



Managing exotic afforestation incentives

A discussion document on proposals to
change forestry settings in the
New Zealand Emissions Trading Scheme

MPI Discussion Paper No: 2022/02

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Message from the Ministers

Forests play a vital role in New Zealand's response to the climate emergency. They are also hugely significant to our economy and to Māori, both culturally and economically.

Forests are recognised for their carbon sequestration in the New Zealand Emissions Trading Scheme (NZ ETS), New Zealand's primary means of cutting down on the pollution that causes climate change.

The NZ ETS puts a price on emissions from most sectors of the New Zealand economy. This encourages investment in lower emissions technologies and practices, including the use of forestry as a carbon sink.

It is important the NZ ETS incentivises enough emissions reductions to meet our climate targets.

Although exotic forestry helps reduce our net emissions quickly and at low-cost, there are likely to be significant trade-offs for our economy and environment in the long-term. This includes changes in land use as landowners and investors seek higher returns by establishing permanent exotic forests as carbon prices increase.

On 1 January 2023, a new category will be introduced into the NZ ETS for permanent post-1989 forests which will not be clear-felled for a minimum of 50 years. It is anticipated that under current settings there will be a lot more permanent exotic forests (particularly *Pinus radiata*) planted under this category.

However, we have heard the concerns of rural communities and our Treaty partners and agree there is a risk of permanent exotic forests increasingly displacing other productive land uses. This includes production forests for harvest, as well as sheep and beef farming.

There is also a risk that oversupply of forest offsets in the ETS could reduce the incentive for emitters to reduce gross emissions. We need to ensure our land use incentives achieve the best outcomes for our

environment, economy, and local communities, in the short, medium, and long term.

This discussion documents outlines proposals to mitigate these risks and protect the wider New Zealand economy, while still addressing the climate crisis and supporting biodiversity.

The Government is proposing to restrict exotic forests being registered in the new permanent forest category, prior to the new category becoming available in 2023. We are seeking your input on this proposal.

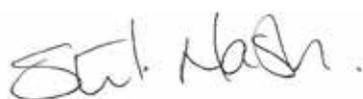
We also seek your feedback on an option in the NZ ETS to more precisely account for longer rotation production forests on remote and marginal to harvest land.

There is a role for permanent forests in New Zealand, particularly indigenous forestry. There may be some circumstances where exotics may be appropriate.

We want to hear your views on what circumstances permanent exotic forests may be beneficial. We also want to hear whether there should be exceptions to allow some exotic forests to be registered in the permanent category.

Finally, we are interested in how these proposals may affect you, your organisation, business, or community and how you think the options could work operationalised.

We encourage you to have your say during this consultation. Decisions we make now on permanent forestry will be critical for our future environmental sustainability, economic growth, and the well-being of our people and communities.



Stuart Nash
Minister of Forestry



James Shaw
Minister for Climate Change

1. Guide to this discussion document and consultation

We want to know your thoughts on proposals affecting forestry and the New Zealand Emissions Trading Scheme (NZ ETS). These proposals involve changes to the Climate Change Response Act 2002 (CCRA).

We are consulting on potential changes affecting forestry and the NZ ETS

The main topics are covered in this consultation:

- **Topic 1:** Proposals to change the forestry settings within the NZ ETS to remove the incentives for permanent exotic afforestation.
- **Topic 2:** An option to adjust how averaging accounting applies to remote and marginal land.
- **Topic 3:** Feedback on opportunities for improving incentives for indigenous afforestation.

This discussion document takes you through these topics, presents options for how we could implement these proposals, and provides relevant information that can help you write your submission.

Your feedback on the proposals will help us to gather information, ideas and evidence that we can use to shape the proposals further, consider alternative options, and understand what matters most to you.

If you're interested in the underlying evidence and analysis we've drawn on to shape the proposals, you can refer to MPI's [interim Regulatory Impact Statement](#).¹

Sending us your views

Submissions on these proposals will be received by the Ministry for Primary Industries (MPI) through to 5pm on 22 April 2022, by email to mpi.forestry@mpi.govt.nz or on the [MPI website](#).

Dates for public webinars to hear more about the proposals and ask questions can be found on the [MPI website](#).

You can find more information about how to send us feedback later in this document in the section on How to have your say [page 28].

Timeframes and other related work by the Government

This consultation will run from 14 March 2022 until 22 April 2022. We expect to make final decisions in mid-2022. We anticipate that legislative change may be needed following this.

There are other proposals related to Government forestry and climate change policy in progress this year. We are not seeking feedback on these other policies through this consultation.

1. National direction for forests

Later this year, we will consult on changes to the land use planning system affecting forests, under the Resource Management Act 1991 (RMA). We will seek views on National Direction that will provide greater local control over the location and type of new forests.

This work will also consider expanding the scope of the existing National Environment Standards for Plantation Forestry to ensure the environmental effects of existing permanent exotic forests are managed. This may include the setting of national objectives and policies for land use and for forestry. Although the RMA is currently being reformed, the proposals we consult on will be designed to fit into the new system.

2. NZ ETS Yield Table Updates

For most forest species in the NZ ETS, tables and methods used to calculate carbon sequestration have not been updated since 2008. MPI is developing proposals to update these methods to ensure that carbon stored in NZ ETS forests is accurately accounted for. We expect to publicise these proposals in detail towards the middle of the year.

3. Emissions Reduction Plan (ERP) consultation

From October to November 2021, we heard feedback from the public on ideas for forestry. Some of this feedback has informed the proposals and analysis included in this document.

We also heard a range of feedback on opportunities for encouraging nature-based solutions and encouraging indigenous afforestation through the ERP consultation.

The Government's first ERP will be published in May 2022 and will include broader actions on forestry initiatives, as well as nature-based solutions more generally. A more detailed summary of feedback on forestry and the NZ ETS can be found in Section 3 on page 10.

¹ If you're keen to engage further on technical aspects of the proposals during consultation, please get in touch at mpi.forestry@mpi.govt.nz. These proposals are being led by MPI's Climate Change and Forestry Policy team, with support from staff at the Ministry for the Environment.

4. Overseas Investment Act 2005 Forestry Review

The Government is pursuing changes to the Overseas Investment Act 2005 to remove forestry conversions from the streamlined special forestry test. The test was introduced to facilitate more overseas investment in plantation forestry. Forestry conversions would instead need to access the Benefit to New Zealand test pathway, which would require forestry conversions through the overseas investment screening regime to demonstrate benefits to New Zealand.

5. Forestry and Wood Processing Industry Transformation Plan

The Forestry and Wood Processing Industry Transformation Plan is in development, and it is anticipated the draft plan will be released later this year. It will outline a roadmap to add value to forest resources, increase domestic manufacturing, and replace emissions intensive fuels and materials using forest products. Transformation will require a resilient forest industry with a secure wood supply.

Overview of forestry and climate change policy work in 2022-23

Table 1: What's on for key forestry and climate change policy work in 2022-23?

Proposed change	Policy instrument	2022				2023
		Q1	Q2	Q3	Q4	First half
Removal of exotic forests from permanent post-1989 forest category	NZ ETS	Consultation	Cabinet decisions following public feedback	Window for primary legislation		Changes come into force Introduction of permanent forest category in NZ ETS
Adjusting how averaging applies to land that is remote and marginal for harvesting	NZ ETS	Consultation	Cabinet decisions following public feedback	Further regulatory and operational design of initiative if progressed. Possible introduction of a long rotation category via updated regulations after 2022.		
Other work and consultation related to forestry						
ERP: Opportunities to reduce barriers for indigenous forests	General	Ongoing feedback welcome	Emissions Reduction Plan initiatives <ul style="list-style-type: none"> • Forestry chapter • Pricing chapter • Nature based solutions chapter The ERP may lay out future work programmes to continue this work – which may eventually require changes to legislation or regulations.			
New national direction for forests	Resource management legislation	Announcement of policy direction	Consultation on options	Progress of national direction to provide greater local control over the location and type of new forests		

Why not consult on the range of new policies at the same time?

We understand that holding multiple consultations on similar topics throughout the year can be challenging for people with interests in forestry or climate change action.

We are consulting on proposed changes to the NZ ETS ahead of consultation on other forestry proposals to ensure that any changes to the CCRA can be passed by Parliament in time for the 1 Jan 2023 start date for the permanent post-1989 forest category. It is not possible to consult on changes to the resource management system on the same timelines as this.

2. Summary of the proposals

Successive governments have encouraged the planting of new forests to support improved environmental and economic outcomes for New Zealand over the decades. This includes through schemes such as the East Coast Forestry Project established in 1993 supporting landowners to establish forests on erosion-prone land.

These programmes have included support to landowners in establishing new permanent forests², contributing to the removal of carbon from the atmosphere, meeting our climate change targets and protecting vulnerable land through schemes such as the *Permanent Forest Sink Initiative (PFSI)*, established in 2006.³

Past policies encouraging permanent forests and forest cover continue to provide ongoing benefits to New Zealand. Forests planted as a result of past grant schemes will sequester around 46 million tonnes of carbon dioxide from 2022 to 2035 (roughly 5 percent of our anticipated gross emissions).⁴

The most recent of these initiatives has been the announcement of a new **permanent post-1989 forest** category within the *NZ ETS*, where landowners who plant a permanent forest can earn and then sell or use tradeable units (New Zealand Units or NZUs) within the scheme based on the amount of carbon their forest removes from the atmosphere (sometimes referred to as “sequestration” or “removals” or “abatement”).

This new permanent forest category was introduced by the Climate Change (Emissions Trading Reform) Amendment Act in 2020 and is scheduled to open for registrations from 1 January 2023.

Currently, forests consisting of any tree species can be registered in the category (including those introduced to New Zealand such as *Pinus radiata* – referred to as “exotic” species), and there are no limits to the total area of land that can be registered under this category.

The Government has identified issues with this current approach for the introduction of the permanent forest category in the *NZ ETS* – due to the high, and rising price of carbon. The NZU price has more than doubled within the last year, from around \$35 in late 2020 to upwards of \$80 in early 2022.

Without changes, the introduction of this new category is likely to result in large areas of land nationwide (relative to historic trends) being planted in permanent forests consisting of exotic species which are not intended to be harvested (referred to as ‘permanent exotic forests’⁵ in this document). The most common exotic species being planted as permanent forest at present is *Pinus radiata*, due largely to its fast rate of growth and the ease of establishing it.

Over the long-term, this trend is likely to increasingly present issues for New Zealand:

- **Rural and local communities**

Permanent forests can result in low long-term economic activity and job creation in the region directly surrounding that land relative to competing land uses (generally sheep and beef, deer, and production forestry). If cumulative land conversion occurs at scale or is concentrated in particular regions, this can work against the economic and social outcomes sought by those communities.

- **New Zealand’s transition to a net-zero emissions economy**

With permanent exotic forests being a highly profitable use of land at current carbon price levels, the resulting increase in the supply of NZUs to the *NZ ETS* from these forests is likely to dampen medium-term carbon prices in the *NZ ETS*. This risks curtailing investment and uptake of low-carbon technologies to reduce emissions. The Climate Change Commission also identified a clear role for indigenous afforestation which provides slower but sustained sequestration throughout this century.

- **Long-term environmental outcomes**

Large areas of exotic planting with little ongoing management poses long-term risks of animal pests, disease, fire and wilding conifer spread.⁶ Over time,

2 “Permanent forests” in this document refers to forests that are not intended to be clear-felled for at least 50 years, although they can be partially logged before then. While some planted forests may be intended to be truly permanent, this is not an *NZ ETS* requirement. These are different to the terms ‘production’ and ‘plantation’ forests, which generally refer to forests that are regularly harvested for the purpose of selling the wood/logs.

3 New Zealand Government. (2006). Ministers announce Permanent Forestry Sink Initiative. Link: www.beehive.govt.nz/release/ministers-announce-permanent-forestry-sink-initiative.

4 Based on the Climate Change Commissions recommended emissions budgets between 2022 and 2035. (Page 78 in <https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa.pdf>)

5 Permanent exotic forests have often been colloquially referred to as ‘carbon forestry’ in New Zealand media in recent years, though usage of the term ‘carbon forestry’ can also refer to other forests earning carbon returns (e.g., indigenous forests). The term ‘carbon forestry’ is not used elsewhere in this document, as the meaning of this term can be ambiguous.

6 Though these risks exist, permanent forests – including those consisting of exotic species – also have environmental benefits beyond carbon relative to competing land uses (e.g., reduced erosion, reduced sediment and nutrient loss to waterways, shade and habitat for wildlife).

fast-growing, heavy forests planted on steep, erosion-prone land are also at risk of instability through heavy rain and windthrow, which can present long-term risks to downstream communities and for landowners.

Unlike many indigenous trees, few exotic species are long-lived in New Zealand (for example, *Pinus radiata* has an average lifespan of 80-90 years) and without ongoing management there is no certainty that a self-sustaining forest will develop or provide biodiversity or other benefits.

Acknowledging these risks, the Government does not consider it appropriate to provide incentives that could lead to a legacy of large areas of concentrated and permanent exotic forests. This will not provide a prosperous and sustainable footing for New Zealand in the long-term.

We also heard these concerns raised during consultation in late 2021 on the Emissions Reduction Plan (ERP), as well as more generally by some rural communities and land users. These risks were also acknowledged by the independent Climate Change Commission in their 2021 report, *Ināia tonu nei: a low emissions future for Aotearoa*.⁷

Given these risks, **we propose to remove the ability to register exotic species within the permanent forest category of the NZ ETS**. This would mean that forests that consist of exotic species (such as *Pinus radiata*, other conifers, or hardwoods) would not be eligible to be registered as a permanent forest.⁸

Questions 1 to 19 in the submission form relate to these proposals.

Long rotation averaging option

We also invite your views on whether a long rotation averaging accounting⁹ forest category should be developed within the NZ ETS that could provide opportunities for forest owners whose land is poorly suited to harvesting *Pinus radiata* at typical harvest ages (e.g., due to difficult terrain, slow growth rates or distance from port).

The idea for this category follows feedback received from consultation on regulations for the introduction of averaging accounting, where submitters raised concerns that the chosen use of one “average” age for *Pinus radiata* would not recognise higher levels of carbon stored in *Pinus radiata* forests with longer rotation lengths.

Questions 20 to 25 in the submission form relate to this option.

Incentivising permanent indigenous afforestation – update

As well as removing the incentives for permanent exotic afforestation, we want to increase incentives to plant permanent indigenous forests. We present some of the feedback we received on this topic during the ERP consultation, and offer you the opportunity to make further comments.

Question 26 in the submission form relate to this option.

Where to next?

Pages 17-23 Proposals to remove permanent exotic forests from the NZ ETS.

Pages 24 to 25 Potential option for a long-term rotation forest category under averaging.

Pages 26 to 27 Incentivising permanent indigenous afforestation – update

Page 28 How to provide your submission.

7 Climate Change Commission. (2021). Page 314: <https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa.pdf>

8 These changes would not affect landowners registered under the Permanent Forest Sink Initiative (PFSI) that are being transitioned to the NZ ETS. Registration in the PFSI is closed – but the landowners who are registered will remain eligible for earning units under the NZ ETS permanent forest category, including those with exotic tree species. More details can be found on PFSI covenants on pages 20 and 22.

9 Averaging accounting is the new carbon accounting method which will be used to determine how and when newly registered production forests will earn NZUs from 2023. In averaging accounting, forests earn NZUs up to the age at which they reach the average level of stored carbon for that forest over its lifetime. The current averaging accounting category within the NZ ETS sets an average age per forest type (for example, *Pinus radiata* can earn units for up to 16 years).



3. Background – climate change and forestry

Afforestation is an important part of New Zealand’s approach to tackling climate change

New Zealand has committed to reducing our greenhouse gas emissions to limit the global average temperature rise to 1.5°C above pre-industrial levels. The Government has set the following targets to help achieve this commitment:

- all greenhouse gases, other than biogenic methane, to reach net zero by 2050;
- emissions of biogenic methane to reduce to at least 10 percent below 2017 levels by 2030, and at least 24–47 percent below 2017 levels by 2050.

To help meet these targets and manage the impacts for all New Zealanders over time, the Climate Change Response Act 2002 (CCRA) establishes a system of emissions budgets and Emissions Reduction Plans. Emissions budgets set a limit on the amount of greenhouse gas emissions allowed across the budget periods. These budgets can be met using a combination of gross emissions reductions and net emissions removals.

New Zealand’s Nationally Determined Contribution (NDC)¹⁰ has set a target to reduce net emissions by 50 percent below gross 2005 emissions levels by 2030.

How the NZ ETS works

Established in 2008, the New Zealand Emissions Trading Scheme (NZ ETS) is a key climate change policy tool to reduce greenhouse gas emissions. The scheme aims to help New Zealand meet its emission reduction budgets, domestic targets and international climate obligations by pricing greenhouse gas emissions. This encourages investment in lower emissions technologies and practices, including forestry.

Box 2: Gross emissions versus net emissions

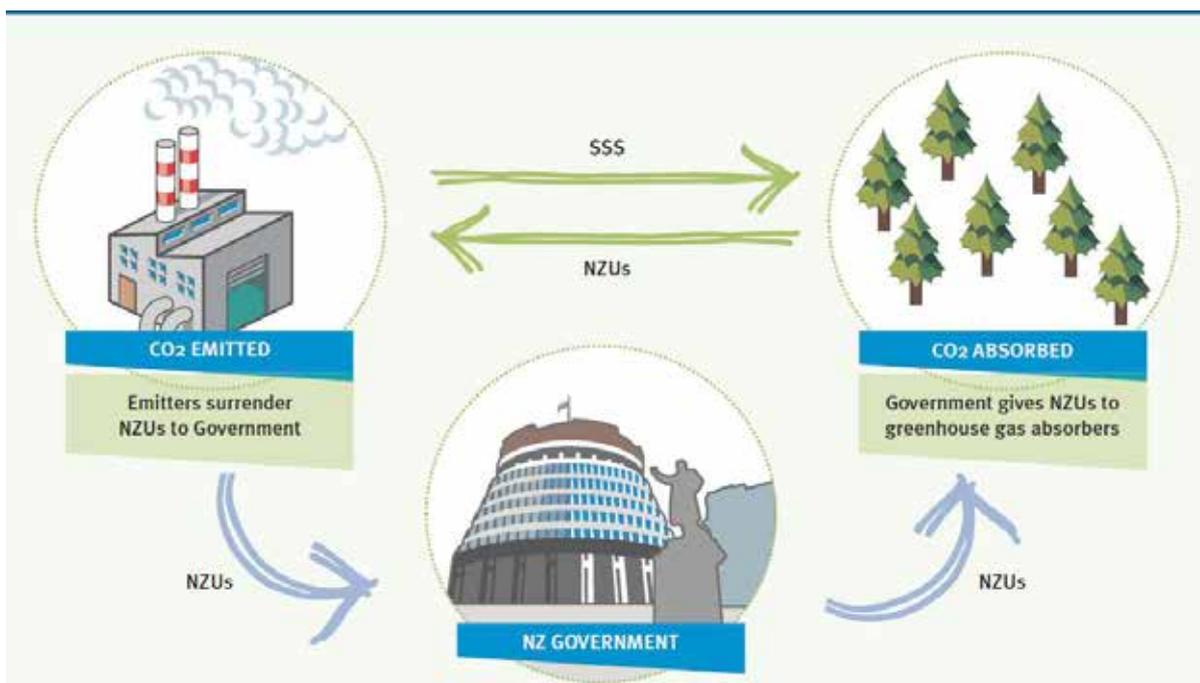
Gross emissions mean the total emissions New Zealand releases from sectors such as agriculture, transport, energy, industry and waste.

Net emissions mean the total of gross emissions, minus any removals (for example, from forests storing carbon as they grow).

New Zealand needs more afforestation to meet our climate targets

Forestry is needed to help New Zealand meet its climate change targets and emissions budgets by offsetting emissions. Forests can be both a carbon sink (while growing) or a source of emissions (for example, from harvesting or deforestation).

Figure 1: How the NZ ETS works



¹⁰ Under the Paris Agreement each country adopts an international target known as a Nationally Determined Contribution (NDC). This sets out the contribution the country will make towards the goals of the Paris Agreement.

The Climate Change Commission's pathways for meeting New Zealand's climate change targets include significant afforestation of both production and permanent forests. However, their report also specifically asked the Government to consider the role of permanent exotic forests in its climate change response.

The CCRA was amended in 2020 – adding a new permanent forestry category to the NZ ETS, set to start from 2023

In 2020, the Government introduced major reforms for forestry in the NZ ETS through changes to the CCRA.

An important change was the introduction of a *permanent post-1989 forestry category* to replace the Permanent Forest Sinks Initiative (PFSI). This category will reward landowners for establishing forests – exotic or indigenous – that will not be clear-felled for at least 50 years after they are registered in the NZ ETS.

Forests in this category will earn NZUs for as long as the forest is in the ground and the carbon stock is increasing.

Landowners will currently be able to register their forests in the new permanent forestry category from 1 January 2023.

Box 3: Climate Change Commission recommendations relevant to proposals

Recommendation 11

Amend the NZ ETS to strengthen the incentive for gross emissions reductions and to manage the amount of exotic forest planting the NZ ETS drives, in line with the Commission's advice on the proportion of emissions reductions and removals necessary for meeting emissions budgets

Recommendation 25

Designing a package of policies to reduce reliance on forestry removals and manage the impacts of afforestation including:

- (a) Amendments to the NZ ETS to manage the amount of exotic forest planting driven by the scheme (see also Recommendation 11 (1) on the NZ ETS).
- (b) A clear position on the role and desirability of different types of permanent exotic forests as carbon sinks and amending the NZ ETS and other policies accordingly.

Note: these recommendations are a subset of broader Climate Change Commission's recommendations. The proposals in this document relate most directly to the recommendations in the table above. Other ongoing work (for example, the programmes mentioned on page 6) respond to other recommendations.

4. Feedback on permanent forestry and the NZ ETS from earlier consultations

This section summarises feedback we received on permanent forestry and the NZ ETS as part of consultation on the Emissions Reduction Plan (ERP) in 2021.

October – November 2021: we consulted on the ERP

The Government recently consulted on the ERP. The ERP sets the policies and strategies for New Zealand to meet

our first emissions budget, helping us transition to a low-emissions future in an achievable and affordable way.

Our first ERP will be published in May 2022. We received 10,050 submissions.

The recent ERP consultation asked for feedback on the role of permanent exotic forests in New Zealand's climate change response. The feedback we received during that consultation has helped shape the proposals in this document.

Box 4: Feedback received on permanent exotic forest from the ERP consultation

Across stakeholder groups there was widespread support for indigenous afforestation. However, views on permanent exotic forests differed, with support for limits coming from the agriculture sector, and some disagreement from members of the forestry sector and Māori groups.

There was widespread support from individual submitters for limits on permanent exotic forests, their location or long-term management. The most common reasons for supporting limits were risks to food production and productive land, environmental risks (loss of biodiversity, and wilding, fire and pest risk) and the limited amount of time that exotic forests store carbon. There was also widespread support for incentives for indigenous forests and several submitters viewed that exotic to indigenous transition is a viable option.

Many agricultural industry groups expressed concern about the scale and speed of productive land being converted into exotic forests and the negative impacts this can have on rural communities where there is no intention to harvest. There was support for managing the amount of exotic forest planting that the NZ ETS drives and for the removal of policies that are affecting rural land markets and leading to exotic afforestation on sheep and beef farms.

Some submitters believed exotic forests need to be planted more rapidly and should not be limited until there is a significant buffer for meeting our emissions budgets and targets domestically. There were also some that disputed that exotic permanent forests would have a negative effect on rural communities or would result in the loss of productive farmland.

Some Māori submitters expressed concern about permanent exotic forest being considered a problem and disagree with proposals to limit these forests. They considered permanent forests to be an opportunity for Māori by providing the ability to establish forests in remote areas where harvest is not economically or environmentally feasible, and state limits on permanent exotic forestry will interfere with tino rangatiratanga over their land. Several submitters suggested that financially viable models are needed for indigenous afforestation before limits are placed on permanent exotic forests.

5. The proposals in this document will be significant for Māori

There is a fundamental tension between simple rules applied universally and ensuring rules are suitable for different land types and owner aspirations.

Māori have significant cultural, spiritual and economic interests in forests

Māori have significant interests in forests as rangatira, kaitiaki, land and forest owners, workers and business owners. Māori land¹¹ (both freehold and Treaty settlement) is also different from other land.

In 2018 Māori were estimated to own \$4.3 billion of forestry assets and some 2,200 Māori were employed in the sector (40 percent of the forestry workforce).¹² Around 30 percent of New Zealand's 1.7 million hectares of plantation forestry is estimated to be on Māori land and this is expected to grow to 40 percent as Treaty settlements are completed. Most of this forest is on pre-1990 forest land.

Māori also hold proportionally high economic investment and employment in the broader primary industries. In 2018, the broader Māori economy was estimated at \$68.7 billion worth of assets, with \$23.4 billion within agriculture, fishing and forestry. Sheep and beef farming are the predominant concentration of Māori assets, at 37 percent of that asset base (\$8.6 billion).¹³ Forestry contributes 6 percent of the asset base.

We want to hear about the impact of the changes on Māori, and on different types of land.

Māori land is often well suited to permanent forest cover or long rotation forestry

Māori freehold land often has different characteristics to general title land which make it well suited to forestry. Māori freehold land has greater proportions of remote, less versatile land, and is held in smaller, fragmented titles rather than general title. This land also has more

forest and shrubland than general title land, particularly indigenous forests established before 1990.

Around 230,000 hectares of Māori land has been identified as well suited to forests – and could qualify for registering in the NZ ETS. Of this, at least 146,000 hectares have been identified as marginal for typical production forestry as they are far from ports.¹⁴ This land is well suited to permanent forestry (including some selective harvesting of high value timber), or long rotation forestry.

The proposals in this document will have impacts on Māori landowners

The proposals in this document affect two types of forestry which present economic opportunities on Māori-owned land – permanent forestry and long rotation forestry. We are seeking feedback from Māori on how these proposals might affect you.

With the proposed removal of the ability to register exotic species in the permanent forest category of the NZ ETS, we also welcome feedback on other opportunities for how the NZ ETS and other policy instruments operated by central government can provide opportunities for less productive land, including land held by Māori. We also welcome feedback on the scale and impacts of the proposed options.

- **Questions 1 to 19** invite feedback on criteria for whether and how exceptions should be provided for forests that consist of exotic species operated under certain conditions (e.g., forests established with exotic species, but managed over time with nearby indigenous seed sources to transition the forest to predominantly indigenous species).¹⁵
- **Questions 20 to 25** seek views on options for the potential introduction of a long-rotation averaging band.
- **Question 26** invites further ongoing feedback on opportunities to address barriers to indigenous afforestation.

¹¹ Māori collectives hold land in freehold land and settlement land. We use the term Māori land to refer to both freehold and settlement land.

¹² <https://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Research/Te-Ohanga-Maori-Report-2018.pdf?revision=7eae6b2b-14d1-480e-95b8-fb57e6ba6e8e>

¹³ <https://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Research/Te-Ohanga-Maori-Report-2018.pdf?revision=7eae6b2b-14d1-480e-95b8-fb57e6ba6e8e>

¹⁴ Based on the LUCAS NZ Land Use Map, analysis undertaken by Te Uru Rakau – Forestry New Zealand.

¹⁵ Examined in, Forbes Ecology. (2021). *Transitioning Exotic Plantations to Native Forest: A Report on the State of Knowledge*. Link: www.mpi.govt.nz/dmsdocument/47521-Transitioning-Exotic-Plantations-to-Native-Forest-A-Report-on-the-State-of-Knowledge-2021-22-

6. What is the problem?

On 1 January 2023 the 'permanent post-1989 forest' category (permanent forest) will be added to the NZ ETS.

Permanent forests registered in the NZ ETS will earn units in the scheme (NZUs) for as long as the forest continues to grow and store carbon. There are currently no limits on forest species which can be registered in the permanent forest category.

Rising prices in the NZ ETS are expected to drive large-scale permanent exotic afforestation

The NZ ETS incentivises afforestation by providing NZUs for carbon storage. Rising carbon prices mean afforestation is becoming increasingly profitable. The NZU price has more than doubled within the last year, from around \$35 in late 2020 to upwards of \$80 in early 2022.

Prices need to keep increasing over time to drive the decarbonisation of New Zealand's economy.¹⁶

Permanent exotic forests often provide the highest economic return

Under the NZ ETS settings which apply from 2023, the returns on investment are highest for permanent exotic forests (particularly *Pinus radiata*) relative to competing land uses.

This is because exotic forests sequester carbon quicker than indigenous species, are cheaper to establish than indigenous species, and permanent exotic forests earn NZUs for longer than production forests, which are only eligible to earn NZUs for a limited time (between 16 years for *Pinus radiata* and 26 years for Douglas fir).

Based on current NZU spot prices of around \$70 to \$80, investment returns for permanent exotic forests significantly outperform competing land uses, with an estimated investment return of ~\$30,000 per hectare.¹⁷ This compares with returns in the order of ~\$4,500 per hectare for sheep and beef farming and ~\$20,000 for production forestry.¹⁸

The profitability of permanent exotic forests in the NZ ETS relative to other productive land-uses will increase as the NZU price rises over time.

This is expected to lead to widespread permanent exotic afforestation

Under the emissions price pathways used by the Climate Change Commission last year, MPI estimates that the NZ ETS could drive upwards of 645,000 hectares of exotic afforestation over this decade.

As much as half of this new afforestation through to 2030 (around 350,000 hectares) is expected to consist of permanent exotic forests. This compares with 1.74 million hectares currently in production forestry in New Zealand and 9.6 million hectares in sheep and beef land.¹⁹

What direct benefits does widespread permanent exotic afforestation have?

Large scale permanent exotic afforestation would contribute to New Zealand meeting our emissions budgets and targets at low direct economic cost in the short term. Large scale permanent exotic afforestation could also reduce the amount of offshore carbon reductions that the Government may need to purchase to meet New Zealand's NDC for 2030 and subsequent NDCs.²⁰

Relative to indigenous forests, a significantly smaller area of land would be required to offset New Zealand's gross emissions through to 2050 with exotic forests.

This fast sequestration rate also provides high direct economic returns for the participant when registered in the NZ ETS.

However, extensive permanent exotic afforestation might not produce the best long-term outcomes for New Zealand (particularly when considering the state of the land, indigenous biodiversity, and economy that we leave for future generations).

New Zealand needs to make trade-offs in considering the role of permanent exotic forests within its climate change response, and the extent to which these are actively incentivised by the Government.

16 Climate Change Commission. (2021) <https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa.pdf>

17 Investment returns are expressed as Net Present Value (NPV) in this document. Estimates produced by MPI use current real NZU price and an 8 percent discount rate for forestry over a 50-year term. Sheep and beef returns are derived from Beef+Lamb farm economic data for North Island hard hill country. Production forest returns are estimated over one rotation. Area weighted FMA tables are used for forestry. Average rates are used, however, and the range of returns is wide.

18 Significant variation in investment returns for sheep and beef and production forestry occurs in practise throughout the country based on farm system, land capability and economic factors.

19 Production forestry land figure from <https://www.mpi.govt.nz/dmsdocument/43540-2021-NEFD-report>
Sheep and beef land figure from https://beeflambnz.com/sites/default/files/data/files/Compendium%202021_digital.pdf

20 The Climate Change Commission estimated that the amount of offshore mitigation needed under different Nationally Determined Contribution levels varied between 47-121Mt CO₂e.

There are 3 key issues with widespread permanent exotic afforestation...

Issue 1: It will drive land use change and displace productive land uses that provide wider economic and employment benefits

The high NZU price means permanent exotic forests provide better economic returns than other rural land uses. This includes higher returns than other types of forestry – both production forests and indigenous forests, as well as significantly higher economic returns than sheep and beef farming. At a carbon price of \$110²¹ permanent exotic forest can become competitive with lower productivity dairy land.²²

Due to these high economic returns, permanent exotic forests have started to displace other productive land-uses (such as sheep and beef farming and production forests) in some regions.

Permanent exotic afforestation contributes less export earnings and fewer jobs to the economy

Industries such as sheep and beef farming and production forestry provide important export earnings for the country. Sheep and beef farming and production forestry contributed \$10.7 billion and \$5.5 billion in export revenue in 2020 respectively. Returns from forestry in the NZ ETS do not generate export revenue. Therefore, if large areas of productive land are converted to permanent exotic forestry, export revenue will be reduced.

Permanent exotic forests also provide fewer direct jobs and less added value in the economy. A report from PricewaterhouseCoopers estimated that both plantation forestry and sheep and beef farming outperform permanent exotic forests in contribution to GDP and jobs per area of land. Impacts are expected

to disproportionately affect regions with higher levels of permanent exotic afforestation.

Analysis by BakerAg (2019)²³ looking at direct spend and employment in the Wairoa district also found that permanent exotic forestry provided fewer jobs and contributed less direct spend than both production forestry and sheep and beef farming. Sheep and beef farming provided the highest direct spend and employment.

There are also risks for succession planning and wider land use flexibility from the status quo. Higher land prices (spurred by the returns of permanent exotic forestry) will make it more costly for other primary sector businesses to purchase new land.

Secondly, the high value of liabilities on permanent exotic forest land that has been registered in the NZ ETS for an extended period of time will make it highly costly for that land to be transitioned to any other uses. Where permanent exotic afforestation occurs at scale on more productive land use classes, this creates risks for New Zealand's long-term land use flexibility.

Land converted to permanent exotic forests can create issues for nearby communities in parts of the country. 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.

Widespread indigenous afforestation still present risks for land use change – but we think this a lower risk due to the lower financial returns from carbon storage in indigenous forests. We will consider ways to manage these risks when we consult on changes to the resource management system later this year.

Table 2: Annual contribution to GDP and full-time equivalent (FTEs) jobs per unit of area

Land-use	GDP per 1,000 hectares	FTEs per 1,000 hectares
Permanent exotic forests	\$0.8 million	2
Production forestry ²⁴	\$4.8 million	38
Sheep and beef farming ²⁵	\$1.7 million	17

Source: PriceWaterhouseCoopers. (2020). *Economic Impact of Forestry in New Zealand*.

21 Reflecting the 2026 NZ ETS auction cost containment reserve trigger.

22 Based on MPI analysis in January 2022, using \$110 NZU price real and financial information from Dairy NZ.

23 BakerAg (2019) Socio-economic impacts of large-scale afforestation on rural communities in the Wairoa District.

24 Production forestry relates to 1,000 hectares of forests at all age classes (including afforestation and harvest) and doesn't reflect the contribution to the economy of 1,000 hectares of new afforestation

25 Figures for sheep and beef farming represent national aggregates including extensive hill country stations. Sheep and beef farming's economic contribution per hectare will be greater when low-stocked extensive hill country farms are excluded from the figures.

We are interested in your experiences and evidence related to the benefits and risks of permanent exotic forests in your region or community as part of your submission. This will help us to gather a fuller understanding of how the proposed changes impact different rural communities in different ways.

Issue 2: It may make it harder to achieve our long-term climate change targets

While carbon sequestration is critical to meeting our emissions budgets and targets, unconstrained permanent exotic afforestation within the NZ ETS has risks for reducing incentives across the economy to reduce gross emissions in the longer-term.

Ongoing high levels of NZU supply for permanent exotic forests can create risks for the Government's ongoing management of levels of supply relative to demand in the NZ ETS. This has implications for our ability to drive gross emissions reductions.

Emitters may be able to secure ongoing supply of relatively low-cost NZUs for the lifetime of any new capital investment in emitting technologies (for example, through negotiating a futures agreement of ongoing sale of NZUs with a land owner). Where this occurs, emitters could be able to offset their emissions at relatively low cost, rather than finding ways to reduce them.

Other gross emitters may also anticipate a relatively lower cost trajectory for the NZ ETS price when making investment decisions (by assuming permanent exotic

forests will provide relatively abundant NZU supply over the coming decades when forming their investment decisions).

MPI estimates the impacts of removing permanent exotic forests from the NZ ETS are likely to reduce the level of removals counted towards our second and third emissions budgets. This is shown in Table 3 below.

These changes may impact the Government's ability to meet the Commission's demonstration pathway in the third emissions budget period.

Under current policies and settings, removals from forestry are expected to become the largest source of supply in the NZ ETS by the early 2030s. Increasing abundance of NZUs from permanent exotic forests will reduce the impact of the Government's other levers affecting price and supply in the scheme.

Forests being planted over the next few years will lead to the high levels of NZU supply from forestry we expect to see in the 2030s and later decades. Because of this, choices today on permanent exotic forests will have ongoing long-term impacts on the NZ ETS.

The proposed changes are likely to have the opposite impact on gross emissions from agriculture in the short-term (as these are not currently required to surrender NZUs for their gross emissions in the NZ ETS). Relative to the status quo, removing permanent exotic forestry from the NZ ETS will lead to increased levels of gross emissions from agriculture due to a reduced area of agricultural land being converted to permanent forest.

Table 3: Carbon removals from forestry for the first three budget periods (millions of tonnes of carbon dioxide credited towards meeting budget)

Budget period	2022-2025	2026-2030	2031-2035
Commission's demonstration pathway (2021 Commission projections)	26	50	69
Status quo (2022 carbon price pathway) ²⁶	24	51	107
After exotic forests removed from permanent forest category (2021 Government projections)	24	48	66

Issue 3: widespread permanent exotic afforestation has environmental impacts

Permanent forests are an appropriate land use in some situations. For example, there is an estimated 840,000 hectares of land in the North Island that is deemed at risk of severe erosion and much of this may be suitable for permanent forest cover.²⁷

The Government needs to consider the type of permanent forests it would like to incentivise through the NZ ETS

factoring in long-term outcomes for New Zealand.

In general, well managed indigenous forests are likely to have better environmental and biodiversity outcomes over time than comparable exotic forests.

While permanent exotic forests have environmental benefits over and above some competing land uses (for example, lower sediment loss to waterways, shade and habitat for wildlife), if not well managed, these forests carry longer-term environmental risks.

²⁶ Projections use an NZU price of \$50 in 2022 (plus 10 percent annual increase). The Government projections used in this table were compiled in June 2021.
²⁷ <https://environment.govt.nz/assets/Publications/Files/Our-land-201-final.pdf>

For example, wilding conifers could have an adverse impact on conservation forests and pastoral land uses, while fire and disease present significant risk to plantation forests. Over time, fast-growing, heavy forests planted on steep, erosion prone land are at risk of instability through heavy rain and windthrow, which can result in risks to communities and landowners.

Because of the short lifespan of most exotics (especially *Pinus radiata*), we also do not know how these forests will develop over time and the extent to which benefits they offer will be maintained.

The Government's parallel work programme to develop new national direction for forests under the resource management system will look to further address these environmental risks in concert with the changes proposed for the NZ ETS.

Why do we want to act now?

Current prevailing NZU prices in the NZ ETS are expected to drive large-scale permanent exotic afforestation, and prices are expected to increase over time to drive the decarbonisation of New Zealand's economy.

Financial returns for permanent exotic forests already significantly outperform competing land uses, and the relative profitability of these forests will increase as the NZU prices rise. In response to the increasing NZU price, the Government estimates the NZ ETS could drive around 350,000 hectares of new permanent exotic forest planting this decade.

The new permanent post-1989 forestry category in the NZ ETS will come into effect from 1 January 2023, so this issue needs to be considered prior to the category becoming available.

Questions – is this a fair description of the problem?

1. Do you agree with our description of the problem? Why/Why not?
2. Do you have evidence you can share that supports or contradicts this problem definition? Or that demonstrate other problems?



7. Objectives and assessment criteria

Afforestation is needed to meet our climate change emissions budgets and targets

Our forests will play a critical role in meeting our targets, while growing a productive source of renewable materials that can provide substitutes for emissions-intensive materials and fossil fuels and support regional economies. Forests can also provide benefits including erosion control, improved water quality, species habitats, and opportunities for cultural and recreational activities.

The Government's broader objectives for forestry include:

- **Sequestration:** forests help meet our climate change targets by offsetting emissions while gross emissions are actively reduced.
- **Substitution:** the forestry and wood processing sectors support the transition to a low-carbon bioeconomy by producing substitutes for emissions intensive products and energy sources
- **Economy and jobs:** forestry and wood processing sectors contribute to regional and economic development, and support the wellbeing of rural communities by providing high quality employment
- **Native biodiversity:** new and existing forests provide and support native biodiversity
- **Environment:** our forests support freshwater quality, soil conservation and resilience to climate change
- **Māori:** forests and forest products support the cultural, social, environmental, and economic aspirations of Māori whānau, hapū and iwi.

We want to ensure that afforestation driven by the NZ ETS achieves the best outcomes for New Zealand. This requires us to balance some complex trade-offs – for example, between meeting our emissions budgets and targets, and meeting wider objectives and outcomes for forests, land use, rural communities and economies, and biodiversity.

Assessment criteria

Options presented in this consultation document have been assessed using the following criteria. Our full analysis can be found in the [interim Regulatory Impact Statement](#).

Question – assessment criteria?

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

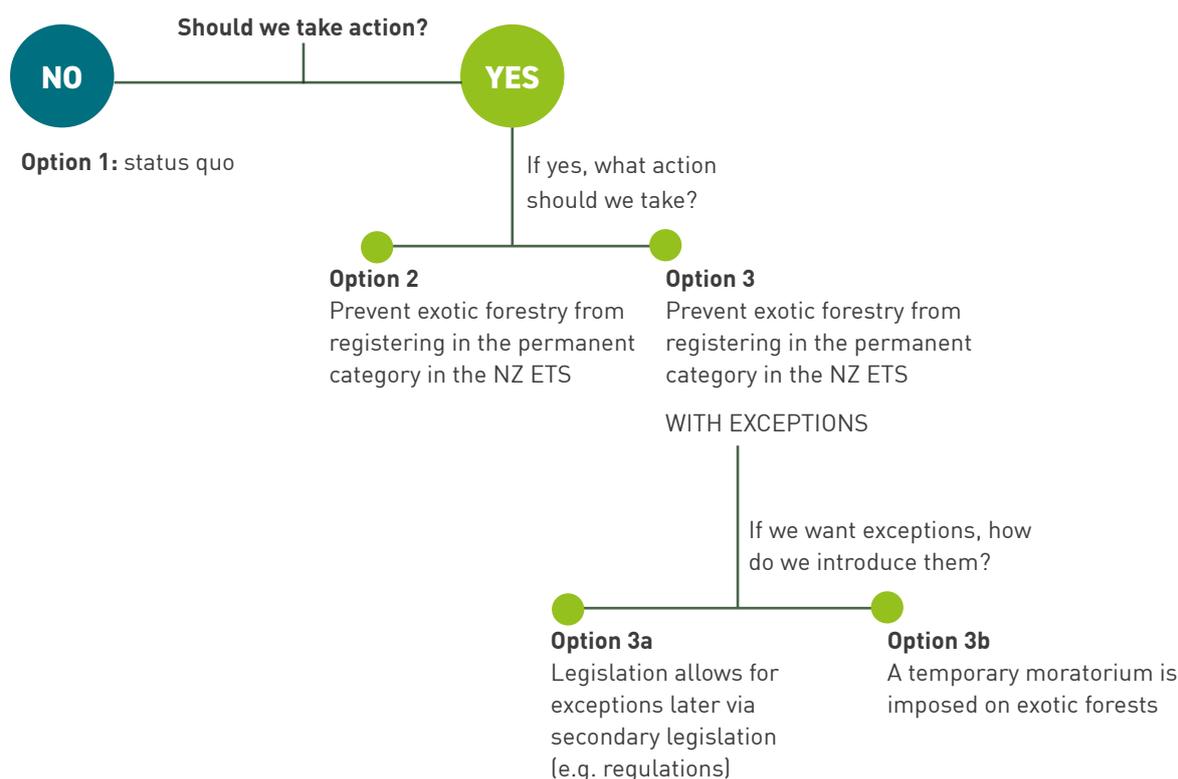
1. **Provides sequestration to meet emissions budgets and targets.**
 - Forests help meet New Zealand's emissions budgets and targets (NDCs) by offsetting emissions.
2. **Supports gross emissions reductions.**
 - Afforestation at a level to avoid reducing NZU prices and impacting gross emissions reductions.
3. **Provides substitutes for emissions intensive products and energy sources**
 - The forestry and wood processing sectors support the transition to a low-carbon bioeconomy by producing substitutes for emissions intensive products and energy sources.
4. **Supports regional economies and jobs**
 - Forestry and wood processing sectors contribute to regional and economic development and support the wellbeing of rural communities by providing high quality employment.
5. **Supports indigenous biodiversity**
 - New and existing indigenous forests provide and support indigenous biodiversity.
6. **Provides environment benefits**
 - Our forests support freshwater quality, soil conservation and resilience to climate change, and are not sources of pests.
7. **Supports Māori aspirations for their land**
 - Actively protect Māori interests and ability to make decisions regarding their land in line with aspirations. Forests and forest products support the cultural, social, environmental and economic aspirations of Māori whānau, hapū and iwi.
8. **Effective, practical and implemented quickly**
 - The option can be implemented quickly. It is operationally feasible, resilient to future changes and avoids unintended consequences. The option should also minimise administration and compliance costs, support the purpose and integrity of the NZ ETS and maintain regulatory certainty.

8. Options to manage permanent exotic forestry in the NZ ETS

There are two basic decisions we need to make around this issue.

- Should we take action?
- If yes, what action should we take?

Figure 2: Decision tree on whether and how to manage permanent exotic forestry



Option One: Status quo: allow unlimited exotic and indigenous registration in the post-1989 permanent forestry category

There are currently no restrictions on the types of forest that can be registered in the NZ ETS permanent post-1989 forest category, or upper limits on the total area.

To be registered an area of forest is required to meet the definition of forest land in the CCRA, be post-1989 forest land and meet the conditions set out in the CCRA.

Option Two: Prevent exotic forestry from registering in the permanent post-1989 category in the NZ ETS

When the permanent post-1989 category in the NZ ETS comes into effect on 1 January 2023, exotic forests will not be able to be registered. This option would restrict the permanent post-1989 category in the NZ ETS to indigenous forests.

Option two would make entering the permanent post-1989 category more complicated than the status quo, because forests will have to be checked to make sure they are not exotic. New rules will also be needed around when to reject or adjust applications with exotic forest.

Option Three: As for option two, but with exceptions for exotic species under certain conditions or criteria

Option three is the same as option two – but with the opportunity to introduce exceptions for special circumstances.

There may be benefits to creating exceptions to help realise some of the benefits of including exotic forests in the permanent post-1989 category.

We are aware that creating exceptions will introduce more complexity into the NZ ETS, and some could be costly to monitor and implement (for both the participant

and Te Uru Rākau – the New Zealand Forest Service as the administrator).

There may also be alternative ways to incentivise planting forests in the circumstances which exceptions could cover, other than through the permanent post-1989 category of the NZ ETS.

We'd like your feedback on whether we should consider exceptions, and if so, under what conditions and criteria should exceptions be provided?

Circumstances where exceptions could be relevant:

- Exotic planting for erosion control or small land parcels (for example, pole planting low stocked, space planted poplars or willows on erosion-prone land).
- Remote and marginal land (which can be well suited to permanent forestry).
- Certain species of exotic trees (for example, long-lived exotic species like redwoods for amenity purposes or sustainable harvest of high value timbers).
- Plantations transitioning from exotic to indigenous forests over time. (see box below).'

Box 5: Should there be exceptions for plantations transitioning from exotic to indigenous forests?

Some permanent exotic forests have been established with the stated intent of transitioning to indigenous forest over time. There are differing views in contemporary discussions of this forest model over whether this can be achieved cost-effectively at scale, in all environments and climatic conditions, to achieve an acceptable ecological outcome²⁸

There are also challenges to how such forests could be managed for both the participant and the administrator, if these were registered in the permanent forest category. For example, exceptions may need to make transitions time-bound to be enforceable (and ensure forests don't remain exotic). Transitioning forests would also be at risk of incurring significant liabilities in the NZ ETS, as replacing large exotic trees with smaller and slower growing regenerating indigenous species may result in a decrease in carbon stocks for an extended period of years.

The Government will need to consider the implications of this model of forestry, and assess this model against our broader objectives for managing afforestation in New Zealand. Another way to manage risks from this model of forestry could be through the Government's parallel work developing changes to the treatment of forestry under the resource management system (for example, through new or amended national direction).

Through this consultation, we're interested in your feedback on the benefits, trade-offs and risks that would come with exceptions for this type of forest being allowed to register in the NZ ETS permanent forest category.

Question – designing the options to manage permanent afforestation

Designing exceptions (option three)

4. Should we provide for exceptions allowing exotic species to register in the permanent forest category under certain conditions?
5. Are there particular circumstances that you support introducing exceptions for (for example, exceptions for certain species of exotics)? Why?
 - What are the likely impacts, risks and costs of allowing exceptions in these circumstances?
 - 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?
6. Are there alternative ways we can recognise and encourage these forests, either within, or outside, the NZ ETS?

Preferred options

Options two and three are preferred. Both options would help manage the risk of large-scale conversion of land into permanent exotic forests, improve the relative incentive for indigenous forests on less productive land, and help meet our climate change targets by offsetting emissions while gross emissions are actively reduced.

Option three can provide benefits for NZ ETS and New Zealand (e.g., reduced erosion through greater uptake of pole planting registered in the NZ ETS). However, the level of benefits relative to costs are likely to vary depending on the types of exceptions allowed, and how these are implemented.

In determining whether to pursue option 2 (no exceptions) or option 3 (providing exceptions under certain criteria or conditions), there is a balance to be struck between driving wider benefits and environmental outcomes; compared with overall administrative complexity and cost, and mitigation of the key issues/risks identified with exotic species being registered in the permanent post-1989 forest category.

²⁸ Forbes Ecology. (2021). *Transitioning Exotic Plantations to Native Forest: A Report on the State of Knowledge: Prepared for Te Uru Rākau – New Zealand Forestry Service.* <https://www.mpi.govt.nz/dmsdocument/47521-Transitioning-Exotic-Plantations-to-Native-Forest-A-Report-on-the-State-of-Knowledge-2021-22->

We will use feedback gathered through consultation to determine whether and how to pursue exceptions. You can see our in-depth analysis of these options in the [interim Regulatory Impact Statement](#).

Question – options to manage permanent afforestation

7. Of these options, what is your preferred approach? Why? Are there other options you prefer, that we haven't considered?

If we choose option 2 or 3 (and remove permanent exotic forests from the NZ ETS), we want to introduce this from 1 January 2023

The new permanent post-1989 forestry category in the NZ ETS will come into effect from 1 January 2023. If we choose option 2 or 3 (and remove permanent exotic forests from the NZ ETS) – we want this to come into effect from 1 January 2023.

We considered, but discarded, the option of introducing the changes at a later date (for example, 1 January 2025). Although this would give us more time to consider the issue and solutions (including introducing exceptions at the same time as the changes come into effect), we consider letting exotic forests register in the permanent category carries risks.

Offering a window of time for forests to register in the permanent exotic category is likely to lead to a surge of forests registering the NZ ETS in this category – exacerbating the issue.

This would result in the negative impacts we have identified (although on a smaller scale than the status quo), as well as make administering the NZ ETS system more complicated.

It would also create a permanent forest legacy which limits future governments' flexibility to take decisions affecting NZ ETS settings. Therefore, we want to act before 1 January 2023.

Question – Timeframes

8. Do you agree with our preferred approach (acting before 1 January 2023)? Why/why not? If not, what is your preference?

If we choose option 3 (introducing exceptions) ... there are two ways we could do this

There are two ways we could introduce exceptions (if we choose this option). We could either:

- **Option 3A** – add the ability to introduce exceptions to the restriction on permanent exotic forests registering the NZ ETS – via secondary legislation.
- **Option 3B** – introduce a moratorium now, preventing any permanent exotic forests registering in the NZ ETS while decisions on exceptions are worked through.

If we choose to introduce exceptions, we anticipate these would need to be introduced after 1 January 2023, to allow adequate time to work through their design (including operational changes).

We considered, but discarded, the option of having all exceptions in place before 1 January 2023. This option would not have allowed enough time to work through their design and consider the impacts of the exceptions.

Option 3A: add the ability to introduce exceptions via secondary legislation [Preferred]

This option would allow exceptions to be introduced through secondary legislation (for example, by regulations or Order in Council).

The Act would need to state what matters or criteria the Minister must consider before recommending these to the Governor-General.

Other parts of the CCRA have similar mechanisms in place. For example, Section 60 of the CCRA allows the Minister of Climate Change to recommend that exemptions be made to exempt people from being a participant in the NZ ETS, or needing to surrender NZUs, in limited circumstances. In making recommendations, section 60 requires the Minister to:

- be satisfied that the costs won't exceed the benefits, and the order won't undermine the environmental integrity of the NZ ETS.
- give regard to:
 - the need to maintain the environmental integrity of the NZ ETS;
 - the desirability of minimising any compliance and administrative costs associated with the NZ ETS;
 - the relative costs of giving the exemption or not and who will bear the costs of the exemption;
 - any alternatives for achieving the objectives the Minister has in giving the exemption;
 - and other matters the Minister considers relevant.

Box 6: we will also make provisions for Permanent Forest Sink initiative (PFSI) covenant holders with exotic forests

The PFSI was one of the Government's sustainable forestry programmes that enabled landowners to receive carbon units through the creation of permanent forests. The PFSI and the NZ ETS was reviewed between 2013 and 2018. In December 2018, the Government announced it would discontinue the PFSI, instead replacing it with the new permanent post-1989 forest category in the NZ ETS.

The Government has agreed that covenant holders won't be adversely affected by the discontinuation of the PFSI. Covenant holders will have the option to transfer their PFSI covenants into the new permanent post-1989 forestry category when it becomes available on 1 January 2023.

No new forest land will be added to the PFSI before being moved into the NZ ETS.

The PFSI is discussed in more detail in Section 9 (page 21).

Option 3B: moratorium

A moratorium could temporarily prevent exotic forests, or all types of forest from entering the permanent category of the NZ ETS. A moratorium could be short (1-2 years) or longer (3-5 years). The legislation could provide an ability to extend the moratorium via secondary legislation.

There are a range of ways the moratorium could apply. For example, it could end automatically, or could require a decision after several years to continue (or to end). Under a moratorium, once the moratorium ends, exotic forests could be able to register in the permanent post-1989 category in the NZ ETS. We do not have a preferred option.

A moratorium would give the Government time to consider where and what types of exotic forests are desirable in the category – while keeping open the possibility of the Government letting the moratorium lapse (and allowing permanent exotic forests into the permanent forest category). If the Government decides to introduce exceptions during or after the moratorium, these could be introduced via secondary legislation.

There are risks with a moratorium. A moratorium (of any length) may not significantly alter the incentives to stop foresters planting permanent exotic forests now – if they expect to be able to register the forests at some point in future once the moratorium has ended. If this were the case, exotic species might be registered into averaging accounting and then moved to the permanent forest category if/when the moratorium ends.

Question – comparing Option 3a (exceptions by secondary legislation) and Option 3b (exceptions after a moratorium)

If we choose to introduce exceptions ...

9. Do you support exceptions by regulations [option 3a] or exceptions after a moratorium [option 3b]? Why?
10. If we choose to introduce exceptions by regulations, what conditions or criteria should be placed on the Minister in choosing to pursue these?
11. If we choose a moratorium (Option 3b) – how long should it be? Why?
12. 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?

Managing the risk of forests in other NZ ETS categories being managed as permanent

Removing the ability to register exotic forests in the NZ ETS permanent category will reduce the incentive to plant permanent exotic forests. However, the Government also needs to monitor the risks associated with other types of forests registered in the NZ ETS being managed as permanent forests.

At the current and expected future NZU prices *Pinus radiata* forests registered under averaging accounting are expected to have a positive return on investment, regardless of whether they are harvested. There is a risk that forests registered under averaging accounting could be managed as permanent if harvesting is not economically viable.

These forests could contribute negative environmental impacts if poorly managed such as wilding, pests, disease and fire risk.

Furthermore, forests currently registered under the existing NZ ETS stock change accounting are not currently required to switch to averaging accounting when it becomes available on 1 January 2023.

Forests registered under stock change between 1 January 2019 and 31 December 2022 will have the option to switch to averaging accounting once it becomes available. Forests registered before 2019 will remain on stock change. There is a risk that a proportion of the 310,000 hectares of exotic forests currently registered under stock change accounting could be managed as permanent forests and continue to earn NZUs within the NZ ETS (or sold to new owners who convert management of the forest to a permanent exotic forest).

The Government will need to consider the likelihood that exotic forests registered under both stock change and averaging accounting will be managed as permanent and whether measures are needed to mitigate potential adverse impacts.

9. Implementing changes to the permanent forestry category

If we choose to restrict exotic forests in the NZ ETS permanent category, we will need to ensure the restrictions are enforceable and enforced. We want feedback on:

1. How we define indigenous forest? What happens if forest changes over time, and no longer fits this definition?
2. If we remove forests which no longer meet the definition of indigenous forest from the permanent category in the NZ ETS, how should we do it?
3. If we remove exotic forests from the permanent category in the NZ ETS, what changes should be made to the penalties in the category?
4. Treatment of exotic forests in the PFSI.

How should we define indigenous forest? What happens if forest changes over time, and no longer fits this definition?

Checking forests at registration

We propose to check the forest type at registration. We could reject or alter applications which contain exotic forests. If rejected, the participant would be able to resubmit the application without those areas of exotic forest.

What happens if the forest changes after it has been registered?

Forests and species composition changes over time. Occasionally, some land will be indigenous forest at registration and become predominantly exotic. This can be due to specific events, (such as disease or a fire) or slower processes like wilding spread from within the forest or a neighbouring property.

Often, these species changes can be outside the participants control, and are expensive to reverse (particularly if the exotic forest must be cleared). We want your input on how we should monitor compliance on an ongoing basis, and what you think we should do if the forest becomes non-compliant. We are considering two options. We are interested to hear from you if there are other options you prefer.

Option 1: Areas of forest which become predominantly exotic are removed from the NZ ETS

Participants could be required to declare if any of their forest becomes exotic when submitting an emissions return. We could then remove it from the NZ ETS, transition it to averaging accounting, or require the participant to reinstate indigenous forest as the dominant type.

These options are set out in more detail below. Removing the forest from the NZ ETS could be very expensive for participants, and could create risk for owners of indigenous forests if species changes occur outside their control. However, it would mean that the restrictions on exotic species in the permanent category in the NZ ETS are very tightly enforced.

Option 2: We continue to treat the forest as it was originally registered in the NZ ETS, even if areas change to exotic over time

We could treat any area which becomes non-compliant over time as if the forest is still indigenous. The area would continue to earn NZUs like an indigenous forest, even though it may now contain predominantly exotic species. This could be cheaper and lower risk for the participant, while still removing the incentive to transition a permanent indigenous forest to an exotic forest.

If we choose to remove forests which have become predominantly exotic over time (option 1 above), how should we do it?

If Option 1 above is implemented, there are different methods we can use to remove the forest from the permanent category in the NZ ETS.

Option 1A: Remove the land from the NZ ETS immediately.

Once an area of forest no longer complies with the restrictions of the permanent category (e.g. indigenous becomes exotic), it is deregistered and the participant must surrender NZUs. Leaving the category could be very expensive for participants, and mean owners are less likely to register indigenous forests in the permanent category.

Option 1B: Allow the land to remain in the NZ ETS but transition to averaging accounting

This would potentially reduce the cost for the participant but would allow participants to 'escape' their permanence period by converting their indigenous forest to an exotic forest.

Option 1C: Provide a time-period for the participant to become compliant again

Participants could be given a certain number of years to make the forest meet the conditions of the category, and if they do not do this within the timeframe, the forest is removed and NZU surrenders apply. Accounting could also pause over the affected areas in a similar way to temporary adverse event exemptions, where participants could stop earning NZUs until the forest returns to being predominantly indigenous forest. Restoring indigenous forest could be very expensive if it was required at scale, and could mean owners are less likely to register indigenous forests in the permanent category.

Participants who have to clear exotics to restore indigenous forests could also be subject to penalties for clear-felling forest registered in the permanent category. Fines would further increase the cost of and risk for participants in the permanent category.

The next section of this document discusses changes to the penalty regime for the permanent category.

If we remove exotic forests from the permanent activity, what changes should be made to the penalties in the permanent category?

The permanent activity has strong penalties for clear-felling forests, to protect the requirement to leave the forest for 50 years with no 'clear-felling'.²⁹ A participant who clear-fells will be fined equal to the deemed value of the forest which was cleared below 30 percent canopy cover. This is a complex penalty driven by the potential for high returns from clear-felling exotic forests and selling the timber, and was designed to remove any incentive to clear-fell permanent forests.

If exotic species are heavily restricted in the category, we may be able to safeguard the indigenous forest through other mechanisms which are simpler and less severe.

For example, we could make clear-felling a prosecutable offence with a set rate per hectare of clearing, based on approximate returns from indigenous forestry.

We want to know if you think penalties should be reconsidered if exotics are restricted within the category, and if so, what penalty would be more appropriate.

How will exotic forests registered in the PFSI be treated?

The PFSI was one of the Government's sustainable forestry programmes that enabled landowners to receive carbon units through the creation of permanent forests. The PFSI and the NZ ETS was reviewed between 2013 and 2018. In December 2018, the Government announced it would discontinue the PFSI, instead replacing it with the new permanent post-1989 forest activity in the NZ ETS.

Around 3,600 hectares of exotic forest are on PFSI covenanted land, from a total of around 15,500 hectares under PFSI covenant. No new forest land will be added to the PFSI before it is moved into the NZ ETS.

In 2023, PFSI covenant holders will have the option to transfer the forest land in their PFSI covenants into the new permanent post-1989 forestry activity or standard post-1989 forestry subject to averaging accounting. For forest land which transfers to averaging, if the forest land is older than the appropriate average, there will be a surrender obligation for the difference.

We propose to allow the exotic forest in the PFSI to be able to transfer into the permanent post-1989 forestry category, and remain in the NZ ETS, regardless of the wider decisions that result from this paper.

²⁹ Clear-felling is defined in the Climate Change Response (Emissions Trading Reform) Act 2020 as at least one hectare on which trees are cleared or killed by any form of human activity (including felling, harvesting, burning, removal by mechanical means or herbicide spraying with intent to kill), and that after clearing or killing the land has tree crown cover of less than 30 percent in each hectare.

Question – implementing changes to the permanent forest category

Defining ‘indigenous forest’, and managing forests which change over time

If we choose to remove permanent exotic forests from the NZ ETS – we will need to define what counts as an exotic forest.

13. 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?
14. 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?
15. 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?
16. 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?

What changes should be made to the penalties in the permanent category?

17. 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?

Proposed treatment of exotic forest in the PFSI

18. Are you a PFSI consent holder?
19. 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?

10. Averaging accounting for remote and marginal land

From 1 January 2023, a new carbon accounting method – averaging accounting – will be used to determine how and when newly registered production forests in the NZ ETS will earn NZUs. Averaging accounting was introduced to simplify the process of calculating and earning NZUs and encourage afforestation by delivering more low-risk carbon to owners of production forests.³⁰

During consultation on averaging accounting in 2021, stakeholders highlighted that not all forests registered under averaging accounting will be harvested at an age which results in the corresponding average age. Forests on remote and marginal land with high harvesting costs are often left to grow older (and can store more carbon) than the typical harvest age if the costs of harvesting outweigh the revenue from selling the logs.

We have an opportunity to consider changes to how we apply averaging accounting to remote and marginal land. We invite your views on developing and designing a “longer rotation” averaging forest category which recognises *Pinus radiata* grown on remote and marginal land is likely to be harvested later than other production forests, so will probably store more carbon.

What is averaging accounting?

Forests registered under averaging accounting earn NZUs based on the long-term amount of carbon the forest is expected to store on average over many planting and harvesting cycles (rotations).

Under averaging accounting new forests earn NZUs up until the age the forest reaches its expected long-term average carbon stock. The age that the forest reaches its long-term carbon stock is called its ‘average age’.

Averaging accounting sets one average age for each forest type. The average ages, which are set out below, are based on the typical New Zealand harvest age for each forest type.³¹

- *Pinus radiata*: age 16
- Douglas fir: age 26
- Exotic softwoods: age 22
- Exotic hardwoods: age 12
- Indigenous: age 23

After a forest reaches its average age no further transactions of NZUs are required. Forests will not earn or be required to surrender any additional NZUs, provided the forest continues to be replanted after harvesting.

This enables foresters to manage their forests with lower ongoing administrative and transaction costs than the current accounting method (stock change accounting), and provides flexibility for managing these forests in line with changing economic, regulatory, and environmental conditions.

Averaging accounting is replacing the existing stock change accounting method used in the NZ ETS since 2008 for newly registered forests. Stock change provides continuous NZUs for forests as they grow, and requires NZUs to be surrendered if and when the forest is harvested. If the forest is replanted after harvest the forest can again earn NZUs for its growth.

Forests registered on stock change accounting are not currently required to switch to averaging accounting. However, forests registered since 1 January 2019 can switch to averaging (if they choose to do so) once the averaging accounting becomes available on 1 January 2023. Averaging accounting will be only option available for forests registered after 1 January 2023.

We have an opportunity to improve how averaging accounting applies to remote and marginal land

Forests with high harvesting costs are often left to grow older than the typical harvest age if the costs of harvesting outweigh the revenue from selling the logs. These forests tend to be remote, located far from ports or domestic markets, difficult to access, grown on marginal land, or expensive to harvest due to other factors such as slope.

Forests harvested later than usual, are likely to have a higher long term average carbon stock than forests harvested at the typical harvest age.

During consultation in 2021, stakeholders suggested a long rotation category should be created under averaging accounting for *Pinus radiata* forests which are not profitable to harvest at age 28, recognising additional carbon stored by these forests.

³⁰ Because NZUs do not have to be repaid after harvest or species changes, all of the NZUs a forest earns under averaging can be traded at low risk, so long as the forests are replanted after harvest.

³¹ <https://www.mpi.govt.nz/forestry/forestry-in-the-emissions-trading-scheme/averaging-accounting/> The average age for indigenous forest was calculated on the oldest age in the lookup tables – age 50. We anticipate this could be extended in the future as tables are updated.

Māori own a disproportionate amount of remote and marginal land which is typically better suited to long rotation forestry or permanent forestry. Māori stakeholders were particularly concerned about a lack of recognition for the additional carbon stored by long-rotation forests. Approximately 146,000 hectares of Māori land may be eligible to be registered in the NZ ETS which is located over 100km from port and may not be profitable to harvest *Pinus radiata* forests at the typical harvest age of 28.³²

Long rotation forestry increases the quality of timber, creating the potential for higher value uses and may provide an opportunity for land that is marginal for production forestry on a typical rotation length (or land that may be considered for permanent forestry) to be harvested and provide an economic return.

We seek your feedback on whether the Government should develop a long rotation category under averaging accounting for *Pinus radiata* forests to credit additional carbon, which is likely to be stored by those long rotation forests. This includes feedback on any limits that should apply to the category and measures to mitigate risks if the land doesn't become profitable to harvest.

If we introduce a long rotation category under averaging accounting, we will implement this via updated regulations after 2022.

Option 1: Status quo

When averaging accounting becomes available on 1 January 2023, new forests registered in the NZ ETS under averaging accounting and harvested after the forest reaches the average age for the forest type, will receive NZUs up until the forest reaches the average age for the forest type. For example, up to 16 years for all *Pinus radiata* forests.

Option 2: Create a 'long rotation' category under averaging accounting for *Pinus radiata* forest which are not profitable to harvest at the typical harvest age

A long rotation category could be created under averaging accounting for *Pinus radiata* forests which are not profitable to harvest at the typical harvest age of 28.

A long rotation category could assume a harvest age of 40, setting the average age at 21.

It is likely to be easiest to implement a long rotation category which is mandatory for all *Pinus radiata* forests registered under averaging accounting on land where it is not expected to be profitable to harvest *Pinus radiata* at age 28.

Forests in a long rotation category could be harvested before age 40 by surrendering NZUs down to the existing average age of 16. This would require surrendering any additional NZUs earned between age 16-21.

A long rotation category could be applied solely to *Pinus radiata* forests, as this would be the simplest option while retaining benefits for relevant landowners, as *Pinus radiata* is the predominant forest type in New Zealand and other forest types already have higher average harvesting ages (for example, Douglas Fir and exotic softwoods are both credited to an average age of over 22).

Question – long rotation category under averaging accounting

20. Should the Government create a long rotation category under averaging accounting for *Pinus radiata* 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?
21. What do you think the impacts of introducing a long rotation category as proposed would be?
22. 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?
23. What criteria should be in place to restrict the category to *Pinus radiata* forests which are not profitable to harvest at age 28?
24. Do you think a long rotation category aligns with the proposed changes to the permanent activity and supports the Government's wider forestry objectives?
25. 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?

³² Based on the Māori Land Online Database, and the LUCAS Land Use Map (MfE).

11. Biodiverse permanent indigenous forests – update on work

Current rates of indigenous afforestation

The Climate Change Commission recommended that, in general, permanent forests established as carbon sinks should be indigenous species and support biodiversity gains.

To provide a long-term carbon sink beyond 2050, the Commission's assumption was such forests would have long-lived tree species that grow and sequester carbon for hundreds of years. The Commission emphasised the importance of integrated pest control for establishing this biodiverse, carbon sink and maintaining the carbon stock in all new and existing indigenous forests.

Restrictions on exotic forest species in the permanent post-1989 forest category will not necessarily lead to

more permanent biodiverse indigenous forests being established.

Current rates of indigenous forest regeneration and establishment are much lower than the rates envisaged by the Commission. The costs of establishing and maintaining indigenous forests, particularly on marginal land, are high and there are currently limited commercial returns.

Feedback on indigenous afforestation in the ERP consultation

As part of the Government's consultation on its first ERP, we sought feedback on what is needed to make it more economically viable to establish and maintain indigenous forest through planting or regeneration on private land.

Box 6: Feedback on indigenous afforestation in the ERP consultation

Broad support for greater levels of indigenous afforestation:

There was widespread support for establishing new and regenerating existing indigenous forests in Aotearoa. To support this, most submitters said the Government should support or incentivise indigenous tree planting. Some also suggested more technical support for landowners for indigenous tree planting. Indigenous tree planting was recognised by some as an opportunity for re-establishing indigenous flora and fauna and for improving biodiversity outcomes.

Many supported indigenous planting and an exotic-to-indigenous transition. These submitters said the benefits of indigenous forestry included improved biodiversity and longer-term carbon storage. Some of these submitters also highlighted the need for more pest control and other measures and the lack of financial incentive for indigenous tree planting.

Suggested NZ ETS-related changes for indigenous forests

Most submitters said the most important thing is for changes to be made to the NZ ETS to recognise the value of indigenous forests. In particular, the long lead time for indigenous tree sequestration and the benefits of indigenous trees should be better acknowledged, with suggestions that NZ ETS look-up tables and measurement should be updated for indigenous forest species. Others suggested that NZ ETS settings should also be changed to value biodiversity as well as carbon sequestration.

Some submitters suggested removing barriers for private landowners to register in the NZ ETS could also improve the financial competitiveness of permanent indigenous forests.

Many highlighted the risks browsing animals presented to carbon sequestration and storage in forests. Some submitters recommended the Government recognise the importance of browsing animal management to increase or maintain carbon sequestration.

Some also called for the Government to investigate the different issues with the NZ ETS for freehold general title land and Māori land.

A few submitters raised other equity issues with forestry on Māori land, and with ensuring they can gain credit. Submitters raised the importance of ensuring Māori land is not alienated under the NZ ETS.

Next steps

Drawing on consultation feedback provided through the ERP, the Government is progressing work to consider opportunities to overcome barriers and incentivise greater levels of indigenous afforestation (achieved through new planting and land retirement (reversion), as well as management of existing regeneration to speed up succession to forest and increase carbon stocks).

The work will include consideration of the viability of native afforestation and restoration as a long-term sustainable land use, including through potential incentivisation or initiatives impacting the costs of establishing and regenerating native forests.

A broad range of options will be considered over the coming year, these include, but are not limited to:

- **NZ ETS Yield Tables** – considering options relating to methods to ensure that carbon stored in NZ ETS forests is accurately accounted for.
- **Approaches to lowering the costs of native afforestation** – such as through the use of innovation, propagation techniques and the benefits of economies of scale.
- **Provision of advice, best-practice sharing and further research** – including operational, scientific and innovate solutions and improving our understanding of management interventions that provide measurable increases in carbon stock in existing native forests.
- **Barriers to entering indigenous forest into the NZ ETS** – for example, examining eligibility criteria of shrub and scrub land as post-1989 forest land.
- **Understanding workforce barriers** – including the use of both volunteer and professional planting services.
- **System issues** – alignment with wider work on pest management and valuing biodiversity.

Although we are not actively consulting on options for indigenous afforestation incentives as part of this round of consultation, we are interested in your views on how we could better encourage indigenous restoration and afforestation. We therefore welcome further feedback on opportunities to reduce barriers to indigenous afforestation for anyone wishing to provide feedback.

Ongoing feedback we receive will feed into the Government's wider programmes of work to incentivise indigenous afforestation. We anticipate further rounds of consultation and engagement on other aspects of the indigenous afforestation work programme mid-late 2022.

Question – incentivising indigenous afforestation [Optional]

26. Do you have any further feedback on how the Government can reduce barriers and incentivise permanent indigenous afforestation to ensure we deliver long-term resilient, biodiverse forests?

Note: Submitters interested in forest models involving transition of forests from exotic species to indigenous species over time are encouraged to respond to questions 4 to 6 on page 29 relating to whether and how criteria for exceptions to the registration of exotic species in the permanent forest category NZ ETS could be provided.



12. How to have your say

The Government welcomes your feedback on this discussion document. The questions posed throughout this document are summarised on pages 29 and 30. They are a guide only and all comments are welcome. You do not have to answer all the questions.

To ensure your point of view is clearly understood, you should explain your rationale and provide supporting evidence where appropriate.

Timeframes

The proposed timeline for changes to the NZ ETS is:

Milestone/Activity	Timeframe
Public consultation on proposals	March – April 2022
Analysis of submissions and development of final decisions	May – June 2022
Final Cabinet decisions & drafting of amendments	Mid-2022
Parliamentary process	~Q3/Q4 2022

How to make a submission

You can send us your comments in two ways.

- Complete the survey on the MPI website.
- Write your own submission.

We request that you don't post submissions as this can risk the submission not getting to us in a timely manner. However, if you need to, written submissions can also be sent to Managing Exotic Afforestation Consultation, Climate Change Policy, Ministry for Primary Industries, PO Box 2526, Wellington 6140 and include:

- your name or organisation
- your postal address
- your telephone number
- your email address.

If you are emailing your submission, send it to mpi.forestry@mpi.govt.nz as a:

- PDF
- Microsoft Word document (2003 or later version).

Submissions close at 5pm, 22 April 2022.

For more information

Please send any queries to:

Email: mpi.forestry@mpi.govt.nz

Postal: Managing Exotic Afforestation Consultation, Climate Change Policy, Ministry for Primary Industries, PO Box 2526, Wellington 6140

This consultation starts on 14 March 2022 and ends on 22 April 2022.

Following the end of consultation, we will publish a summary and may make all or parts of submissions publicly available on our website. We cannot reply to individual submitters.

Our preferred proposals will see the changes to the CCRA take effect from 1 January 2023.

Publishing and releasing submissions

All or part of any written comments (including names of submitters), may be published on the Ministry for Primary Industries website, mpi.govt.nz.

Unless you clearly specify otherwise in your submission, the Ministry will consider that you have consented to website posting of both your submission and your name.

Contents of submissions may be released to the public under the Official Information Act 1982 following requests to the Ministry for Primary Industries (including via email).

Please advise if you have any objection to the release of any information contained in a submission and, in particular, which part(s) you consider should be withheld, together with the reason(s) for withholding the information. We will take into account all such objections when responding to requests for copies of, and information on, submissions to this document under the Official Information Act.

The Privacy Act 2020 applies certain principles regarding the collection, use and disclosure of information about individuals by various agencies, including the Ministry for Primary Industries. It governs access by individuals to information about themselves held by agencies.

Any personal information you supply to the Ministry in the course of making a submission will be used by the Ministry only in relation to the matters covered by this document. Please clearly indicate in your submission if you do not wish your name to be included in any summary of submissions that the Ministry may publish.

13. Consultation questions

Is this a fair description of the problem?

1. Do you agree with our description of the problem? Why/Why not?
2. Do you have evidence you can share that supports or contradicts this problem definition? Or that demonstrate other problems?

Assessment criteria

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

Designing exceptions (option three)

4. Should we provide for exceptions allowing exotic species to register in the permanent forest category under certain conditions?
5. Are there particular circumstances that you support introducing exceptions for (for example, exceptions for certain species of exotics)? Why?
 - What are the likely impacts, risks and costs of allowing exceptions in these circumstances?
 - 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?
6. 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.)

Options to manage permanent afforestation

7. Of these options, what is your preferred approach? Why? Are there other options you prefer, that we haven't considered?

Timeframes

8. Do you agree with our preferred approach (acting before 1 January 2023)? Why/why not? If not, what is your preference?

Comparing Option 3a (exceptions by secondary legislation) and Option 3b (exceptions after a moratorium)

9. Do you support exceptions by regulations [option 3a] or exceptions after a moratorium [option 3b]? Why?
10. If we choose to introduce exceptions by regulations, what conditions or criteria should be placed on the Minister in choosing to pursue these?

11. If we choose a moratorium (Option 3b) – how long should it be? Why?
12. 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?

Implementing changes to the permanent forest category

13. 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?
14. 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?
15. 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?
16. 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?
17. 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?
18. Are you a PFSI consent holder?
19. 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?

Long rotation category under averaging accounting

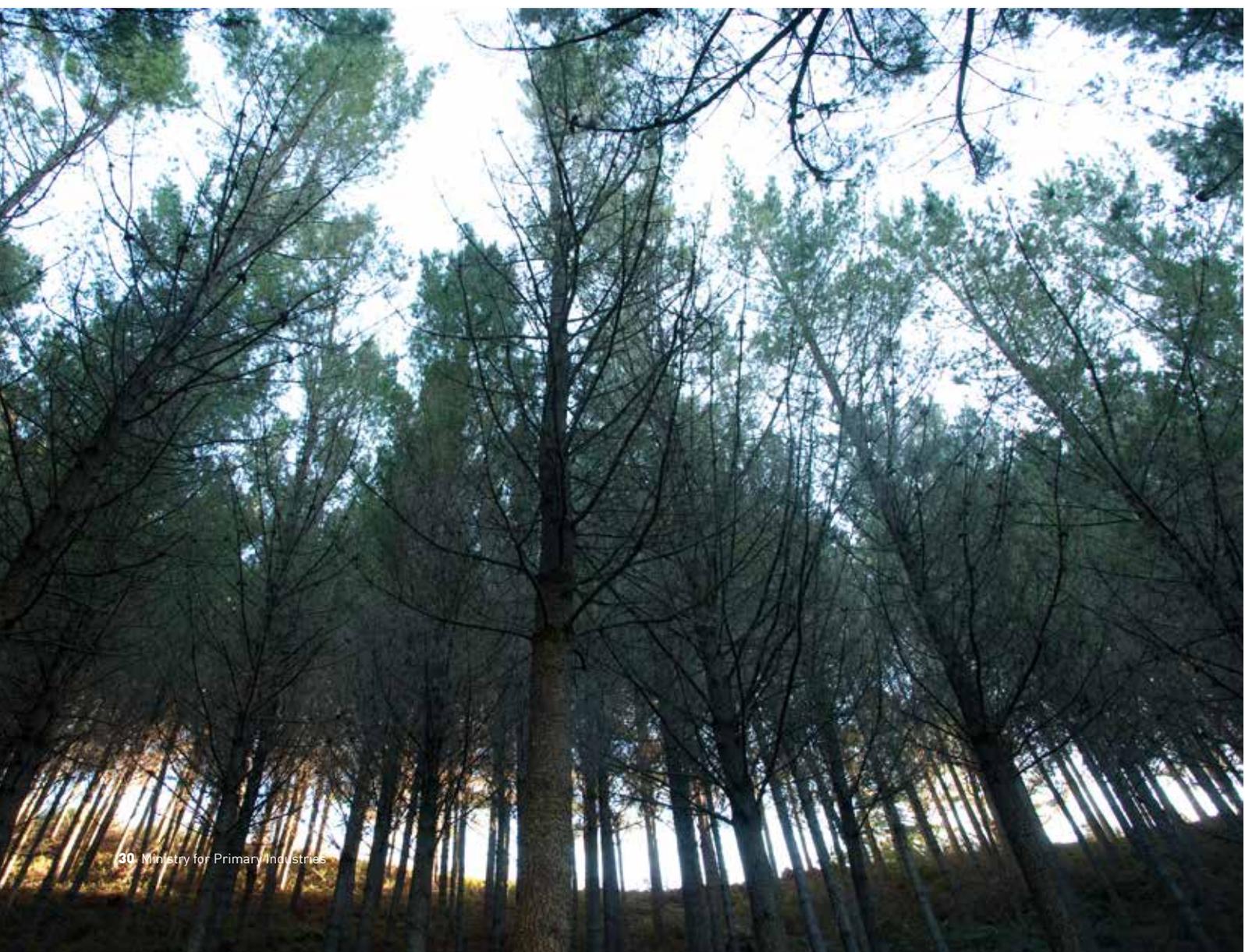
20. Should the Government create a long rotation category under averaging accounting for *Pinus radiata* forests which are not profitable to harvest at age 28, recognising the additional carbon which is likely to be stored by these long rotation forests?
21. What do you think the impacts of introducing a long rotation category as proposed would be?

22. 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?
23. What criteria should be in place to restrict the category to *Pinus radiata* forests which are not profitable to harvest at age 28?
24. Do you think a long rotation category aligns with the proposed changes to the permanent activity and supports the Government's wider forestry objectives?

25. 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?

**Incentivising indigenous afforestation
[Optional]**

26. 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?



14. Glossary

Accounting, accounting rules and accounting approach	In the NZ ETS this refers to the methodology for quantifying the changes in the carbon stored in registered forests from tree growth, and the amount emitted upon events such as clearing (harvesting) and deforestation.
Afforestation	Establishment (either by planting or natural regeneration) of forest on land that did not previously have tree cover.
Averaging accounting	The averaging accounting method reflects the amount of carbon stored in their forest over the long term, with emissions units allocated to participants. Averaging accounting is a new method to account for carbon storage in forests intended to be harvested that are registered in the NZ ETS. Forests will earn NZUs up until the age the forest is expected to reach its long-term average carbon stock over multiple rotations of replanting and harvesting.
Carbon price	The cost of one emissions unit (New Zealand Unit). One emissions unit represents one tonne of carbon dioxide equivalent.
Carbon sequestration	The uptake and long-term storage of carbon dioxide from the atmosphere (for example, in vegetation)
Carbon sink	Natural and artificial processes which take carbon dioxide from the atmosphere and store it are known as 'carbon sinks'. Forests are a good example of a carbon sink, as they take in and store carbon dioxide through the process of photosynthesis.
Carbon stock	The amount of carbon contained within a forest.
Clear-felling	Typical method for harvesting production forests in New Zealand. In the NZ ETS, it is defined as harvesting which drops tree crown cover below 30 percent across a hectare.
Climate Change Response Act 2002	A legal framework to help enable New Zealand to meet its international climate change obligations under various international agreements such as the United Nations Framework Convention on Climate Change and the Kyoto Protocol.
Climate Change Response (Emissions Trading Reform) Amendment Act 2020	A legal framework which introduced significant changes to the forestry provisions in the NZ ETS, including: a) a new carbon accounting approach, called 'averaging' – averaging will replace the current 'stock change' approach for post-1989 forests registered in the NZ ETS from 2023 and will be optional for forests registered from 2019 (intended to reduce the financial risk of NZ ETS participation and to promote better alignment with international accounting); b) a new permanent post-1989 activity for permanent forests which will replace the PFSI (PFSI participants will shift into the ETS unless they elect to de-register, and the PFSI will be dis-established in 2024); c) a new exemption from carbon liabilities for forests partly or fully cleared from a temporary adverse event; and d) a large number of operational and technical improvements to improve efficiency for regulators and the overall NZ ETS experience for participants.
Deforestation	a) Means to convert forest land to land that is not forest land; and b) Includes clearing forest land, where section 179 applies.
Emissions	Greenhouse gases released into the atmosphere from human activity
Emissions Reduction Plan	The Emissions Reduction Plan (ERP) will set out how New Zealand will meet its first emissions budget (2022-2025) and set the path towards meeting our long-term climate targets. It is a key step in the country's transition to a low emissions future.
Exotic forest	A forest in which the main species does not occur naturally in New Zealand.

Forest land	<p>a) Means an area of land of at least one hectare that has, or is likely to have, tree crown cover from forest species of more than 30 percent in each hectare; and</p> <p>b) Includes an area of land that temporarily does not meet the requirements specified in paragraph (a) because of human intervention or natural causes but that is likely to revert to land that meets the requirements specified in paragraph (a); but</p> <p>c) Does not include – i. a shelter belt of forest species, where the tree crown cover has, or is likely to have, an average width of less than 30 metres; or ii. an area of land where the forest species have, or are likely to have, a tree crown cover of an average width of less than 30 metres, unless the area is contiguous with land that meets the requirements specified in paragraph (a) or (b).</p>
Forest type	<p>Forests in the ETS are assigned one of five possible forest ‘types’. The type is used to determine what lookup table or FMA table to use for carbon accounting. The forest types are:</p> <ul style="list-style-type: none"> • <i>Pinus radiata</i> (<i>Pinus radiata</i> is also split into region when a participant uses lookup tables); • Douglas fir; • Exotic softwoods (other than <i>Pinus radiata</i> and Douglas fir); • Exotic hardwoods; and • Indigenous
Harvesting	<p>Harvesting occurs when forest land is cleared and in the future new seedlings are either planted or naturally regenerate. There is no change in land-use; the forest land is considered to be temporarily unstocked. There is a time limit for how long harvested land may be temporarily unstocked before it is deemed deforested.</p>
Indigenous forest	<p>We use the phrase indigenous forest, rather than native forest, in order to align with the terminology the CCRA. In the CCRA, indigenous forest species means a forest species that occurs naturally in New Zealand or has arrived in New Zealand without human assistance.</p>
International climate change targets	<p>New Zealand is committed to international climate change targets as a party to the United Nations Framework Convention on Climate Change and the Kyoto Protocol.</p>
Look-up tables	<p>Tables for default carbon storage used to determine participants’ NZU entitlements and obligations for forests in the NZ ETS where forest areas are less than 100 hectares in area.</p>
Liability	<p>Liability here means the requirement to surrender or repay NZUs under the NZ ETS.</p>
Nationally Determined Contribution (NDC)	<p>How a country states its target under the Paris Agreement on Climate Change. It represents the individually determined contributions each country should make to reduce national greenhouse gas emissions and adapt to the impacts of climate change.</p>
New Zealand Emissions Trading Scheme (NZ ETS)	<p>The NZ ETS is an emissions pricing scheme. This is the key tool used by New Zealand for reducing emissions. Under this scheme, emitters must report and pay for their emissions.</p> <p>The NZ ETS was created through the Climate Change Response Act 2002 (CCRA), passed in recognition of New Zealand’s obligations under Kyoto Protocol.</p>
New Zealand Units (NZUs)	<p>A unit issued by the Registrar of the NZ ETS that can be used to meet obligations by participants of the NZ ETS.</p>
Participant	<p>Here, a person, persons or entity that is registered and:</p> <ul style="list-style-type: none"> • participates in a forestry activity; or • carries out an activity covered by the NZ ETS. <p>A participant must report on emissions (or on carbon captured) and may need to surrender units to cover emissions or may receive an entitlement of units for carbon capture.</p>

Permanent forest	Permanent forests are those not intended to be clear fell-harvested, but may be subject to selective or small coupe harvesting
Permanent forest sink initiative (PFSI)	A scheme to incentivise afforestation established in 2006 under the Forests Act 1949. It enables landowners to receive units for carbon stored in post-1989 permanent forests. It is being discontinued and participants in the PFSI are being transitioned into the Permanent Forest Activity
Permanent post-1989	A new category (activity) in the Climate Change Response Act 2002 (CCRA) which is available from 1 January 2023. Participants who opt to enter the permanent forest category will remain in the NZ ETS for 50 years. Forest land registered in the permanent forest category will earn on the stock change approach, and participants will be unable to clear-fell their forests for 50 years.
Post-1989 forest land	<p>Post-1989 forest land is land which meets the forest land criteria, and includes land which:</p> <ul style="list-style-type: none"> • was not forest land on 31 December 1989; or • was forest land on 31 December 1989 but was deforested between 1 January 1990 and 31 December 2007; or • was pre-1990 forest land that was deforested on or after 1 January 2008, and any ETS liability has been paid.
Pre-1990	<p>Pre-1990 forest land is land which:</p> <ul style="list-style-type: none"> • was forest land on 31 December 1989; remained as forest land on 31 December 2007; and • contained predominantly exotic forest species on 31 December 2007. <p>Land that was indigenous forest land on 31 December 1989, and remained so on 31 December 2007, is not pre-1990 forest land and is not subject to ETS obligations.</p>
Register	In this context; enter an area of eligible forest land into the NZ ETS.
Rotation	The cycle of growth and felling or cutting of trees.
Stock change accounting	Where the participant accounts for the net carbon stock change in the forest.
Surrender	Surrender means the transfer of one or more units to the Crown surrender account in the Register to meet an emissions obligation.
Temporary adverse event	Adverse events which do not directly result in long term or permanent deforestation

