

# **Response to discussion document on *Managing exotic afforestation incentives by changing the forestry settings in the NZ Emissions Trading Scheme***

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## **Introduction**

Firstly, we would like to commend the Ministry for Primary Industries for their continuous efforts to improving the settings of the Emissions Trading Scheme (ETS) so it can be an effective tool to help meet New Zealand's emissions goals, while also addressing the wider impacts that these settings can have on issues such as biodiversity, well-being etc.

We applaud the desire to incentivise permanent indigenous afforestation and very much support some of the proposed changes. We hope our submission provides some valuable comments on how the ETS can be improved to incentivise economically and environmentally sustainable and socially responsible afforestation. However, we believe the discussion document fails to address the underlying issue that carbon credits, as they stand, are unable to differentiate between sequestration in indigenous forests and sequestration in exotic forests. In other words, carbon units are currently not able to reflect quality differences in the manner in which carbon captured and stored.

In the marketplace, companies are able to differentiate their products and charge prices according to differences in quality (e.g. organic milk vs standard milk). The market for carbon credits has been created to capture the external cost of carbon emissions, but 'producers' of carbon credits (such as permanent forest owners) are currently unable to profit from differences in the quality of carbon sequestration. This leads to the unintended consequence that more profitable, exotic forests dominate indigenous ones in afforestation despite the long term addition benefits associated with the latter.

As the discussion document points out, both exotic and indigenous forests may play their role in meeting New Zealand's carbon targets and transitioning to a low carbon future. The most efficient way to do so, in our opinion, is to introduce differentiated carbon credits or some form of token that can be earned for more sustainable and/or indigenous sequestration which allow for a mark-up in price for indigenous permanent forests, something we are happy to be contacted about for further discussion.

We also point out that characterising forests as either harvested or permanent reflects the manner in which NZ "does forestry" rather than a true dichotomy. NZ short rotation clear-felling treats trees like a crop, periodically denuding the soil and destroying any associated biodiversity. Many other temperate nations allow for sustainable harvest while maintaining canopy cover – continuous cover forestry (CCF). This allows for the retention of the forest

ecosystem, with its benefits for carbon and microclimate, while also producing mill-able timber. Changing the NZ forestry model to incentivise CCF would allow for improved levels of carbon capture along with timber production while reducing issues with slope erosion and damage to waterways by sediment and slash. We comment further on CCF with regard to exemptions, below.

Perhaps, an even better approach, as opposed to the blunt banning of exotic tree species in the permanent forest category, would be stringent criteria to ensure the desired outcomes, such as evidence-based transition or CCF forest management plans. Failure to execute on that plan should then come with significant consequences.

Further the concept of a “permanent period” used in the discussion document is, in our opinion, highly problematic. Either something is permanent, or it exists for a period of time, it cannot be both.

**1 Do you agree with our description of the problem? Why/Why not?**

Yes, we agree mostly with the stated problem and how it is described.

However, we are concerned that banning permanent exotic forests may be a blunt instrument to try solve the issue. As pointed out above, the underlying problem is that not all carbon credits are equal, and removing exotic forests from permanent afforestation credits may affect the government’s ability to meet its emission budget. A more efficient, and flexible, way is to introduce a mechanism for indigenous permanent afforestation to earn a higher reward for its sequestration, which can be adjusted slowly over time to meet desired target levels. This will also better address the ongoing costs of indigenous forest management in terms of predator controls, pest management etc.

On page 12 it is not clear where the profitability calculations for the comparison of annual per hectare investment returns came from. We would like to explore how this was determined (model, horizon, carbon price projections, land type, costs assumed etc). Also, per year return per hectare may not be the most appropriate metric, as it ignore the effect of time value of money and the risk of a proposed project/development.

On page 13, “However, returns earned by landowners from NZ ETS forestry can also lead to higher profits (relative to competing land uses) being spent or invested within their local communities (for example, in renovations to houses in the area or financing capital investment in other economic activity). These benefits were highlighted by some submissions to the ERP, and feedback from Māori foresters during engagement through the ERP consultation in late 2021.” We recognise that there will be returns to individual landowners, who are part of the community and who register in the permanent exotic forest category would be beneficial. We believe that a lot of these returns will likely go to large landowners/corporations and international investors. On the other hand, permanent forests, particularly indigenous forests, establishment and management may provide economic benefits to the local communities in the form of employment opportunities, which could offset the lost employment from forestry activities. Further, diverse, particularly indigenous, forests allow for secondary income streams from innovative products that can be sustainably harvested, such as honey and supplemental remedies etc.

**2 Do you have evidence you can share that supports or contradicts this problem definition? Or that demonstrate other problems?**

The development of the voluntary carbon market, worldwide and in New Zealand, leads the way in allowing businesses, corporations and economic agents to offset carbon emissions by earning differently priced carbon credits according to differences in quality of projects and geographical region (see e.g. Streck C. 2021. How voluntary carbon markets can drive

climate ambition. J of Energy and Natural Resources Law 39(3):367-74). We suggest this is a good starting point.

We note the discussion document refers to the possibility of transitioning exotic forests to indigenous as a means by which the perceived negative effects of exotic permanent forest could be mitigated (and carbon sequestered for longer). The limited evidence that exotic forests can be successfully transitioned to native-dominated canopies comes from a small number of studies in parts of the North Island where climate and indigenous seed sources are not limiting (Forbes & Norton MPI Technical Paper No: 2021/22). Work currently underway at University of Otago by Janice Lord indicates exotic conifer to indigenous transitions are highly unlikely in the drier, colder climates of southern NZ. We see additional problems arising when landowners who plant exotics with a commitment to transition the forest to natives find it is not feasible to do so.

**3 Do you agree with our criteria for managing permanent exotic afforestation? If not, what would you change and why?**

We mostly agree with the criteria, but would like to add the following comments:

With respect to criterion 2, as indigenous forests are slower growing, but sequester carbon for longer, incentivising indigenous permanent forests would avoid flooding the carbon market and reducing the value of NZUs.

Native afforestation at scale requires considerable upscaling of regional seed collection and plant propagation enterprises, then considerable ongoing weed management and pest control, thus providing considerable opportunities for economic growth. The employment this would provide, especially in rural communities supporting forests that are currently too remote for forestry should be included in criterion 4.

Further, criterion 6 should recognise that the impact of forestation on freshwater quantity-converting catchment areas from grassland/shrubland to forest reduces water yield.

We also think that resilience should have more emphasis in the list of criteria. Current climate change models predict an increased frequency of extreme weather events and wildfires for NZ. Large monocultures of exotic conifers are at considerable risk of wildfire; exotic conifers and Eucalypts are on average more flammable than indigenous trees (Lord unpublished analysis of data from Cui et al. 2020. Nature Plants 6:355–359). Biodiverse forests are more resilient to the threats posed by climate change (Thompson et al. 2009. Secretariat of the Convention on Biological Diversity, Montreal. Technical Series no. 43). Fire is thought to have been rare in NZ historically (Lord et al. 2022 Restoration Ecology e13696 <https://doi.org/10.1111/rec.13696>) but its use by Māori as a management tool has led to fire-tolerant indigenous vegetation dominating in many areas (e.g. mānuka, kūmarahou). The flammability of indigenous forest can be mitigated by managing species composition (Lord et al. 2022, cited above). Incentivising indigenous biodiverse forests containing low-flammability species will create a more resilient stock of permanent forests across the NZ landscape.

**4 Should we provide for exceptions allowing exotic species to register in the permanent forest category under certain conditions?**

In absence of differentiated carbon credits, we agree, but only under certain circumstances where this would support long-term sustainable outcomes beyond carbon sequestration. We would set the bar for this quite high and use the exemptions to incentivise permanent exotic forests employing continuous canopy forestry with high value timber and/or those

	transitioning forests to indigenous forests in scientifically supported ways (evidencing the appropriate climate, pest control plan, etc).
<b>5</b>	<p><b>Are there particular circumstances that you support introducing exceptions for (for example, exceptions for certain species of exotics)? Why?</b></p> <ul style="list-style-type: none"> <li>• <b>What are the likely impacts, risks and costs of allowing exceptions in these circumstances?</b></li> <li>• <b>If we allow exceptions for exotic species under certain conditions, should we place additional conditions on the granting of this exception? What could these be?</b></li> </ul>
	<p>Yes, as described above, having a very high bar for allowing this for the purpose of CCF with high value timber. E.g. slower-growing high value exotic timbers such as Californian Redwood could be managed as permanent (continuous cover) production forests with benefits for carbon sequestration as well as providing timber for harvest.</p> <p>Allowing exceptions for transition forests also requires careful attention to criteria, e.g. having adequate forest management plans that consider the factors affecting the success of such a transition and budget for the cost of management interventions such as underplanting. There is also a very real risk that the penalties for not adhering to criteria and/or not executing the transition plan adequately may be insufficient to deter this behaviour, given the large upfront profits for the exotic nurse crop. Current work by Lord on exotic-native transitions indicates that in dry or cold parts of NZ it will be extremely difficult to transition an exotic conifer forest to indigenous forest. However, some deciduous exotic species such as Poplar appear to create more favourable environments for underplanting with natives. We are concerned that blanket exceptions for transitioning forests might provide a loophole for exotic carbon forests using species, or in locations, where transition to natives is highly unlikely. One way to mitigate this is to delay the payment of NZU for sequestered carbon through the exotic nurse crop until the indigenous forest is verifiably established, or “bank” a portion of the payments with a credited indigenous plant provider (e.g. Trees That Count) to pay for underplanting with natives and ongoing forest management.</p>
<b>6</b>	<p><b>Are there alternative ways we can recognise and encourage these forests, either within or outside, the NZ ETS? (For example, through the resource management system.)</b></p>
	We would assume there are plenty of levers there. If the RMA only allowed permanent exotic forests with appropriate transition plans in those places where that is feasible as well as restricting the areas for planting <i>Pinus-radiata</i> .
<b>7</b>	<p><b>Of these options, what is your preferred approach? Why? Are there other options you prefer, that we haven’t considered?</b></p>
	Option 3.
<b>8</b>	<p><b>Do you agree with our preferred approach (acting before 1 January 2023)? Why/why not? If not, what is your preference?</b></p>
	Yes, we are already seeing many land-use change issues as described in the discussion document. The longer we wait, the bigger the issue will be. We need to stop the incentives for undesirable long-term sustainability outcomes first and then make exceptions where appropriate in meeting the criteria discussed in question 3.
<b>9</b>	<p><b>Do you support exceptions by regulations [option 3a] or exceptions after a moratorium [option 3b]? Why?</b></p>
	We support option 3a, as the proposed changes to the incentives should be strongly encouraging indigenous forests and the exceptions should only be applicable in a few optimal places.

<b>10</b>	<b>If we choose to introduce exceptions by regulations, what conditions or criteria should be placed on the Minister in choosing to pursue these?</b>
	As above, the criteria should be stringently evaluated and based largely around a scientifically feasible transition plan for permanent exotic forests to be transitioned. For continuous cover forestry, the management plan should also be well founded in evidence and international best practice (Europe has implemented such schemes for some time).
<b>11</b>	<b>If we choose a moratorium (Option 3b) – how long should it be? Why?</b>
	We should not do this, if it is decided it depends how quickly policy makers believe they can come up with the required adjustments for permanent exotic forests which meet New Zealand’s long-term sustainability objectives.
<b>12</b>	<b>Do you think a different type of moratorium (whether it requires a decision to be ended/continued) would have different impacts? Or do you prefer a different approach?</b>
	We have outlined our position on alternative approaches sufficiently in responses to previous questions.
<b>13</b>	<b>Currently the NZ ETS defines forests based on the predominant species in a hectare. However, forests change makeup over time. Do you think this definition of exotic and/or indigenous forests is appropriate for the permanent post-1989 category in the NZ ETS?</b>
	Yes, depending on the definition of predominant. Canopy and subcanopy dominance should be criteria as well as spatial cover per species to avoid situations in which a transitioning forest is identified as indigenous due to a indigenous understorey despite still being dominated by an exotic canopy.
<b>14</b>	<b>What level of exotic species in a forest would be acceptable for the forest to still be classified as an indigenous forest, and registered in the permanent post-1989 category in the NZ ETS?</b>
	The current ETS criteria for recognising a forest is a minimum of 30% canopy cover. If two thirds of that canopy cover was made up of indigenous species and there was strong evidence for indigenous, but not exotic regeneration in understorey and subcanopy layers there would be ecological justification for accepting that the forest was now on a trajectory to indigenous domination.
<b>15</b>	<b>If forest changes from indigenous to exotic while registered in the permanent category, do you think it should be removed from the category (Option 1), or be treated as indigenous (Option 2)? Why? Are there other options we haven’t considered?</b>
	Option 1. We believe forest owners/managers be held responsible by such failures and should certainly come with consequences.
<b>16</b>	<b>If we choose to remove forests which have become predominantly exotic over time from the category, how do you think we should do this? Why?</b>
	They should have to pay a fine equal to the cost of the total carbon credits that they earned beyond the averaging system they would have been under if they were not treated as a permanent forest. The NZU price should be the higher of (a) the price at time of infringement or (b) the price when the forest entered the permanent forest category. The potential investment returns earned on inappropriately gained and hypothetically sold NZU credits also need to be taken into account. Finally, there should be a premium on that amount to make up a significant final fine, regardless of the carbon price. If you want to be in the permanent forest category and reap the rewards, then you must take on the risk of not delivering to your

	<p>plan. Fines could be in the form of restitution payments for an accredited indigenous plant provider to restore the forest to an indigenous dominated trajectory.</p> <p>In the past fines for malpractice have been insignificant and therefore were not a lever of positive change. The approach that the QEII National Trust has taken to misuse of covenanted areas offers a good template for enforced restoration.</p>
<b>17</b>	<p><b>If exotic forests are removed from the permanent category, what would an appropriate penalty be for clearing the forest before the end of the permanent period? Do you think the current penalty needs updating?</b></p> <p>The penalty should be in line with the benefits they received from incorporation in the permanent category and there should be a fine on top of this, like what is described in our response to question 16, although even harsher. If the forest transitions to being exotic then that could be an incompetency issue, whereas a clear-felled forest, that is supposed to be permanent, is an egregious action.</p> <p>Further the concept of a “permanent period” is problematic. Either something is permanent or it exists for a period of time, it cannot be both.</p>
<b>18</b>	<p><b>Are you a PFSI convent holder?</b></p> <p>No.</p>
<b>19</b>	<p><b>Do you agree with the proposal to allow exotic forest land in the PFSI to transition into the permanent post-1989 forestry activity, or would another approach be more suitable?</b></p> <p>This is fair to those acting under the historic policy setting and they should not be punished for creating permanent forests. The proportion of this potential problem is also very small.</p>
<b>20</b>	<p><b>Should the Government create a long rotation category under averaging accounting for <i>Pinus radiata</i> forests which are not profitable to harvest at age 28, recognising the additional carbon which is likely to be stored by these long rotation forests?</b></p> <p>Yes, and we believe if we do this for <i>Pinus radiata</i> we should also allow for long term rotational averaging for other species. In fact, other higher value timber species e.g. Californian Redwood might be better used for this purpose but their uptake is currently disincentivised by unjustifiably poor carbon returns in the ETS compared with radiata. Also, the introduction of a more economic long rotation period could incentivize continuous canopy forestry. However, if participant forests change their mind and harvest earlier, they should have to submit credits in line with the benefit they reaped from being in the longer cycle category and then not be allowed to enter that land into the longer cycle category again.</p>
<b>21</b>	<p><b>What do you think the impacts of introducing a long rotation category as proposed would be?</b></p> <p>It will make longer cycle forestry more feasible for remote landowners. It would be great to incentivise away from clear felling completely though and incentivise continuous canopy forestry high value timber forestry and permanent indigenous forests instead.</p>
<b>22</b>	<p><b>Do you think forests in this category are likely to be harvested? Are measures needed to prevent forests in a long rotation category being left permanently and never harvested, or to mitigate potential adverse effects of these forests being left permanently?</b></p> <p>Yes of course, if the forest is left then it has to meet the requirements for the permanent forest category. One way to avoid this issue would again be through stringent criteria when evaluating forest management plans, in order for acceptance into this category, and holding owners/managers to account.</p>

23	<b>What criteria should be in place to restrict the category to <i>Pinus radiata</i> forests which are not profitable to harvest at age 28?</b>
	One key criterion is that this category should only be available to forests which are planned for a long cycle from the outset. By this we can avoid owners/managers changing their mind and switching categories.
24	<b>Do you think a long rotation category aligns with the proposed changes to the permanent activity and supports the Government's wider forestry objectives?</b>
	Only if expanded beyond <i>Pinus radiata</i> - pine forestry really does not need any more incentives and loopholes for windfall profits. Long rotation and continuous cover categories would also provide much needed security for the expansion of an indigenous timber industry. Many of our indigenous trees provide high value timber but planting for indigenous timber harvest is currently disincentivised due to perceived future penalties for felling indigenous forest.
25	<b>Are there alternative options to a long-rotation forest category that could be more effective at addressing the concerns raised by stakeholders about remote and marginal land and that align with the Government's forestry objectives?</b>
	Yes, we believe creating this category for high value timber rather than focussing on <i>Pinus radiata</i> would incentivise high quality long growing cycle timber in these regions, which would be feasibly harvested even when access is more difficult. This also supports many other beneficial outcomes for New Zealand as these timbers could be processed locally into high quality products.
26	<b>Do you have any further feedback on how the Government can reduce barriers and incentivise to permanent indigenous afforestation to ensure we deliver long-term resilient, biodiverse forests?</b>
	<ol style="list-style-type: none"> <li>1) Provide templates for appropriate species mixes and planting/management regimes within different regions of NZ and regional networks of expert information to support landowners.</li> <li>2) Allow for carbon sequestered by indigenous permanent forest to earn differentiated carbon credits or additional tokens/biodiversity payments, which reflect the higher value of such sequestration.</li> <li>3) Allow for sustainable use of indigenous materials from permanent indigenous forests, through approaches such as CCF with selective felling.</li> <li>4) Protect future rights to sustainably harvest indigenous timber where forests have been planted as long rotation or continuous cover forestry enterprises.</li> </ol>