Appendix Two: Impact Summary for the ETS Forestry Package 2018

Purpose

This analysis and advice has been produced for the purpose of informing decisions to be taken by Cabinet, the Minister of Forestry and the Minister for Climate Change to consult on proposals for:

- changes to the New Zealand Emissions Trading Scheme (ETS) for forestry participants
- consulting on options for recognising emissions stored in Harvested Wood Products in New Zealand (to align with the climate mitigation we claim at the international level).

A Regulatory Impact Assessment (RIA) will be provided to support a paper introducing final policy decisions to Cabinet by the end of 2018.

Problem definition

The ETS is the mechanism New Zealand uses to reduce our domestic greenhouse gas emissions and help us to achieve climate change targets. The ETS provides recognition for carbon dioxide equivalent stored in trees. Forestry participants who register forests established after 1989 into the scheme are allocated emissions units (New Zealand Units or NZUs) for their forest growth. If the participants have registered plantation forests, some of these emissions units must be repaid and re-earned at each harvest and re-planting (harvest liabilities). These emissions units can be traded on the carbon market and deliver a financial return that makes planting forests more attractive.

Forestry is strongly placed to minimise any trade-offs between reducing emissions and growing New Zealand's economic prosperity: the more afforestation, the lower New Zealand's net emissions and the higher the potential economic return from forestry.

A number of barriers to the effectiveness of the ETS for forestry participants was identified by a review of the ETS that ended in 2017. These barriers reduce the ability of the ETS to sufficiently incentivise the volume and pace of new forest planting that New Zealand needs to meet our climate change targets. They include:

- The extent of liabilities at harvest under ETS forestry accounting settings act as a barrier to ETS participation, which in turn limits the ability of the scheme to encourage new planting
- Regulatory complexity and lack of flexibility undermines the ability of forestry ETS participants to comply with the rules and makes the scheme costly to administer. It can also discourage ETS participation (and new planting), forest preservation, and management practices to increase carbon stored in forests.
- Misalignment between international accounting rules (used to determine the contribution NZ forests make to climate change targets) and the ETS forestry accounting approach (used for NZU allocations and surrenders) may undermine the ability of the ETS to drive mitigation in line with climate change targets.

Objectives and criteria

The objectives of this package of proposed changes align with the objectives used for the New Zealand Emissions Trading Scheme review. We have assessed all the options against their ability to:

- improve ETS permanent and rotational forest incentives
- improve the ability of the ETS to support New Zealand to effectively meet our climate change targets
- improve the ETS operations (including increased efficiency and effectiveness)
- be consistent with NZ's broader climate change programme.

The criteria we have used is captured in the following table:

Objectives	Improve ETS (rotational and permanent forest) incentives	Improve the ability of the ETS to effectively meet climate change targets	Improve the ETS operations	Consistent with New Zealand's broader climate change programme
Criteria	Promotes afforestation of both rotational and non-harvested forests	Minimises fiscal cost to the Crown from meeting climate change targets	Improves administrative efficiency	Provides durable regulatory certainty and predictability
	Encourages forest preservation (discourages deforestation)	Supports alignment between NZ ETS unit supply and how NZ will meet its climate change targets	Reduces complexity and cost for participants	Reflects the Crown's responsibilities as a Treaty partner
	Encourages extra carbon storage in forests	Appropriately allocates risk, and burden sharing between the Crown, ETS participants, sectors and groups	Reduces administrative cost to the Crown	Supports economic growth and social resilience
			Promotes accuracy in reporting by participants	Supports international reputation
			Supports ability to identify and manage non-compliance	Maintains integrity of wider ETS settings
				Avoids perverse incentives and unintended consequences

Analysis

Scope and purpose

The RIA primarily considers regulatory options relevant to problems associated with the forestry regulatory settings in the ETS (https://www.mpi.govt.nz/dmsdocument/30257). We are consulting on these proposals in August-September 2018 and will revise our analysis in response to the feedback received.

Approach to analysis

This impact summary provides detailed analysis of the costs and benefits of each of the proposals in the Climate Change Forestry Package. The Ministry for Primary Industries has a high level of confidence in the evidence used and the amount of consultation that is planned to support final analysis on these proposals.

The impact analysis is supported by modelling (of ETS forestry emissions unit allocations and surrenders and to determine forestry's likely contribution to New Zealand's international climate change targets). A detail description of the model used, assumptions and research completed is contained within Appendix 1 of the ETS forestry accounting RIA. Major assumptions include national estimates of ETS uptake, future afforestation, species composition, deforestation ages and rates, harvesting ages and rate, surrenders, average age, growth rates, compliance and withdrawals. ETS

participants also have the option of submitting “netted returns”, where surrenders are netted against entitlement[1]. For this reason the ETS unit flow costings have been provided on a net basis.

Additional modelling and analysis will be required once consultation has finished to quantify the impact on particular participants and transition options. This will be informed by consultation indications of likely uptake of the options i.e. number of participants who are likely to choose to remain on the current accounting carbon stock change approach or move to averaging. Additional analysis and/or research is also required to better quantify the costs to the Crown and wider economic and environmental impacts of a number of the options (particularly the post-1989 offsetting, temporary adverse events and HWP proposals).

[1] One of the ETS forestry operational improvement options also suggests making ‘net emissions returns’ mandatory.

Options and Impact Analysis for the "Averaging Accounting" Proposals:

Issue/ opportunity	Options	Advantages	Disadvantages
1. Should everyone that registers "new forests" in the ETS use averaging accounting?	**1.1 Recommended:** People who register "new forests" in the ETS are required to use averaging accounting.	• Removing liabilities at harvest would reduce financial risk which can act as a barrier to participation • Will align the NZ ETS accounting rules with international accounting rules (in effect from 2021 onwards) • Would increase afforestation incentives, which will contribute to climate change targets • Simpler accounting approach for ETS participants to use • Simpler for departments to administer in the long term	• Short term administrative complexity and costs to set up new systems • Ongoing complexity and equity issues could also be created if "existing forests" are required or able to use the current "*carbon stock change"* accounting approach (option 2.1 below) (results in the creation of two classes of forest). - *"carbon stock change" accounting* = allocates emissions units for forest growth, requires repayment of units at harvest and then re-allocates following replanting
	Status Quo - Not Recommended: Anyone who registers forests in the ETS is required to use carbon stock change accounting.	• No additional short term administration costs for officials • Would provide certainty for future land buyers and existing NZ ETS forestry participants wanting to plant new forests	• Would not address issues with the status quo as identified in the NZ ETS review • Would not further incentivise participation in the NZ ETS or afforestation and consequently would not increase forestry emissions reductions • May limit ability of NZ ETS to effectively help NZ reach future climate change targets • Would fail to address the issue of long term fiscal risk to the Crown and reduced ability for NZ to meet climate change targets (as a result of misalignment between internal and ETS accounting approaches).
	1.2. Not recommended: Enable anyone who registers newly established forests in the ETS to use either averaging or carbon stock change accounting.	• Could be viewed as more equitable, as would give NZ ETS participants a choice of accounting approach • Would allow existing participants to have all their forests on the same accounting approach if they wanted to establish new forests	• It would not adequately address issues with the status quo as identified in the NZ ETS review • Would increase the complexity of the NZ ETS as it would require the introduction and management of two new classes of forest in perpetuity. This complexity would be compounded if not all existing forests were required to use averaging. • Having two classes in perpetuity that participants can pick from could lead to gaming opportunities • Can cause uncertainty and confusion for future land buyers • Would fail to address the issue of long term fiscal risk to the Crown and reduced ability for NZ to meet climate change targets (as a result of misalignment between internal and ETS accounting approaches).

In the case that all ETS forestry participants with newly established forests would be required to use averaging accounting (option 1.1), we have assessed the accounting approach options for existing forests (established after 1989):

Issue/ opportunity	Options	Advantages	Disadvantages
2. ETS accounting options for post-1989 existing forests (assumes all new forests use averaging accounting)	**2.1.** ETS participants are required to continue using carbon stock change" accounting for their post-1989 existing forests.	• Short term net fiscal revenue for the Crown from harvest liabilities • Short term regulatory certainty and consistency • Maintains accounting method existing participants formed expectations and business plans under	• Long term net cost for the Crown • Misalignment between international and NZ ETS accounting in perpetuity • High administrative effort in perpetuity as two systems will be maintained • Participants could be prevented from moving to a simpler/less risky accounting method (averaging)
	2.2. ETS participants are required to use averaging accounting for their post-1989 existing forests.	• Long term reduced fiscal risk for the Crown • Would align NZ ETS and international accounting rules from 2021 onwards • In the long term would better align forestry NZU allocations and repayment with climate change targets • Long term would be a simpler system for MPI to administer and participants to use • Provides long term regulatory certainty • Participants will have additional NZUs which they can trade at low risk (will not have to surrender at harvest)	• Potential significant disruption for those that have based a business plan on continued use of the carbon stock change approach • Short term net fiscal cost to the Crown • Impact on overall NZ ETS unit supply in 2020s as would 'free up' NZUs that would have otherwise been surrendered at harvest • Some participants will have to pay NZUs to the Crown to transition before harvesting • MPI will need additional budget and resources for the transition • Short term regulatory disruption
	2.3. ETS participants have a one-off one-way choice to use averaging or carbon stock change accounting for their post-1989 existing forests.	• Long term reduced fiscal risk to the Crown • Would increase alignment between NZ ETS and international accounting rules from 2021 onwards • Enables forest owners to choose the approach that best suits them • Doesn't disrupt business plan or conflict with property rights for participants wishing to stay on carbon stock change accounting • One-off, one-way design can prevent gaming or 'cherry picking'	• Uncertain fiscal cost to the Crown in the short term • Slightly more administrative complexity than option 2.2. due to participants having a choice • Impact on overall NZ ETS unit supply in 2020s as would 'free up' NZUs that would have otherwise been surrendered at harvest, although less than 2.2. • High administrative effort in perpetuity as there will be two systems to manage • Will maintain some misalignment between NZ ETS and international accounting approaches • Te Uru Rākau will need additional budget and assistance for the transition

In the case that averaging is available for existing forests established after 1989 (options 2.2 or 2.3 above), we have assessed options for a transition:

Issue/ opportunity	Options	Advantages	Disadvantages
3. ETS Averaging accounting transition options for post-1989 existing forests	**3.1.** Participants with post-1989 existing forests are required to transition to averaging at the mandatory emissions return period (MERP) following legislation passing/systems being built. a. All forests on their first rotation that are below the average will continue to earn units until they reach the average age b. All forests that have earned above the average on their first rotation will surrender units down to the average c. All the forests on the second rotation will i. All second rotation forests will cease earning units at the transition	• Transition would occur at a time that will provide certainty about participants' total carbon stocks as these are calculated at each MERP • Would provide high level of certainty about entitlements and obligations that may exist • Would reduce confusion and cost for participants and potential forest land buyers • Would minimise disruption for MPI and existing ETS participants • Would prevent existing participants from continuing to earn units which they may have to pay back to the Crown following a switch from carbon stock change to averaging	• Will bring forward the harvest repayment obligation for some existing ETS participants which could cause financial stress • Delays payment of NZUs to the Crown - The severity of this will depend on the options discussed below in issue 4
	3.2. Allowance to earn NZUs on the second rotation	• Could be attractive to owners with existing forests not currently registered in the NZ ETS • Would reduce the gap in total units that could be earned between existing forests planted prior to 2008 and new forests	• Large fiscal cost for no expected increased incentive for participants to store carbon • Would result in payments falling across different target periods, potentially affecting accounting towards targets for multiple commitment periods • Would significantly increase the cost to the Crown in the short and long term • Would result in a long, drawn out, administratively costly transition

In the case that existing forests above the average are required to repay some units as part of the transition, we have assessed options for how a slower repayment opportunity might be implemented:

Issue/ opportunity	Options	Advantages	Disadvantages
4. Slower emissions units (NZU) repayment options for post-1989 existing forests	**4.1.** People transitioning their post-1989 existing forests to averaging accounting can surrender NZUs to the Crown at the transition MERP and the next MERP (preferred if averaging accounting is optional for existing forests).	• Would reduce financial pressure as gives participants more time (than having no slower repayment option) to plan for the transition and adjust their business plans • NZUs would be surrendered before 2030 climate change target which mitigates fiscal and unit supply risk • Limits length and difficulty of transition • Simpler to administer than other potential slower repayment options	• Longer time period where NZU allocations and surrenders are misaligned with international rules, compared to requiring participants to repay NZUs at the end of the transition mandatory emissions return period (MERP) • Extra administrative effort compared with no slower NZU repayment option • Less certainty about when NZUs will be surrendered (compared to no slower repayment option) – makes it more difficult to adjust wider ETS settings
	4.2. Same as 4.1. but can also apply for a further NZU repayment extension (preferred if averaging accounting is required for existing forests).	• Would reduce financial pressure as gives participants more time (than no slower repayment option and option 4.1) to plan for the transition and adjust their business plans • Limits length and difficulty of transition • Simpler to administer than option 4.4	• Increases time period where NZU allocations and surrenders are misaligned with international rules • Could allow some NZUs to be repaid after 2030 which could unpredictably affect unit flows in the ETS post 2030 • Increase length and difficulty of transition for Te Uru Rākau and participants compared to option 4.1 • Will require additional administrative effort • Less certainty about when NZUs will be surrendered (compared to no slower repayment option and option 4.1) – makes it more difficult to adjust wider ETS settings
	4.3. Not recommended: Compensation for post-1989 existing participants required to repay NZUs	• Would reduce financial pressure as gives participants more time to plan for the transition and adjust their business plans • More flexibility than option 4.2. • Most repayment will occur within the 2030 target period	• Large fiscal cost to the Crown – transfer of cost and risk from ETS participants to the Crown • Some ETS forestry participants will receive a windfall that participants will not have had access to
	4.4. Not recommended: All ETS participants transitioning their post-1989 existing forests to averaging can surrender NZUs when harvest/clear their forests	• Lower the risk of impacts to property rights compared to the other options • Would enable ETS forestry participants above the average to use earnings from timber sales to cover repayment obligations	• Would extend the length of time when there is misalignment between international and ETS accounting approaches • NZUs would be repaid over long time period, including after 2030 (the next climate change target period). This uncertainty will make it more difficult than the other options to determine wider ETS settings. • Would require significant operational effort and ongoing compliance costs

In the case that averaging accounting is introduced at least for 'newly established' forests, key design and implementation issues are assessed below:

Issue/ opportunity	Options	Advantages	Disadvantages
5. How should a 'newly established' forest be defined under averaging?	**5.1. Recommended:** All forests established after averaging legislation is passed are "new forests" (preferred if averaging accounting is optional for existing forests).	• Short term impact on planting is unlikely to affect long term afforestation targets • Minimal impact on administration as participants already have to provide establishment dates • Certainty in regulatory rules that will apply from that date onwards • Gives existing forest owners time to adjust their business plans	• Participants might delay planting to ensure their forest is considered "new" • Delay in planting could hinder emissions reductions in the short term • Could disadvantage any participants planting in 2018 or 2019 that would prefer to use averaging
	5.2. All "new forests" included in a transition MERP could use averaging accounting (preferred if can fit in with proposed "mini-MERP").	• Short term impact on planting is unlikely to affect long term afforestation targets • Gives existing forest owners time to adjust their business plans • Gives more certainty to participants as the dates will be more certain than a legislation or decision date	• Participants might delay planting to ensure their forest is considered "new" • Delay in planting could hinder emissions reductions in the short term • Can only implement if can align with the "mini MERP" proposal
	5.3. Not recommended All forests established after Cabinet makes in principle decisions are "new forests".	• Prevents delay in planting in order to use averaging • Ensures business as usual forestry emissions removals • Minimal impact on administration as participants already have to provide establishment dates	• Could disrupt business plans of participants wishing to have all of their forests on carbon stock change • Short term disruption to participants is possible as this would apply the change almost immediately after the decisions are made • Possible regulatory uncertainty as decisions will not be set in legislation yet • Date set prior to legislative process has no power to bind process, so it would still be susceptible to change

Issue/ opportunity	Options	Advantages	Disadvantages
6. Calculating the long term average carbon stock in forests.	**6.1. Recommended:** Current forest carbon calculation approach and ability to make regulation changes: • Participants with forests less than 100ha use default tables; and • Participants with forests over 100ha in area use a participant specific approach	• The default table approach for forests less than 100ha reflects the greater need to reduce complexity and compliance costs for small ETS participants • The participant specific approach for forests greater than 100ha retains accuracy needed for larger forest owners to maximise their returns (and incentive to sequester carbon through forest management processes)	• The default tables may not provide an accurate measurement of carbon stored, and does not provide reward for management practices that result in increased carbon storage • Participant specific measurements (through using the field management approach FMA) are expensive and complex to administer
	6.2. Not recommended: Any change to the current carbon calculation approach prior to implementation of averaging (including only using a participant specific approach or only using default tables).	• If allowed participants to choose their approach: - Would provide financial incentive for participants to manage their forests to sequester more carbon • If required all participants to use a default table: - It would greatly simplify administration and reduce compliance costs - Could reduce fiscal risk to the Crown as discrepancies between default tables and the tables used in New Zealand international carbon accounting would be known	• If allowed participants to choose their approach: - Presents a significant fiscal risk to the Crown, as forest owners with poorer quality forests could use the default tables and over-claim NZU entitlements - Would increase the administrative burden for MPI and could result in small forests choosing the FMA approach when it is uneconomic to do so • If required all participants to use a default table: - Some participants will likely receive more units than their forest actually sequesters which can undermine the incentive for ETS participants to better manage their forests to sequester additional carbon - Could pose international integrity concerns - Could introduce fiscal risks/benefit to the Crown of overpayment/underpayment into the ETS if the default table is set higher/lower than the actual average yield for the region

Issue/ opportunity	Options	Advantages	Disadvantages
7. Converting a forest's long term average carbon stock into a "long term average carbon stock age"	**7.1.** An ETS participant's forest's long term average carbon stock age is a default age based on forest type.	• The greater simplicity, lower compliance costs and greater harvest age flexibility, compared with option 7.2, may encourage greater ETS participation (and therefore afforestation) • Simpler for Te Uru Rākau to administer compared to the status quo because once a forest reaches its average, it no longer needs intensive compliance monitoring. • Reduces compliance costs for participants • Simple methodology for ETS participants to understand	• Does not provide incentives to increase carbon storage through forest rotation length • Significant fiscal risk as it reduces the ability for the Government to differentiate payments of NZUs for forests that store different levels of carbon due to differences in management • Creates potential for inaccurate allocation of units - by rewarding all participants with a certain species with the same average age, significant differences between a participant's activity and the number of units they receive could occur.
	7.2. An ETS participant's forest's long term average carbon stock age is set by age bands based on forest type and rotation length.	• Could incentivise foresters to sequester extra carbon by extending the rotation length of their forests and dis-incentivise foresters shortening their rotation length • Allows the market price to provide incentives to maximise the carbon storage on land, and weigh up the relative costs and benefits of establishing new land vs. increasing carbon storage on existing forest land	• Additional complexity, higher compliance costs and reduced harvest age flexibility, (compared with option 7.1) could discourage ETS participation • Slightly increases fiscal risk, as it is less precise for measuring changes to carbon stocks than carbon stock change (status quo) • Uncertain fiscal impact of accounting for deviations from typical timber production rotation length • Compared with option 7.1, may create additional non-compliance risks and compliance costs for registered Māori land due to the more frequent changes in trustees and the reporting required associated with these changes. • Potential flow on impacts for processing industry/wood supply as forest owners may choose longer rotations (or choose not to harvest at all) at time of high carbon prices • Potential to effectively 'lock in' participants to a specific rotation length, as if they reduce that rotation length they will be required to repay NZUs to the Crown
	7.3. Not recommended: Require ETS forestry participants using averaging accounting to use default tables based on the annual carbon stock increment (i.e. 10% of mean annual increment)	• Could prevent gaming • Would make the system much simpler	• Significant complexity in having different average ages for different forests • Would undermine the use of the participant specific measured Field Management Approach (FMA), in that sequestration is essentially capped at an upper and lower bound around the average.

Issue/ opportunity	Options	Advantages	Disadvantages
8. How should a change to the long term average carbon stock age in regulations apply to existing ETS participants?	**8.1. Recommended:** ETS participants who have forests above the average carbon stock age will not be required to surrender, or able to earn more NZUs, due to a change in the regulations.	• Crown can gain revenue from potentially under allocating NZUs • Would be consistent with the general approach for forests that have passed their average crediting age - lower reporting and compliance requirements. • Maintains market confidence and certainty about what NZU obligation or entitlement ETS forestry participants are likely to have.	• Some fiscal risk for the Crown if allocating NZUs based on an overly generous national average (average carbon stock ages could be set slightly conservatively if needed).
	8.2. ETS forestry participants using averaging accounting will repay or earn NZUs due to changes in the long term average carbon stock age set in regulations.	• Would reduce Crown fiscal risk by giving the ability to re-coup units in the case of over-payment • Would allow all participants to benefit from increased accuracy of measurement – on average they will be allocated NZUs for their actual contribution to climate change targets	• Significant increase in administrative and participant compliance effort as requires consistent ongoing monitoring and measurement • On-going financial risk for participants whose forest has reached the average – could lead to decrease in afforestation incentives and possibly banking of NZUs • Risks non-compliance
	8.3. ETS participants will earn up to the long term average carbon stock age set in regulations when they register.	• Will increase investment certainty (volume of NZUs provided to ETS participants will remain unchanged) • Investment certainty could increase ETS participation, but some investors may prefer changes to national conditions to be reflected.	• The Crown would take on significant fiscal risk, as changes to the long term average carbon stock age will only apply to forests planted after the regulatory change - creating an at least 18-20 year lag between changes to national trends and fiscal impact. • Different ETS participants will have different allocations of NZUs based on planting year which will need to be tracked indefinitely. • Could undermine ability to provide reporting process improvements. • Reduced accuracy/link to carbon storage and emissions would undermine environmental integrity
	8.4. Not recommended: Any options where the average is not set in regulations	• Gives participants greater confidence that the average age will not change	• Would not allow the Crown to respond to changes in forestry participant behaviour in a timely manner

Issue/ opportunity	Options	Advantages	Disadvantages
9. Ongoing reporting	**9.1.** ETS forestry participants only have reporting requirements each MERP until their forest reaches its long term average carbon stock age and upon deforestation	• Is a simple approach that removes on-going compliance costs for ETS participants and administrative cost for the MPI	• Does not provide any ongoing incentive for maintaining/improving forest management • Reduces Crown ability to influence and control forest management and therefore will expose Crown to fiscal risks. Significant risk in the case of participants changing species. • Does not require ownership changes to be reported after the average has been reached – creates difficulty in tracking down owners for NZU repayment upon deforestation
	9.2. ETS forestry participants have reporting requirements each MERP until their forest reaches its long term average carbon stock age, then lighter reporting requirements until deforestation (preferred).	• Unlikely to significantly alter forest management decisions as required to report major changes and have detailed reporting up until earn all NZUs • Retains an incentive to continue with stated forest management practices • No large change in fiscal risk as compared to status quo	• Marginal increased risk as participants will be able to change their behaviour within thresholds without triggering a repayment obligation • Places some degree of ongoing reporting burden on ETS participants (and Te Uru Rākau monitoring) in perpetuity, but less than the status quo • Current low compliance with reporting changes in ownership would need to be addressed for the declaration process to be effective. • Reporting ownership changes in a timely manner can be difficult for some registered Māori land, and there can be frequent changes due to required use of a trust business structure
	9.3. Not recommended: ETS forestry participants are only required to comply with detailed reporting requirements when they deforest	• Simple approach that removes any on-going compliance and administration costs	• Very financially risky for the Crown as it does not enable tracking of the possible change in carbon stock over the life of the forest • Could encourage gaming behaviour – participants could extend their first rotation length to gain maximum NZUs and then reduce the rotation lengths thereafter
10. How far back can an ETS participant claim emissions units on entry into averaging?	**10.1. Recommended:** Status Quo: An ETS participant can only claim NZUs from the beginning of the latest Mandatory Emissions Return Period.	• Limits fiscal risk to the Crown • Retains the current relatively simple and well understood crediting rules • Prevents creating a precedent of rewarding ETS participants for registering their forests in the ETS after they have been planted	• Existing forest owners who have established forests after 1989 that are on their second harvest would receive less NZUs if they are required to move to averaging (as they would lose the ability to earn NZUs on their second rotation)
	10.2. Not recommended: An ETS participant can claim NZUs back to 2008 or establishment of their forest.	• Would allow a more equitable transition to averaging for existing participants	• Will significantly increase fiscal cost and ongoing risk for the Crown and administrative effort for MPI for no gain in carbon storage activity • Would in effect reward ETS participants for registering their forests in the ETS after they have been planted. Under both accounting methods this undermines the financial returns that can be gained through the ETS mechanism [and provides windfall gains for already planted forests].

Three complimentary proposals were considered to be introduced alongside averaging, with the similar aim of improving the NZ ETS and encouraging afforestation:

Issue/ opportunity	Options	Advantages	Disadvantages
11. Should the Government provide the international harvested wood products (HWP) accounting value to the domestic forestry sector?	**11.1.** The HWP accounting value will be reflected in averaging accounting on as emissions units to ETS participants.	• Greater number of 'low risk' (don't have to be repaid at harvest) NZUs allocated to ETS forestry participants which will incentivise ETS participation and afforestation • Greater alignment between the NZ ETS and the international accounting approaches – will help to drive the right level of emissions reductions needed to meet NZ's climate change targets • The NZUs passed on will have a deforestation liability attached to them therefore reducing Crowns exposure to deforestation liabilities • Will make transitioning to average more attractive (if available for existing forests) • Could increase production of longer lived wood products through an increase in afforestation • Easy for MPI to administer • Regulatory certainty as can be relied on to be administered through the ETS until at least 2030	• Would not directly provide incentive for the forestry sector to produce more longer-lived wood products • Would reduce the buffer available to the Crown to mitigate fiscal risk associated with any unexpected drops in NZ carbon sequestration • The Crown's ETS unit allocation expense could increase for new forests • Short term fiscal cost of transitioning existing forests to averaging (option 2.2)
	11.2. An "industry good" research and development fund will be established to encourage development of longer lived harvested wood products.	• Could increase development of longer lived wood products, which would increase forestry emission removals NZ is recognised for • An unclear level of new planting could occur in response to increased demand for logs from the processing sector • Could increase the productive capacity of New Zealand's plantation estate • If the fund does incentivise additional development of longer lived harvested wood products this would increase the international HWP value available to the Crown	• Assigning HWP value to a fund would not better align the NZ ETS and international accounting approaches • Could expose the Crown to fiscal risk in the case of deforestation • Extra effort and cost to set up an industry good research and development fund • Using a non-market intervention, such as a fund, to drive changes in behaviour could result in unintended market consequences for the timber industry and other emitting sectors

	11.3. Not recommended: The HWP accounting value will be reflected as emissions units to ETS forestry participants using the "carbon stock change" accounting approach.	• Would reduce the harvsesting liabilities for existing foresters	• Would create a significant misalignment between what the Crown will face internationally and how carbon is accounted for in the NZ ETS • Could increase NZ's costs of meeting its international climate change targets and discourage participants from using the more closely aligned 'averaging' approach • Projections show this option would increase the fiscal cost of accounting for existing forests by 56 million units between 2021 and 2030 (this compares to a cost of moving all existing forests to averaging of 37 million units), while providing no additional sequestration from forests • Increase the complication already faced by emissions returns

Issue/ opportunity	**Options**	**Advantages**	**Disadvantages**
12. Should ETS participants with post-1989 forests be liable for temporary adverse event emissions?	**12.1. Recommended:** No temporary adverse event liability for post-1989 ETS participants using averaging accounting – pause and begin earning NZUs again once reach carbon stock at time of event.	• De-risks entry into ETS forestry • This is expected to increase ETS participation and afforestation • The "pause" and re-earn element incentivises forest owners to quickly re-plant their forests • Reduces financial distress and could make using averaging accounting more attractive • Small scale temporary adverse events are relatively common, but do not have a major impact on the Crowns accounts. The Crown has an option to account differently for major adverse events that would have a significant impact on the NDC • The Crown would be allocating NZUs to ETS participants which are able to be backed by international accounting sequestration	• Increases the fiscal risk taken on by the Crown – causes a minor temporary decrease in the reference level accounting for the national forest estate • Would add additional complexity to carbon accounting operations
	12.2. Not Recommended: No temporary adverse event liability for post-1989 ETS participants using averaging accounting - keep earning NZUs.	• Provides additional financial support as participants can use the NZUs received to help cover the cost of replanting/re-establishing	• Could undermine the replanting incentive for ETS participants, as they receive NZUs regardless of whether or not they replant/re-establish their forest to the required age • Crown would be allocating NZUs to ETS participants which are not backed by international accounting sequestration • The fiscal risk is slightly elevated over option 12.1, as continued payments of NZUs would leave the Crown more exposed to adverse events

Issue/ opportunity	Options	Advantages	Disadvantages
13. Should post-1989 forest owners be able to use planting to offset deforestation emissions?	**13.1. Recommended:** Enable ETS participants with post-1989 forests that use averaging accounting to use offset planting.	• Increases land use flexibility • Makes it easier to retain forest cover when changing land use • Could help to de-risk forestry as an investment opportunity, particularly under averaging (therefore increase ETS participation and afforestation) • In many cases it is more economically efficient for to offset rather than deforest and plant again • Decrease fiscal risk caused by deforestation emissions under international accounting for situations where the Crowns exposure to deforestation is greater than the participants • Could benefit the NZ economy as could increase demand for forest land and increase forest land prices, and potentially increase competition for land with new planting • Could benefit regional and Māori development as diversified land use, and reduced barriers to optimised land use are important drivers • Would assist people to make good environmental decisions (i.e. give more flexibility to plant the right tree in the right place for the right purpose)	• Will reduce fiscal income for the Crown (as less deforestation repayments) • Could be subject to fiscal risk and environmental integrity concerns if extended to forests established after 1989 which are not plantations, or which are below their average, as these categories of forest are not covered by the corresponding international accounting rule

Options and Impact Analysis for the Permanent Forests proposal:

Issue/ opportunity	Options	Advantages	Disadvantages
What policy tool will be used to reward permanent forests with carbon credits?	**1.** Status Quo Keep the Permanent Forest Sink Initiative (PFSI) as the primary mechanism for permanent forests to earn units	• Simplify the long-term crediting of permanent exotic forest compared to option 3.	• The use of covenants will remain a barrier to forest owners accessing the permanent forest option. • For the forest owners to benefit from any improvements to carbon forestry delivered via the ETS (e.g. the adverse events proposal in the accounting section).
	2. Retain and improve the PFSI	• Simplify the long-term crediting of permanent exotic forest compared to option 3.	• This would keep the covenant (at the individual forest level) as the means to define eligible land in the PFSI, and also the means to define how the land receives units. • Is more challenging for forest owners to benefit from any improvements to carbon forestry delivered via the ETS (e.g. the adverse events proposal in the accounting section)
	3. Discontinue the PFSI (leaving post-1989 forest as the only option to earn units)	• Brings carbon forestry into one legislative tool. • Will automatically apply any improvements to carbon forestry delivered via the ETS (e.g. the adverse events proposal in the accounting section)	• Will be required to transition existing PFSI participants into the ETS, on potentially worse outcomes • Makes it harder to recognise the carbon credits from permanent forests as different from other forests. • Adds significant complexity to post-1989 forest accounting as permanent and rotational forests may be mixed together in registered forests. • To differentiate permanent forest in post-1989 forest, it will predetermine the outcomes from several account design decisions to a more complex option.
	4. (Preferred) Establish a new permanent post-1989 forest activity in ETS and discontinue the PFSI	• Brings carbon forestry into one legislative tool. • Will automatically apply improvements to carbon forestry delivered via the ETS (e.g. the adverse events proposal in the accounting section) • Enable tracing of units from permanent forests, and allow these unites to be marketed as higher • Simplify the long-term crediting of permanent exotic forest compared to option 3. • Means forests are less affected by decisions around new and existing forests that apply to averaging.	• We will be required to consider how to transition existing PFSI participants into the permanent post-1989 activity in the ETS.

Issue/ opportunity	Options	Advantages	Disadvantages
A: Use of Covenant under Climate Change Regulations Act 2002 (CCRA) and its regulations	**A1.** (Preferred) CCRA and no covenant	• Significantly simpler • Substantively reduces administrative complexity and cost	• Some stakeholders value covenants.
	A2. Optional covenants	• A simplified covenant may reduce barrier to entry	• A covenant is still a barrier for land owners to enter the scheme • Still requires agreement at the individual land owner level • Adds administrative complexity and cost for land owners and the Crown.
	A3. Simplified covenants	• Only those land owners wishing to have a covenant may use one.	• Adds complexity to the administration the scheme. • Increases complexity around land transitions and

Issue/ opportunity	Options	Advantages	Disadvantages
B: Transferring current PFSI participants to the permanent post-1989 forest activity in the ETS	**B1.** (Preferred) Move to the CCRA	• Simplifies their interaction with carbon forestry. • Simpler ETS accounting options offered. • ETS is a durable policy tool.	• May need to consider options for those who do not wish to transition. •
	B2. Keep the PFSI for existing PFSI land owners	• No need to consider the transition	• Requires administration of the PFSI for around 15,500 hectares of forest • Adds significant cost and complexity to carbon forestry for MPI and participants. • Harder to manage non-compliance. • Undermine certainty.
	B3. Hybrid PFSI and CCRA participation for existing PFSI land owners	• None identified.	• Need to update each covenant to reflect the hybrid approach. • Creates uncertainty with regard to which approach applies. • Requires administration of the PFSI for around 15,500 hectares of forest • Adds significant cost and complexity to carbon forestry for MPI and participants. • Harder to manage non-compliance. • Undermines certainty.

Issue/ opportunity	Options	Advantages	Disadvantages
C: What forest owners can do after the 50 year non clear fell conditions	**C1.** A choice to stay permanent, move to a harvesting approach, or deregister	• The provision of options for the land owner will promote afforestation, and likely encourages preservation of forests with higher carbon stock • Supports alignment of unit flows with international targets. • Encourages accuracy of reporting • Makes it easier for land owners to comply. • The provision of the options now improves regulatory certainty.	• Cost of unit repayment may act as a disincentive for the land owners to change away from a permanent activity.

Note only one option is identified as the others (e.g. automatic roll-over, or allow an optional exit) are addressed by the other design considerations (e.g. the length of the non-harvest period and early exit)

Issue/ opportunity	Options	Advantages	Disadvantages
D: Conditions for early exit while harvest restrictions are in place	**D1.** Unit multiplier	• May allows easier exit than other options, as at discretion of participant.	• High, and increasing, cost of exit will undermine the incentive to establish a permanent forest. • Places excess burden on the participant • Administratively complex, and costly. • Harder to identify non-compliance as the land can exit after event • Increased risk of non-compliance as participants may view they meet the conditions but do not.
	D2. Cancellation under certain conditions	• Ability to exit at only the cost of units earned will encourage permanent forest afforestation.	• Dependent on our ability to define the conditions up front. • Administratively costly, and complex. • Increased risk of non-compliance as participants may view they meet the conditions but do not.
	D3. Two tier test	• Ability to exit at only the cost of units earned will encourage permanence forest afforestation. • Non-compliance is manageable as approval process assists in identifying issues.	• While this will require administrative effort from MPI, this will likely be saved through improved compliance.

Issue/ opportunity	Options	Advantages	Disadvantages
E: Transferring from Post-1989 forest to Permanent Post-1989 forest on the first rotation, when well above the average age	**E1.** (Preferred) Earn units back to the start latest Mandatory Emissions Regulatory Period (MERP)	• Manages fiscal cost. • Aligns NZ ETS units flows with the target. • Consistent with other how other forests are credited when joining the ETS. • Forest owners will still receive some incentive to move to permanence.	• Provides fewer NZUs to forest owners than option 2.
	E2. Earn units back to the average	• Significant incentive to move forest to permanence, increasing the carbon stock in New Zealand's forests.	• Potentially perverse outcome when carbon price increases as it will encourage older forests to move to permanence, this would reduce timber supply. • Comes at a significant fiscal cost. • Misaligns NZ ETS units flows with the target

Issue/ opportunity	Options	Advantages	Disadvantages
F: Permanent Post-1989 forest in the second rotation (below the average)	**F1.** (Preferred) Repay units down to the minimum	• Simpler to administer. • Unit earnt as the forest grows to the average. • Aligns unit flows to international targets. • Minimises Crown fiscal risks.	• More costly to land owners over the near term, so will act as a barrier to uptake. • Will require an average to be determined for all forest types.
	F2. Don't earn units until the carbon stock reaches the average.	• No near term cost	• Does not earn units as the forest grows. • May be more complex to administer.

Note this table does not include cases where the crediting of the second rotation forests crediting aligns with other design considerations.

Issue/ opportunity	Options	Advantages	Disadvantages
G: Start date of harvesting restrictions upon transferring from Post-1989 forest to Permanent Post-1989 forest	**G1.** From the first date that forest was registered in the ETS	• May result in slightly higher uptake as the non-harvest period is less.	• Undermines the integrity of permanence. • Significantly more administratively complex for land owners and the Crown.
	G2. (Preferred) From when the forest transferred to permanent post-1989	• Simpler to administer. • Reduces the risks of 'gaming' by shifting registration. • Provides a consistent test of permanence	• May act as a disincentive for the transition of old forests registered as post-1989 forest.

Options and Impact Analysis for the Operational Improvements proposals:

Issue/ opportunity	Options	Advantages	Disadvantages
A1. Can there be more certainty on land classification?	**1.1.** Enable the creation of a map on ETS eligibility.	• A definitive map will allow landowners or investors to be certain of the land status of forest land before making investment or purchase decisions. • Improved certainty may de-risk forestry as an investment opportunity. • Improved certainty of land status may increase afforestation, as access to the ETS will be easier. • Reduces land owner costs of joining the ETS, as the cost of developing the maps will be incurred by the Crown.	• The Crown will incur the costs of developing a map.
	1.2. Improved emissions ruling process to provide better certainty.	• An appeal mechanism would involve a clear process to contest land status by a landowner	• Rulings as an appeal mechanism may be a lengthy process.

Issue/ opportunity	Options	Advantages	Disadvantages
A2. How will the process for pre-1990 offsetting be improved?	**2.1.** Delivering an offsetting policy that is more workable for participants	• Significantly reduces landowner risk, and improve clarity and certainty for participants • Will enable time for infill planting should areas of the new offset forest fail. • Will enable forest owners to establish a larger area of offset forest than is needed for carbon equivalence, and then modify an application to reflect what area of forest successfully establishes. • Allow a land owner to submit an initial application, with planned over-achievement in their offset forest to effectively use it as a land bank.	• Some stakeholders want even more flexibility than the proposed solution, but the solution strikes the correct balance between flexibly for the land owner and the Crown's ability to ensure compliance.

Issue/ opportunity	Options	Advantages	Disadvantages
A3. How can the process for tree weed deforestation exemptions be improved?	**3.1.** Put most process detail into regulations, to enable a more flexible approach to controlling pre-1990 tree weeds	• Will simplify the process for land owners and provide greater flexibility to undertake tree weed clearance. • Landowners who are under pressure to remove tree weeds will face a more user friendly process.	• Administrative burden to put process detail into the regulations.
	3.2. Remove the forest allocation plan (FAP) related limit from the policy	• Will result in a better ability to manage tree weeds across the land scape, and improve the ability to deforest tree weeds without incurring a cost. • Will remove the cost disincentive for landowners with tree weeds from deforesting. • There is no fiscal impact of allowing land which has received a FAP to be granted a tree weed exemption as the FAP as already be recorded as a fiscal expense when it was allocated.	• If tree weeds are deforested, this removes a carbon sink from the ETS, with uncertain cost to be incurred by the Crown.

Issue/ opportunity	Options	Advantages	Disadvantages
A4. Land in multiple ownership face limited access to existing exemptions.	**4.1. Preferred option:** Allow the trustees and agents for multiple-owned land to complete the application, even if they were appointed after the 1 September 2007 deadline	• This option will improve equity in the ETS for landowners who should technically be able to access the exemption. • By amending the legislation through the review, this will provide a one-off process to improve equity for this unintentionally excluded group.	• This may incentivise deforestation on this exempt land, and remove a carbon sink from the ETS.
	Alternative option: offer section 60 exemption to multiple-owned land.	• This option will improve equity in the ETS for landowners who should technically be able to access the exemption.	• A section 60 exemption can be administratively burdensome to complete. • This may incentivise deforestation on this exempt land, and remove a carbon sink from the ETS.

Issue/ opportunity	Options	Advantages	Disadvantages
A5. Section 60 exemptions are currently administratively burdensome to complete.	**5.1.** We propose that the legislation makes it explicit that section 60 exemptions can be granted for activities which occurred prior to the Order in Council. This would apply to all sectors.	• Landowners can have more regulatory certainty that an exemption will be possible for an unanticipated event. • Exemptions will be able to be granted for genuine cases that are within the intent of the section 60 policy.	• The Crown will incur the unit liabilities of participants who succeed in their application for a section 60 exemption, though this is managed when each exemption is considered

Issue/ opportunity	Options	Advantages	Disadvantages
B1. Mandatory emissions return periods (MERPs) do not match out international targets and the proposed introduction of averaging.	**1.1** A shorter MERP is offered (three years, 2018-2020 or 2023-2025) to allow alignment with international targets and the introduction of averaging accounting.	• Units issued under the ETS would be aligned with NZ's accounting for our emissions reduction target under the Paris Agreement. It would also reduce an unnecessary cost and complexity for ETS participants subject to the FMA[2]. • The ETS five-year MERP will be aligned with international accounting periods. • Simplifies the introduction of accounting approaches, and likely leads to overall lower administration cost and complexity.	• An administrative burden on MPI and participants, as they will need to complete a MERP within three years rather than five. However, MPI will look into options to reduce costs and burden for participants.

Issue/ opportunity	Options	Advantages	Disadvantages
B2. Offer deforestation offsetting to post-1989 forests	**2.1.** The proposal is to allow post-1989 forestry participants who use average accounting, and deforest or voluntarily remove their land from the ETS, to plant an equivalent forest instead of surrendering the unit balance.	• Increase land-use flexibility for participants who wish to deforest and plant an equivalent forest elsewhere. • May lead to increased afforestation, as post-1989 participants will be able to access other options when they deforest. • Flexible land use allows land use to be optimised, which would improve economic growth and hence social resilience.	• A larger administrative burden may be incurred by MPI, as more offsetting applications will have to be checked and approved.

[2] Field Management Approach. This is a method to calculate the carbon stock in post-1989 forest land. It is mandatory for land with 100 hectares or more registered in the ETS during a MERP, or land with a PFSI covenant with a forest sink area of 100 hectares or more during a MERP.

Issue/ opportunity	Options	Advantages	Disadvantages
B3. Extend section 60 to post-1989 forests	**3.1.** The proposal is to allow the application of section 60 to post 1989 forest land, and permanent post-1989 forest land.	• Where post-1989 forests have unanticipated deforestation events where the forest clearing has a public benefit, it is appropriate that the deforestation emissions cost can be weighed against the benefit and exemptions granted where they can be justified.	• The Crown will incur the unit liabilities of participants who succeed in their application for a section 60 exemption, though this is managed when each exemption is considered.

Issue/ opportunity	Options	Advantages	Disadvantages
B4. Better clarity on cost recovery	**4.1.** The proposal is that the current regulation-making powers in the Act would be reviewed to allow the cost recovery framework to be extended to all relevant parts of the ETS where it is not currently in place.	• Government policy is to recover the costs of programmes that it operates as appropriate. A consistent and balanced cost recovery regime that is durable and predictable would provide certainty to ETS participants. • Allows tuning of cost recovery to incentives for land owners.	• Extra cost will be incurred by participants where they once were able to avoid it under the Act.

Note this is an enabling provision. The cost recovery framework will determined later.

Issue/ opportunity	Changes	Advantages	Disadvantages
C. There are a number of minor and technical issues in the ETS that require amendment.	**1. Simplify transfers of post-1989 forest land** **2. Notify interested parties when land is added or removed** **3. Provide a new process for reconfiguring Carbon Accounting Areas (CAA)** **4. Clarify the timing of deforestation.** **5. Ensure that the emissions or removals from all trees in a CAA are included in an emissions return.** **6. Participants who face a natural disturbance event should not need to fill out an emissions return.** **7. Remove unnecessary emissions return requirements.** **8. Exclude post-1989 forest land with tree weeds from the ETS.** **9. Allow the EPA to reconsider, revoke or replace a decision that is deemed incorrect, provided that the affected person is be consulted.** **10. Allow deregistration of non-compliant post-1989 forestry participants.** **11. Specify rounding rules that are consistent with the rounding rules in the forestry sector regulations.** **12. Allow more flexibility in submitting mandatory emissions returns.** **13. Standardise timeframes for unit surrenders and repayments.** **14. Require all returns to be net returns.** **15. Allow optional transfer of participation when a forestry right is granted** **16. Amend the tests so that they cover cases where cleared land is re-established in forest by a combination of planting trees and natural regeneration of trees.** **17. Deforested exempt land that becomes forest land nine years or more after being deforested is considered to be post-1989 forest land.**	• These minor and technical issues have been identified as problems with the Act over years of dealing with ETS operations. The problems need to be fixed.	N/A