking at the sensitivity of future budgets with respect to changes in the modelled planting rates, *would assist public and political discourse* in understanding the wider NZ risks of over or undershooting the targets. This is particularly needed if the target is strengthened and there is a need to take further action on methane particularly post 2050.
- NZIF note the reported Government intent to allow emissions and removals from pre 1990 forest management activities to be included. While acknowledging potential difficulties in measuring additionality and permanence, NZIF is supportive in principle.
- NZIF supports a strong research focus on whether (using remote sensing and A.I.), parts of our large native forest estate could be brought into the 'forest management' category. Much of this estate is in decline due to ungulate browsing pressure. In principle there are *large areas of NZ native forest which are below its biomass maximum*. Undertaking pest control and including the carbon removals might be a relatively rapid approach to securing improvements in NZ's long term overall native forest sinks as well as commensurate biodiversity and other environmental and social benefits.

- NZIF agrees with the recommendation there should be no recourse to using offshore mitigation measures except under exceptional situations.

4. Summary 2050 target

The Institute:

- Believes the status of NZ's and the world's progress in mitigating climate GHG production strongly suggests targets will need to be increased and, in New Zealand's case *cannot be met in the near term other than by additional offsetting*.
- Accepts while new potential technologies are appearing on the horizon in many areas, the timelines of implementation relative to the timelines for containing adverse climatological impacts mean (worldwide) any breakthroughs are going to need to be directed at accelerating decarbonisation and negative GHG emissions post 2050.
- Accepts risks from climatic disruption and volatility appear, in the short and medium-term, to be aligning toward increased downside risk outweighing upsides of current mitigation efforts.
- Notes the Commission's analysis, NZ is not 'pulling its weight', even with adjustments to the 2050 target. Unaddressed, this *will leave the country exposed in the future*.
- Agrees with the split gases approach but note the more recent international focus on methane has arisen from its relatively high but short-term impact and the fact short term reductions can and will feed through relatively quickly providing 'breathing space' to continue to address the problem of hard to remove fossil fuel emissions. Nonetheless, the shorter-lived impact is only a relative improvement compared with carbon dioxide. New Zealand's emissions profile means *methane remains a serious problem* and it is likely international attention will not accept a NZ 'no further warming' approach to biogenic methane emissions.
- Notes, in other forums, it has submitted the view unless directly planted for the purposes of a planned and managed transition to native forest cover, the only plantation forest (with limited exceptions) which should be able to accrue NZU's, is one which is planted and managed for wood products (including biomass) production purposes and operated in the ETS under the averaging regime.
- NZIF would like to see a revision of removals projections and low recent planting forecasts based on such modified assumptions incorporated into this round of future projections.

- NZIF supports the principle targets for 2050 emissions need to be reduced and indeed believe it is difficult to come to any other conclusion given what is presented in the documents.

5. Summary - International Transport Emissions

The Institute:

- Believes there is *no alternative but to include international transport emissions* in NZ's emissions budgets and net zero targets. Failure to do so is simply hiding from reality and the challenge to address climate change.
- Believes inclusion of international transport emissions are *essential for transparency* and political accountability.
- Accepts some further delay before inclusion may be warranted to provide time for further research and crystallisation of and alignment with international organisational responses. However, delays should not be protracted, and the Act should be adjusted to set a time for inclusion in the near future.
- Suggests inclusion of international transport emissions may advance strategic understandings as to the capability to formulate and implement a viable domestic liquid biofuels industry. This could advance understandings of the future role of forestry in NZ's emissions abatement journey over and above the role of removals.
- Note irrespective of the potential outcome of any domestic liquid biofuels scenario, inclusion of international transport emissions and their specific profiles in terms of ease of transition and likely requirement for residual removals beyond 2050 will paint a much more complete picture of the roles required of all domestic afforestation initiatives in NZ.
- Have no firm view of a preferred system for accounting for international transport emissions but in principle are swayed by the concept of the 'from/to next port' methodology as being the fairest concept.
- Is inclined to support a separated "gross emissions" approach for combined international air and sea transport emissions but also query why one would not instead have a separated net emissions approach.

Submission

6. Revisions 1st, 2nd and 3rd Budgets.

Do you agree with our assessment of the considerations that have informed our proposed budget level, including key judgements?

- Recognising the process the CCC's work stream has to adhere to, NZIF agrees the updated data on afforestation in the recent past could materially reduce the future net emissions required to meet the '2050 net zero' target if afforestation continues at projected rates.
- Critical to this outcome remains assumptions regarding future planting, which in the near term might be very low, and no increase in target ambition.
- NZIF agree that the available information at the time the budgets were prepared signals a possibility that NZ can reach a net zero status by 2050 or even earlier notwithstanding a failure to achieve the desired level of gross emissions reductions that must be achieved to avoid longstanding flow-on implications. Removals, particularly through forestry, simply ease the transition path and provide the breathing space to tackle gross emissions.
- NZIF also supports a continued pressure on solving biogenic methane. Like forest removals, lowering methane also affords more breathing space to solve CO₂ emissions. Indeed, forestry is one of the drivers for the methane emissions reductions achieved to date and will be required for further reductions. 'No further warming' is in our view not a viable stance given the apparent trajectories for climate change.
- NZIF has previously submitted:
 - Available NZU's auctioned should be reduced as any major direct policy response is initiated e.g. NZ Steel and Fonterra, EV's etc.
 - Future plantations eligible for claiming carbon credits should only be
 - Those registered and managed for timber production under averaging rules.
 - Plantations managed as permanent forests where there are documented forest plans to progress to a permanent indigenous forest over extended time frames.
 - A limited range of alternative exotic species e.g. redwoods managed as permanent or continuous cover production forests which have lifecycles well into the ranges of many native species.
 - Limits on the criteria by which existing post 1989 production forests could be repurposed to permanent forest.
 - Limit the areas of future afforestation to be made available to accrue NZU's.

- NZIF questions why CCC would propose limiting forest planting which actually removes carbon from the atmosphere, before proposing the Government greatly lowers the volume of “hot air” units they auction quarterly.
- These suggestions have been made as a basis to reduce the total availability of removal units in the future, partially improve the efficacy of the carbon market for driving emissions reductions and ensuring land use change from pastoral agriculture to forestry only involves productive and positive socio-economic use or major landscape scale improvements to biodiversity. The requirement for the plantations to be productive under averaging also provides a much improved level of risk insurance given the lower levels of claimable sequestration, the requirement to replant and regional spatial disaggregation.
- In a market sense, we are not clear whether the afforestation pathways incorporate the effect of capitalisation of carbon prices into land values and therefore the economics of afforestation for carbon sequestration. The question as to what moderating effect this price/value tradeoff will have on the planting of the next additional hectare does not appear to be evaluated.
- In our view, the dialogue in respect of the issue of excessive afforestation also needs to be reframed. The objective must be to focus on emissions reduction, any gap between what is reasonably technologically and economically feasible is the purpose of removals. If there is an afforestation overshoot, then provided it is not excessive, that is icing on the cake. A removal is a removal, and the world and NZ as a whole is better off given the current prognosis and the fact most of NZ’s contribution to global warming has been historic forest clearance. Conversely, an undershoot will likely be a costly mistake for NZ, and in particular, future generations.
- NZIF believe it would assist the public discourse if, as has been done for methane, the commission ran specific sensitivity models on forest removals, reflecting the suggestions above to provide a better sense of the volatility of the carbon budgets to changes in afforestation rates and management.

Do you agree with the approach we have taken to developing our EB4 demonstration path?

Is there anything we haven’t considered that we should be including in this approach?

- NZIF notes the constraint which has been applied to the reference scenario using information as of July 2023. We also note a lot has happened since, generally and in respect of forestry under the ETS. The minimum targets the CCC has in their models with respect to afforestation rates in the next few years are unlikely to be achieved, placing NZ in a worse position than we currently are in.



- There is a possibility due to a decline in afforestation rates from 2023 and a number of other factors including well signalled policy changes, market uncertainty and regulatory change, lower levels of afforestation, well below the minimum the CCC models require, will be sustained for some time.
- The revised modelling is indicating that with the head start provided by better progress on transport and energy and the early high levels of afforestation, either lower future levels of afforestation can be entertained, or a net negative GHG balance achieved earlier than 2050. Such a positive scenario still requires continued significant reductions in emissions. We are concerned that neither may eventuate in the near term with changes in policy.
- It is noted that on the systems changes by sector there has been a recognition on highly erodible land Class 7 & 8, retirement to natives is a desirable pathway. We agree it is desirable but also consider it to be a highly unrealistic scenario without Government subsidies or a NZU price well in excess of \$150. As evidenced by the lack of progress on native expansion to date and little visible pathway to acquire such land at scale.
- In terms of exotic afforestation (excluding transition permanent forests), if NZUs were only accrued to production forests using averaging, much of the sought after areas will be class 6 and better parts of class 7. Increasingly, production forestry will not be interested in steeplands due to the contingent liabilities associated with managing such land in the face of increased climatic volatility.
- The result may be an increased pool of low value land that may be available for retirement or native afforestation, principally using colonising species, But, the competition for land with pastoral agriculture will remain with the controlling factors being equilibrium between the combined carbon /log market and land prices on one hand and the markets for sheep / beef and the extent to which farmers have to adjust (or otherwise) for methane mitigation strategies and social factors such as farm succession or exit.
- As a result of Cyclone Gabriel there are significant but as yet not fully known areas of production forest which would fall on landforms and geologies meeting the criteria of “purple zone” as described in the government enquiry report. NZIF concur these areas are not suitable for production forestry. They too need to be retired but the means to do so was not addressed in the enquiry. Any transition may involve extended periods of lowered carbon stocks in such areas.
- We do not believe such plantation areas can be simply retained on slope to transition to some future native status without considerable risk.

- NZIF suggest some thought be given to the degree to which this may influence stock assessments.
- As mentioned previously NZIF believe some degree of sensitivity / scenario analysis incorporating more conservative assessments of afforestation might be helpful.

Sector contributions.

Do you agree the changes we assume for each sector are plausible and achievable?

Do you have any evidence or insights that could contribute to our analysis?

- **CCS CDR:** NZIF concur in the near to medium term, forestry related removals could be more cost effective and overall, economically and socially positive relative to the direct 'sunk cost' of capture and removal except that associated with geothermal.
- **Biomass:** NZIF agree exotic forest biomass residues could be a major source of a future essential biomass supply. We note however, successful recovery and conversion is currently highly dependent upon scale, aggregation and proximity to process points. It remains very unclear as to whether and how biomass streams can develop into a consistent and economic supply in some areas. This may be further complicated if afforestation is constrained by adverse regulation preventing afforestation on better terrain while industry seeks to retreat from adverse terrain.
- **Mobile Machinery/Off Road vehicle emissions:** NZIF broadly agree with the assumptions made but note hybrid options for some heavy machinery are already in the pipeline.
- **Farming practice:** As noted previously, a potential for reduced planting rates due to regulation and uncertain equilibrium between land cost and carbon/farm incomes could result in lower levels of landuse change (compared to the 17% modelled) and higher emissions levels.
- **Forestry:** NZIF note the adjusted minimum areas for exotic afforestation post 2023 and also the reduced levels of permanent deforestation. Our main comment as already discussed is the volatility of the current carbon market / forestry regulatory scene and the potential for this to induce lower or low levels of afforestation. Policy adjustments (as discussed) in respect to the type of forestry which could claim units may also (intentionally) further reduce supply of removal units.

NZIF note the adopted reference to 'retirement' as a component of native afforestation. We agree but also note to achieve this at large scale or native afforestation at large scale on class 7 & 8e land is likely to involve or require, predominant use of pioneer/colonising species at relatively slow rates of sequestration gain. It is unclear whether this has been factored into new modelling relative to the original pathways.

NZIF also note per previous discussions, a limited range of alternate exotic species can also provide enduring carbon sinks from 'multiple decades to hundreds of years' and in the right locations could eventually be managed productively under a continuous cover system without compromising the carbon sink. This may provide opportunities to develop the sought-after long-term sinks, especially at farm scales, at a faster rate, and cheaper, to supplement naturally regenerated large scale retirement areas.

Impacts.

Do you agree with our assessment of the impacts?

Are there other impacts the Commission should consider, or give more prominence to?

Are there other specific effects on iwi/Māori we should be considering?

Are there other matters about the Crown–Māori relationship, or for te ao Māori, that we should be considering?

- As far as the forestry sector is concerned, NZIF broadly agree with the potential trends describing changes to the land use sectors. Pastoral (sheep and beef) is likely to decline and forestry will, economics facilitating, seek to transfer to some of those better classes of land. Retirement, regeneration and native afforestation will further reduce the farmed area, especially in erodible steepland areas. What is unclear, however, is whether this trend will continue to occur at the rate the Commission's budget is relying on. If forest investors lose interest in, or are prevented from, planting on other than the highly marginal lands and acquisition of land for retirement is not attractive for farmers there are few other viable options.
- The degree to which afforestation will replace pastoral farming is subject to a number of interacting variables to which afforestation will be highly sensitive. Without a stable investment and regulatory environment, we are not convinced any particular pathway the Commission has evaluated will necessarily mirror reality. Budget revisions may have to be considered for adaptive change in other contributors to the source and sink mix should afforestation trajectories prove markedly divergent.
- NZIF agrees there is a potential for forestry, through its residue and low-grade log streams, to contribute major changes to value in the NZ economy and bio circularity. However, securing such added benefits will likely be heavily dependent upon scale, aggregation and proximity and also the policy and economic / infrastructural issues required to drive such matters as energy pricing and security, transport modes etc. Our suggested forestry ETS policy adjustments support this potential outcome from a biomass supply side, but other policy settings other than the NZU price under the ETS are likely required to develop the demand side.

- NZIF broadly agrees more plantation and particularly production forestry in rural economies will change the nature of those economies and their employment. We accept in some areas, afforestation of reasonably sized areas may mean historical settlement and employment patterns can no longer be sustained. But we strongly reject the narrative it is wrecking rural communities. Such dynamic change in New Zealand rural communities is a constant. Many of these have been in obvious decline for years and the evidence of it is visible throughout rural NZ. It is part of a trend entrenched long before significant afforestation occurred in many areas. Drifts toward urbanisation, less work due to more efficient farming etc have all seen fewer jobs, less people, migration of the young, school and other services closing. Production forestry employs similar or more people than pastoral farming and those people tend to concentrate in regional centres.
- NZIF agrees there is potential to integrate small forests of all types at the farm scale particularly if the long overdue framework is eventually developed to deal with methane emissions. Natives and continuous cover long lived exotics could all be part of the solution. NZIF also notes any land which transitions from farm to forests not only fixes carbon, but effectively lessens methane production as a result of less methane producing animals.
- NZIF are fully aware of the large Māori involvement in the forestry sector. We agree there is a necessity to ensure policy developments maintain and do not undermine efforts to achieve economic security from their land while achieving their own transition pathways for their whenua.

Changes to the 1st 2nd & 3rd Budgets

Do you agree with the Commission's approach to assessing changes to emissions budgets which have already been set?

Do you agree that all set budgets should be revised to account for methodological changes?

Do you agree with the Commission's assessment of the significant changes that have occurred?

- NZIF supports the Commission's approach to assessing changes in existing budgets. We also fully support the adjustment of all budgets to accommodate methodological changes to maintain consistency and correctly illuminate the cumulative 'flow-through' of the effects arising from improved accuracy of methods.
- NZIF supports the framework for significant change developed by the commission but do not agree with the inclusion of forestry under the criteria set out.



- In identifying afforestation as the only 'significant change' NZIF refer to our previous comments in regards to recent past afforestation rates. NZIF has put forward suggestions that might assist developing a more stable policy environment.

Measuring progress towards 2050

Do you agree with our assessment that the Government should continue with the existing accounting approach?

Is there any additional evidence that would support reviewing the existing approach?

Do you agree with our assessment of what the Government should be considering when it sets a reference level for forest management?

Do you agree with our assessment of what the Government should be considering as it develops accounting methodologies for inclusion of additional sources and sinks in budgets and target accounting?

- NZIF supports continuation of accounting using the production-based methodology as the only reasonably practical approach to date.
- NZIF supports the accounting approach for forestry emissions based on averaging and uses for post 89 forests as described.
- Given its currently long embedded standing, NZIF believes baselines set at 1990 for forest management remain appropriate.
- NZIF supports the notion intent to develop means to account for other sources and sinks and the prioritisation of organic soils and biomass (other trees and regenerating vegetation).
- NZIF would also strongly support further investigation (under forest management), into the practicality of establishing baselines in established native forest types and whether depleted biomass reserves in some of those forest types could be restored and accounted.
- NZIF does support work looking into the integration of a natural disturbance provision in the accounting process. While the existing provisions under the ETS can cope with relatively small and isolated excisions from an estate where replanting may not be feasible, the situation exemplified by Gabrielle is different. Here generalised retreat is required over potentially quite large areas and any transition to an alternative cover may be relatively extended over time. As well as accounting for sequestration losses it is important any rules do not encourage perverse outcomes such as trying to maintain plantings in places they shouldn't be.

7. 2050 Target

Assessing the current 2050 target contribution.



Do you agree with our approach to assessing how the current 2050 target contributes to global efforts to limit warming to 1.5°C?

What role do you think Aotearoa New Zealand's national circumstances should play in how the country contributes to global efforts to limit warming, as defined by the 2050 target?

Do you think Aotearoa New Zealand's national circumstances justify departing from the IPCC's international burden sharing perspectives?

- NZIF supports the basic framework being used and agrees NZ should remain in a standardised framework aligned with the IPCC and international frameworks.
- In terms of its national circumstances, NZ is relatively wealthy and has plenty of options available to make change comparatively easier than many other nations. Changes are not necessarily easy but to attempt to avoid change we concur is ultimately likely to impose more painful change and higher cost.
- NZIF accepts the general trajectory of climatic events being experienced in NZ conform to the increasingly adverse implications being warned by the scientific community. NZIF supports the prognosis such events and their frequency will become increasingly disruptive of the economy and societal function.
- While only a small nation and a small gross contributor to global GHG balances, NZ is a large contributor on a per capita basis. While NZ cannot lead in many of the technologies associated with GHG elimination it is still generally recognised to be well heard in international forums.
- NZIF believes NZ is highly vulnerable through its export markets. NZIF believes NZ therefore has:
 - Little choice but to be seen to walk the talk in the markets it is exposed to.
 - Will need to go further than the interim target for methane.
 - Cannot credibly argue in world forums for other less wealthy nations to step up if it is not seen to be doing its share.
- Based on the above, NZIF believes there is no basis for arguing NZ's national circumstances should provide for less ambitious targets including methane.
- NZIF believe the argument for "no more warming" in respect of biogenic methane is untenable in the current and future environment.

Significant change.

Do you agree with our approach to looking for significant change? Are there any other approaches or pieces of evidence you think we should include in our final review?

Do you agree with our initial findings related to significant change? Have we missed any important information or evidence?

NIZF:

- Are in broad support of the approach to looking for significant change.
- Agree while national targets and action may be under political threat of dilution in numerous nations, the broad evidence is many nations are increasing their pace and ambition. NZ risks becoming a laggard.
- agrees with the general prognosis the risks and frequency of exposure to effects associated with climate change are increasing. Disagrees there are issues to be considered in respect of the role forests play as carbon removals. In respect of permanence, NZIF have, in submitting previously on the ETS adjustments, made a series of suggestions (below) which we believe would materially alter the permanence risk profile. Future plantations eligible for claiming carbon credits should only be:
 - Those registered and managed for timber production under averaging rules.
 - Plantations managed as permanent forests where there are strict documented stepwise progressions in management to achieve transition to a permanent indigenous forest over extended time frames.
 - A limited range of alternative exotic species e.g. redwoods managed as permanent or continuous cover production forests which have lifecycles well into the ranges of many native species.
 - Limits on the criteria by which existing post 1989 production forests could be repurposed to permanent forest.
- Adoption of these would lead to lowered sequestration unit exposure per hectare occupied, avoidance of difficult and erodible country potentially exposed to disruptive weather events, reduced fire risks (more intensive management and access) and potentially some reduction in biosecurity risk.
- In relation to matters of acceptability, the avoidance of highly erodible steeplands will also address one element as listed, but as NZIF have repeated many times, it will not solve farmer concerns over land use change as this is an inevitable social and economic process which has been visibly underway for years in rural NZ. Indeed, the Commission recognises forestry will be needed though either exotic or native afforestation. New afforestation may add to the trend underlying reallocation of rural populations in some areas, but it has not been the determinant driver of rural NZ decline. It has simply concentrated employment and economic activity in regional centres.

- Notes if large areas of difficult and erosion prone hill country are retired or planted with initially predominantly colonising native species, fire risk will remain elevated due to both flammability and access. Sequestration rates may also have to be reviewed and wound down to reflect the extended timeframes for establishment and growth.
- In commenting on potential environmental and ecological indicators when assessing for change or likely future change, note there is extensive water quality monitoring and modelling which while not necessarily able to attribute change at a catchment scale over short time frames, has been sufficient to establish in most locations water quality follows a very standard hierarchy of declining quality from conservation land, to plantation forestry, to pastoral agriculture, to urban. We suggest this is sufficiently robust to be referred under likely future change. Similarly, contrary to much public understanding, there may be enough standardised information to comment upon biodiversity.

Impacts of change.

Are there any issues or impacts related to people and/or the climate that you want the Commission, and eventually the Government, to consider and prioritise when reviewing the 2050 target?

- NZIF submit on the balance of probabilities and the information available, NZ will be forced at some point to be more ambitious in its climate 2050 target, if not now then with ever more abrupt consequences, sometime in the not-too-distant future. Given the 4th emissions budget is setting the scene for the period over a decade hence, it is also the place to incorporate this.
- NZIF note while scenarios suggest 2050 net zero can be relatively easily achieved provided plantation afforestation continues at the minimum rate modelled, we believe the current unstable investment and political climate have caused a major pull-back by the industry starting in the 2024 year which will result in these minimum targets not being met.
- NZIF suggest there is a real risk if the operating environment is not stabilised, not only will commercial plantation afforestation not meet the anticipated minima required to meet the current target but will be definitively undershooting for any hardened 2050 target.
- The consequences will be further compounded if native afforestation actuals remain well short of modelled and additional provision is not made to accommodate the slower sequestration buildup attributable to natural reversion/retirement or colonising species planting (or seeding) at scale on the extensive areas of class 7e and 8 referred to.

- NZIF acknowledge considerable care is needed in developing the framework for accounting for ‘forest management’ in pre-1990 forests not only for the reason described but for the risks of incentivising the abandonment of forests established for productive intent to permanent forests. There are rational and legitimate economic and environmental reasons why abandonment from production may be a good thing in specific circumstances, but a structure which broadly incentivises unmanaged permanence on environmentally sensitive sites or loss of wood product streams in manageable forests in favour of profits from carbon only is a matter which requires in depth policy formulation.
- Notwithstanding the concerns expressed over forest management in plantations, NZIF do support a detailed look into forest management related to NZ existing large bodies of indigenous forest. If there are large areas of the estate suffering considerable loss of biomass due to sustained ungulate pressure and are in a state below their natural biomass carrying capacity, there could be significant sequestration potential to rejuvenate these areas back to natural capacity potential while also achieving major biodiversity benefits. There may be debate over business-as-usual definitions but currently, BAU is sustained degradation. NZIF suggests the rapid development of remote sensing technologies may provide an opportunity to bring our depleted indigenous estate into the system. Attaching a sequestration value to parts of the estate would also help financially secure its protection.
- NZIF supports the key criteria used to underpin the entry of new sources and sinks as well as the secondary criteria.
- NZIF supports the development of a means for accounting for background natural disturbance. The devastation wrought on certain specific geological formations even amongst well established closed canopy plantations suggests parts of the general Tairawhiti estate (purple zones however finally defined) represent an unmanageable proposition and a required retreat in the face of climate change trends. Accommodating the adjustment out of high sequestration forest and managing a just transition are issues requiring consideration.

8. Including International Air and Ocean Transport in the Emissions Budget

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?

NZIF believe:



- The Commission's work has laid out clearly the context within which this matter must be considered.
- With reference to the accompanying consultation documents on the interim budgets and 2050 target it is in our view, completely inconsistent with the necessity of meeting the 1.5deg (or max 2 degree) warming objectives and a net zero 2050 target when a major source of fossil carbon is unaccounted.
- NZIF note while the Commission reports that significant reductions in emissions from these sectors are potentially possible in the longer term, achieving gross zero by 2050 is highly unlikely. We concur, but this immediately brings into focus the need for further emissions removals and feeds back into projections for the required minimum levels of removals by forestry (of all types).
- Given NZIF concerns that afforestation rates under the current policy and political environment may not even meet the Commission's minimum required projections to meet net zero of all gasses including methane by 2050, the actual challenge may be very much greater especially given the 'difficult to avoid' nature of these added emissions.
- NZIF contend that failure to account for international air and sea transport creates a less transparent framework where for reasons of political expediency an 'out of sight out of mind' culture could evolve diluting NZ's efforts and visible obligations.
- Ultimately, if NZ is not measuring these extra emissions, then it is unlikely to manage them. If they are not being managed as part of the integrated totality of NZ's emission targets and mitigations, then the likelihood of successful approaches to reductions will be also reduced.
- Failure to include these emissions will potentially create distortions in the wider productive economy notwithstanding that inclusion may impact export competitiveness. However, export competitiveness may also be adversely impacted through the actions of other nations if NZ is not keeping up with initiatives being implemented in client nations.
- NZIF concur that without complimentary domestic policy, international agreements and initiatives, on their own, are unlikely to drive the impetus needed.

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?

- NZIF have no particular view on the questions raised other than to confirm the assumption that Māori involvement in forestry is significant and inclusion of overseas transport emissions could affect them disproportionately both in relation to land use and afforestation policies arising from GHG removals and potentially in terms of negatively impacting forest export log revenues or conversely creating strategic opportunities in relation to forest estate use to supply biofuels and other bio-products or increasing viability of domestic processing of exportable finished wood products.

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?

- As above for Māori, NZIF notes that the imposition of emissions reduction policies on overseas shipping could, at least initially, have some level of negative impact upon the viability of log exports and processed wood products.
- Adverse effects on the wood products export viability would likely be moderated by the fact that low initial curtailment of emissions may have limited effect and as time progressed, more of our competitors and their national trade and policy structures would likely be imposing more strident emissions reductions locally thus maintaining some moderation of differential effects.
- More direct moves to reduce emissions may drive a greater impetus for domestic biofuel use. However, as noted in the parallel consultations on budgets and the 2050 target, biofuel production will require scale, aggregation and proximity to processing. Achieving a marriage of all the necessary components will almost certainly require a government mandated or supported strategic solution with a long-term objective. Such matters were discussed in the Forestry Sector Transformation Plan released in 2023. It is unclear now whether that initiative will be developed.
- It is conceivable that an increased focus by most larger nations on international transport emissions may, over time, swing and incentivise more domestic processing of timber products rather than the export of raw logs. Such an incentive would likely be good for NZ but the sensitivity of the supply chain to prices and costs is likely to remain high.
- As already noted, any move to account for these emissions will have an immediate flow through to the assumptions about the desirable/achievable/required levels of carbon removals due to forestry. The effect could be material as to how much land, what type, and where on which afforestation is to occur.
- Energy independence could be a co-benefit of domestic biofuel production.

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?

- *Option 1: Refuelling – fuel sold in this country.*
- *Option 2: To/from next port – for the specified travel leg.*
- *Option 3: To/from final port – for the entire journey.*
- *Option 4: Fuel use within the Exclusive Economic Zone.*
- *Option 5: Share of global emissions.*
- *Option 6: Fuel used by operators based in this country.*
 - NZIF do not have a particular view on the best methodology for accounting for international transport emissions as we don't have specific expertise in this field. However intuitively we support the 'to/from' next port as the likely fairest proportional system for NZ's component of emissions.
 - However, in supporting option 2, it is recognised this may also be administratively more difficult and complex to implement and track particularly if other jurisdictions don't standardise.

Is there any further information or evidence the Commission should consider on other impacts from international shipping and aviation contributing to climate change?

- This is not an area of expertise for NZIF. However, given uncertainties in means to measure other climate influencing agents and no international consensus on action, the inclination is to set targets for GHG emissions only.

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.*
 - NZIF suggests option 3 is appropriate given the relatively early stages of accounting method for the other impacts. A future revision could include them via a multiplier as international policy cohesion evolved and the methods standardised.
 - While advocating for a delay, NZIF emphasise that work to develop the necessary framework should continue with the objective of inclusion of international transport emissions within a relatively short timeframe.



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.*
 - At this point, because we are suggesting the actual incorporation of international transport emissions be delayed slightly (option 3 Chapter 4), NZIF are ambivalent as to the preferred structure for inclusion between options 1 & 2 above.
 - Broadly, because the emissions profiles and technology solutions involved in international transport involve relatively unique circumstances including the developing interactions between nations and international coordinating organisations, NZIF lean toward a separation (option 2), rather than absorption (option 1).
 - NZIF do query, notwithstanding any need to adjust legislation, why it would not be possible to run a completely parallel set of a NET zero target and budgets for international emissions. This would enable transparency both independently and in aggregation (total progress of all NZ emissions abatement and removals) while recognizing the differences in the pathways that may be followed by international emission reduction efforts, driven by technologies and scales and international cooperation that are not reflective of the domestic situation. The separation would also enable flexibility in relation to such matters as purchase of international removals and alignment with international protocols and agreements. At the same time with any necessary domestic policy controls in place, future residual removals would still be able to make use of the same pool created by NZ's afforestation efforts or share the benefits and scale advantage should domestic biofuel production reach commercial reality.

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.*

- Emissions are emissions. Given the general scientific prognosis NZIF are generally supporting of high ambition pathways as internationally as well as domestically it is likely to require continued pressure to galvanise the R & D and investment pathways required to make achievement of targets a reality.

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?

- In aggregated form, the inevitability of including international transport emissions is the likelihood that the net emissions profile will have to change to match residual emissions. This is one of the reasons we have suggested running separate net zero targets and budgets for domestic and international GHG emissions. This would enable greater transparency and flexibility in managing domestic Vs international emissions pathways while still accounting for the aggregate total.

9. General Comments

NZIF would like to thank you for the opportunity to submit on this consultation. We would welcome any opportunity to provide further clarification in relation to the points we have made in the body of this submission.

NZIF seeks clarity and *stability from Government and policy frameworks* to provide a consistent path forward.

NZIF have provided suggestions which would assist in developing a more nuanced approach for the role of forests in sequestration and avoid rampant permanent plantation only expansion.

We suggest part of the underlying problem has been the apparent focus forestry's only real purpose in NZ's current ETS context is to sequester in a neatly choreographed sequestration contribution over time to balance emissions shortfalls in the difficult journey to net zero by 2050 and ultimately gross zero beyond. In our view sequestration in production forests *is largely an environmental service co-benefit* from the primary purpose for which the forests are to be established in the first place.

Expansion of the forest estate in various forms over time is *generally a good outcome* for a range of services.

If it undershoots currently sought afforestation minimum targets as modelled by the Commission, *the adverse consequences for NZ could be significant and complex to fix.*

Conversely if afforestation overshoots this is generally a good thing, and the co-benefit of sequestration will also build a buffer which helps NZ to at least meet its climate obligations and even better contribute to negative emissions.



Either way, the trajectory which really matters is *the reduction in gross emissions* as soon as practically possible. We believe laser focus needs to remain on this which may require more emissions reduction push than the ETS can provide. The constant fretting and ensuing politicised debate around forestry may well secure an outcome NZ comes to regret.

If you have any queries, please contact the undersigned.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'J Treadwell'.

James Treadwell (*Fellow and RMNZIF*)

President

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