FOREST OWNERS ASSOCIATION

NEW ZEALAND FARM FORESTRY ASSOCIATION

forestgrowers levy trust inc

Submission

on
He Pou a Rangi
Climate Change Commission

2021 Draft Advice for Consultation

Submission to:
Submissions Analysis Team
Climate Change Commission
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Contents

Contact Details

David Rhodes
Chief Executive
Forest Owners Association
Level 9, 93 The Terrace, Wellington.
Email david.rhodes@nzfoa.org.nz
Web www.nzfoa.org.nz

Submitters

This is a joint submission by the three entities that collectively represent the interests of commercial forest owners in New Zealand.

The Forest Owners Association (FOA)

The New Zealand Forest Owners Association Incorporated (FOA) is the representative membership body for the commercial plantation forest growing industry. FOA members are responsible for the management of approximately 1.2 million hectares of New Zealand's plantation forests and over 75% of the annual harvest.

In 2019, the forest growing sector was worth $6.93 billion in export value and has a 12% share of rural land use.

FFA

The NZ Farm Forestry Association represents people who own small-scale private forests and/or are interested in the many values of trees. Currently we have over 2,000 members representing a good cross-section of the approximately 15,000 entities owning private forests in New Zealand.

Small forest owners are managing about 25% of the national plantation forest resource, and have generally also significant areas of indigenous vegetation growing on their land.

Forest Growers Levy Trust (FGLT)

The FGLT operates under the Commodity Levies Act to manage industry good activities on behalf of all commercial forest owners in New Zealand.

Summary

Overall, we agree with the Commission's Report (the Report) and its key findings. We endorse an integrated climate change strategy that includes water and biodiversity and support the recommendation of moving to a circular economy and eliminating fossil fuel use.

However, we believe the Commission -

- has over assumed the role that native forests can play, and the area that may be planted;
- has over assumed the area of exotic forests that may be planted;
- has offered no practical contingencies should either of these failures occur;

- has emphasized carbon and wood waste with little mention of the major role forestry can play in the bioeconomy and a move to renewable resources;
- has failed to recognise the implications of the success or failure of measuring carbon on farms (the He Waka Eke Noa initiative).
- Needs to provide more direction to the government agencies charged with developing the policy environment that will deliver the contribution being relied on from all types of forestry.

For these reasons we feel the Report has major weaknesses that must be addressed before it is offered to the government as a blueprint for policy.

The Commission asks the government to implement measures (policies) that ensure the level of new native afforestation is incentivised and maintained and to also design a package of policies "to deliver the amount and type of afforestation needed over time to align with our advice on the proportion of emissions reductions and removals and addressing intergenerational equity".

The development of the specifics of such policy will be something that will require careful development by those agencies with the responsibility and expertise to do so. Our request is that before such policy is developed:

- further work is needed on some of the assumptions made in the Report
- there are other factors, which we have referred to, that need to be taken in to account
- The Report needs to recognise the continuum within forestry rather than suggest a short term exotic versus long term native choice.

Given the importance of the assumptions made about forestry for the climate change budgets we consider the Commission should:

- Further expand on the Time Critical actions that Government establish effective plans for incentivising and maintaining the Commission's afforestation targets both native and plantation (Necessary Action number 5 which we provide recommendations on) and; consistent with this, engage with industry to ensure the plans are achievable, particularly given that the industry is supportive of the objectives. This would be entirely appropriate to include within the existing Forestry Strategy work and Forest and Wood Processing Industry Transformation Plan.

- To amend the Report so that conclusions are not made before adequate verification work is done

Our concern about ensuring both parts of the forestry equation are given appropriate support is particularly relevant to Chapter 17 which presents advice to government based on the assumptions made.

The challenges and recommended policy approaches are narrowly confined to a) increasing the amount of permanent native forest and b) the role of production forest in the transition are based on assumptions that:

- the exotic afforestation target will be met under current policy settings or will incentivise too much large plantation afforestation - and no consideration is given to risks of not meeting the targets and what that would mean for the broader emissions reduction approach;

- there is no consideration of incentives for productive vs permanent forests or the right mix (related to under-recognition of the role of productive forest referred to below and lack of recommendation to ensure policy setting support wood first and bioeconomy);

- that the native permanent forest targets is, despite challenges, feasible (when it is improbable or unlikely given the value that would have to be placed on biodiversity and for other reasons you highlight) and, in light of this, does not look at alternative options that would need to remain on the table (exotic permanent forests);

- while it is acknowledged that productive forests could play multiple roles in emissions reductions, this is not properly explored (you highlight all the factors overlooked). The important role of productive forest is then not reflected at all in chapter 17 (productive forests are referred to in that chapter as only being helpful for removals in the short to medium term and not part of a long term solution) and the challenges and policy approaches recommended in chapter 17 focus on limiting afforestation incentives in the ETS (while this may be a thing for permanent forests – assuming incentives are too great – it is unclear why the ETS discussion comes under the productive forest heading) and on restricting land use. Reference to increasing domestic timber demand eg through wood first policies is a passing mention and there is not discussion here of the important link with use of wood in building and the bioeconomy that will further reduce emissions;

- Social economic concerns referred to in the Report are limited to rural community concerns without looking at whether these fears are well founded and without noting economic benefit factors such as fit for the future expectations for forestry and the opportunities it provides for farmers etc to diversity.

Until more work is done, the Report should be neutral on the effectiveness of current policy settings for meeting the exotic targets, acknowledge the very real risk with achieving the level of native permanent planting targets (which may require a plan B for exotic permanent forests) and better portray the continuum that exists within forestry rather than the stark native versus exotic choice that is currently presented.

In more detail, we agree broadly agree that New Zealand is not on track to meet its targets or commitments, and that New Zealand's Nationally Determined Contribution (NDC) to reduce emissions by 30% over 2021-30 is too light and needs to be above 35%. We note the Commission's revelation that the recommended domestic action will not be enough to meet even our present NDC and that offshore mitigation will be required. This is a sobering start.

We endorse an integrated climate change strategy that includes water and biodiversity and support the recommendation of moving to a circular economy and eliminating fossil fuel use.

The level of 380,000ha of exotic plantations that the Commission estimates will be needed is much lower than numerous previous independent reports have stipulated, even with action taken elsewhere on emissions reductions. We consider that 380,000ha of exotic forestry will not be enough, and even that level may not be achieved. This requires at least 25,000 ha of afforestation per year to 2035 – plus an additional area to account for any deforestation that will occur.

We agree that much more must be done on emissions reductions and that we cannot rely on forestry alone to do all the heavy lifting. The industry has previously publicly stated that an over reliance on forestry risks deferring needed action and potentially increased costs at a later date. However, we consider that the Commission has gone too far in downplaying the crucial role of exotic plantation forestry and has not devoted sufficient attention to how or where afforestation targets will be achieved. We also consider the Commission has overestimated the role that native forest can realistically deliver. We are not confident that budgets developed on this basis by the Commission are realistic.

We have two key concerns related to the carbon budgets:

One - the modest additional pine planting the Commission estimates we will need by 2035 will not be achieved, especially when the Commission also suggests constraints on planting.

Two - we will not achieve the gross emissions reductions proposed and therefore will either need more pine planting, or money spent offshore reducing someone else's emissions.

It is unfortunate that the Commission's Report opens with the statement in the Executive Summary that "*as a country we can no longer rely on forests to meet our climate change targets*". In fact, there is no scenario to meet our target that does not rely on forestry. What the Commission should have said is that the country cannot rely on forestry **alone** to do the job and it has to be paired with real reductions elsewhere.

Similarly, it is disappointing exotic plantation forestry expansion is not included in the list of "Priority areas for action" along with improving farm practices, electric vehicles, renewable energy and planting natives.

Not only do forests sequester carbon, forestry has a major role to play in the bioeconomy and a move to renewable, rather than extractive, resources. It is a key component of the government's "Fit for a Better World" vision and the "Forestry Industry Transformation Plan" that the government is developing with the sector, but this will not happen by osmosis and needs government encouragement backed by stronger recognition from the Commission.

It is also important that the Commission gives consideration to the places where land use change should occur to deliver the forest and wood processing benefits proposed.

Restricting carbon-only activity to steep, low fertility and erosion prone land is suggested as a means to minimise the affects of afforestation effects within the rural community. However, the native vs exotic theme is particularly unhelpful and may restrict the application of this approach and planting natives potentially comes with substantively greater costs than using exotics for this purpose.

Adjustments to the ETS can have a positive benefit in driving change, however currently the Report appears focused on shifting the balance away from plantation forestry to native forests, rather than accelerate the adoption of low carbon solutions derived from forests, which are ignored under current ETS settings.

The Report fails to acknowledge a "carbon-only" economic model produces fewer socio-economic benefits, regardless of the forest type. Instead, the Commission has implicated plantation forestry as the main challenges to the rural community, when large scale native planting for carbon capture would have a much greater community effect.

The language in parts of the Report risks delivering a message that it is time to move away from forestry and take other action. The Commission clearly does not intend to convey that signal, but some have already interpreted it that way.

There is no question that addressing emissions at source is required but afforestation and the generation of associated bioproducts also has the potential to accelerate reductions at source, extending significantly beyond process heat and biofuels. This is not articulated in the Report.

The indisputable truth is that New Zealand not only needs more forestry both for our climate change efforts but for a range of other reasons as well. What is needed from the Commission and government is clarity about how and where that will take place. Identifying that 380,000 hectares of exotic forestry to be planted by 2035 will be relied upon in the budgets but concurrently recommending the government develop policies to restrain such planting, either when 380,000 hectares is reached, or at 2035, whichever is first, leaves a confused message.

Unfortunately, the Report appears to have adopted a native vs exotic position when it comes to the benefits of forestry, which is counterproductive and has the potential to limit the ability of New Zealand to capitalize on its inherent advantage to grow carbon capturing biomass.

Many of the benefits that accrue from forests are common to both native and exotic forests and equally both are at risk from a range of common threats such as fire, wind drought etc. While the Report does touch on pests and pathogens, albeit lightly, it does not currently afford the level of attention that is warranted for biosecurity threats. Biosecurity risks pose a significant threat to the long-term ability of forests to sequester carbon.

Unlike many of the other environmental threats which tend to have short term and largely reversible impacts, biosecurity threats, once established are permanent, and could have significant implications on all types of forests, and in particular carbon forests given their longer timeframes. These risks are further exacerbated by changing climate, changing land use, changing land management practices which all contribute to changes in the biosecurity risk profile.

Forestry is a compatible land use with farming and with greater landowner awareness and better information can help strengthen the environmental credentials of the rural sector. Consistent with this we endorse the comment in the Report that there is considerable potential to recognise existing forestry that is currently ignored, particularly on farms.

Just as proposed for agriculture, maximizing the benefit of forestry will require investment in technology. In the case of forestry there are significant innovation opportunities to scale up bioproduction and new processing capability, which will not happen without support and incentives. The Report should reflect this.

Similarly, the Report acknowledges the potential for carbon sequestration via a greater use of wood in buildings but fails to suggest policy options to enhance the adoption of such approaches. Achieving this goal is already possible but motivation within the construction sector appears low and is unlikely to change without more deliberate policy settings.

Indeed, rather than embrace these opportunities the Report seeks to limit the role of plantation forestry through regulation, despite independent validation that plantation forestry provides greater environmental and employment benefits than some current land use practices.

We strongly oppose the Commission's view that community impacts are sufficient to justify regulatory intervention outside the ETS. If there is evidence that there are impacts due to carbon policy setting on afforestation that need addressing, then this should be via carbon policy and/or ETS adjustments. There is no justification for recommending blanket land use controls of a more general nature. We know from on-going engagement with Beef and Lamb, as representatives of the other key land use in question, that they also oppose such restrictions. The strength of New Zealand's primary sector competitiveness relies on it being dynamic and able to adjust to market signals.

We offer the above feedback as constructive input to the draft Report and request that the final Report be modified where necessary to help improve the likelihood of achieving its stated goals which we support.

There is much that the forest sector can be positive about from this Report. It recognizes a significant, multi benefit role for forestry and the renewable products flowing from them. Our submission is aimed at ensuring that this potential is realized for both our carbon needs but also other environmental, social and economic returns.

Feedback on specific sections of the Advice Report

Vision (p. 10)

We support the broad vision outlined by the Commission and are confident forestry has an integral role to play in achieving this vision.

Executive Summary: Work must start now (Pg 11-21)

Pg 12 Our first package of advice: "Forests have a role to play, but we can't plant our way out of climate change".

While grouping these two statements does highlight the point that we cannot rely solely on forests, it devalues the role that forests can and must play in contributing to achieving our climate change goals. The coupling of these two points is common throughout the document (i.e. pg 34, 48) and it is suggested that these be separated.

Pg 12: Our advice advocates for a long-term plan for targeted research and development of new technologies to reduce emissions from agriculture.

Additional benefit could be achieved by including "….from agriculture and accelerate the implementation of bioenergy solutions"

Pg 12: Native forests can create a long-term carbon sink while providing a range of other benefits, like improving biodiversity and erosion control. Incentives are needed to get more native trees planted.

The above applies to forests in general. Restricting the narrative to "Native forests" creates undue bias.

Pg 13: Forestry Section: Forests remove carbon dioxide from the atmosphere as they grow and emit it when they burn or decompose after harvest or clearance.

This is a simplistic view. 'Forests' contain a mixture of age classes and continue to grow and preserve stored carbon even though parts of the forest may be regularly harvested and replanted. Further it does not account for the more than 40% of forest biomass which is converted into wood products and sequestered for decades thereafter.

Pg 13: Forestry Section: What does our path show for this sector?

By 2035, our path shows that net forestry removals reach 14.5 Mt CO_2. This puts us on track to meeting our 2050 target.

This positions forestry solely as a mitigation and does not take into consideration the potential for increased use of wood in the bioeconomy or via increased use of wood in construction.

Pg 15: The homes, buildings and infrastructure we build now will still be here in 2050. We need to think about our choices with climate change in mind. That means using low emissions technologies and prioritising energy efficiency.

A much more direct acknowledgement around the use of wood, over concrete and steel should be included in this statement. Instead, it is referenced in an almost dismissive way on page 69.

Pg 17: Relying heavily on forestry before 2050 is likely to make maintaining net zero long-lived greenhouse gas emissions after 2050 difficult. It would delay action, lead to higher cumulative emissions and make the job ahead of us more difficult.

This is not a statement of fact; it is an opinion formed from a perspective of forestry for mitigation of industrial inaction. In fact, a higher reliance on forestry as an enabler of industrial change is what's needed to make achieving long-term greenhouse targets possible and should be reflected in this statement.

1.5 pg 25: There are risks associated with the permanence of carbon emissions removals using forestry, especially as climate change exacerbates forest fires, heavy winds, storms, droughts, pests and pathogens.

These climatic risks are applicable to the primary sector as a whole, increasingly in indigenous forests and will ultimately impact land use options into the future, which in turn will reduce emissions output.

2.2 Accelerating action to reduce emissions (Pg 29)

Principles

Principle 2: Focus on decarbonising the economy. *Aotearoa should prioritise actions that reduce gross emissions within our borders, as well as removing emissions by sequestering carbon dioxide in forests. Aotearoa should focus on decarbonising its industries rather than reducing production in a way that could increase emissions offshore. Forest sequestration should not displace making gross emissions reductions. Relying heavily on forestry before 2050 is likely to make maintaining net zero long-lived greenhouse gas emissions after 2050 challenging. It would delay action, lead to higher cumulative emissions and put the burden of addressing gross emissions on to future generations. This would require significantly more land to be converted to forestry in the future.*

We have previously advised the Commission that an over-reliance on forestry is not a sustainable strategy and should not be a substitute for taking action on emissions at source. Nonetheless, even taking all practical steps recommended by the Commission to reduce emissions New Zealand will still be heavily reliant on forestry in the near term and this important role should not be denigrated. These comments hold whether we are considering pre or post 2050 and thus the date reference is irrelevant.

We request that the wording be amended to state that "An over reliance on forestry is likely to make…."

The Principle should also note that "Sequestering carbon via forestry buys time for the economy to be managed to decarbonize reducing the amount of short-term disruption".

It misses a fundamental opportunity to describe the role for forestry beyond mitigation and the potential it has to support the establishment of carbon neutral industrial activity, such as in construction, bioenergy, bioplastics, textiles, biohydrogen, etc

Principle 4: Avoid unnecessary cost. *The actions Aotearoa takes to meet emissions budgets and targets should avoid unnecessary costs. This means using measures with lower costs and planning ahead so that technologies, assets and infrastructure can be replaced with low emissions choices on as natural a cycle as possible. This will help to avoid scrapping assets before the end of their useful lives or being left with stranded assets.*

This is a critical principle but fails to recognise the entrepreneurial opportunity within climate change. Investing in replacement infrastructure may be key for entities that are established but currently bio-based options are forced to compete with low-cost hydrocarbon options, which creates a key barrier for innovative new investment. The principles broadly fail to introduce the concepts of additive economic gain and entrepreneurial opportunity and instead focus too

heavily on “damage control”. Recognising the need for change and describing the imperative is key but with any change comes opportunity (perhaps not always for those with vested interests in the status quo), and this needs to have a greater emphasis.

Principle 6: Increase resilience to climate impacts. *The actions Aotearoa takes to reduce emissions should avoid increasing the country’s overall exposure to climate risks such as drought, flooding, forest fires and storms. Where possible, actions should increase the country’s resilience to the impacts of climate change that are already being experienced and that will increase in the future.*

We agree that climate related risks should be mitigated to the extent possible. The technical expression “forest fires” has been used when, in fact, fire risk is not confined to forestry and, indeed, the risk may be relatively lower than for grassland. The cause of most fires in forests originate from outside the forest. The word forest should be removed, and the description generally used by Fire and Emergency New Zealand, ‘wildfires’ used.

A more fundamental point to note is that while the incidence may increase, the impact of fire and storms will typically be at a forest stand level and regionally confined. The damaged forest will recover and the net impact at the national level will be marginal to non-existent i.e. it will not affect the contribution to the budgets.

New or emerging biosecurity threats are conspicuous by their absence in this section. Biosecurity impacts are wide ranging and generally permanent across land use types, including but not limited to commercial, carbon and native forestry as well as urban planting. Climate change is a well-documented factor in changing biosecurity risk exposure, recent examples of biosecurity risks that impact on tree health include myrtle rust in New Zealand and Australia and mountain pine beetle impacts in both North America and Europe.

Forests planted for carbon sequestration are by their nature higher risk from a biosecurity perspective, not only because of their apparent lifetime of risk exposure, but also because they are more likely to remain unmanaged or have minimal management after planting. This means that not only are they more susceptible, but that they are also more likely become reservoirs for biosecurity risks.

2.6.3 Genuine, active and enduring partnership with iwi/Māori (Pg 41)

We support the recommendation (3) and note the link to Te Taiao and Government’s Fit for a Better World Strategy. This is particularly important for forestry given the significant level of Maori ownership.

In terms of how to “entice” Maori land into this equation (with Partners) a lot more needs to be considered. There have been a number of good outcomes (Kaingaroa etc) but some less successful arrangements. Further understanding is needed around what were the measurements in determining Good vs Bad outcomes for the suggested scenarios (was it just financial?), and what factors actually made them good vs bad (from a landowner view). Looking backwards what went wrong and right and what will we do different this time to have more rights and less wrongs.

Information has been published on the “disadvantages” that Maori land faces. Advice that is being formed or policies being put in place must aim to address some of this as well as prevent further disadvantage.

Maori - as either a landowner or having governance roles over Maori land, have a horizon beyond 2035 or 2050. Decisions made now affect future generations. Further, ‘Maori’ are not

homogenous and their land is not a national resource that can be drawn on to meet Government needs. The introduction of pre 1990 forest land under the ETS has had severe impacts on the useability of Maori land and there is some resentment still. The aspirations of separate groups are important and what is attractive to one may not be to another.

Care must be taken in choosing the "entity" the Government uses to develop and implement any plan that includes Maori land.

3.1 Current policies do not put Aotearoa on the right track (Pg 46)

Net long-lived gas emissions are projected to fall from 36.3 Mt CO_2e in 2018 to 6.3 Mt CO_2e by 2050 under current policy settings. These net emissions reductions come mostly from increased carbon removals, with 1.1 million hectares of new forest, mostly exotic, planted by 2050. This level of forest planting is projected to occur in response to the price of units in the Emissions Trading Scheme (NZ ETS) staying constant at $35.

We do not believe this is realistic based on a carbon price of $35. This requires net new planting of over 34,000ha/yr from 2018 and also assumes 100% replanting of existing forest. The response to date has been well short of this even at this price level. It is acknowledged that the carbon price is likely to rise above $35 and possibly even significantly so but, even, so, every year that falls short of 34,000ha increases the annual average required for the rest of the period and, as stated assumes no conversion of existing forest to other land use. Furthermore, as carbon prices rise so do land prices and since these accrue as tax free capital gains to the landowners, some will be encouraged to hold land back against further price increases, limiting afforestation. Land that is clearly economic for timber production may sell, but less attractive land may not. We would rate this an optimistic rather than a realistic projection.

3.2 Our approach suggests a different, but important role for forestry

Core to our advice is the need to reduce gross emissions to prevent the atmosphere warming further and meet the 2050 targets. There are risks associated with the permanence of carbon emissions removals using forestry, especially as climate change exacerbates forest fires, heavy winds, storms, droughts, pests and pathogens. We take the approach of reducing gross emissions where it is feasible and leave carbon removals to offset the hard-to-abate sectors.

The list of climate change related risks affects other alternate primary land uses just as much as forestry and in the case of storms and droughts arguably more so. As such there is no net increase in risk arising from a land-use change to forestry.

Our approach suggests a different, but important role for forestry in meeting the 2050 target than has been outlined in previous analyses by the Productivity Commission and Ministry for the Environment.

The Productivity Commission and Ministry for the Environment were not the only independent reports concluding that a lot more forestry would be required even with realistic advances in technology (e.g. Vivid Report, 2017, Pure Advantage Report, 2016). The Commission's Report concludes we can reach our goals without the level of planting suggested by these reports so long as we make sufficient gains elsewhere. This challenge is made more difficult however by downplaying the role of plantation forestry and calling for more restrictions on it. It would be prudent to keep your forestry options open.

***New exotic plantation forests** absorb carbon quickly, but much of this is released when these are harvested. To keep adding to the amount of carbon stored in forestry, new land will need to be converted to forestry.*

All forestry whether exotic or native ultimately becomes a reservoir of carbon although in the case of exotic forestry some of the carbon will be locked up in wood products for a very long time. Plantation forests are also generally replanted after harvest and the process of locking up a proportion of carbon in wood products will continue to occur every successive rotation.

It is a lost opportunity is to describe the innovation opportunity associated with the first statement "New exotic plantation forests absorb carbon quickly…" because the second part of the statement is not accurate other than as a policy view via the ETS i.e., it is only within the ETS that the carbon is deemed to be released when trees are harvested. In reality, much of that carbon is sequestered (such as in buildings) and there is potential to do more, which is partially acknowledged in the last sentence but should be the leading statement, rather than as a secondary theme. In addition, permanent radiata forests can last in excess of 150 years.

Exotic forestry will also play an important role in providing biomass feedstock for the bioeconomy, allowing biomass to be used as a replacement for fossil fuels.

While this is true the Report is very light on how this will happen or be encouraged, and we are disappointed that biomass for fuel is emphasised over timber for construction. We assume you intend woody fuels for process heat will arise as by-products from higher value processing. Very few forests are grown for firewood. A reference to the Forestry Industry Transformation Plan would be appropriate and indeed we consider the Commission should recommend that government include a pathway within the Forestry Industry Transformation Plan for achieving the required biomass feedstock.

***New permanent native forests** absorb carbon more slowly but will continue to do so for centuries until they reach maturity. Because of this, we consider that carbon removals from new permanent native forests have a role to offset the remaining long-lived gas emissions in sectors with limited opportunities to reduce emissions from 2050. For instance, this could include offsetting nitrous oxide emissions from agriculture and residual industrial process emissions.*

Previously the Report highlighted concern about the use of forestry for carbon capture in light of significant climatic change (storms, droughts, pests, pathogens, etc), all of which native forestry would be subject to, and for much greater time frames. In forestry, shorter rotations are much less risky than long rotations, and give more land use flexibility should conditions change. Whilst native forestry has a role to play, species that allow fast carbon capture with supporting technological change to utilise the carbon captured, is a far less risky and more effective approach to achieving the Report objectives.

3.3 We need to avoid pushing the burden to future generations

Locking in net Zero. (Pg 49)

***Build a long-term carbon sink large enough to offset residual long-lived gas emissions without ongoing land use conversion.** This means starting now to grow new native forests on relatively less productive land so that carbon removals can be used to offset the remaining long-lived gas emissions from 2050 onwards. Establishing new native forests on less productive land offers a way for Aotearoa to build up an enduring carbon sink while delivering wider benefits for erosion, soil health, water quality and biodiversity.*

There are significant knowledge gaps about attempting this strategy i.e., the ability of low productivity land to support native trees, especially in the context of this being marginal land in today's context, which ignores the impact of ongoing climate change to this land in the coming decades.

Do you support our approach to focus on growing new native forests to create a long-lived source of carbon removals? Is there anything we should change, and why?

The Commission states that it has asked the following question of all advice it provides - Is it technically and economically feasible? We assume therefore that there is economic analysis of the cost of establishing and managing the hectarage of native forest recommended in the Report.

We provisionally consider that a typical cost for the establishment of native forest would be around $20,000/ha and could be considerably higher. We are aware of two recent examples where the cost was over $100,000/ha. By comparison radiata is $2,000/ha.

The challenge is considerably exacerbated if, as proposed, the seedlings are earmarked for marginal, erosion prone, and low productivity soils. The survival rate will be low.

The draft Report presents an ambitious target of establishing 12,000 new ha per year of native forests, starting soon, rising to 16,000 in 4 years and 25,000ha /yr by 2030.

On the above figures this means an annual cost in the order of $400m/year and a minimum total cost for the 300,000ha of $6 billion.

While it is true that in some places natural regeneration may be relied on to reduce the establishment cost significantly there will be many areas where this will not be viable, the maintenance costs will remain and the process of establishment of the forests will take much longer. Any additional native tree estate will require management, and therefore incur ongoing costs, for example pest management.

Whether the Commission's estimates align with this, or otherwise, this is fundamental information that needs to be made more transparent to the public and to the ultimate decision maker – the government – when receiving the Commission's advice.

It should also be remembered that this 300,000ha will essentially be non-production forest. There will be no volume of associated supply of wood and therefore no associated employment other than protecting the forest. This native tree forestry will be carbon-only forestry and will lock up the land for the foreseeable future. This will be appropriate in some areas where there are no viable alternatives. But New Zealand already has six million hectares of conservation estate which it does not have anywhere the resources to adequately manage. Land that has the potential for primary production, whether forestry or agriculture, should have that potential protected. This includes, for example, pest and weed control and biosecurity risk management costs such as surveillance and monitoring.

The other additional benefits listed from native forests, such as the stabilisation of land, soil health, water quality, and to a great extent biodiversity, are also achieved with exotic forestry in comparison to the land use that it would replace.

While the Commission suggests that the owners of land with this new indigenous biodiversity should be rewarded for providing these ecosystem services, it should make a similar suggestion that a similar compensation be made to the owners of new or existing exotic forestry if the Commission is to be equitable in its recommendations.

A further concern for landowners will be the increasing stringency with which councils are identifying Significant Natural Areas and constraining and activity therein under the RMA. If caught under such restrictions the landowner will have effectively donated the land to the Crown in perpetuity with the Department of Conservation determining what can or can't happen. But the landowner will still be liable for the cost of rates, pest control, insurance, fencing etc.

The use of long term radiata plantations has not been identified as an option. Growing radiata pine stands in New Zealand out to old ages, 60 - 100 years, is more than feasible. (Examining growth dynamics of *Pinus radiata* plantations at old ages in New Zealand. R. C. Woollons, B. R. Manley). Similar work has been done on other long-lived exotic species currently being grown in New Zealand.

Consultation question 10 (Pg 50)

Do you support our approach to focus on decarbonising sources of long-lived gas emissions where possible? Is there anything we should change?

Reduction of emissions at source is critical but as per the above there are aspects of this approach that are problematic in that they position forestry solely as mitigation. This is an unnecessary and unproductive limitation.

Consultation question 11 (Pg 50)

Do you support our approach to focus on growing new native forests to create a long-lived source of carbon removals? Is there anything we should change, and why?

There are many questions that need to be answered for this to be seen as a suitable strategy and it is counter-intuitive that short term exotic forest approaches are linked to climatic risk, whereas the use of indigenous trees on today's marginal land are not. For instance, research is currently being commissioned to ascertain the degree and type of risk of ignition of indigenous forests as 'extreme wildfires', such as Lake Ohau, Pigeon Valley and Port Hills, become more common as a result of climate change.

In addition, the Report acknowledges that exotic forests have a much greater short-term propensity to sequester carbon but then argues that release upon harvest supports the logic for a longer-term native tree approach. This not only comes with substantively higher risk, due to knowledge gaps, use of marginal land, long-term climate change but also delivers fewer economic opportunities. Native tree forestry has a role but should not form the central tenet to the proposed strategy.

3.5.1 Key insights from our scenarios for long-lived gases (Pg 50)

Low and medium temperature heat in industry and buildings could be decarbonised by 2050 through a switch away from coal, diesel and gas to electricity and biomass. Our analysis indicates that these costs could range up to $250 per tonne CO2e reduced but would be less than this where heat pumps or biomass can be used.

Technology to achieve these outcomes has existed for some time so what is going to create the breakthrough, which is something that is not really being addressed.

New native forests can be established on steeper, less productive land to provide an enduring source of carbon removals. With a sustained high rate of planting through to 2050, new native forests could provide a long-term carbon sink of more than 4 MtCO2 per year, helping to offset residual long-lived greenhouse gas emissions from hard-to-abate sources.

Creating permanent forests on steep and erosion prone land makes sense and, in some situations native tree forests may be a good solution, however the current Report presents native forest as a singular solution, rather than focusing on the aspiration, which is that marginal, steep and erosion prone lands become carbon sinks. The solution to achieve that could be varied and if approached that way would create a higher probability of success, not only by creating resilience through diversity but also because there are substantial knowledge gaps around the blanket suitability of native forests for achieving the goal. For example, redwoods may be substantially more suited to this role. They coppice so could not only provide a solution for carbon sequestration in these areas, but also create additional economic benefits.

Exotic plantation forestry continues to have a role to play in removing carbon dioxide, particularly until other more enduring sources of carbon removals, such as native forestry, can scale up. The deep reductions in gross emissions in our scenarios means the 2050 target could be met with a significantly smaller area of new exotic forestry than would occur under current policy settings.

This statement makes two key assertions:

1. Exotic forestry cannot provide an enduring form of carbon removal and
2. That it is desirable to use indigenous over exotic species if possible

The first assertion is blatantly incorrect. Long lived exotic forests (such as redwoods, walnut and others) provide viable solutions within a mosaic of tree species to achieve this goal. Moreover, these species offer viable economic and ecosystem benefits that may not be possible with a native-only approach. Secondly, New Zealand has not historically had an issue with over-afforestation. In fact to the contrary it has been deforestation (both native and exotic) combined with the intensification of dairy activity that has resulted in New Zealand's ongoing failure to deliver meaningful progress toward our national climate change obligations. This is not explored in any depth within the section, yet in addition to nitrous oxide, the dairy sector is NZ's largest single user of fossil fuel.

As noted elsewhere, even the more modest targets for exotic forestry will be challenging especially given that the Report calls for additional land restrictions on the sector.

3.8.2 Buildings

This section has a strong focus on energy efficiency and energy sources. It acknowledges that alternatives such as biomass can be rapidly deployed into some existing boilers. However, the Report fails to address how to catalyse such an outcome given that it has been a practical possibility for a number of years already. In addition, there is no acknowledgement of the role that wood and engineered wood can play in replacing concrete and steel, which would further accelerate a reduction of emissions from within our construction sector. The only reference to the benefits of product substitution is in two lines on page 69.

3.8.5 Industry and heat

Where available, biomass from forestry and wood processing residues are a low-cost fuel switching opportunity. There may be constraints on biomass supply in some regions where there is not significant forestry. In these regions, electric boilers will be needed, but at a significantly higher operational cost. Electrification of process heat will also require expansion of the electricity transmission and distribution grids. This will add to the total cost.

The Report also states:

Pine trees will still play an important role in getting to 2050 and could support a future bioeconomy, as bioenergy to replace fossil fuels and as timber for building.

There is little in the Report that suggests how this important role will be ensured.

This narrative is flawed in that it fails to appreciate that most wood processing residues are already used in bioenergy production by the wood processors, and also perpetuates the current paradigm, which is that cost is measured by input costs rather than the full environmental costs, forcing residual forest biomass to compete with commoditised hydrocarbons. The ETS is the vehicle that has been created to break apart these economics, but it has failed to do so (this is not a question of technology it is a question of adoption). A narrative on the potential of change within the ETS as a way of encouraging the use of biomass would be prudent.

In our path, fuel switching to biomass also occurs in some other energy-intensive industries such as pulp and paper production. (Pg 65)

These industries are already using biomass for bioenergy production and frequently either return electricity to the national grid or operate independently of it. Rather than describing them as energy-intensive and indicating a requirement to shift to biomass they should be promoted as exemplars for the potential of biomass.

Overall, our path takes advantage of the country's currently under-used biomass resource, moving towards a more circular economy. Achieving this uptake will require the development of supply chains for gathering and processing biomass along with the establishment of local markets. (Pag 65)

This is not a circular economy principle. It is a bioeconomy principle. Ensuring a clear distinction between these concepts is critical (a circular economy principle would be to use wood recovered from demolition as a source of biomass). It is the market dynamics of biomass having to compete with commoditised hydrocarbons that has prevented the development of such supply chains, but this is not articulated here.

Certainly, some recoverable biomass is left on the ground after harvesting in regions where there are no markets for chips. Since we cannot move the forests and it is expensive to ship the harvest residues, this implies building new mills that require chips (or process heat) in those regions where the residues are available. That opportunity has been around for decades but is seldom used. There are many factors in the siting of mills and fuelwood supply is not usually considered a priority.

3.8.7 Forestry (Pg 68)

Our path would see a significant increase in new native forests established on less productive land. The Ministry for Primary Industries forecasts that there will be around 12,000 hectares of new native forests established in 2021. Our path would see this ramp up to 25,000 hectares per year from 2030 (Figure 3.18). In total, close to 300,000 hectares of new native forests would be established by 2035. The rate that we can plant or revert native forest would likely be limited by nursery capacity, pest control and fencing.

The rate will also be significantly influenced by the survival rate and by the level of interest of landowners where it is private land. The initial aim of 12,000ha year is still very high by historical standards and there is almost no chance this can be achieved in 2021.

The Report does not talk about the cost of such an approach, which by most estimates is $20,000 /ha or substantially higher on marginal land so has significant associated costs. This is especially when compared to the use of exotics for such purposes. In addition, the Report does not articulate the potential impact of ongoing climate change to this strategy and how that additional risk is to be managed, including biosecurity risks, whether new or existing/emerging.

Estimates from recent studies suggest there is on the order of 1,150,000 to 1,400,000 hectares of marginal land that could be planted in forestry. As much of this land is steep and prone to erosion, we consider that it would be more suitable for permanent forests, particularly native forests.

This presumes that the majority of the native planting will take place under demanding conditions and will not be for production forestry. The Report does not articulate how much of this land is suited to native tree planting and how the areas not suited to native afforestation would be managed.

If native forests are to be grown on land that is steep and prone to erosion, then natural regeneration should be encouraged to reduce the costs and improve survival rates, since pest control will be difficult and only local pioneering species will thrive. Unfortunately, natural regeneration will delay transition to the emergent species that will be required for long-term carbon storage.

Because of survival risks and the need to manage newly established native forests, active planting should for some time be encouraged on easier country where it will provide greatest benefit in riparian strips, enrichment of pockets of residual forests or in substantial wildlife corridors (for example between Pureora North and Pureora South stat forests).

In our path, exotic afforestation would continue the trajectory expected under current policies up until 2030, averaging around 25,000 hectares per year. From 2030 onwards, the rate of afforestation for carbon removals would reduce. In total, around 380,000 hectares of new exotic forestry would be established by 2035.

The level of net new afforestation under current policies is not achieving 24,000ha/yr and furthermore there is no confirmation that existing policies will be maintained.

In 2019 afforestation was 19,000 ha (NEFD data) after three years of government support via the 1Billion Tree program. Government support for exotic afforestation has largely been withdrawn so an increase in exotic afforestation rates to 24,000ha/yr looks unlikely.

We have not assumed any change in the percentage of permanent exotic forest above Ministry for Primary Industries projections as this is not required to reach emissions targets.

If significant new emissions reductions are not made and the ambitious levels of native afforestation are not achieved, year on year, then more exotic forestry will be required, or New Zealand will have to pay for sequestration offshore. We consider that it is highly likely the Commission will need to make a recommendation on this choice within five years.

As well as planting new forests our path would reduce deforestation, which is still a considerable source of emissions in Aotearoa. Our path assumes that no further native deforestation occurs after 2025.

It is pleasing to note the Commission has also considered deforestation. Although it is not widely appreciated deforestation has taken place over the past decade or more in both native and exotic plantations. It is as important to arrest this as it is to achieve new forestry.

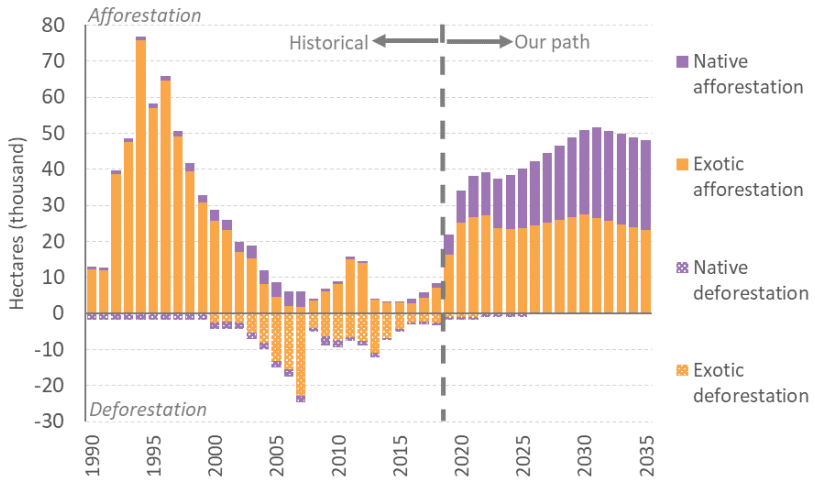


Figure 3.18: Afforestation and deforestation by year in our path.

Source: Commission analysis.

Trees can help in the transition a low emissions Aotearoa in other ways. (Pg 69)

Bioenergy offers a low-cost route for decarbonising some sectors, including process heat. Overall, there appears to be a large potential biomass supply from collecting and using waste from forestry and wood processing. However, the availability is likely to vary across the country due to regional mismatches in supply and demand of biomass, and the cost of transporting biomass. While the supply of biomass residues may appear to be abundant in some regions, trade-offs may also need to be made when deciding what parts of the economy to decarbonise using biomass first.

The cost of supply of biomass is the main limiting factor. Although huge resources are available on forest (including wildings), extraction and transportation costs, especially as supply chains are being developed, are the main restraining factors to greater utilisation.

Timber can displace emissions intensive materials such as steel and cement in buildings. This reduces embodied emissions and can lock up carbon for several decades. (Pg 69)

This almost dismissive comment should be greatly strengthened. In a zero-carbon economy there is no place for emissions intensive materials that can be replaced with timber. The Commission should emphasise the benefits of achieving this outcome because it is a rapidly deployable solution that could not only accelerate resolution of New Zealand's housing shortage, but also increase retention of domestic value through increased wood processing.

A substantive proportion of the narrative around agriculture within section 3.8.6 of the Report is that technology and innovation (selective breeding, inhibitors, vaccines, animal performance etc) will result in minimal change to sector outputs, and that support to farmers should be provided to adopt technologies that already exist. However, section 3.8.7 provides very little of a similar forward-looking view of forestry or an associated lens of innovative opportunity. Rather it advocates for a traditional approach of planting more and cutting down less, which is a huge lost opportunity. Anything that can be made from fossil fuels can be made from trees so why does this not feature?

Consultation question 12 (Pg 71)

Do you support the overall path that we have proposed to meet the first three budgets? Is there anything we should change, and why?

We support the overall path but note that (Box 3.1) the path does not acknowledge the role of increased use of wood-and engineered-wood in buildings. In addition, it does not describe an approach for forestry other than planting more trees, which overlooks the opportunity for new innovation.

We have doubts that target afforestation rates will be achieved, yet in Box 3.1 even greater levels of afforestation are suggested as part of the back-up plan. This is truly heroic.

Elsewhere the Commission has dismissed the likelihood of find a useful methane inhibitor, yet in Box 3.1 the inhibitor is an essential part of the back-up plan. The level of reliance should reflect the level of confidence.

4.5 Assessing how our proposed emissions budgets contribute to the 1.5ºC global goal

- *Our path focuses on large reductions of carbon dioxide emissions with as little reliance on emission removals by forestry as possible (Pg 77)*

This bullet should just finish at "….reductions of carbon dioxide emissions." rather than introducing forestry.

5.2 How Aotearoa creates a fair, equitable transition for people (Pg 81)

Climate change will disproportionately affect future generations. However, if Aotearoa transitions too quickly, this group will also bear the brunt of costs of disruptive change.

The negative view of change is built on today's paradigm rather than acknowledging in parallel the new economic opportunity that can be created in a country that is agile and producing biomass.

5.5.1 Food and fibre production (Pg 89)

There is no reference to the government's Food and Fibre vision – "Fit for a Better World".

This section appears to classify fibre only as wool and does not really speak to the opportunity for alternative fibre generation as part of the climate transition.

5.5.4 Emissions Leakage (Pg 63)

In Aotearoa, emissions leakage risk is mitigated by providing potentially affected industrial activities with free allocation of NZUs. This substantially reduces the cost of the Emissions Trading Scheme (NZ ETS) for these businesses. It is also expected that when biogenic methane and nitrous oxide emissions are priced, agricultural activities will receive a high level of free allocation that is likely to protect against emissions leakage.

It appears highly political to say that reducing emissions at the source is a key goal, while simultaneously affording the largest producers of greenhouse gases an exemption to the costs of their activities.

5.5.5 Making sure our workers have opportunities (Pg 94)

This is largely because our proposed emissions budgets would result in less land use change from sheep and beef farming to forestry

This assumes a land use conversion to forestry would result in fewer jobs than if land use were to remain unchanged. It fails to provide what evidence was used to support that conclusion. It fails to explain the discrepancy with the key findings of the 2020 PwC Report which the Commission acknowledges elsewhere.

For example, there are opportunities to create new jobs associated with the circular economy, such as using wood waste for biofuels, and new industries, such as hydrogen. (Pg 96)

These are not circular economic activities; they are simply low-carbon activities.

Aotearoa is known as a country of innovators and problem solvers. Being an early mover in researching new technologies and adopting existing technologies will benefit not just the climate, but the economy and wellbeing of New Zealanders. This is particularly true in sectors where Aotearoa is traditionally innovative, such as agriculture. (Pg 97)

This is a romantic and nationalistic view of ourselves. The Report acknowledges there has been slow adoption of already available technology within the agricultural and industrial sectors, and New Zealand's investment into R&D as a percentage of GDP which rates us as one of the lower performing countries (25th) within the OECD.

5.7 Impacts of land use change on communities (Pg 99)

Increasing the amount of native and plantation forest – or afforestation – could play a role in helping achieve the country's emissions budgets and emissions reduction targets. However, we have heard through our engagement about concerns that the speed and potential extent of afforestation could have negative impacts on rural communities and provincial centres that are reliant on the food and fibre industry for employment. This would include not only those working on the land, but also those involved in transporting and processing food and fibre products.

We have factored this into our emissions budget analysis. This is in line with our principle to focus on decarbonising the economy. There is a risk that forest sequestration could be used to offset emissions rather than making gross emissions reductions. This would make it difficult for Aotearoa to maintain net zero long-lived greenhouse gas emissions beyond 2050, in addition to the potential impacts on communities and the wider food and fibre sector.

The impacts of any afforestation will depend on the scale, pace and species of trees that are grown, the purpose for which the trees are grown, the type of land that is afforested, and the land use that is displaced.

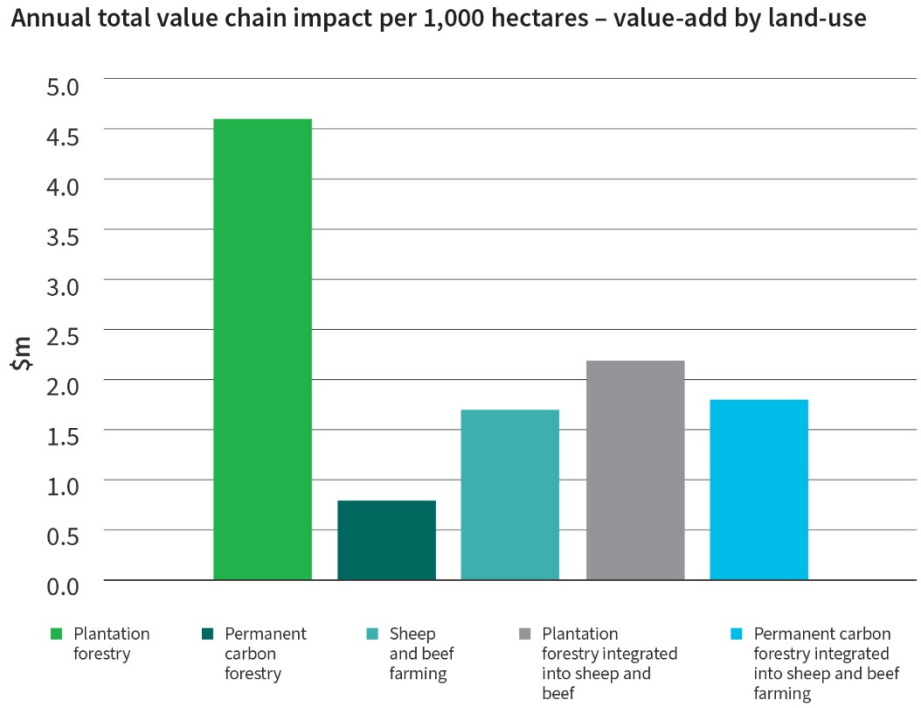
Under the Climate Change Response Amendment Act the Commission has a requirement to assess the impact on communities. We strongly urge the Commission to base its recommendations on sound analysis and facts rather than anecdotal input. There are studies which provide evidence of the contribution forestry makes to communities such as the Price Waterhouse Cooper's Report.

The Commission demonstrates that it is well aware of the PwC Report commissioned by MPI in 2019 and released in July 2020. The PwC Report has very positive implications for production forest land use decisions.

We note that the PwC Report compares two industries which utilise different classes of land. By far (77.6%) of the forest estate is on non-arable land, Land Use Capability classes 6 and 7.

As far as we can ascertain, this is much higher than for hill country farming which means that the comparable playing field of intrinsic land productivity is not level. It is in favour of sheep and beef farming, but forestry still comes out economically on top.

Source PwC



5.7.1 Exotic Forestry (Pg 99)

Current policy settings and sector infrastructure heavily favour the planting of exotic Pinus radiata over other species. Increasing emissions prices would also incentivise greater establishment of permanent exotic carbon forestry.

It is interesting to note that the Commission has placed its key chapter on exotic forestry as a sub-heading under Land Use change on Communities.

Achieving landuse change of 380,000ha or 3.5% of the pastoral and arable land in New Zealand over 15 years is admittedly a modest level of planting in comparison to the levels that numerous previous independent authors have concluded New Zealand will need, even with action on other fronts. Nonetheless this seemingly achievable level is likely to be out of reach given that the Commission is relying on the price of carbon and wood to get us there. As outlined above the evidence thus far suggests this will not happen.

The Report states that "*under current policy settings, the scale of afforestation that is expected to occur would in large part be driven by the emissions price in the Emissions Trading Scheme. Other financial incentives, such as the One Billion Trees programme, land and export prices, would also play their part".*

In fact, the Billion tree programme policy provides the majority of support for native forestry. The main driver for commercial forestry is economics.

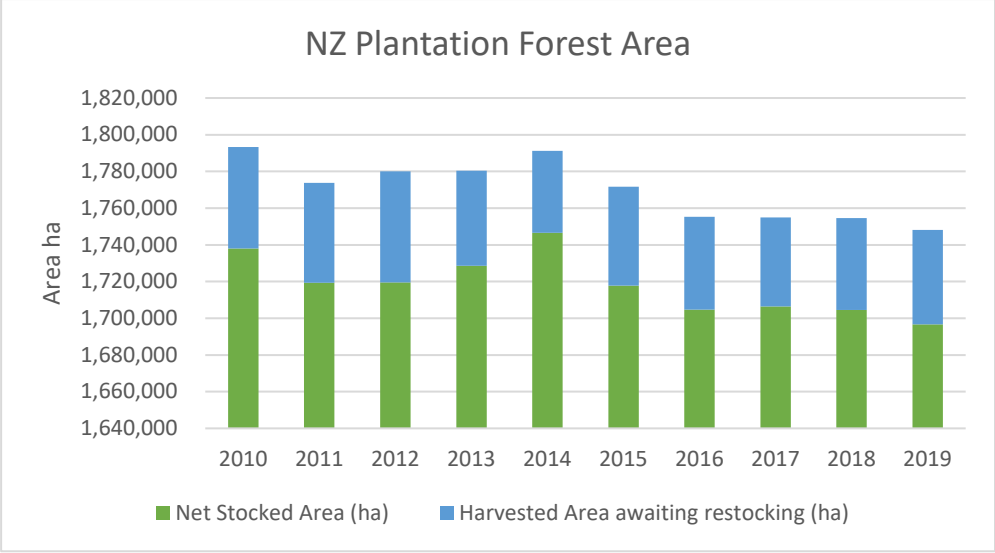
The combination of the ETS, the Billion Tree Programme and relatively buoyant market conditions in the last few years has pushed new planting up to 19,000 hectares last year, a figure that has not been achieved in exotic plantation forestry in any of the past 20 years even with a strong carbon price. Yet achieving an additional 380,000ha by 2035 equates to an average annual level of planting of over 25,000 ha year in, year out, regardless of fluctuating market fortunes.

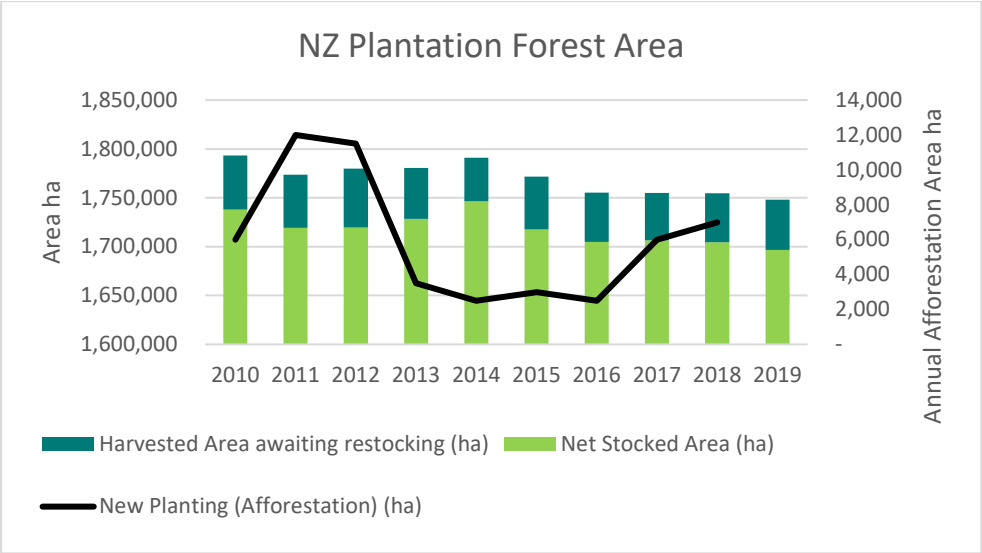
Consider this:

- The Billion Tree programme funding ceases in June this year, current funds are fully allocated, and there is no suggestion of any further funding at this point.
- Land prices, if anything will become an increasing deterrent to planting as this is a cost that has heavy weighting when included in a 28-year discounted cash flow.
- Only half those forest owners eligible to enter the ETS to date have done so.

Furthermore, new planting only tells part of the story. It assumes, as the Billion Tree Programme did, that 100% replanting will occur. In fact, this has not been the case for exotic production forestry.

The attached graphs cover 10 yrs of NEFD data showing net stocked area awaiting harvest and afforestation rates. Total production forestry area is actually declining according to NEFD data which is the base data set the industry and government relies on. It should be acknowledged that the NEFD concentrates on exotic forest planted with the primary intention of producing wood or wood fibre – as such, it is likely that not all the carbon-only forests, non-production forests, have been captured. But the core message is that new planting figures do not translate into more forest area.





If we do not have 100% replanting then the new planting figure of 25,000ha will have to be higher.

On top of all this, the Commission is suggesting, without providing any guidance, that there should be policy constraints on where exotic forestry planting does take place. Any such policies will necessarily reduce the level of new planting, and perhaps considerably.

Taking all these factors in to account the Commission's expectations for exotic forest planting seem highly optimistic. We consider a more realistic, but still challenging, target for new afforestation would be around half that proposed in the Report. As such we consider it would be useful for the Commission to describe what the manifold consequences will be if, for example, we achieve only half what is expected.

The policy settings are designed to achieve our climate objectives and were not designed to benefit the forestry sector. Indeed, there is less plantation forestry today than there was when the ETS was created and until recently New Zealand had a significant issue with the continual conversion of production forestry into high emissions dairying.

The Commission's division of exotic and indigenous planting obscures important distinctions between different exotic species and for that matter between indigenous species too.

These impact on both opportunities and risks.

While *Pinus radiata* is by far the dominant exotic plantation species in New Zealand, there are also 103,000 ha of Douglas fir growing mostly in colder districts which are less suitable for pines.

There are also some 24,000 of plantation eucalypts, which sequester carbon at a rate greater even than that of pines.

Cypress species and redwoods are also featuring more in forest planning. Cypresses generally produce durable timber, while redwoods coppice and therefore hold soil on soil on slopes because the roots have not rotted when the tree has been harvested.

Willows and poplars are routinely used for erosion control.

With indigenous species there is a huge range of possibilities. Opportunities feature particularly with kauri, tōtara and black beech,

With both exotics and indigenous trees there is a range of flammability risk, an important consideration with the increasing occurrence of extreme wildfires.

We heard throughout our engagement about the concern that whole farms could be planted in exotic forests, either for production forestry or permanent carbon forestry. This could have impacts on rural communities and the wider food and fibre sector.

Forestry itself is an integral part of the food and fibre sector. The assumption that is being made is that the impact of increased afforestation will be negative. There are currently more than 14,000 forest owners who have made the assumption that forestry is a positive option to pursue. The vast majority of these forest owners are also farmers.

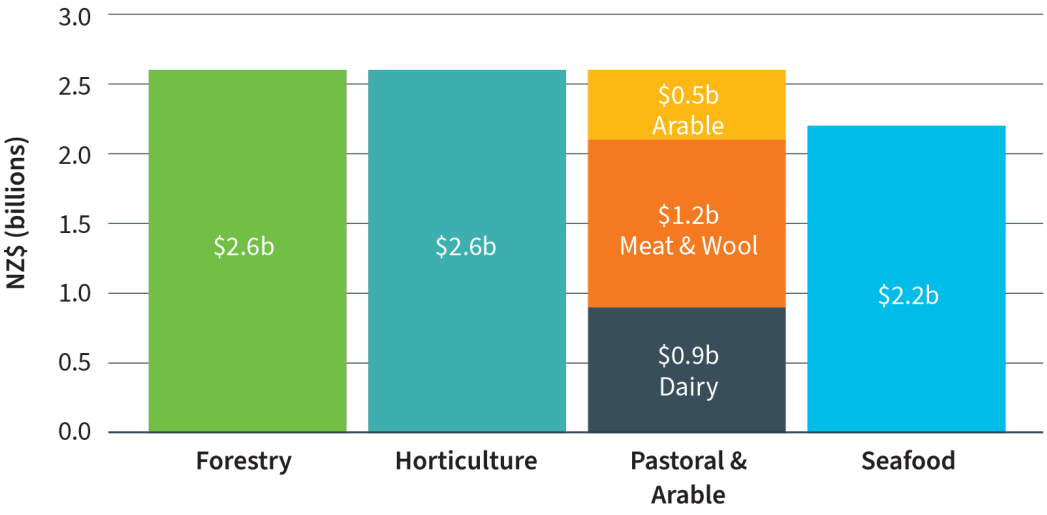
An "either/or" argument is counterproductive and a lot more could be achieved with a more integrated approach to land use choice, allowing higher-value economic and employment opportunities.

Analysis by PwC indicates that converting to production forest would probably generate more jobs across the value chain, while permanent carbon forestry would generate less (Table 5.1). Efforts to increase domestic timber demand by changing building policies could also stimulate the wood processing industry and increase the value chain employment of forestry

In the Fit for a Better World programme the government in 2020 set out ambitious export earning goals for the forest industry, as a means to try to offset the fall in export revenue attributed to the Covid-19 impact on the international tourism industry.

However, as shown below, the forest industry is an anticipated leader in this primary sector growth surge. In percentage terms the government anticipates the much larger pastoral sector's growth to be much more modest.

Source:
MPI – Fit for a Better World



Associated with this export earning goal for the industry, the government has also launched an Industry Transformation Plan for the forest industry which aims for a very significant shift to further processing logs in New Zealand.

The upshot of this is that the Climate Change Commission's assumption of increased forest productivity from biofuels and more wooden building construction, is a major understatement of the commercial expectation government has of the industry, and that which we too expect.

The implications of the Transformation Plan are potentially profound for regionalised land use. Economies and efficiencies of scale are vital in upgrading our processing industry to be world competitive. 'Clustering' of different types of processing are also crucial.

These factors also imply regional concentrations of wood and timber processing, with the associated large volume feedstock log supply with shortest possible supply lines.

Thus, some regions of New Zealand may eventually develop concentrations of what is disparagingly termed by some as 'blanket forestry'. These particular regional concentrations will be a result of a sound and necessary commercial reasoning.

The Commission therefore should disabuse itself of the notion that exotic forestry should only be integrated into farmland in all circumstances and the only reason for 'wholesale conversions' is an overshoot of the ETS incentives.

Permanent carbon forestry, whether it is native or exotic, should be a considered decision, and there is agreement that this activity should be restricted to those areas where alternative land use choices are not viable. However as evidenced elsewhere in the Report, an increase in production forestry will result in greater overall employment, which should not be ignored. In addition, the reported economic benefits described in the Report use an "as is" model for forestry. They do not take into consideration the potential for innovation and distributed manufacturing options that could occur in a rural, rather than urban, setting.

Wholesale or large conversions of sheep and beef farmland to forestry would impact communities and reduce employment in the immediate area as forestry-related work is likely to be more concentrated in larger rural towns, particularly those involved in processing

While there can be varying patterns of employment the key message is that the net impact on community employment from forestry is either negligibly different to, or is greater than, pastoral agriculture. The PWC Report reinforces this. Community composition is dependent on many variables and, particularly in the rural environment, is dynamic. Economic sustainability has required considerable adaptation by all land use sectors and will continue to do so. Many of the jobs available in agriculture, horticulture, forestry etc will change and diminish over time and it would be inappropriate for the Commission to try to define the "ideal" community size and associated employment pattern. With respect to the relative employment in the processing parts of the respective industries, forestry is relatively more widely dispersed. There are at least 130 wood and timber processing facilities in New Zealand compared with around 46 dairy factories and 45 meat processing plants.

It may be that a case could be made that both the dairy and meat industry have many 'boutique' operations spread around New Zealand producing small volumes of product. But the same could be said of the many mobile sawmills and joinery and furniture making factories around New Zealand as well. There are 305 company members of the NZ Master Joiners Association for instance.

The Commission appears to have uncritically taken on board the view that there needs to be a restriction on exotic forestry expansion, should the rate of planting of about 25,000 hectares per year be exceeded, and result in more exotic plantings than the Commission's projected total of 380,000 hectares of new planation exotics by 2035.

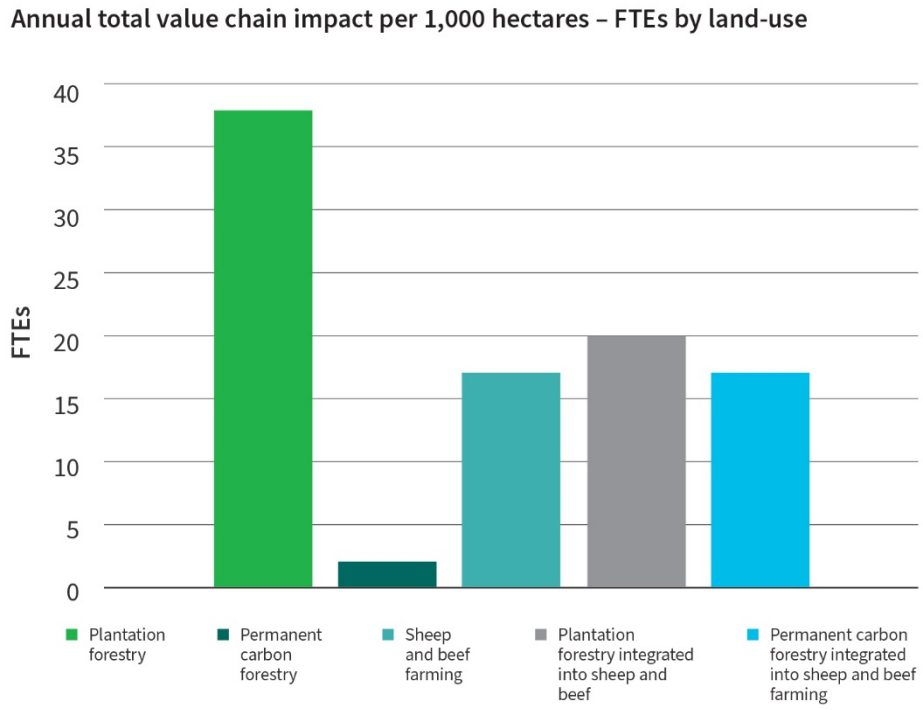
While it is clear that the achievement of planting an additional 380,000 hectares of estate will be extraordinarily hard to achieve by 2035, we should also note that there are potentially strong economic reasons why hill country farmers may wish to exit farming. The rate of forest planting may increase markedly as a result.

These farmer factors are; farm succession, their advancing average age, more frequent droughts, uncertain or low product prices, (particularly for wool) the threat in the market of synthetic food, animal welfare lobbies, vegetarian advocates, the requirement to comply with stock water exclusion regulations and rising farm input prices. These are all important considerations as to whether they want to, or are able to, farm anymore.

In fact, the outgoing CE of the Meat Industry Association, Tim Ritchie, told the Environment Select Committee in 2019 that the threat of afforestation to the meat processing industry was less than that of the emergence of synthetic meat and freshwater regulations.

As well, more frequent droughts in some regions, such as the increasing and imminent increase in the days of soil moisture deficit predicted by NIWA along the North Island east coast, have the ability to rapidly force farmers to exit their industry on a large scale.

Source: PwC.



Constraining this price incentive for afforestation through the Emissions Trading Scheme could help limit the overall scale of afforestation, including permanent exotic forests. However, it would not determine where this afforestation would occur, or remedy the relative disincentive for native species. (Pg 100)

The Commission is looking to government to make the determination, through policy settings, where exotics should be allowed to be planted. Without knowing what those policies might be, how can the Commission be confident New Zealand will achieve the 380,000ha of planting that is a key component of its budgeting?

We have strong support from the agricultural sector in opposing land use controls that constrain flexibility and specify what a landowner may or may not grow.

Rather than disincentivise the establishment exotic forests, policy has an opportunity to unlock the potential for employment opportunities via new and innovative processing solutions that could be recognised within the ETS.

Limiting where afforestation happens would likely require a regulatory approach through the planning rules or alternative interventions, that place restrictions on land use change.

The Commission has not established that forestry requires additional controls. If forestry expansion related to carbon policy requires modification this should be via amendments to carbon policy/ETS and not through planning rules as an alternative. Such government intervention in land use decision choices is unjustified and we are aligned on this point with Beef and Lamb NZ and Federated Farmers.

Restricting land use choice through regulation, when not based on environmental or sustainability factors is a suggestion that has the potential to limit New Zealand's ability to capitalise on its intrinsic natural advantages. Instead of creating restrictions, an incentivised approach should be encouraged so that desired afforestation can be supported where desired and free market economics will determine the suitability of other land classes for afforestation.

Capacity building and extension services for landowners focused on integrating trees or forestry onto farms rather than wholesale land use change could limit the impacts of afforestation. This could be facilitated by developing carbon monitoring systems that allow for tracking and rewarding sequestration from smaller or dispersed areas of trees.

We concur that there is significant, and pressing, need for individual landowners to be provided with information and systems that will allow them to make informed decisions in relation to forestry and carbon. The NZ Farm Forestry Association could be a vehicle to assist with this and this should mean greater integration of forestry within farming. This does not mean, however that larger scale afforestation does not also have its place. Commercial forestry can deliver economics of scale and ensure a consistent (rather than sporadic) supply of timber to support on-going employment and processing investment of the kind that the Commission and Industry Transformation Plan suggest is part of the bioeconomy we need to create.

It seems counter intuitive that given the acknowledged negative environmental effects of production agriculture (from land that was once forested), in a time of globally reduced demand for meat products in Western countries, that the Report is suggesting that there is a requirement to "…limit the impacts of afforestation."

Education and support for rural landowners looking to make informed choices about land use options makes complete sense, as does the potential qualification of smaller woodlots within the ETS (assuming that the associated administrative burdens warrant the imputed benefit). However, the above statement implies that larger scale/wholesale land use change should be educated against even though, wholesale land use change may be a better option economically and environmentally.

How can this be managed by changing the focus to permanent, native forests? (Pg 100)

Changing the balance of incentives in exotic versus native afforestation would also alter the impact on rural communities, and the broader food and fibre sector. Native afforestation might generate fewer jobs than exotic forestry, particularly if it is not all planted and harvested, or if land is left to revert to natives.

Other than the Northland Totora programme, and some very limited extraction in Southland, there are no active harvesting regimes for native forestry and, just like a qualifying exotic species, a native harvesting programme would also be affected by current ETS settings. Fundamentally, a carbon-only strategy risks underutilising the land and associated economic potential. This is not a question of native vs exotic, it is a question of product choice, with carbon being of low socio-economic benefit relative to processed product manufacturing.

However, native afforestation could be suitable for areas of less productive land where exotic afforestation is inappropriate. It would therefore not come at the expense of other economic activity.

Less productive land could be afforested with little impact on farming productivity or employment. Many sheep and beef farms have areas of land that are steep and susceptible to erosion. These areas could be particularly suitable for permanent forests. This would also include Crown owned land. Recent studies put the potential area at 1,150,000 to 1,400,000 hectares. The Biological Emissions Reference Group estimated that approximately 6% of hill country sheep and beef farms could be afforested without negatively affecting production. (Pg 101)

In fact, for this land, in most instances, it will enhance production.

The intention is to sequester carbon. *Pinus radiata* sequesters up to six times more carbon than the fastest growing native, is cheaper to establish, requires less maintenance, offers a production option from age 20 onwards, and if left alone there is growth data from stands greater than 100 years old that proves it is a long-term sequestration option. (Examining growth dynamics of Pinus radiata plantations at old ages in New Zealand. R. C. Woollons, B. R. Manley).

Efforts could also be made to promote a native forestry industry. This could have particular relevance for iwi/Māori. Native afforestation could be incentivised by extending grant schemes such as One Billion Trees or by developing ecosystem services payment schemes that could reward the other environmental benefits of native forests.

The development of a native forest industry would be transformational, but it is unclear if the Commission is expecting this role from native trees. This should be made explicit. Most of the area the Commission has identified for native forestry is marginal, erodible land and expected to be permanent forestry. Does the Commission also expect a low level of wood production from this forest?

While admirable, establishing such industries would not be feasible for an extended period (70+ years) and would only likely be able to support niche industry applications, due to extended growing cycles and a lack of established value chains. In addition, the use of Taonga species for commercial product creation may face significant cultural objection.

Creating an ecosystems service payment specific for native forests has the potential to ignore the corresponding benefits provided by other types of plantation forests and it is not immediately obvious as to why such a distinction is appropriate.

With native trees alone, at 25,000 ha of planting per annum for the next 15yrs, this would require a significant sum of capital. Assuming $20,000 per ha, finding an additional 500m a year to spend on indigenous forestry could be a challenge (without government funding) unless it stacks up commercially.

Owners of large tracts of the Māori land would not have capital themselves to do this and are also unlikely to leverage land to get it. Those who do have the capital would have targeted returns and social goals, sustainable job creation etc. If Māori or government are not funding

this then there needs to be work done on incentivising capital to invest, while at the same time meeting the needs of Māori and sharing in the benefits accordingly based on capital/assets employed.

Much more analysis on funding is required and the level / type of advice required by the landowner to make this level of investment. The only "native forest industry" with any impact at present is manuka honey and planting manuka does not sequester much carbon.

5.8 Environmental Impacts

Afforestation could also improve biodiversity, water quality, soil health and reduce erosion, if the right type of tree is planted in the right place at the right time. While pine forests can increase biodiversity, including for rare native species, native forests in Aotearoa host hundreds of threatened species and thousands of species. Native vegetation spread across the country's farms can also provide large, connected networks that can serve as stepping stones for birds that disperse tree seeds. Pest control, and fencing out grazing and browsing animals, would be important for both improving biodiversity and enhancing carbon stocks. (Pg 101)

It is concerning that the Commission feels the need to continually qualify the benefits of afforestation between exotic and native trees. Both systems have benefits in the areas of water quality, soil health, erosion reduction and biodiversity, attempting to qualify the extent of one aspect (biodiversity) between the types of forests sets a tone that is counterproductive.

5.10 Ensuring an inclusive, equitable and well-planned transition (Pg 102)

As Aotearoa transitions to a thriving, climate-resilient and low emissions Aotearoa, new skills, knowledge and capability will be needed in the workforce. Ensuring the workforce's skills match what is required in the labour market is key to ensuring that businesses can innovate, adopt new technologies or commercialise new ideas. Flourishing businesses will create flow on benefits for workers and communities.

Current approaches to skills and training will need to change to prepare the current and future workforce for rapid change. This includes changes to support workers through the transition, and to prepare displaced workers for the new job opportunities that will emerge with it. Increasing New Zealanders' capacity to adapt, and ensuring that New Zealanders have transferrable skillsets that set them up for success will be crucial. Vocational education and training systems will need to be able to adapt quickly to changing skill demands. Barriers that restrict all New Zealanders from participating in education and training – including some Māori, Pasifika and low-income groups – will also need to be addressed.

We recommend that in the first emissions budget period the Government develop an Equitable Transitions Strategy that is linked to the Government's Economic Plan.

We recommend that, in the first budget period the Government progress the following steps to meet emissions budgets:

Identify communities and regions that may be particularly affected by climate change and the transition to a low emissions society, and initiating processes for localised transition planning in these areas. This would require the Government to work in partnership with local government and regional economic development agencies, iwi/Māori, local communities, businesses, civil society groups and stakeholders.

Develop policies for creating a workforce with the skills needed for accelerating the low emissions transition, including:

Assessing how the education system sets all New Zealanders up for the low emissions jobs of the future, with skillsets that enable workers to adapt and lifelong learning.

Upskilling and redeploying workers transitioning from high emissions sectors.

Developing skills and training into low emissions industries by Māori, for Māori.

Investigate the specific impacts of the climate transition on small businesses, and develop a plan for how to support them through the transition.

The Commission has recognized the inevitable change that will be required with the economy, New Zealand's industries and the workforce. The forest and wood processing sector has a fundamental role to play in this revitalized economy and this is recognized in the government's "Fit for a Better World Strategy".

We note the earlier comments of the Commission relating to the alignment and integration of policy. The forest and wood processing sector has been working with government to address the implications for our workforce and develop a Workforce Action Plan - https://www.mpi.govt.nz/dmsdocument/40366/direct. It is important that this is integrated with the policies and Transition Plan recommended by the Commission.

We concur with the recommendation that those areas where transitional change will be most acute be identified and appropriate measures be developed to assist and enable that transition. Without such facilitation such sections of the economy may be unable, or resistant, to change.

For forestry we consider it will be very important to identify those areas where it is expected land use change and processing investment and expansion will take place. This information then needs to be made transparent and appropriate policy and assistance developed to facilitate the transition. Without this strategic assessment the risk is that development will take place haphazardly with sub-optimal outcomes for society. Given the fundamental reliance of the draft carbon budgets on the development of forestry we consider the Commission should include a requirement for this assessment in its recommendations to the government.

We believe that workforce policies need to include skills relevant to forest health and biosecurity risk management including within the education system, upskilling workers and especially for developing and growing skills for Māori.

6.1.1 Transport

Necessary action 4 Increase the use of low carbon fuels for trains, ships, heavy trucks and planes (Pg 111)

b. Introduce low carbon fuel standards or mandates to increase demand for low carbon fuels, with specific consideration given to aviation.

c. Introduce incentives to establish low emissions fuel plants, such as biofuel sustainable aviation fuel, and make those fuels more competitive with traditional fossil fuels

As acknowledged by the Report, sustainable fuel production is already possible. However, it will require measures such as the policy recommendations above to achieve. This will also

help support the development of additional biomass production systems, further stimulating economic benefit, which is not acknowledged in the Report.

6.1.2 Heat Industry and Power

There will be some nationally significant forks in the road as the energy system decarbonises, where choices will need to be made. For example, whether Aotearoa should keep its gas pipeline infrastructure long term as an option for low emissions gases, or whether a low emissions steel industry is critical for security of supply for the country's construction industry. Also, whether the skills of those who work in the oil and gas sector should be actively retained in Aotearoa for new low emissions industries.

The Report proposes the potential for a low-emissions steel industry. However, there is also an opportunity to reduce our reliance on structural steel through the use of engineered wood, which is omitted from the Report's strategy and should be reconsidered.

Scale up provision of low emissions energy sources (Pg 115)

To establish a bioeconomy, greater government coherence and coordination is needed. The Government needs to provide direction on the priority uses of bioenergy, to signal the optimal scale of a system, help overcome barriers, and to provide investment and procurement support.

The recognition of non-market positive externalities (public good benefits) would be appropriate. Both NZIER in 2017 and Scion have broadly estimated the value of such services, which apply to all types of forestry, but this has not translated into payment schemes. Is the Commission recommending that this happen?

As noted above, the cost of supply of biomass is the main limiting factor to greater biomass utilisation. Although huge resources are available on forest (including wildings), extraction and transportation costs, especially as supply chains are being developed, are the main restraining factors to greater utilisation.

Government support during the establishment phase of the biomass supply chain could speed up access to economic biomass resource.

However, in order to maintain the productive value of forest land it is important to ensure that not all the material is removed from the land. Nutrients, which are in the branches and leaves, are an essential part of the forest cycle and must not be removed. Logs themselves hold few nutrients. Taking slash leads to increased risk of nutrient depletion, soil compaction and accelerated erosion, as demonstrated by extensive research over many decades. Physical slash barriers protect the soil and improve survival in replanting, and modern tracked harvesters do less damage where they can move across the top of a layer of slash.

Support innovation to eliminate emissions from industrial processes (Pg 116)

Hard-to-abate industries are likely to still create significant emissions in 2050, but they provide products that are fundamental to the economy, like cement, steel and iron. Aotearoa has a choice as to whether it is critical to keep these industries and manufacturing plants based here. If Aotearoa keeps old, emitting plants it would be possible to use forestry to offset the associated emissions. It may be beneficial to investigate the potential of other options to remove emissions from hard to abate industries, such as carbon capture and storage (CCS) or bioenergy combined with CCS (BECCS). However, considerable research would be required as these technologies are still largely in a research and concept phase in Aotearoa.

As acknowledged by the Report, there will always be a need for concrete and steel and although recommending a transition to bioenergy would be a positive step, there is also an opportunity to reduce the reliance on such industries, which is not sufficiently emphasised.

6.1.4 Forestry (Pg 122)

Manage forests to provide a long-term carbon sink

Forests will play an important role in meeting the country's emissions budgets and targets. Our path for gross emissions requires at least 16,000 hectares of new native forests per year by 2025, and 25,000 hectares per year by 2030 until at least 2050. It also requires 25,000 hectares per year of exotic afforestation out to 2030, reducing down to no new exotic afforestation for carbon removals by 2050. This exotic afforestation would provide sufficient biomass feedstock for the bioeconomy.

Regarding biomass – refer to statement above (under 6.1.2)

In comparing native and exotic forests the Report states that *Native forests also offer other benefits, such as long-term erosion control, improved biodiversity and recreational benefits (Pg 122)*

These benefits are not exclusive to native forests. Exotic planting under the East Coast Forestry scheme was undertaken by the government with the principal aim of controlling long-term soil erosion. In comparison to the marginal pastoral land that is has replaced there is considerably improved biodiversity in plantation forests, and plantation forests, are used extensively by a wide range of people for recreation. We request that this statement be removed, particularly as further on in the same section the multiple benefits of all types of forestry are recognised as follows:

There are many other worthwhile reasons beyond climate change to plant forests. Decisions about incentives for forestry should be considered alongside other strategic outcomes for the country's land including water, biodiversity, cultural, social and economic outcomes. This could be done through proposed changes to the country's resource management legislation. Some iwi/Māori-collectives own large areas of land, and face challenges transitioning land use. The Crown needs to work in partnership with iwi/Māori-collectives to understand their aspirations for land use – particularly forestry. (Pg 123)

We agree with these statements. Forestry, in all forms, is a long-term and often inter-generational, investment and aligns particularly well with iwi/Māori time frames.

However, there are currently limited incentives for landowners to change less-productive farmland to permanent native forests – either through planting or by letting it revert. Establishing permanent native forests comes at a cost for landowners, including building and maintaining fences, planting, weed and pest control, and some land would be lost to grazing. Ongoing pest control is required to maintain the integrity of forests and the carbon stored in them.

These points about native forests are well made and reinforce those we have made earlier in this submission. To achieve the level of private land ownership conversion to native forest will be no-small undertaking.

Recent history of native planting illustrates the challenge. Even with encouragement from the Billion Tree Programme of the annual level of planting has been well short of the figure that it expected for the current year and a considerable portion of this has been manuka planting which could be destined to remain manuka plantation forest.

Production forests could play multiple roles in the transition to low emissions. This includes as a carbon sink in the short to medium term, by providing low emissions wood products to replace higher emissions alternatives (for example, in construction), and by substituting bioenergy for fossil fuel use. However, production forests only contribute towards meeting the country's emissions budgets and targets up until they reach their long-term average stock – which is around 20 years for Pinus radiata. Production forests planted over the next decade will continue to contribute towards emissions budgets until about 2050, while forests planted beyond 2030 will contribute to removals in the longer term. (Pg 122)

The sequestration of carbon in harvested wood products should be acknowledged.

We are uncertain what point the Report is attempting to make. It is positive that the Commission is acknowledging the additional benefits plantation forests can provide, expansion of their use over time will continue to provide emissions benefits.

Current NZ ETS settings may incentivise more large-scale pine plantations than is desired to meet 2050 targets and could lead to forestry displacing gross emissions reductions. Any option to limit planting exotic forests for carbon removals, including amendments to the NZ ETS, would need to be carefully explored and analysed, including working with people who may be affected by the changes, to understand the implications and avoid unintended consequences. Concerns over the impact of whole farm or large-scale conversions to forests would likely need to be addressed by approaches outside of the NZ ETS, such as through land use rules under planning legislation. (P 122)

We disagree strongly with the statement that *"Concerns over the impact of whole farm or large-scale conversions to forests would likely need to be addressed by approaches outside of the NZ ETS, such as through land use rules under planning legislation." (Pg 123)*

If there are concerns about the impact of climate change policy on afforestation, then it should be addressed through the ETS - not through other policies. The RMA and the National Environmental Standard for Plantation Forestry, for example, are not appropriate instruments to impose restrictions on landowners' choice of production, be it forestry or otherwise. This position is one that we share with Federated Farmers and Beef and Lamb New Zealand.

There are numerous reports (ie: PWC) that show conversion to forest from low productivity sheep and beef land is beneficial to communities through additional jobs and returns to the landowner.

It is unclear why the Commission would be including an approach that promotes the potential to "…limit planting of exotic forests…" and/or promoting the use of regulatory settings for activity that has unequivocally beneficial climate benefits. Such "anti-exotic forestry" approaches could not only interfere with free marketing economics but also limit New Zealand's ability to transition primary production in new and environmentally beneficial ways.

The additional carbon removed by small areas of permanent vegetation on farms is not currently recognised in target accounting, although it is in the national greenhouse gas inventory. Ongoing technology developments, however, may make it more possible to robustly estimate emissions from these areas in future. It is also important to enhance and maintain carbon stocks in existing forests, even though there are challenges with robustly estimating the impact on carbon stocks of forest management activities for this purpose.

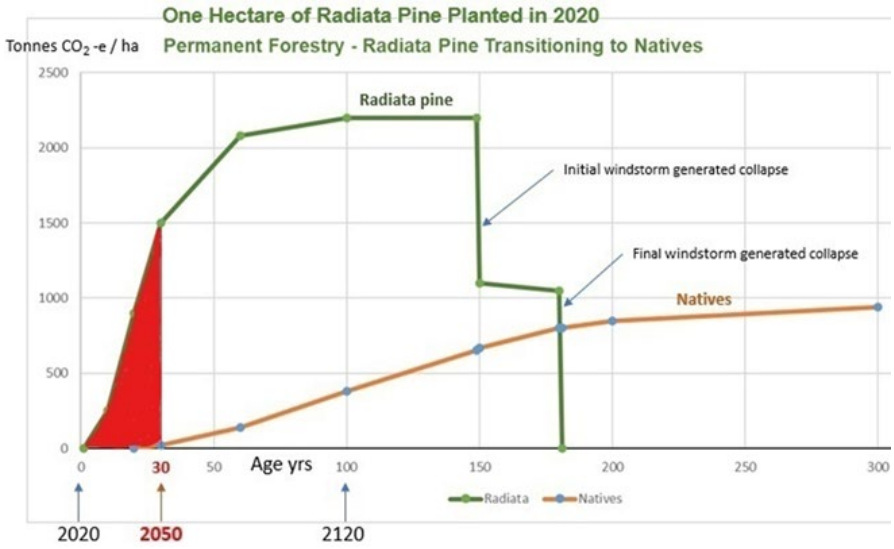
This reference to He Waka Eke Noa should acknowledge the ETS, since He Waka Eke Noa is trying to develop a parallel Emissions Trading Scheme with all the necessary mechanisms for control, measurement and compliance. Such efforts to recognise "additional" carbon are

appropriate and supported but it is important to ensure consistency with the ETS accounting rules and the Commission should reference and acknowledge this.

Unharvested pine forests or permanent exotic forests can sequester carbon rapidly but can create problems through the spread of wilding pines or when old trees die and fall over. Such forests may transition over the course of several centuries into permanent native forest if managed for that outcome. Forest management plans can lay out how this transition will be managed. Requiring forest managers to develop and implement such plans would help ensure successful transitions. These would need to include activities such as pest control, seed sources and thinning.

More broadly, delivering this level of native afforestation will require the supporting industries and infrastructure. This includes native seedling nurseries, and the labour force for planting and pest control.

Transitioning from pine to native forestry is not straight forward but could be a less costly, more successful means of establishing native forest than straight planting of native or relying on regeneration. The figure below illustrates the carbon implications.



We consider that further assessment of this option should be undertaken. It combines the benefits of short and long-term sequestration and could make the establishment of natives much more economically viable.

Biosecurity is also an area that presents a risk. Shifting to mass planting of non-traditional economic species will require a steep learning curve as the state of knowledge is limited. So too is the knowledge of biosecurity risks, and as more natives are planted, the risk exposure and likelihood of existing, or new, pests or pathogens emerging to impact on these forests, and their exotic neighbours will increase.

Time-critical necessary action 5

Time-critical necessary action 5 Manage forests to provide a long-term carbon sink (Pg 124)

Production forests will play an important role in meeting the first three emissions budgets, and new permanent native forests will also balance emissions from hard-to-abate sectors in the long term.

The words “exotic and” should be inserted after the word new to recognise that additional forestry of all types will need to make a contribution.

The Government should enable afforestation to provide a carbon sink over the long-term by:

To recognise the dual roles that the Commission refers to in the Report this sentence should be expanded as follows:

The Government should enable afforestation to support a transition to low emissions and to provide a carbon sink over the long-term by:

a. *Implementing measures to incentivise establishing and maintaining at least 16,000 hectares of new permanent native forests per year by 2025, increasing to at least 25,000 hectares per year by 2030 and continued until at least 2050.*

The requirement to manage these plantings for up to five years to prevent them being overwhelmed by surrounding vegetation is a critical element that should be noted in the Report.

c. Designing a package of policies that must include amendments to the NZ ETS and land use planning rules, to deliver the amount and type of afforestation needed over time to align with our advice on the proportion of emissions reductions and removals and addressing intergenerational equity. (Pg 124)

We do not support the recommendation that additional land use planting controls be introduced. Such restrictions have no justification and are unnecessary if the ETS amendments required are introduced. This should be removed, or the Commission should state what it considers those rules should be.

Noting the further work that is required with respect to some key assumptions and other factors that have not been assessed we consider this over-arching time-critical paragraph should be amended as follows:

With reference to work undertaken in the actions above, designing a package of policies that may include amendments to the NZ ETS, to deliver the amount and type of afforestation needed over time to align with our advice on the proportion of emissions reductions and removals and addressing intergenerational equity.

Progress Indicators

a. *Government to have put in place incentives, by 31 December 2022, to deliver the afforestation of new permanent native forests to help meet the emissions budgets. (Pg 124)*

We support developing clarity about how the Commission’s goals will be achieved but are concerned that this is being recommended regardless of cost.

b. *Government to have published, by 31 December 2022, a plan for the broader package of forestry policies, and to have implemented the policies by 31 December 2024 at the latest.*

General:

It is disappointing that the Commission’s attitude appears to constrain the contribution role of plantation forestry, as one of our major primary industries. There are substantial opportunities for new forest systems and forced bio-based economics Many of these are deployable today, but they lack commercial viability because of competition with commoditised hydrocarbon-derived products. The Report fails to suitably express the potential for these low carbon alternatives and fails to provide an appropriate path for the government to follow in this regard.

For example, transitioning to the scaled up use of biofuels will require infrastructure development and associated stimulus as well as the development of new technologies but this is not mentioned.

In addition, offering regulatory options for increased domestic value via wood and wood products is completely missing. For example, we are disappointed the Commission does not detail the opportunity for the use of more wood in construction, which if stimulated through regulation would create significant domestic value and reduce the carbon deficit created by the steel sector.

The Report, while acknowledging that in most instances exotic afforestation can deliver similar benefits, seems unduly biased toward native planting. This is highly counterproductive. The question should not be native vs exotic, it should at a high level be about promoting the collective benefits of afforestation and the potential for new social and economic outcomes.

Carbon-only approaches to forestry will always deliver poor socio-economic returns, due to the lack of associated commercial activity and therefore employment, retention of land and associated risks around climate change, regardless of tree species. Promoting the establishment of these carbon sinks in marginal land is positive. However, the Report fixates on a native vs exotic approach and disregards the knowledge gaps that may exist in achieving that outcome.

Necessary action 12 Manage forests to provide a long-term carbon sink

We recommend that, in the first budget period the Government make progress in maintaining and increasing the amount carbon stored in forests by:

a. *Improving and enforcing measures to reduce deforestation of pre-1990 native forests.*

b. *Encouraging storage of additional carbon and maintaining carbon stocks in pre-1990 forests through activities such as pest control, noting that these removals may be outside of current emissions accounting approaches.*

   The recognition of the contribution that can be made from pre-1990 forest carbon stocks is welcomed and supported. This is legitimate “additionality” under international rules and is an area where greater progress should have been made.

c. *Evaluating approaches for storage of new and additional carbon through small blocks of trees and vegetation, noting that these removals may be outside of current emissions accounting approaches.*

   Again, we support efforts to recognise and encourage sequestration. This has particular relevance from farmers and encourages integrated land use. But we reiterate that any success in measuring “the additional carbon from small areas of permanent vegetation” has huge implications for the present ETS for forestry, since all of the tools for measurement and compliance needed for “small areas” should also work equally well with large areas of commercial forests, including pre-1990 commercial forests which are at present excluded from the ETS. The Commission has ignored these implications.

   We also recommend consideration be given to adding an action (d) to look at the biosecurity risk profile of the proposed approach, not only the risks to these, but the risks created by these.

6.2 Multisector strategy

6.2.1 Integrate government policy making across climate change and other domains

The current siloed nature of Aotearoa government machinery presents a challenge. While the Ministry for the Environment holds the lead in terms of the overall architecture of climate policy, the policy levers for the different sectors sit with a range of other agencies.

Consistent signalling across investments, policy statements, direction to officials and internal policies and directives is important to ensure that all regulatory and policy frameworks are aligned with low emissions objectives.

We agree.

Necessary action 15 Integrate Government policy making across climate change and other domains (Pg 128)

We recommend that, in the first budget period the Government make progress on integrating policy making across climate change and other domains by:

d. *Requiring government procurement policies to include climate change considerations, in order to leverage purchasing power to support low emissions products and practices, particularly with regard to third party funding and financing transactions.*

We support such recognition and encouragement. It is important that government lead by example.

Time-critical necessary action 6 Align investments for climate outcomes (Pg 130)

c. *Ensure that economic stimulus to support post-COVID-19 recovery helps to bring forward the transformational investment that needs to happen anyway to reach our joint climate and economic goals.*

The government has set out the role it expects the primary sectors to play during the recovery, and post, the Covid environment. This is the Fit for a Better World – Accelerating Our Economic Potential - https://www.mpi.govt.nz/dmsdocument/41031. The strategy aims to add $44 billion additional revenue from the primary sector and increase employment in the primary sector by 10%.

In alignment with this the government has identified a number of industry transformational plans. One of these relates to the development of the forest sector which is seen as having a critical role to play in a bioeconomy. A sustainable supply of wood products from a renewable resource used to displace non-renewable building materials and fossil fuels is fundamental.

This includes:

- Developing a virtual Centre of Excellence for Timber Design and Specification to help develop and grow new domestic and export markets.
- Developing regional manufacturing clusters.
- Supporting the development of new uses and markets for wood residues to help New Zealand meet its carbon reduction obligations.
- Developing a pathway for greater investment in value-added processing of logs in NZ”

It is important that government climate policy related to forestry is synchronised with its other objectives for the sector. We consider it appropriate therefore for the Commission's Report to reference these other core government policies and endorse the need for them to be aligned.

6.2.6 Strengthen market incentives to drive low emissions choices (Pg 132)

Adjust ETS unit volumes and price control settings to align with budgets

Regardless of the policy combination chosen, the auction reserve and cost containment reserve price triggers in the NZ ETS need to be higher. The price corridor they signal should be sufficiently wide to allow price discovery by the market to occur and factor in inflation to prevent the price levels from eroding in real terms. The NZ ETS cost containment reserve trigger price should be set well above expected market prices. An initial step up in value, to mitigate risks that it will be triggered and add to the NZU stockpile, should be followed by annual increases to give a trajectory that allows for prices of at least $140 in 2030.

We note and concur with the rationale of the recommendation to increase the cost containment and auction reserve trigger prices to $70 and $30 respectively. It is important that the pricing is not seen to be setting the market price and the proposed settings should help with this.

Necessary action 19 - Continued ETS improvements (Pg 135)

We support undertaking a first principles review of industrial allocation policy and continuing to phase out industrial allocation.

These measures were appropriate to allow a supported transition, but the levels of support need reviewing and reducing over time to be consistent with the principles proposed.

7. Rules for measuring progress (Pg 136)

Budget recommendation 5 - The rules for measuring progress towards emissions budgets and the 2050 target

We agree with the proposed approaches under recommendation 5.

In particular, under section 7.6.1 – Forest Management - we note that while the Commission will not take forest management sequestration related to pre-1990 forestry into account when setting the budgets, forest management is nonetheless included in NDC accounting and the Commission encourages such forest management and will review the position in 2024.

In the meantime, we expect current work on this topic by MPI to continue because there are examples of good records of forest management emissions reductions that would be appropriate to recognize and this should be possible if He Waka Eke Noa is successful, as noted above. Any such subsequent inclusion in the budgets will contribute positively to New Zealand's NDC.

PART B:

The Nationally Determined Contribution for Aotearoa, and potential further biogenic methane reductions (Pg 147)

8: The global 1.5C goal and Nationally Determined Contribution for Aotearoa

We agree with the conclusions and recommendations made in the Report and that the NDC should be on the basis of all greenhouse gases using the most recent Intergovernmental Panel on Climate Change (IPCC) global warming potentials.

Note on making this submission public

We consent to the submission being made public.

David Rhodes
Chief Executive
Forest Owners Association