



New Zealand Institute of Forestry
Te Pūtahī Ngāherehere o Aotearoa Incorporated

Second Emissions Reduction Plan 2024 Consultation Submission

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Introductory Comments

Thank you for the opportunity to submit to the 2nd emissions reduction plan consultation.

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

About the Submitter

The New Zealand Institute of Forestry (NZIF), established in 1927 and Incorporated in 1929, is a professional body representing over 850 members who are experts in various aspects of forestry. The NZIF's mission is to advance the forestry profession and all forests in New Zealand and to serve as an independent advocate for the forests and good forestry practice.

Dedicated to enhancing forestry practices and benefiting the broader community, the NZIF emphasises education, accountability, and adherence to its code of ethics and performance standards. It plays a critical role in quality assurance, setting benchmarks for professionalism and ensuring both its members and the wider forestry profession uphold high standards of practice and advice.

NZIF members are involved in the professional management of all types of forests—plantation, natural, conservation, protection, and commercial. Our members are employed across a range of sectors, including forestry companies, consulting firms, research institutions, educational organisations, government agencies, and specialist service providers.

The diverse qualifications and expertise of NZIF members span multiple disciplines essential to managing New Zealand's forest resources, including traditional forestry, science, economics, law, microbiology, hydrology, engineering, and resource management.

To maintain professional integrity, the NZIF operates a regulated registration scheme which governs the registration and conduct of forestry professionals. This includes consultants who provide forestry advice to both public and private entities, as well as those in other related roles.



Summary

Broad Context

The Institute, focused on good forestry practices, has primarily concentrated its commentary on aspects related to forest management and, where applicable, broader land management issues. However, the Institute has noted the following concerns:

1. With the discontinuation of many initiatives from the previous Emission Reduction Plan (ERP), the current plan appears to have been replaced by a new set of proposals. Instead of refining and building upon the established initiatives with detailed adjustments and progress tracking, the new plan consists largely of proposed actions with anticipated outcomes, such as the adoption of carbon capture and methane reduction technologies. However, the lack of detail in key areas, including modelling and land bank constraints, makes it challenging to provide a well-informed response.
2. Climate change poses an existential threat, impacting New Zealand directly and imposing significant economic costs. The new ERP and associated media statements emphasise the potential of new technologies to address these challenges, suggesting New Zealand can adopt a relatively hands-off, market-led approach, focusing on offsetting emissions until such technologies become available. NZIF is concerned this approach underestimates the complexity of the problem.
3. While technological innovation, both globally and in New Zealand, is essential for achieving decarbonisation and mitigating climate change, there is a significant risk the rate of climate change and the severity of its effects may outpace the assumed benefits of future technologies. As highlighted in past reports by the Climate Change Commission (CCC), emissions from fossil fuels released now will lock in global heating, and these emissions cannot be effectively reversed by future abatement efforts alone. Achieving the necessary reductions will require additional tree planting or large-scale carbon capture and storage (CCS), and these measures must be implemented at a scale and speed aligned with the global warming trajectories established by the international scientific community.

These considerations underscore the importance of not only adhering to but exceeding emission budgets to ensure New Zealand remains on track to meet its net-zero targets. The CCC's analysis indicates New Zealand needs to elevate its



ambitions for reducing and mitigating emissions, as many comparable countries have already done. By any reasonable measure, New Zealand is currently falling short, even after the recent adjustments to the 2050 target and interim budgets. This shortfall is further compounded by the challenges posed by international travel, shipping, and the ongoing operations at the Te Wai Point aluminium smelter.

Regarding biogenic methane, there is uncertainty surrounding the government's policy expectations. The agricultural sector has expressed a preference for a "no additional heating" approach, but NZIF notes recent international focus on methane (CH₄) stems from its relatively high but short-term impact. Near-term reductions in methane emissions can provide critical "breathing space" to address the more challenging problem of fossil fuel emissions. There is a risk the international community may not accept New Zealand's "no further warming" approach to biogenic methane emissions.

Forestry Principles

The New Zealand Institute of Forestry (NZIF) has consistently emphasised, in submissions to MPI, MfE, and the Climate Change Commission (CCC), the importance of using forestry strategically to manage carbon sequestration. The following points outline NZIF's position:

1. Significance of Afforestation:

- **Transition to Zero Emissions:** Afforestation provides critical breathing space for the national economy as New Zealand accelerates its transition to zero gross emissions.
- **Enhancing the National Carbon Sink:** Expanding the national carbon sink is essential for removing historic emissions.
- **Supporting the Bio-economy:** Forestry underpins the development of circular bio-economic products and activities.
- **Ecosystem Services:** When planted in appropriate locations, forests can deliver ecosystem services at scale within the productive landscape.

2. Exotic Plantations for Carbon Sequestration:

- **NZU Accrual:** Only plantation pine forests managed for timber production and operating under the ETS averaging regime should accrue NZUs.



- **Permanent Forests:** Exotic plantations may be planted as permanent forests under a stock change regime, but only if they are part of a planned transition to indigenous forest cover.
- **Environmental Management:** Species selection and forest management must mitigate risks such as soil erosion, wilding tree spread, and fire.

3. Exceptions and Specific Considerations:

- **Long-Lived Exotic Species:** These may be planted as permanent forests if they are suitable for continuous cover management under a stock change regime.
- **Farm Scale Offsetting:** Woodlot plantings of exotic species at the farm scale may be appropriate for offsetting farm property emissions.
- **Class 7 Land:** Large-scale exotic plantations should not be established on Class 7 land with tertiary mudstone landforms, except where transitioning to native species is specified and managed. Afforestation interest on such land is expected to be low due to high climate-driven risks.
- **Class 8 Land:** No commercial exotic plantations should be established on Class 8 land.

4. Indigenous Planting on Marginal Lands:

- **Cost and Feasibility:** Direct planting of indigenous species on Class 7 or 8 land is expensive and likely feasible only through natural reversion or planting pioneer species like manuka/kanuka, with enrichment by other native species.
- **Pest Management:** Effective pest management is crucial for these forests to progress to tall forests, with sequestration benefits contributing to net zero goals by 2050 likely delayed.
- **Targeted Native Planting:** Native planting to achieve diverse native forests should be targeted to lowland farms and areas where it can be integrated into overall property management and environmental mitigation.

5. Pre-1990 Forest Management in the ERP:

- **Inclusion in ERP:** NZIF acknowledges the government's intention to include emissions and removals from pre-1990 forest management in the Emissions Reduction Plan (ERP).



- **Measurement and Permanence Challenges:** While acknowledging potential difficulties in measuring additionality and permanence, NZIF supports this inclusion, especially for the large native forest estate under pressure from ungulate browsing.
- **Research and Verification:** NZIF supports research into measurement technologies to verify the efficacy of this principle.

6. Afforestation Rates and ERP2:

- **Overstated Projections:** NZIF's data indicates the afforestation rates assumed in ERP2 are significantly overstated. The actual planted areas in 2023 and 2024 are only 89% and 52% of those projected in ERP.
- **Revision of Projections:** NZIF urges a revision of future removals projections based on more realistic recent planting estimates, incorporating a more nuanced modelling approach.

7. Impact on Māori:

- **Enduring Impact:** Regulations will have lasting impacts on Māori-owned land, which will remain in Māori ownership in perpetuity.
- **Land Distribution:** Māori own significant areas of natural forests, plantation forests, and farmland, with a disproportionate amount of steep, remote land due to historical patterns of land acquisition.
- **Plantation Forests:** Approximately 40% of New Zealand's plantations are on Māori-owned land, though only 6% of the national tree crop is owned by these landowners.
- **Pre-90 Forest Land:** Most Māori-owned plantation land is pre-1990 forest land, often under leases or Forestry Rights, and will be returned to Māori ownership at the end of the term.



Submission on the Second Emissions Reduction Plan (ERP2)

Initial feedback- Consultation introduction

In response to the request for feedback on the introductory generalities of the ERP2, NZIF submit as follows.

What do you think is working well in New Zealand to reduce our emissions and achieve the 2050 net zero target?

The Emissions Trading Scheme (ETS) struggled to effectively reduce both gross and net emissions in its early years, largely because it covered only a few sectors and NZU prices were too low to drive meaningful change. It wasn't until the purchase of overseas 'hot air' units was halted the ETS began to show some effectiveness. However, progress stalled again as political resolve weakened in response to rising NZU prices and increased afforestation.

On the other hand, direct interventions funded by recycled ETS revenues have been more successful. Initiatives like the Government Investment in Decarbonising Industry (GIDI) Fund, the Clean Car Scheme, and various energy efficiency and decarbonisation efforts have made significant strides in directly reducing gross emissions.

The Government is taking a 'net-based approach' which uses both emissions reductions and removals to reduce overall emissions in the atmosphere (rather than an approach which focuses only on reducing emissions at the source). A net-based approach is helpful for managing emissions in a cost-effective way which helps grow the economy and increase productivity in New Zealand.

a. What do you see as the key advantages of taking a net-based approach?

The 'Net Based' approach is not a new initiative or recently identified 'key advantage'; it has been a fundamental aspect of the Climate Change Commission's (CCC) budgets from the beginning and has always been integral to the pathway towards 2050. Achieving a net zero target without a mix of offsetting and gross emissions reductions would be socially and economically impractical. However, as a professional and science-informed organisation, the NZIF advocates for a pathway that prioritises gross emissions reductions.

b. What do you see as the key challenges to taking a net-based approach?



The main challenge with a net-based approach is ensuring efforts to reduce gross emissions are not undermined or delayed by the short-term reliance on offsetting. In New Zealand, offsetting (through removals) has always been viewed as a short- to medium-term strategy to facilitate the transition while addressing the more difficult task of decarbonisation. This distinction is crucial because failing to achieve rapid decarbonisation may lead to irreversible consequences, with cumulative and immediate impacts. Global warming is driven by increasing carbon emissions, and its effects are already being felt worldwide.

What, if any, other sectors or areas do you think have significant opportunities for cost-effective emissions reduction?

As highlighted in recent emissions budget reviews by the Climate Change Commission (CCC), international air travel and ocean freight are significant yet overlooked sectors which are critical for both New Zealand and the global community. These missing links must be addressed urgently. There is a pressing need to harmonise methodologies and integrate these emissions profiles into the national accounts. Until this is achieved, New Zealand risks falling short of its 2050 target.

What Māori- and iwi-led action to reduce emissions could benefit from government support? There are additional questions about Māori- and iwi-led action to reduce emissions and impacts of proposed ERP2 policies on Māori and iwi in chapters 1 and 12.

Please see NZIF recommendations in Chapter 12



Chapter 1 - Our approach to New Zealand's climate change response

What opportunities do the proposed initiatives and policies across the sectors offer for Māori- and iwi-led action to reduce emissions?

- Please see NZIF recommendations in Chapter 12

What additional opportunities do you think the Government should consider?

- Not addressed

Chapter 2 - Tracking our progress towards meeting emissions budgets

Current modelling suggests with a changed approach, the first emissions reduction plan is still sufficient to meet the first emissions budget.

In response to the proposition posited above, NZIF suggests given reasonable attention to meeting the first budget by the actions already previously taken, there should be no reason to miss the relatively relaxed targets of the first emissions budget as the 'changed approach' only has an opportunity to take effect in the twilight period of the first budget.

What, if any, other impacts or consequences of the Government's approach to meeting the first emissions budget should the Government be aware of?

- Loss of national focus and confidence in the required leadership to meet climate change commitments.
- Loss of credibility in international markets and the international community.
- Potential undermining of efforts to get developing nations to raise their emissions reduction ambitions.

What, if any, are the long-term impacts from the changes to the first emissions reduction plan on meeting future emissions budgets that should be considered through the development of the second emissions reduction plan?

Longer term impacts are:

- A material risk future budgets will be undershot resulting in the need to purchase further overseas units at indeterminate but potentially high cost and diversion of capital to other countries rather than our own.
- The ETS becomes essentially a forestry ETS or forestry encouragement scheme, encouraging planting but failing to push gross emissions reductions.



- Force a drive toward removals strategies which are poorly conceived and themselves potentially vulnerable to the adverse effects of climate change.
- Load the emissions cost burden inappropriately – e.g. taxpayers and communities paying for specific sector failure if overseas units have to be purchased.

Chapter 3 - Strengthening the New Zealand Emissions Trading Scheme

As noted in the introductory comments (question 0.1) the original intent of the ETS as with other emissions trading schemes around the world, was to drive down emissions because the cost of emitting would steadily increase under a diminishing cap. In NZ the decision was made, with some justification, to include forestry as it was a major sink and planting more was relatively cheap and rapidly sequestered carbon thus offsetting significant quantities of fossil based and farm emissions.

However, it was always recognised by the forestry sector in terms of offsetting future emissions, afforestation should only be relied upon as a method to provide a breathing space (a soft landing) while decarbonisation occurred. This is still distinct from adding to the commercial timber estate to smooth some of the age class gaps, add to the overall forest sink (removing past emissions due substantially to historic forest clearance) and potentially providing a better platform for domestic processing.

Almost immediately the ETS failed to deliver. Free availability of overseas 'hot air' credits guaranteed for most of the life of the ETS, there was minimal afforestation (in fact deforestation to agriculture continued) and decarbonisation progress was slow. It was only with the cessation of availability of overseas credits NZU prices began to rise quite rapidly, and afforestation climbed in response.

Subsequently farmer led concerns expressed about competition for farmland, officials concern about potential oversupply of credits and a lack of confidence in the ETS and potential policy changes, all pointed to intervention in the market as it relates to forestry. The uncertainty, combined with farm land prices reaching equilibrium with economic thresholds for afforestation and proposals to limit afforestation on certain land classes generated an immediate major decline of afforestation and failed ETS auctions. NZ is now in a position where actual afforestation is well short of current projections used for the 2023 -24 years and the trend is certain to continue into 2025 at the very least.



What else can the Government do to support NZ ETS market credibility and ensure the NZ ETS continues to help us to meet our targets and stay within budgets?

- NZIF generally support the principles discussed to provide greater credibility to the market under the ETS. However, the first and most important decision is a strategic one. Is the ETS, as the tool “to do the heavy lifting” a mechanism to drive decarbonisation technology adoption at pace (i.e. the real ‘heavy lifting’), assisted by removals, OR is it predominantly a forestry encouragement tool to accelerate afforestation primarily for the purpose of removals.
- The information in the Technical Annex (pp 13) suggests a price for NZU’s which:
 - Remains relatively constant throughout the projection periods to 2050 at \$50-\$75 per tonne CO₂.
 - This is a price level well below previously published as the price (up to approx. \$250/t CO₂) required to drive gross emissions abatement across much of the economy.
 - Such prices may be sufficient, as in the past, to drive afforestation but only to the extent carbon prices have and will capitalise through to land value extinguishing margins especially the margins required for risk. Whether the unknown equilibrium price can sustain ongoing interest in planting unless NZU prices continue to rise or farms become even less profitable is unclear.
 - In either direction, capitalisation of carbon prices to land (principally to selling farmers) represents a wealth transfer. If such transfers are not materially driving decarbonisation, this also raises fundamental ethical questions about policy settings.

Graphs in the Technical Annex Fig 17 &18 suggest expected long run average afforestation of +/-30,000ha year and removals through to the period 2050 steadily increasing over this period to 21-25Mt CO₂. This suggests:

- There is a high reliance being placed on permanent afforestation under stock change regimes.
- There are particular risks associated with this strategy - See Chapter 8 forestry.

What are the potential risks of using the NZ ETS as a key tool to reduce emissions?

- NZIF cautions government policy needs to be completely transparent as to the goals, outcomes and method associated with the operation of the ETS.



Failure to do so will likely leave the method mired in controversy and result in downstream policy change - again collapsing any confidence in the market. There needs to be bi-partisan agreement at the strategic level.

- Low NZU prices will undermine a transition to decarbonisation. This risks a significant overhang of gross emissions which will have to be addressed by future generations or by continued afforestation or other removal methods which may be very expensive.
- As noted in Chapter 8 – there are particular risks associated with large scale plantation permanent forestry.
- NZIF have previously submitted controlling the amount of land to be forested and eligible to enter the ETS could assist perceived risks of oversupply of NZU's as previously raised in some quarters and maintain increasing NZU prices. However, if eligibility of entry becomes a mechanism to control price and hold it down to avoid imposing higher emissions costs on gross emitters, then the process will still lack credibility, gross emissions reductions will not be encouraged and at the land price equilibrium, afforestation will also quickly stall.

How can the Government manage these risks of using the NZ ETS as the key lever to reduce emissions?

- NZIF have commented on forestry management related risks under the ETS in the Forestry Sector section.
- Provide a stable ETS policy platform to encourage investment to achieve a zero net carbon economy.

Do you support or not support the Government's approach of looking at other ways to create incentives for carbon dioxide removals from forestry, in addition to using the NZ ETS?

- In principle NZIF accept the Government may need to look at other ways to incentivise forestry removals additional to or in tandem with the ETS. Principle drivers may be:
 - The mismatch between costs and benefits to private capital for the establishment of native forest areas at scale on difficult class 7 and class 8 land.
 - Diversification of the species base planted for productive forestry.
 - Constraints on land use change on class 6 land



- Maintaining standardisation of rules related to forestry activity including nationally determined spatially based rules for where afforestation is /or is not appropriate given climate and environmental risks.
- Incentivising estate scale investment (or removing barriers) where bio products may form a key strategic economic goal.
- Providing financial incentives for more difficult forestry investments such as native afforestation

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 - Incentivising estate scale investment (or removing barriers) where bio products may form a key strategic economic goal.
 - Providing financial incentives for more difficult forestry investments such as native afforestation

Apart from the NZ ETS, what three other main incentives could the Government use to encourage removals through forestry?

- NZIF note the potential for the development of a biodiversity credit system. NZIF have previously submitted on this issue to MfE¹ and while support remains in principle, it was noted at the time there are hurdles to implementation and in particular, to the formation of credible measurement protocols. Such [biodiversity](#) credits would need to be additive to [existing NZ](#)



[Units / carbon credits](#) -and should potentially also recognise exotic plantations providing biodiversity benefits.

- While not a sector emissions reduction initiative, as a barrier to afforestation, NZIF note the trend for District Councils to be looking to apply differential rates to forestry, sometimes because of roading maintenance concerns and other times for vague and unquantified reasons which have nevertheless been given credence by a recent court action in Wairoa. This will likely place significant discouragement upon new afforestation let alone existing forestry.
 - The roading issue principally comes about because of a broken funding model for Council roads. Forestry pays rates every year (for few if any services) and the Council spends those rates every year. However, by law, Councils are not able to accumulate funds from a rating source for a particular purpose so when road use escalates due to forest harvest they have no extra reserves.
 - NZIF believes part of the solution lies with the introduction of GPS road user charges (RUCs) across all heavy vehicles, and revenues should be directed back to the council(s) over which the used road sections exist. This will then make transparent the correct amount being paid and costs being incurred enabling an informed and fair allocations of costs.

Chapter 4 - How we fund and finance climate mitigation

NZIF reserves its comment here to general themes relevant to the questions. In particular NZIF notes:

- Other than exotic plantation tree planting, current and past measures have not been particularly good at unlocking private capital. This has probably been attributable to delayed policy initiatives, lack of credible leadership, politicisation of the issues, and a suppressed response in ETS pricing.
- NZ is a very small market to attract start-up capital and a lack of scale is also likely a hindrance to the introduction of new technologies unless there are active policy encouragement settings. The introduction of EV charge stations has moved steadily from a small base but has nevertheless required a combined government/ private sector initiative as did advancing significant abatement gains with the GIDI fund. The fact the agricultural sector is requiring significant direct government investment into methane reduction despite the potential scale underpins the same issue.



- Improved policy settings in the energy sector appear severely overdue, enabling pricing regimes which have not motivated a change from just-in-time investment in capacity, particularly renewables and grid management systems, despite we understand, some additional capacity having been consented.
- Overall, there appears to be a lack of coherent policy, regulation and assistance integrated into the overall target for the future.

Chapter 5 - Energy

NZIF do not purport to have particular expertise in this area. The NZIF acknowledges the Government is proposing several actions in the market including fast tracking consents, although detail and timelines are unclear. However, in reviewing the referenced document “The Future is Electric” (pp53 of the ERP2) it was notable:

- The document, published in 2022, evaluated several strategies. It’s favoured strategy targeted NZ being in a position of 98% renewable energy by 2030.
- The report indicated there was more than enough new generation in the project pipeline to achieve the roadmaps aim.
- The report noted NZ’s just-in-time construction approach to build capacity and the regulatory system which had supported it, while serving NZ well in the past was not fit-for-purpose in achieving a future strategy.
- The report’s conclusions included assumptions in respect of the NZU price continuing to rise over the long term and recommendations which included continuing or extending (if required) the GIDI fund, extending the clean vehicle standards, including a signalled ban on ICE vehicle imports and maintaining the clean car discount for EV’s hybrids with a target of 1million registrations by 2030 (currently 10% of this figure).
- The report also noted with the right investment in renewable generation, and smart grid systems, household energy prices should decline in real terms in the medium to longer term.

THE ERP2 espouses much on the role technological innovation will play in transitioning to meet future budgets and ERPs. NZIF concur, but in the context technologies and technological adoption are not only important, but they will also be critical, and require incentivisation at speed. NZIF draws attention to these factors because at this point, with 2025 already upon us, and given the wider conversations in the public domain regarding the electricity market not working as



needed, NZIF are unconvinced NZ is tracking as it could and needs to be in this sector. A failure to achieve rapid and real electrification of NZ, implies a greater dependency on the use of fossil fuels and upon removals to offset the carbon emissions from these. This will be exacerbated by the removal of other emissions abatement programmes recently in place.

NZIF is concerned any strategy risking increased unabated emissions in the period ahead places further reliance upon forest removals at a time when the projections for afforestation are currently wrong and the future pathways for and expectations from afforestation look simplistic and risky (see submission points - chapters 3 ETS and 8 Forestry and Wood Processing). Such a strategy also risks increased liabilities under NZ's international obligations.

Chapter 6 - Transport

NZIF does not purport to have particular expertise in this area. However, in general terms:

- NZIF supports all moves to rapidly increase availability of EV infrastructure notwithstanding there is some lack of clarity in this 'chicken and egg' situation whether EV use, while currently still more expensive than ICE will respond closely to EV infrastructure spend or the other way round. NZIF note commercial parties have of their own accord, but in conjunction with government assistance, been steadily expanding EV charging infrastructure. NZIF notes heavy vehicle emissions reduction is vital. The technology is present but still developing and well below the scales required to reduce cost. Government policy and seed funding may well be required to assist development and introduction of experimental and exemplar heavy clean transport modes. This will even more so apply to semi static heavy machinery including harvest machinery where hybrid machines are appearing but transfers to alternative fuels will remain amongst the most difficult to replace.
- NZIF note the Government should expect if the price for carbon units does not rise steadily over time, more direct policy and financial interventions will likely be required in the alternative.
- NZIF is in absolute support of bringing air travel and shipping into the equation to eliminate distortions in our emissions targeting and accounting. The first step is to work with international organisations already developing harmonised approaches to dealing with these sectors.



- NZIF notes passing discussion in respect of sustainable aviation fuels. These ultimately might be provided from forestry residues, but the scale of operation required is significant and would require a geographically concentrated resource. This will likely require a conscious, sustained, consistent strategic approach which must be formulated, communicated, and planned for sooner than later. A government leadership role will almost certainly be needed.

Chapter 7 - Agriculture

NZIF do not intend to make detailed comment related to the questions for this sectoral analysis. However, as with the energy sector the ERP2 places great weight on technological adoption to abate emissions, something which must happen and NZIF welcomes.

However, NZIF notes in the technical annex:

- The considerable upward revisions in expected efficacy of the methane reducing technologies between the 2023 “with existing measures” projections and the ERP2 baseline. Low methane breeding – Dairy 1.6% now 13%, Sheep 0.5-4.4%, now 17%, beef -NA, now 8%.
- Similarly, methane inhibitors rise from 0 to 45% reduction.

With such gains in the pipeline and assumed availability occurring just one year later than originally modelled (mid /late 2020s except beef genetics), the concern becomes why the peak adoption years are so delayed. While flock and herd genetic improvements will take time to flow through, peak adoption years (2042 – 2052) for genetics, 2042-47 for methane inhibitors (Bolus) and 2037 for ‘Ecopond’ suggest serious uncertainty. The fact annual emissions are then also modelled as 41Mt 2022, 36-40Mt 2030, and 30-44Mt 2050 does little to give confidence.

NZIF believes the contradictions between optimism over efficacy and low rates of uptake which would be totally unacceptable if the products displayed the efficacy assumed, must be resolved and assumptions amended. Combined with the upper levels of methane emissions being assumed as approximately unchanged from what is already achieved today, suggests a ‘hedging of policy bets’ and laying the groundwork for a ‘no added warming’ de-minimus policy setting.

As already noted in the opening comments in (Broad Context 1V), NZIF believe the international position is already well past giving any credibility to arguments for no added warming from biogenic methane, and the CCC itself is tending toward higher aspirations, particularly given the potentially sluggish response ahead for



CO₂ abatement. Failure to achieve or overachieve CCC pathways for CO₂ or CH₄ abatement simply transfers the load onto removals (mainly) by afforestation, and costs and risks onto the wider community.

Chapter 8 Forestry and Wood Processing

In addition to the questions below, NZIF record the following comments. Despite repeated statements conveying support for forestry and the importance of forestry in achieving the nations’ journey to net zero in 2050, the whole forestry space remains complicated through the influence of a range of matters from policy setting to misunderstandings and mis information.

Issues are:

- Forecast new afforestation areas in the ERP2 are wrong. Planting has plummeted primarily due to uncertainty in the ETS, policy changes in response to farmer angst over plantings on ‘productive farmland’ and farmland prices meeting or exceeding a viable equilibrium for afforestation. NZIF data from a survey of its members indicate ERP2 Projections (see fig 8.1 of the ERP) are overstated

Year	ERP2 estimate (ha)	NZIF estimate (ha)	Overstated (%)
2023	76,000	68,500	11%
2024	61,000	32,000	90%
2025	29,000	9,000	235%

- Recent data provided by Te Uru Rakau on forest areas registered in the ETS in 2023 and 2024 indicate actual new afforestation may be even lower than the NZIF estimates.
- Implied forest policy to come, is to restrict afforestation predominantly to ‘unproductive farmland’ echoing the mantras of past decades which underpin a few of the problems now faced by the industry in steepland areas:
 - Recent past afforestation on LUC class 1-5 land has never been more than a very minor component of ETS afforestation due to land prices and responsible operators have been partitioning off such land for continued farming.
 - Large areas of LUC class 7 land will be of very little afforestation interest to combined commercial timber plantation /carbon investors. There is a good



level of consensus in the face of a deteriorating climate scenario, timber plantation afforestation in such areas is a high-risk proposition. Relegating the forest industry back onto the worst of NZ hill country as has been the NZ tradition of the past is a non-starter.

- Similarly growing permanent large tree species plantations for carbon unless part of a well-managed program to transition to natives will carry some risk in much class 7 land and should not be contemplated anywhere on highly erodible tertiary mudstones with skeletal soils.
- Reversion to native via retirement assisted by native pioneer species is the most appropriate pathway for much of this class 7 land but the immediate sequestration pathway will be lower and slower and needs to be accounted for as such.
- Any government initiatives to encourage afforestation at scale especially on class 7 or worse land or in particular climatic zones will need to be acutely aware of the added potential risks from wilding spread and the use of inappropriate species.
- There is an urgent need to review and enable the use of new genetic technologies to be applied to the development of sterile trees, reducing the risks of wilding spread from future plantations and enhancing opportunities for further diversification of the estate with species currently out of favour due to spread risk. The NZIF supports recent government policy intentions to relax the moratorium on genetic engineering which will help enable this.
- Class 6 land of which there is approx. 8 million ha in NZ, mainly in dry stock farming, is the remaining land base in NZ where highly productive timber production with carbon co-benefits can occur.
- The use of class 6 farmland for forestry raised angst from the farming community leading to the policy indications which afforestation should be constrained on this land base. NZIF notes however:
 - A study for the period 2017-2020 revealed over the 4-year period 2017 to 2020, 77,780 ha of farmland were purchased for afforestation (excludes 14,000ha for Manuka honey plantations) at a plantable conversion of approx. 72.4% or 66,200 plantable hectares. Over the same period farmers themselves, utilising the 1 Billion Trees programme and Crown JV schemes planted a further 47,300ha. In total approx. 114,000 ha (28,500ha/yr).



- In 2021 and 2022, new plantings added a further 115,000ha of which 55% was 'improved pasture' and 41% was unimproved. The proportions which were farmer planted vs corporate planted are not available. As noted above, the exotic plantings for 2023, 2024 and 2025 are known or for 2025, expected to be between half to 2/3rds of the already downward revised projections in the ERP2 averaging possibly 26,000ha or below.
- Through from 2002 to 2019 landuse data indicates percentage loss of sheep and beef land to dairy has doubled while losses to non-agricultural use have nearly quadrupled. Losses to forestry over the same period were static to declining until the recent response to higher NZU prices.
- Based on the ERP2 projections of approximately 28,000 ha new afforestation (if sustained) to 2050 plus the new plantings noted above, roughly an additional 1million ha of forestry would be planted. This remains much as always suggested as the required amount in the CCC budgets and if all of this occurred on class LUC 6 land would amount to only 12.5% of this land bank and roughly 7% of the LUC class 1-6 landbank.
- By 2022 after the recent increases in planting, the national plantation forest estate had only just regained the productive area the national estate had around 2000, after sustained declines owing to deforestation, much of which was due to conversion to agriculture both dairy and dry stock. It is unclear what proportion of recent gain is for carbon only forests or timber production forests.
- Recent evaluations have confirmed timber producing forestry over the rotation has consistently produced average returns around twice of much dry stock farming and through the full rotation, employs similar numbers.
- NZIF recognise and agree with the position planting of forests purely for carbon sequestration on better land classes is an undesirable strategy which undermines the nations' economic base and passes risks and options loss on to future generations. As with the wider sector, NZIF also agrees NZ cannot plant its way out of the emissions reduction problem.
- In recognising these constraints NZIF has, in past submissions to CCC, MPI and MFE and continued to advocate for a strategy which in general promotes:
 - Only afforestation for productive timber producing plantations should be able to be registered under the ETS, under an averaging regime, on LUC class 6 or better land OR;



- Permanent forests where pine is used should be under a comprehensive planned management and investment strategy to achieve a long-term transition to tall native forest OR;
- Permanent forests of alternate long-lived exotic species under the stock change regime which are also capable of management under continuous cover timber producing regimes OR;
- Permanent native mixed species establishment – principally for integration into existing farm regimes for protection of riparian areas or on-farm problem areas OR;
- Small farm scale carbon only woodlots for integration into and removals of property generated emissions.
- Some LUC class 7 land may be suitable for transitional or long-lived exotic species afforestation for carbon sequestration but avoidance of, or great care within, the tertiary mudstone landforms with skeletal soils will be required.
- Retirement and natural reversion or assisted reversion (planting) at scale with appropriate pioneer native species is considered the only practical and suitable long-term remedies for much class 7 and 8 land and this must go hand in hand with, in particular ungulate pest control.
- NZIF note the implications of such a strategy are:
 - Continued investment in timber production plantations with carbon co-benefits under averaging will lead to an increased and potentially less erratic log supply from a 'significantly productive' resource base and an increased national carbon sink.
 - Such plantations will exhibit high environmental performance characteristics including water quality and biodiversity.
 - Climate risks in terms of fire, storm, disease and flood will be highly mitigated due to better access, more intensive management, markedly more amenable landforms, much lower carbon risk exposure in any single hectare (averaging regime), and some geographic disaggregation.
 - Sequestration will be rapid (the 'breathing space') but substantially less per occupied hectare than an exotic permanent forest regime. This means more offsets will be required elsewhere or more area may be required or more abatement.



- NZIF support the proposition some of such exotic afforestation should be integrated into farm management assisting disaggregation across the rural landscape. But it is also noted other circular bio-economic goals will only work where there are significant resource concentrations. Scale is everything, thus there needs to be a wider strategic evaluation and long-term signalling of where such concentrations, if any, should be encouraged.
- There is potential for the ETS to also encourage afforestation in permanent long lived exotic species capable of continuous cover forest production. Some of these are capable of sequestering carbon in quantities equal to, or much greater than, most pines and over timescales very much longer. NZIF support this as a means to further diversify and de-risk the productive estate but note site specificity will in many cases rule out poorer LUC classes. A lesser constraint will apply if future production is not intended notwithstanding the same caveats apply on the tertiary mudstones and skeletal soils.
- Strategically-established native forest provides climate resilience via soil stabilisation and catchment protection; green firebreaks reduce the risk of wildfire spread; trees provide shade, shelter, and trap moisture, ameliorating local climate in urban areas and farmland; and green infrastructure and coastal buffers protect urban and rural landscapes (respectively) by moderating extreme weather events, including flood events and storm surges.
- Reversion to indigenous forest at scale, with or without supplemental assistance is possible on much LUC 7 land (less so with consistency on LUC 8) but sequestration rates will be slower and longer term – the benefits will be in removals offsetting the long term hard to remove emissions, biodiversity and erosion reduction. Costs and success will be very location and pest management intensity dependant.
- Planting of indigenous mixed species permanent forests in lowlands and in most land classes below class 7 is supported and to be encouraged for all the well-recognised ecosystem services provided. In many cases, as part of integrated farm management, it should already be a business-as-usual cost to mitigate the various externalities arising in pastoral environments. While declining, costs of direct planting and maintenance generally remain high and reasonable access is a very important success factor.



- Account in carbon modelling should be made for the likelihood, extent and magnitude of effect of a retreat of plantation forest from tertiary mudstone erodible land classes over parts of the east coast/Tairāwhiti area.
- While not a specific issue raised for this consultation, NZIF remain of the opinion and submitted to this effect in the recent CCC budget setting there was a serious need to establish whether modern assessment techniques could identify large areas of the conservation estate which were below their natural biomass carrying capacity, and if so whether remediation of this by ungulate and other pest control could provide a pathway for significant carbon accumulation over relatively short timeframes through better forest management. We consider there is an urgent need to evaluate such a proposition in terms of practicality credibility and compliance with international rules.

How could partnerships be structured between the Government and the private sector to plant trees on Crown land (land owned and managed by the Government)?

There is no obstacle, other than perhaps the availability of suitable land, to the partnership arrangements which might occur to encourage afforestation on Crown Land. Any success or failure of an agreement structure will hinge on the apportionment of risk, return and contribution and the attractiveness of the investment for private investors. There is a long history of various grant, JV lease and other vehicles which can and have worked in the past where the Government has invested. There appeared to be little hindrance to the uptake of the 1 BT scheme as an example and Crown Forestry investment in forestry on Maori land has been particularly successful. What will or should be pertinent will be:

- Large tree species afforestation on many areas of erodible class 7 or above land is unlikely to be a safe nor attractive proposition for private capital investment and for large parts of such land bases would be risky in the face of climate change. The exception might be plantation afforestation for transition to indigenous forest but land suitability would need to be very carefully defined and managed.
- Large areas of potentially available Crown land may be susceptible to wilding spread from exotic plantations and with development of sterile trees stalled due to NZ genetic trials legislation, such areas would not or should not be available.



- There is a potential parts of a Crown land portfolio are covered in light native scrub. Such areas should be retired (if not already) to revert naturally or with some enhancement. The forest sector has long standing agreements with ENGO's not to clear indigenous vegetation for plantation forestry.
- Similarly, significant areas may be non-forest vegetation but contain threatened habitats and species – there should be a clear understanding of such matters before any large areas are committed to afforestation at scale.
- On the more difficult land classes and landforms and those without good access, native afforestation of pioneer species may be the best way forward.
- Due to the natural characteristics of species productivity, it will be difficult, without other direct economic intervention, to compensate for differentials in cost and carbon accumulation between native and exotic species. Biodiversity credits may help level the field but work to make such systems credible is needed.

What are the three main actions the Government could do to streamline consents for wood processing?

NZIF do not purport to speak directly for the wood processing industry. We note however the general principles will likely assist including:

- Consenting is of itself only one part of the blockage to increased domestic processing. NZIF agree there are examples of some dubious consenting blockages recorded but also can not absolve the fact there are some environmental effects which come hand in hand with some processes. Better provision of, or mechanisms for, industrial zoning with limitations on consultation and objection rights for developments within such zones, subject to base environmental standards performance, may be a fruitful line to follow.
- However, in addition to consenting, as already noted, scale of operation is extremely important in the forestry and wood processing sector. Its criticality is likely to grow as and if the country seeks to drive a more circular bio-economic future. It applies whether the situation involves single large estates or multiple disaggregated estates (spatially and in ownership) which have geographical proximity.
- Scale and resource continuity will assist domestic processing, transportation and innovation at regional scales as will new productive afforestation infilling regional discontinuities.



- As graphically illustrated in current times, if the energy sector is not significantly restructured to achieve consistency of supply and pricing, investment in processing is unlikely.

How large should the role of wood in the built environment play in New Zealand's climate response?

There are significant opportunities. For these to be leveraged into reality requires a high level of integration between sectors and policy, the forest sector, processing sector, construction sector and energy sectors. Given the relatively small size of NZ, such integration is difficult to orchestrate unless there are clear, long-term and consistent signals coming from Government policy and probably some degree of direct coordination and encouragement.

Mass timber construction for large commercial buildings, more modular approaches to light timber construction are all opportunities. They are likely to be accelerated by government leadership in relation to procurement/building policies for government buildings, stable construction pipelines and involvement in standards setting / matching with export markets.

What other opportunities are there to reduce net emissions from the forestry and wood-processing sector?

The most immediately obvious are:

- developing the framework to enable inclusion of harvested wood products into the ETS.
- The development of credible protocols and measurement systems for wetlands of which there are large areas distributed within many plantations.
- Use policy levers to enable more intensive recovery of woody waste and processing residues for bio-fuel (mainly industrial or home heating – pellets fuel).

Please provide any additional feedback on the Government's thinking about how to reduce emissions in the forestry and wood-processing sector.

- NZIF notes as recently as 2022 the forestry sector was deeply involved in mapping out, through the Industry Transformation Plan, a pathway to address better integration, modernisation and leverage across sectors the opportunities arising from a decarbonising economy. NZIF believes the Government should use this plan or any revisions of it to advance the very matters being raised in this consultation.



- The heavy mobile machinery involved in harvesting (in particular), poses huge challenge for emissions abatement. Technologies are evolving overseas and there is tentative early-stage progress in NZ (Hydrogen log trucks/ hybrid harvesting machines). Widespread adoption will be slow initially due to cost, capability and overseas production scales. Unless fossil fuel prices eventually rise significantly, the incentive to change will be muted until the technologies cheapen.

Chapter 9 - Non-forestry removals

NZIF support the principle other non-forestry removals could be included in efforts toward emissions reduction, however hand in hand with this objective must be the caveat they be credible, easily and accurately described and measured, and are certain. To this end there is:

- A recognition while there is likely scope for CCS, in particular at the 'geothermal bore head' evidence suggests this may be limited at the 'well head' and of questionable value beyond.
- Wetlands clearly have potential, but doubts must remain in respect of size and certainty vs credibility and cost unless large scale efforts (e.g. re-wilding significant areas of the Huraki plain) are contemplated.
- We are not able to comment in respect of 'blue forests'.

Chapter 10 - Waste

NZIF support moves to improve organic waste disposal.

- The issue of CH₄ abatement or conversion to bioenergy is of increasing significance due to the high impact from the gas and the relatively short life. Reductions here are a matter of international focus because of the breathing space opportunities for abatement or capture given while CO₂ emissions are tackled.

Chapter 11 - Helping sectors adapt to climate change impacts

As a science informed organisation:

- NZIF is concerned the emissions reduction policies in this discussion document are at risk of themselves becoming a barrier to managing climate risks. This arises because repeated policy reversals and other related actions will signal lack of commitment and a loss of confidence in the fidelity of the information, calculus and urgency of the transitional journey which is required.



- NZIF is concerned forestry as a highly economical and productive industry is being relegated to the role of a useful backstop to emissions abatement policy failure.
- NZIF acknowledges the vital role new technologies must play and are aware of the potential acceleration of adoption trajectories new technologies can follow once certain critical thresholds are passed. However, there is some ambivalence over the timelines for securing upside benefits in NZ for some of these technologies as portrayed in this plan. The points raised in the submission related to the agriculture chapter suggest hedging of policy bets, are a risky approach in a matter so critical.
- NZIF are concerned a misfire of policy leading to undershooting emissions reduction targets to avoid some short-term economic discomfort risks significant future economic discomfort and inequitable distortions and wealth transfers.

Chapter 12 - Addressing distributional impacts of climate mitigation policy

What are the main impacts of reducing emissions on employees, employers, regions, iwi and Māori, and/or wider communities that you believe should be addressed through Government support?

- Commercial plantation forestry has not always worked on Māori land due to its terrain and/or location. Māori are now getting land back at the expiry of leases but do not have the funds to re-establish a forest on those lands – nor the inclination if such an investment is economically marginal or non-viable.
- Weather events have further accentuated the challenges of maintaining some of this land in plantations, a trend likely to increase in future. Recent examples are the impacts of storm events in Northland and the East Coast, but elsewhere also.
- This scenario risks those landowners ‘deforesting’ their land under the ETS and becoming liable for a deforestation tax – potentially \$50,000/ha or more depending on the carbon price. From a national carbon balance perspective, this represents an increase in emissions. From a land-specific perspective it can result in lands reverting to various weed cover and not being resilient to erosion during weather events.



- From owning 100% of NZ land 200 years ago, today only around 5% is in Māori ownership. Māori are keen to maintain their rural communities and to provide reasons for their people to live in and around their traditional lands. Being able to offer employment on those lands is generally seen as the best option to achieve this, and for some of this land some form of forestry is not only the highest and best use, it is also the preferred use.
- A further barrier to land-use decision making on Māori land is the (generally) large number of owners, and often the lack of formal administration (Trust or Incorporation). Small block areas can also compromise the economics of forestry proposals and make it difficult to attract external investors.
- Despite having large areas of rural land, many Māori have a very limited understanding of the ETS, and their land ownership also complicates the registration and maintenance of their lands in the ETS.

The Government can use a lot of existing tools to support people affected by reducing emissions (welfare and income support systems, employment and training services).

Do you think additional climate-specific services, supports or programmes should be considered by the Government over the coming years?

Please describe what additional climate-specific services, supports or programmes could be useful.

- Where forestry or farming has not worked on Māori land, many owners would like their land to go back to native forest. They face the economic challenges of achieving this which are described elsewhere in this submission, as well as the Māori-land specific ones mentioned above.
- Policies which help facilitate Māori transition of their failed forestry and farming land into permanent native forest would be welcomed. The high cost of creating native forest has been discussed elsewhere in the submission, so for Māori this may require assistance with:
 - purchasing plants, developing nurseries, and with tree planting and (vitality) releasing and pest control expenses.
 - extension work to advise Māori of the ETS implications of various land-use decisions and of the options to progress toward permanent afforestation of natives – both through directly planting natives and through planting exotics with later intervention to transition to natives.



- coordinating planning and operations across multiple Māori land blocks.
- For Māori on whose land commercial forestry has not worked because of distance to markets (rather than terrain), further research in how to process wood (logs and residues) in small scale distributed plants may offer viable opportunities to maintain those lands in commercial forest.

General Comments

NZIF appreciates the opportunity to submit on this consultation. We welcome any further opportunities to clarify the points raised in our submission. If you have any questions or require additional information, please feel free to contact the undersigned.

Yours sincerely,

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

James Treadwell (*Fellow and RMNZIF*)

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