

# Regulatory Impact Statement

## **ETS Review 2011: Proposed amendments to the Climate Change Response Act 2002 – Part 3**

### **Agency Disclosure Statement**

This Regulatory Impact Statement has been prepared by the Ministry for the Environment with input from the Ministry for Primary Industries.

It provides an analysis of numerous problems identified with the ETS as currently legislated and a range of policy options that could address these problems. Where possible a preferred option has been identified. These preferred options require legislative amendments to implement.

The analysis conducted is underpinned by a range of assumptions, not least the assumed carbon price to 2020. However, a higher or lower carbon price would not change the recommendations on preferred policy options. In addition, some of the ETS cost estimates presented depend on emission projections produced by various models which in turn depend on a range of assumptions.

While substantial consultation has taken place, further work and consultation is recommended for some problems in order to test the policy options further or to assist in the implementation of the preferred option. For example, further consultation is recommended for the introduction a reporting and surrender obligation for the own-use of oil by an oil miner as this has not previously been consulted on and would increase costs for oil miners. In addition, further consultation is recommended in relation to allowing liquid fossil fuel purchaser to become voluntary participants in the ETS in order to set the threshold for participation at an appropriate level.

Many of the preferred options would benefit business by reducing their costs (e.g. the exclusion of egg producers from the ETS, or providing them more options and flexibility (e.g. allowing liquid fossil fuel purchasers to become voluntary participants). Some preferred options would increase business costs (e.g. introducing a surrender obligation for the own-use of oil by an oil miner).

None of the preferred options would impair private property rights and market competition or the incentives on businesses to innovate and invest. Nor would they override fundamental common law principles.

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Signature of person

Date 17 May 2012

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## Executive summary

1. This Regulatory Impact Statement (RIS) summarises the regulatory impact analysis of a range of problems identified with the Emissions Trading Scheme (ETS) as currently legislated. These problems have been identified from a number of sources, such as:
  - the 2011 ETS Review Panel's (the Panel) recommendations for specific changes to the ETS and for the Government to consider certain issues further
  - stakeholders' submissions during the Panel's consultation
  - the Agriculture ETS Advisory Committee's 30 June 2011 Report to Ministers
  - Government agencies' experiences from implementing the ETS to date.
2. For each problem a number of alternative policy options have been considered against assessment criteria. These assessment criteria are based on three high level objectives agreed by Cabinet for the Panel's review, namely that the ETS beyond 2012:
  - helps New Zealand to deliver its 'fair share' of international action to reduce emissions, including meeting any international obligations
  - delivers emission reductions in the most cost effective manner
  - supports efforts to maximise the long term economic resilience of the New Zealand economy at least cost.
3. Based on this assessment, officials recommend a number of changes to the ETS. These changes require legislative amendments to the Climate Change Response Act 2002 (the Act). Under current legislation, a number of changes to the ETS will come into force on 1 January 2013, such as an end to the transition phase measures. If the Government wants to make changes to these ETS settings then legislative amendments need to be made before the end of 2012.

### *Agriculture*

4. Under the ETS as legislated, egg producers face a surrender obligation from 1 January 2015. Their inclusion in the ETS will result in high administration and compliance costs compared to the proportion of total agriculture emissions they account for (less than 0.1 per cent). Accordingly, officials recommend egg producers are excluded from the ETS.

### *Forestry sector issues*

5. Officials also recommend a number of significant technical and operational changes to the forestry rules under the ETS. First, officials recommend that the rules relating to eligibility of pre-1990 forest land for the less than 50 hectare deforestation exemption are amended in respect of land that is vested in the Maori Trustee or any other sole trustee, or in trusts under the Te Ture Whenua Maori Land Act. Currently the total land holdings of trustees may make land ineligible for an exemption which is not the policy intent.
6. Second, officials recommend excluding small-scale deforestation on forest boundaries that is part of normal forest management from liability subject to certain conditions to avoid imposing unreasonable compliance costs on the sector.
7. Third, officials recommend amending the requirement for forest owners to meet specified standards for re-establishing forest after clearing where the forest owner is either:

- re-establishing forest by natural regeneration of indigenous species as these species take longer to establish than exotic forest species, or
  - re-establishing poplars and willows on erosion-prone land as the generally accepted tree stocking for this type of forest is much lower than conventional forestry.
8. Fourth, officials recommend removing deforestation liabilities where a natural event permanently prevents forest re-establishment, because these circumstances are outside the control of the landowner.
  9. Lastly, officials recommend excluding naturally regenerated tree weeds from registering as post-1989 forest land in the ETS where there is a high wilding spread risk. Wilding trees are an environmental threat on many sites, and are being actively eradicated or controlled. Allowing such forests to earn income from the ETS is inconsistent with their status as undesirable weeds.

*Other technical and operational amendments*

10. Officials also recommend a number of significant technical and operational changes to the ETS. First, officials recommend that oil miners face a reporting and surrender obligation for their own-use of oil. While this would impose a cost on oil miners, this change ensures consistency with the treatment of other mining activities. Officials also recommend that there is consultation with the affected companies as this change would impose an additional cost.
11. Second, officials recommend that liquid fossil fuel purchasers can opt to become voluntary participants in the ETS if they purchase above a certain threshold. This would remove a market distortion where purchasers compete against the oil companies in some markets and would provide greater flexibility for the purchasers. Further consultation is required on the level of the threshold.
12. Third, officials recommend the phase out of industrial and agriculture allocation on a straight-line basis by 1.3 percentage points per annum. This would ensure that the allocation rate eventually phases out completely rather than remaining constant from a certain point in the future (which arises under the current drafting of the Act). This would send an important long-term signal and incentive to businesses that receive allocation to invest in emission reductions. This change does not impose any additional costs on businesses that receive allocation for at least 24 years after the phase-out begins.

*Consultation*

13. There has been consultation on many of these issues, for example through the Panel's consultation and the Agriculture ETS Advisory Committee. However, further consultation is required for some issues, as noted above, where there are more detailed implementation issues or where the issue has not previously been consulted on (e.g. the introduction of a reporting and surrender obligation for oil miners for their own-use of oil).

*Implementation, monitoring and evaluation*

14. These proposals will be implemented through amendments to the Act and supporting regulations.
15. The amendments made will be monitored and evaluated to ensure they effectively address the problems identified. Monitoring and evaluation plans will be developed

once these proposals have been approved by Cabinet. The Act requires five-yearly reviews of the ETS (the first occurred in 2011). The review in 2016 will provide an opportunity to reassess the effectiveness of the proposed amendments and the ETS more broadly. The monitoring and evaluation plans will ensure that the review has the information available to it to make this assessment.

## Glossary of terms

AAU	Assigned Amount Unit. An AAU is an internationally tradable emission unit or carbon credit issued as part of the Kyoto Protocol to allow countries to meet their emission obligations and is equal to one metric tonne of carbon dioxide equivalent emissions.
the Act	Climate Change Response Act 2002.
Afforestation	The direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources.
CER	Certified Emission Reduction. A CER is a tradable emission unit or carbon credit issued by the Clean Development Mechanism (CDM) Registry for emission reductions achieved by CDM projects and verified by the rules of the Kyoto Protocol. CERs can be used by countries that have ratified the Kyoto Protocol to meet their emissions limitation or reduction commitments.
CO <sub>2</sub> -e	Carbon dioxide equivalent. The quantity of a given greenhouse gas multiplied by its global warming potential, which equates its global warming impact relative to carbon dioxide (CO <sub>2</sub> ).
Cost of emissions	This is also referred to as the price of carbon. A cost faced by emitters for the release of greenhouse gas emissions into the atmosphere.
Deforestation	The conversion of indigenous and exotic forest land to another use, such as grazing. Deforestation involves clearing forest and not replanting within four years after clearing. It does not include harvesting where a forest is replanted as this is part of normal plantation forestry activities.
Eligible emission units	Certain types of emission units that can be surrendered by ETS participants to meet their obligations. These include NZUs and certain types of emission units created under the Kyoto Protocol.
Emissions	The release of greenhouse gases into the atmosphere from human activity.
the ETS	the New Zealand Emissions Trading Scheme. Under the ETS certain emitters of greenhouse gases have an obligation to report their emission and surrender eligible emission units to cover their emissions.
ETS participants	Emitters of greenhouse gases or people engaged in removal activities such as forestry that have obligations under the ETS to report on their greenhouse gas emissions, and to surrender eligible emission units to cover these emissions or earn units under the Act.
First commitment period	The period from 2008 to 2012 under which the countries ratifying the Kyoto Protocol have to meet their emission limitation or reduction commitments.
Fixed price option	During the transition phase to 31 December 2012, certain ETS participants have the option to buy New Zealand emission units (NZUs) from the Government for a fixed price of \$25.
Forests	Forest land is an area of land of at least one hectare with forest species that has, or is likely to have, tree cover of more than 30 per cent in each hectare. Forest land does not include land that has, or is

likely to have, tree crown cover with an average width of less than 30 metres unless it is contiguous with other forest land that meets the crown cover and width criteria. Forest species are trees capable of reaching five metres in height at maturity in the place they are growing, excluding tree species grown for the production of fruit and nut crops.

Greenhouse gases	Greenhouse gases are constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation. The gases covered under the first commitment period of the Kyoto Protocol are carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF <sub>6</sub> ).
GWP	Global warming potential. See CO <sub>2</sub> -e above.
Kyoto Protocol	A protocol to the UNFCCC that includes emissions limitation or reduction commitments for ratifying developed countries.
the Minister	Minister for Climate Change Issues.
MPI	Ministry for Primary Industries (formerly the Ministry of Agriculture and Forestry)
NZUs	New Zealand emission units created by the Government. These are either allocated or sold to certain ETS participants. They are the main unit of trade in the ETS and can be surrendered by ETS participants to meet their ETS obligations. In certain circumstances, NZUs can be converted to AAUs and sold overseas.
One-for-two obligation	During the transition phase to 31 December 2012, certain ETS participants have to surrender one eligible emissions unit for every two tonnes of emissions. This is also referred to as the 50 per cent progressive obligation.
Pre-1990 forests	Forest established before 1 January 1990 on land that remained in forest and was predominantly exotic species on 31 December 2007. See section 4 of the Act.
Price of carbon	See cost of emissions.
Post-1989 forests	New forest established after 31 December 1989 on land that was not forest at that date. These forests are eligible to earn carbon units (or carbon credits) from 1 January 2008. See section 4 of the Act.
Transition phase	Under the Act, the period up to the end of 2012 during which there is an option to buy New Zealand emission units (NZUs) from the Government for a fixed price of \$25, a one-for-two surrender obligation and there are restrictions on the export of NZUs.

## Status quo

16. The Emissions Trading Scheme (ETS) is currently New Zealand's primary tool to achieve its international climate change commitments and to transition to a low carbon economy. The ETS was designed in the context of the international framework established under the Kyoto Protocol. For example, the ETS allows participants to sell New Zealand Units (NZUs) overseas<sup>1</sup> and to buy and surrender eligible overseas units to meet their ETS obligations. For the purposes of this regulatory impact analysis (RIA), in the status quo it is assumed that the ETS will be implemented as currently legislated. In addition, a carbon price of \$10.41 has been used to estimate the value of emission units.<sup>2</sup>
17. The agreement reached in December 2011 at the United Nations Conference of the Parties in Durban provides more certainty about the potential international framework after 2012, when the first commitment period (CP1) under the Kyoto Protocol ends. The key features of the Durban agreement are:
  - a new agreement with 'legal force' covering developed and developing countries will be agreed by 2015 and will come into force by 2020
  - a second commitment period (CP2) under the Kyoto Protocol from 2013 to 2017 (or 2020) covering the European Union, other European countries and any other country who decides to join in 2012<sup>3</sup>
  - confirmation of the continuation of the Clean Development Mechanism (CDM) after 2012 and the development of new market mechanisms
  - in relation to forestry, the inclusion of rules in the Kyoto Protocol on flexible land use (FLU), harvested wood products and reference level accounting approach for forest management, and the removal of the Afforestation-Reforestation Debit-Credit rule.
18. The Government has indicated that it will sign up to the new agreement from 2020, although it has not yet decided whether to join CP2. **[Withheld under s9(2)(j)].**
19. The Climate Change Response Act 2002 (the Act) required a review of the ETS to be completed before the end of 2011. The Act required the Minister for Climate Change Issues (the Minister) to appoint a panel (the Panel) to conduct the review and specify its terms of reference. The Minister appointed a Panel in December 2010 and its final report was provided to the Minister on 30 June 2011.<sup>4</sup> The report contained 61 recommendations, a number of which, if accepted, would require amendments to the Act and/or regulations.

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<sup>1</sup> Under current legislation there is a restriction on the non-forestry sectors from exporting NZUs overseas during the transition phase (until the end of 2012). NZUs are first converted to AAUs before export.

<sup>2</sup> This is the prevailing carbon price for January 2012 based on the average premium CER price as calculated by Point Carbon.

<sup>3</sup> The USA, Canada, Japan and Russia have already decided not to join. Australia and New Zealand have not yet indicated whether they will join.

<sup>4</sup> *Doing New Zealand's fair Share, ETS Review 2011: Final report*, ETS Review Panel, 30 June 2011. Further details of the Panel's review and its final report is available at: <http://www.climatechange.govt.nz/emissions-trading-scheme/ets-review-2011/index.html>

## Objectives

20. The Panel's terms of reference were agreed by Cabinet in 2010.<sup>5</sup> These stated that the objective of the review is to ensure that the ETS beyond 2012:

- helps New Zealand to deliver its 'fair share' of international action to reduce emissions, including meeting any international obligations (referred to subsequently as 'delivering fair share')
- delivers emission reductions in the most cost effective manner (referred to subsequently as 'delivering cost-effective emission reductions'), and
- supports efforts to maximise the long term economic resilience of the New Zealand economy at least cost (referred to subsequently as 'long-term economic resilience').

21. For the purposes of carrying out this RIA, these three high level objectives have been used to develop a number of sub-objectives and assessment criteria. These sub-objectives and criteria are set out in full in Annex 1. Table 1 below provides a summary.

**Table 1: Assessment criteria under each of the high level objectives**

<b>High level objective</b>	<b><u>Delivering fair share</u></b>	<b><u>Delivering cost-effective emission reductions</u></b>	<b><u>Long-term economic resilience</u></b>
<b>Criteria</b>	Facilitate international efforts	Minimise short-term negative economic impacts	Minimise long-term negative economic impacts
	Contribute to NZ international obligations	Minimise costs to businesses	Maintain long-term international competitiveness
	Enhance NZ's international credibility	Minimise market distortions	Provide incentives for the long-term development of low cost emission abatement technologies
	Contribute to achieving NZ's fair share	Minimise risks of trade sanctions	Maximise equity between sectors and socio-economic groups
	Provide incentives to abate	Minimise Government's administrative and implementation costs	Promote intertemporal equity
	Contribute to meeting NZ's 2050 target	Minimise ETS participants' compliance and transaction costs	Ensure appropriate risk-sharing between emitters and Government
		Promote understanding of ETS	Appropriately reflect the Crown's responsibilities as a Treaty partner
		Minimise fiscal costs/maximise fiscal savings	Support the development of the Māori economy consistent with their environmental values
		Maximise market liquidity and transparency	Minimise negative/maximise positive wider environmental impacts

<sup>5</sup> See CAB Min (10) 44/11.

		Facilitate links with other schemes	Ensure the environmental integrity of overseas emission units surrendered in the ETS
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## Approach to options analysis

22. For consistency, the criteria have been used for the analysis of all the policy problems identified. A scoring approach was used, whereby each policy option was scored against each criterion compared to the status quo. A positive score meant the policy option was better at achieving a particular criterion than the status quo; a negative value meant it was worse. Where possible, quantitative analysis was used to determine the order of magnitude of the score. Where this was not possible then judgement was used instead.
23. This approach identified the criteria which were most relevant for assessing the policy options, i.e. where there were material differences in the scores between the policy options and the status quo. Policy conclusions were based upon this analysis, without the need to apply weights to the criteria.
24. In the interests of brevity, this RIS presents the assessment against the high level objectives rather than the full criteria. This assessment is also presented in a summary table in the sections below. A tick shows that the policy option is better at achieving a high level objective than the status quo; a cross shows it is worse. A dash shows it is no different to the status quo. The number of ticks or crosses indicates the scale of how much better or worse it is. This reflects the scoring approach explained above.

## Problem definition and regulatory impact analysis

25. The scope of this RIS is those policy problems where the preferred policy option arising from the RIA would require an amendment to the Act to implement. All other policy problems are out of scope of this RIS.
26. The policy problems identified are based on:
  - the Panel's recommendations for specific changes to the ETS and for the Government to consider certain issues further
  - stakeholders' submissions during the Panel's consultation
  - the Agriculture ETS Advisory Committee's 30 June 2011 report<sup>6</sup>
  - Government agencies' experiences from implementing the ETS to date.
27. In this context, the RIS considers the policy problems with the ETS after 2012 set out below and each is considered in more detail in the following section.
  - A. Agriculture
    - i. treatment of egg producers in the ETS
  - B. Forestry sector issues
    - i. eligibility of pre-1990 forest land for the less than 50 hectare deforestation exemption

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<sup>6</sup> See: <http://www.mpi.govt.nz/agriculture/agriculture-ets>

- ii. *de minimus* deforestation and boundary management
  - iii. re-establishment of forest by natural regeneration of indigenous species
  - iv. re-establishment of poplars and willows
  - v. natural disturbance events preventing forest re-establishment
  - vi. unwanted wilding spread from post-1989 forest land
- C. ETS participation by the energy sector
- i. surrender obligation for the own-use of oil by an oil miner
  - ii. voluntary participation for liquid fossil fuel purchasers
- D. Phase-out of industrial and agricultural allocations

## A. Agriculture

### i. Treatment of egg producers in the ETS

#### *Status quo*

28. Under the ETS as currently legislated, egg producers already have an obligation to report their emissions and, from 1 January 2015, will also face an obligation to surrender emission units based on their emissions. Nearly half of the approximately 200 agricultural participants in the ETS are egg producers, but their emissions are only 0.08 per cent of total agricultural emissions. Egg producer net liabilities after allocation will be less than 2,500 NZUs in 2015 (worth about \$30,000).<sup>7</sup> This equates to approximately 0.04 cents per dozen eggs. This value will halve when the national inventory is up-dated with New Zealand specific data for layer hen emissions in April 2012.

#### *Problem definition*

29. A number of problems arise in the status quo. First, egg producers will face high administration and compliance costs relative to their emissions.
30. Second, the expected cost increase will provide a negligible incentive for egg producers to reduce emissions. In addition, no technology to reduce emissions from layer hens has yet been proven to be cost-effective.
31. Third, the number of egg producers and the cost of verifying small numbers of hens also present a risk of poor rates of compliance. It will cost approximately \$55,000 per year in administration and compliance costs to include egg producers in the ETS.

#### *Options analysis*

32. Two options for reducing the costs associated with egg producers in the ETS have been identified and are set out in the table below.

Option	Status quo	1: Exclude egg producers	2: Change point of obligation for emissions to hatcheries
Key features	<ul style="list-style-type: none"><li>Egg producers in the ETS</li></ul>	<ul style="list-style-type: none"><li>Egg producers excluded from ETS</li></ul>	<ul style="list-style-type: none"><li>Point of obligation changes from egg producers (who own the layer hens) to hatcheries (who supply layer hen chicks)</li></ul>

33. The Agricultural ETS Advisory Committee recommended excluding egg producers from the ETS in their 30 June 2011 report to Ministers, arguing that the costs of their inclusion outweigh the benefits.

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<sup>7</sup> Assuming a \$10.41 carbon price and 90 per cent allocation to agriculture.

34. A summary of the impacts under the status quo and the policy options is presented in the table below.

Option	Impacts	Net impact
<b>Status quo</b>	ECONOMIC: Negligible increase in the price of eggs (0.04 cents per dozen in 2015) FISCAL: Fiscal revenue of about \$30,000 in 2015/16 <sup>8</sup> COMPLIANCE: Compliance and administration costs of approximately \$55,000 p.a. for Government and egg producers. Risk of non-compliance. ENVIRONMENTAL: Egg producers face carbon face, although incentives and ability to reduce their emissions negligible	Not applicable as it is the status quo
<b>Option 1 (exclude egg producers)</b>	ECONOMIC: No increase in the price of eggs FISCAL: Loss of fiscal revenue of about \$30,000 COMPLIANCE: Compliance and administration costs avoided (annual savings of approximately \$55,000 p.a. for Government and egg producers) ENVIRONMENTAL: No incentive to reduce emissions	Improves on status quo as economic and compliance benefits outweigh the fiscal and environmental costs
<b>Option 2 (obligation at hatcheries)</b>	ECONOMIC: Similar increase in price of eggs as status quo FISCAL: No change in fiscal revenue COMPLIANCE: Compliance and administration costs reduced (annual savings of approximately \$45,000 for Government and egg producers). Reduced risk of non-compliance. ENVIRONMENTAL: Incentive to reduce emissions through carbon price remains, although likely to be negligible	Improves on status quo as reduced compliance costs

35. In terms of delivering fair share, both options are likely to produce outcomes similar to the status quo, being limited, if any, reduction in emissions. Option 2 (obligation at hatcheries) maintains a small incentive to reduce egg producer emissions if mitigation technologies become available, but this may be muted because hatcheries have no control of layer hens after chicks are delivered to egg producers.
36. In terms of delivering cost-effective emission reductions, option 1 (exclude egg producers) is preferred as it fully removes the Government's administration costs and egg producers' compliance costs. Overall New Zealand would benefit by about \$315,000 (in present value terms) over the period 2011 to 2020.<sup>9</sup> The Government

<sup>8</sup> Note: this value will halve when the national inventory is up-dated with New Zealand specific data for layer hen emissions in April 2012.

<sup>9</sup> Estimates based on the Agriculture ETS Advisory Committee's Report to Ministers, 30 June 2011. This report made use of a cost benefit analysis prepared by MPI. Assumptions included a \$40 carbon price (updated to \$10.41 for this analysis), an 8 per cent discount rate, 100 participants and the ETS as currently legislated. The Committee and officials agree that the report may underestimate the savings from operational costs.

however, would save only \$15,000 as it will have to meet all of the sector's emissions liabilities. This liability is not predicted to grow over the next 10 years.

37. Under option 2 (obligation at hatcheries) the number of participants would fall from 100 to two, reducing compliance and administration costs but not by as much as option 1 (exclude egg producers). The New Zealand economy would benefit by about \$260,000 (in present value terms) from 2011 to 2020, the Government saving about \$100,000 and egg producers saving about \$160,000.<sup>10</sup> Reducing the number of participants also lowers the risk of non-compliance.
38. In terms of long-term economic resilience, both options are likely to produce outcomes similar to the status quo. Exclusion is unlikely to confer a competitive advantage on egg producers because there is little product substitution or competition for inputs (e.g. land, feed) between the egg industry and other ETS sectors, and the price effect is not material. Option 1 may, however, increase pressure for exemptions from other sectors.

*Recommendation*

39. On balance, option 1 (full exclusion) is preferred. A summary of the assessment against the objections is set out in the table below.

<b>Summary assessment of the policy options against the high level objectives relative to the status quo</b>			
	<b>Status quo</b>	<b>Option 1 (exclude egg producers)</b>	<b>Option 2 (obligation for hatcheries)</b>
<b>Delivering fair share</b>	-	-	-
<b>Delivering cost-effective emission reductions</b>	-	✓✓	✓
<b>Long-term economic resilience</b>	-	-	-

*Implementation*

40. Removing the production of eggs will require legislative change to the list of activities laid out in schedule 3 of the Act.

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<sup>10</sup> These savings could easily be eroded if more time than anticipated were spent on either reporting and/or audit.

## B. Forestry sector issues

### i Eligibility of pre-1990 forest land for the less than 50 hectare deforestation exemption

#### *Status quo and problem definition*

41. The ETS excludes professional trustees' holdings from being counted, where land is owned as joint tenants, for the less than 50 hectares exemption for pre-1990 forest lands. This means unrelated holdings of sole professional trustees may make a single block ineligible for the exemption. Examples are Companies such as Guardian Trustees Ltd, Public Trust Ltd, and Trustees Executors Ltd as well as the Maori Trustee.
42. Similarly, the holdings of non-professional trustees appointed under Te Ture Whenua Māori Act 1993 may also prevent a block being eligible for a 50 hectare exemption. Essentially, one group of beneficiaries is ineligible due to unrelated holdings of a professional trustee or a trustee appointed under the Te Ture Whenua Māori Act 1993.
43. The ETS Review Panel noted the Te Ture Whenua Māori Act 1993 places particular constraints on owners of Māori land and recommended the Government address the application requirements.

#### *Options analysis*

44. Two options exist to address these problems. An outline of these options is set out in the table below.

Option	Key Features
<b>Status quo</b>	<ul style="list-style-type: none"><li>• Pre-1990 forest land vested in the Maori Trustee (or other sole trustees) is ineligible for an exemption as the trustee owned more than 50 hectares of pre-1990 forest land on 1 September 2007.</li><li>• Some pre-1990 forest land that is Maori freehold land vested in trusts under the Te Ture Whenua Maori Act is ineligible for an exemption because one or more of the trustees (who are joint tenants) was also an owner of more than 50 hectares of pre-1990 forest land on 1 September 2007.</li></ul>
<b>Option 1: Amend the eligibility criteria in the Act</b>	<ul style="list-style-type: none"><li>• Amend the Act so that unrelated land holdings of the Māori Trustee and other sole professional trustees' landholdings do not prejudice unrelated trusts.</li><li>• Amend the Act so that trustees appointed under Te Ture Whenua Māori Act are treated as professional trustees, so their land holdings on 1 September 2007 are not counted.</li></ul>

45. A summary of the impacts of the status quo and the policy option are presented in the table below.

Option	Impacts	Net impact
<b>Status quo</b>	ECONOMIC: There is an unintended consequence of the status quo that some small forests including Maori land blocks are unable to obtain an exemption due to the nature of their land ownership structures.	Not applicable
<b>Option 1 (amend the eligibility criteria in the Act)</b>	FISCAL: Higher fiscal cost as more land would be exempt. ECONOMIC: The eligibility criteria for an exemption are widened to align better with the policy intent.	Improves on the status quo as it aligns better with policy intent

46. The intent of the less than 50 hectare exemption is to remove excessive compliance costs from small forest owners. However the current legislation excludes some small forest owners from the benefit of the exemption due to land ownership structures that were in place before the Act came into force. The policy proposal removes this distortion.
47. Widening the eligibility criteria for this exemption increases the fiscal cost of the exemption to the Crown. However the additional land that is likely to be exempted under this proposal is relatively insignificant compared to the total exempt area, and the extra cost is likely to be absorbed in the existing appropriation for this exemption. The purpose of widening the exemption is provide equity for certain classes of landowners (including Maori) and better alignment with policy intent.
48. In terms of long term economic resilience the policy proposal would appropriately reflect the Crown's responsibilities as a Treaty partner. It would also support the development by Maori of their natural resources in ways that contribute to the development of the Maori economy, and which are consistent with their environmental values.
49. Under the policy proposal, exemptions may become available to land that has already been approved for an allocation of units. From an administrative perspective, the unwinding of allocation decisions may be involved, as well as the recovery of any NZUs issued under the Forestry Allocation Plan. As there are likely to be few trustees caught to date, officials suggest that this 'fix' should not apply retrospectively. MPI continues to work with the Māori Trustee.

*Recommendation*

50. Officials recommend amending the Act to address the issue. A summary of the assessment against the objectives is set out in the table below.

<b>Summary assessment of the options against the high level objectives relative to the status quo</b>		
Option	Status quo	Option 1: (amend the eligibility criteria in the Act)
Delivering fair share	-	-
Cost-effective emission reductions	-	-
Long-term economic resilience	-	✓

*Implementation*

51. Implementation of the recommended option would require the Act to be amended, communications with the forestry sector and updating of information guides.

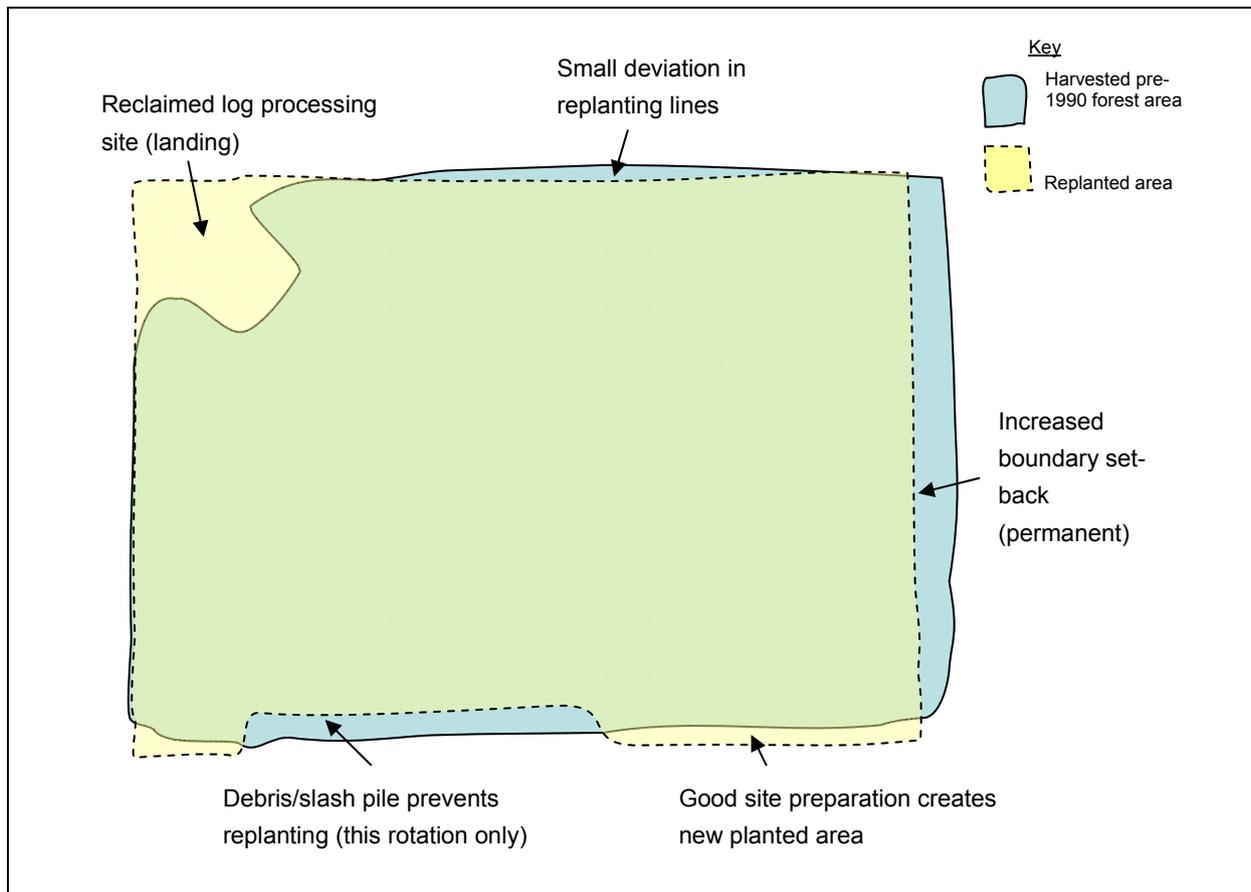
ii *De minimus* deforestation and boundary management

*Status quo*

52. The Act provides a 2 hectares *de minimus* deforestation threshold for pre-1990 forest land for each 5-year period. This was intended to avoid capturing small-scale deforestation and to avoid imposing unreasonable compliance costs on the sector. Also, as many small plantings on farms and lifestyle blocks were expected to be less than 2 hectares, it was intended these landowners should have the flexibility to remove their trees if they wished.

*Problem definition*

53. Despite the 2 hectare deforestation threshold, most pre-1990 and post-1989 forest land owners are likely to be in default of deforestation obligations, because *any* deforested area on an outer boundary resulting from routine forest management activities contributes to a landowner's total deforestation. Most commonly, deforestation arises because replanting after harvesting is not to exactly the same forest boundaries: in some places there may be more, and in other places there may be less<sup>11</sup>. An example is shown below:



54. Most larger forest land owners are likely to be in default of the Act (not meeting participant obligations for deforestation of more than 2 hectares in each 5-year period) as a result of minor deforestation due to routine forest management (for example

<sup>11</sup> For a large forest owner with 100,000 hectares of pre-1990 forest, the 2 hectares *de minimus* deforestation threshold is only 0.002 per cent of their estate. On an annual basis, this is an average of 63m x 63m, per year.

roads/tracks/landings/stand boundary changes and remapping); and minor deforestation required by other legislation such as setbacks under district plans.

55. Also, through the process of interpretation and implementation of the Act, the Climate Change (Forestry Sector) Regulations 2008, and the *Geospatial Mapping Information Standard*, it has become evident that the current rules require any area of deforestation on an outer boundary of a forest to count towards a landowner's total deforestation for the period – no matter how small. This was not the original policy intent.
56. This issue has been raised in submissions on the Climate Change (Moderated Emissions Trading Scheme) Amendment Bill 2009, with the former Ministry for Agriculture and Forestry on a number of occasions, in submissions to the 2011 ETS Review, and in a case study presented to a carbon forestry conference in 2011. A solution was not identified during the review.
57. The current 2 hectares *de minimus* threshold exacerbates conflict between the ETS and deforestation required by other legislation, in particular:
- requirements or controls under the Resource Management Act 1991 (RMA),<sup>12</sup> including the proposed National Environmental Standard for Plantation Forestry
  - Historic Places Act 1993 – authorities to modify archaeological sites at harvesting can contain conditions preventing replanting in exotic forest species
  - Biosecurity Act 1993 - requirements or notices to clear pest trees under regional pest management strategies
  - the Electricity Act 1992, and Electricity (Hazards from Trees) Regulations 2003 - cut and trim notices around existing power lines.
58. In contrast to the 2 hectares threshold, the Ministry for the Environment applies the following rule for their international accounting of land use change:<sup>13</sup>

*Where (deforested) land is 1 to <5ha in area, and where areas are totally surrounded by planted forest, these areas are classified as planted forest.*

The reason for not accounting for these 1 to less than 5 hectares areas is that the management of areas completely surrounded by forest will be the same as the larger surrounding area, and these areas still have the potential to become forested. It is this standard which determines New Zealand's deforestation liabilities internationally.

59. Possible effects of enforcing the status quo rules include:
- for forest owners, there would be high compliance costs from:
    - the standard of mapping to account for such differences is higher than that used for normal forest management
    - replanting a large number of very small areas – which is costly and often practically difficult.

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<sup>12</sup> Including regional or district plans, such as set-backs of trees from roads, rivers, lakes and wetlands, and boundaries.

<sup>13</sup> Land Use and Carbon Analysis System Satellite Imagery Interpretation Guide for Land-Use Classes, Ministry for the Environment, 2010.

- the administrative costs involved with completing deforestation notifications, detailed deforestation mapping, and emissions returns which may be required every year
  - for MPI:
    - high administrative costs for processing deforestation emissions returns from the large number of forest owners, involving thousands of very small areas
    - **[Withheld under s 6(c) and s9(2)(k)]<sup>14</sup>.**
60. These undesirable effects would be eliminated if clearing on the outer boundary of a forest land area that results in a reduction compared to the forest land boundary that existed on 31 December 2007 for pre-1990 forest land, or that was registered in the ETS for post-1989 forest land, is not treated as deforestation provided:
- each cleared area is less than 1 hectare, or less than 30m wide; and
  - the reduction is part of normal forest management; and
  - the cleared area is not used for any other land use
61. This would allow flexibility that is more appropriate for the size and scale of the pre-1990 forest land-holding **[Withheld under s6(c) and s9(2)(k)]**. Also, landowners should not face obligations where New Zealand does not under international accounting.

*Options analysis*

62. Four options have been identified that could address this issue. These are outlined below.

Option	Key features
<b>Status quo</b>	<ul style="list-style-type: none"> <li>• A landowner is a mandatory ETS participant if they deforest more than 2 ha of pre-1990 forest land in each 5-year period</li> </ul>
<b>1. Amending the <i>de minimis</i> provisions</b>	<ul style="list-style-type: none"> <li>• Minor clearing not treated as deforestation provided certain criteria are met</li> </ul>
<b>2. Netting small-scale area changes)</b>	<ul style="list-style-type: none"> <li>• Apply a net approach to the deforestation threshold</li> <li>• Recognise under-planting (deforestation) and over-planting (new post-1989 forest land)</li> </ul>
<b>3. Only exempt deforestation required under regulation</b>	<ul style="list-style-type: none"> <li>• Use section 60 exemption</li> <li>• Limited to RMA, Electricity, Biosecurity and Historic Places Acts</li> <li>• The Crown carries the fiscal cost of deforestation</li> </ul>
<b>4. [Withheld under s9(2)(g)(i)]</b>	<ul style="list-style-type: none"> <li>• Not taking enforcement action against these cases of deforestation</li> </ul>

63. A summary of the impacts of the status quo and policy options is presented in the table below.

Option	Impacts	Net impact
<b>Status quo</b>	COMPLIANCE: High risk of default by most landowners for minor deforestation.	Not applicable

<sup>14</sup> **[Withheld under s6(c) and s9(2)(k)]**

	Enforcement problematic. ENVIRONMENTAL: Deforestation that has an environmental or social benefit may be discouraged (e.g. riparian setbacks, electricity line corridors) as the emissions cost falls on the landowner unless a s60 exemption is granted.	
<b>1. Amending the de minimis provisions</b>	COMPLIANCE: Certainty for the forestry sector. Significant reduction in compliance costs ENVIRONMENTAL: Many riparian setbacks and other minor deforestation that has environmental or social benefit would not be counted as deforestation under this proposal.	Improves on the status quo due to better environmental outcomes and removal of unnecessary compliance from landowners
<b>2. Netting small-scale area changes</b>	COMPLIANCE: Default risk is reduced, but enforcement is problematic. Administrative costs for participants.	No improvement on the status quo due to high compliance costs on participants
<b>3. Only exempt deforestation required under regulation</b>	FISCAL: Additional fiscal cost of exemption compared to status quo COMPLIANCE: Administrative costs for the Crown and participants.	No improvement on status quo due to high compliance costs for the Crown and participants
<b>4. [Withheld under s9(2)(g)(i)]</b>	COMPLIANCE: Additional Crown administrative costs to status quo, lack of certainty to landowners.	No improvement on status quo due to high compliance costs for the Crown

64. With all the options, Crown revenue from the surrender of NZUs is foregone (estimated at \$25m).<sup>15</sup> **[Withheld under s9(2)(g)(i) and s9(2)(j)]**. If the status quo was enforced, it would come at significant political and financial cost, and it is estimated that only 20 per cent or \$5m of that revenue would be able to be recovered.
65. Minor deforestation is expected to be addressed by option 1 where minor boundary deforestation is not counted provided land use does not change,<sup>16</sup> or option 3 where the deforestation is required by legislation. As the current ETS rules are more stringent than the approach New Zealand uses for accounting for deforestation internationally, the rules can be relaxed somewhat without fiscal cost. The impact on actual delivering fair share of emissions reductions is not expected to be material as the commercial incentive remains for landowners to maximise their productive forest area.
66. With option 1 and the current accounting approach, there is a very small fiscal risk that part or all of an existing LUCAS forest carbon stock monitoring plot, if remeasured, could have a reduced carbon stock, affecting the carbon stock applied to that forest type nationally.<sup>17</sup> However, based on officials' initial discussions on reference level accounting, an alternative and preferred accounting approach for future periods would have no fiscal risk.

<sup>15</sup> Estimated as 0.2 per cent of the pre-1990 forest estate at 816.2t CO<sub>2</sub>-e per hectare and a carbon price of \$10.41.

<sup>16</sup> The LUCAS interpretation of a forestry land use would apply.

<sup>17</sup> The risk is estimated as a 1 in 445 chance that it might occur at some point in the next 28 years. If it did occur, the fiscal cost is estimated at 2.6m NZUs, based on the ratio of expected deforested area to the total pre-1990 estate.

67. On balance, officials consider this risk is outweighed by the benefits from improved cost-effective emissions reductions for both the Crown (saving administration costs of \$1.5m annually)<sup>18</sup> and pre-1990 forest landowners (avoided recoverable deforestation costs of \$5m or \$25m full cost). Implementation of this option is straightforward and has negligible costs for the Crown and landowners.
68. Option 2 (netting approach) involves allowing landowners to recognise both under-planting (deforestation of pre-1990 forest land) and over-planting (planting of new post-1989 forest land within a pre-1990 forest setting) – subject to it not being registered as post-1989 forest land in the ETS.<sup>19</sup> In effect this is very small-scale offsetting, and may be occurring at a ratio of up to 1:1 currently. This may result in a small increase in emission reductions as landowners would be encouraged to recover previously unstocked areas, but the incentive would be marginal. The net approach requires additional area accounting for landowners (for the post-1989 areas) relative to option 1. Also, it adds to the complexity of the forestry rules, enforcement would be problematic, and it has not been proposed by the sector.
69. Option 3 (s60 exemption) is not preferred for addressing *de minimus* deforestation because it does not achieve cost-effective emissions reductions: a s60 exemption *exempts* landowners from the deforestation cost at a fiscal cost to the Crown, whereas option 1 *removes* the deforestation cost.
70. Option 1 does not address all cases of deforestation required under legislation. A small number of cases<sup>20</sup> will still be treated as deforestation under the proposed ETS and LUCAS rules including:
- where the dimensions of the forest are such that no qualifying forest land remains at all after the setback is taken out (such as long narrow strips);
  - setbacks greater than 30m wide (may arise in coastal situations, and on forest boundaries); or
  - setbacks from infrastructure such as power lines and roads.
71. Officials recommend option 3 (using s60 of the Act) to address these other cases where deforestation is required under specific legislation (RMA, Electricity Act, and Historic Places Act). That section has the appropriate processes and criteria for assessing the exemption, and requires consideration of the benefits and costs, and who bears those costs. These other cases of deforestation contribute to long-term economic resilience as they involve non-market public good outcomes including the environment, biodiversity, landscape, water quality, road safety and security of electricity supply – where there is an argument for granting an exemption. Although some of the benefits accrue locally, to a community or region, much of the benefit accrues to New Zealand as a whole, whereas under the Act the deforestation liabilities lie with the landowner.
72. The fiscal costs of the s60 exemption are estimated as:

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<sup>18</sup> Based on the forestry allocation operational budget of \$2m, less the 25 per cent of areas covered by the less than 50 ha exemption.

<sup>19</sup> While many very small pre-1990 areas are deforested during the harvesting and replanting, likewise, many very small areas of post-1989 forest land are created. However, it is not cost-effective for landowners to claim the NZUs for the post-1989 forest land, and much would not be eligible due to the 1 ha size limit.

<sup>20</sup> In CP1, the area in this category is estimated as approximately 50 hectares.

Policy proposal		2011/12	2012/13	2013/14	2014/15	2015/16
Section 60 exemption	Units	48,972	48,972	48,972	48,972	48,972
	\$	510,000	510,000	510,000	510,000	510,000

73. New infrastructure projects (powerlines and roads) are not provided for in the estimates above as deforestation costs are expected to be included in project costs.
74. A blanket exemption is not recommended so district and regional councils are required to consider deforestation emission costs for landowners when reviewing their plans and strategies.
75. **[Withheld under s9(2)(g)(i)]**. If this position was clearly communicated, it could provide some degree of clarity for landowners. However, it does not provide long-term regulatory certainty for the sector – something they have clearly indicated is desirable for forestry investments.

*Recommendation*

76. Officials recommend a combination of option 1 (amend *de minimis* deforestation), and option 3 (s60 exemption) to address the issue. A summary of the assessment against the objectives is set out in the table below.

Summary assessment of the options against the high level objectives relative to the status quo					
Option	Status quo	1. Amend <i>de minimis</i> deforestation	2. “Netting” small-scale area changes	3. Exemption deforestation required under regulation	4. [Withheld under s9(2)(g)(i)]
Delivering fair share	-	-	-	-	-
Cost-effective emission reductions	-	✓	X	X	-
Long-term economic resilience	-	✓	✓	✓	✓

*Implementation*

77. Implementation of option 1 would require the Act to be amended, communications with the forestry sector and updating of information guides. Using the s60 exemption provision in the Act would involve extra administrative expense and fiscal cost.

### *iii Re-establishment of forest by natural regeneration of indigenous species*

#### *Status quo*

78. Currently, forest land that is cleared must meet several tests to avoid being treated as deforested. These tests are:
- (i) 4 years after clearing, the land must have been replanted or naturally established at least 500 stems of forest species per hectare
  - (ii) 10 years after clearing, if the forest cover is predominantly exotic, there must be tree crown cover of at least 30 per cent from trees that have reached 5 metres in height
  - (iii) 20 years after clearing, if the forest cover is predominantly indigenous, there must be tree crown cover of at least 30 per cent from trees that have reached 5 metres in height.

#### *Problem definition*

79. A small number of pre-1990 landowners, including the Crown,<sup>21</sup> wish to re-establish pre-1990 forest land using natural regeneration of indigenous forest species. On some sites, factors such as lack of seed sources, exotic weeds, low rainfall or low temperatures may mean that 500 stems per hectare do not regenerate in 4 years, but may become forest land at 20 years. Landowners either incur significant costs to plant the required stocking, or face deforestation liabilities, even though regeneration is continuing and the land use has not changed.
80. The deforestation thresholds are clear and unambiguous. Without such criteria, timeframes could become open-ended and liabilities may not crystallise, making compliance and enforcement problematic. However, they were based on commercial exotic forests where 4 years was a generous timeframe to make decisions on the forestry regime, and give effect to those decisions. It was expected the same threshold would serve for natural regeneration of indigenous forest species – however this was not based on information on actual rates of establishment.
81. As there is no change in land use, it is unlikely that New Zealand would account for such cases of clearance as deforestation internationally.
82. The status quo has the following potential impacts:
- Either: deforestation costs to landowners for providing or increasing setbacks from coastal or riparian strips or other set-aside areas under regional or district plans, the proposed NES for Plantation Forestry or other regulatory requirements on an estimated 1,000 hectares at a cost of \$8.5m<sup>22</sup>; or more likely, non-compliance, resistance and ongoing reluctance from the sector to provide setbacks.

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<sup>21</sup> From MPI's 2010 survey of deforestation intentions, 9,000 ha of pre-1990 commercial plantation forest are intended to be deforested between 2012 and 2020. The proportion that may be converted to indigenous is estimated to be less than 5 per cent.

<sup>22</sup> Ministry for the Environment estimate 3319 ha of new setbacks may be required under the proposed NES, 40 per cent or 1328ha of which are estimated to be likely to regenerate by 4 years. Of the remaining 2,000ha, half is conservatively estimated to benefit from the extended indigenous regeneration time frame. Costed as 816.2t CO<sub>2</sub>-e per hectare and a carbon price of \$10.41.

- Or: There is a risk that landowners are deterred from considering conversion to indigenous forest due to the high costs of alternatives if natural regeneration fails (e.g. deforestation liabilities, or planting costs at \$16,000 - \$36,000 per hectare). The area at risk is expected to be low, and no more than 450ha.
- The Crown could incur unnecessary fiscal costs estimated at \$583,000<sup>23</sup> per 5-period, and minor administration costs, for the tree weed exemption process by granting exemptions for areas that return to forest land in the 20-year timeframe.

*Options analysis*

83. Two options have been identified that could address this issue. An outline of these options is set out in the table below.

Option	Key features
<b>Status quo (natural regeneration requires 500 stems per hectare of forest species at 4 years)</b>	<ul style="list-style-type: none"> <li>• Required to have 500 stems per hectare of forest species at 4 years, and 30 per cent crown cover from trees that are 5m in height at 20 years</li> <li>• Otherwise land is treated as deforested</li> </ul>
<b>Option 1 (remove the requirement for 500 stems per hectare at 4 years)</b>	<ul style="list-style-type: none"> <li>• Amend the Act so re-establishment by natural regeneration of indigenous species is not required to have 500 stems per hectare at 4 years, but land use must be consistent with regeneration to indigenous forest; and</li> <li>• 10 years after clearing, the land must be forest land</li> </ul>
<b>Option 2 (exempt deforestation where it is being regenerated to indigenous forest)</b>	<ul style="list-style-type: none"> <li>• Use section 60 exemption</li> <li>• Crown carries the fiscal cost of deforestation</li> </ul>

84. A summary of the impacts for the policy options is presented in the table below.

Option	Impacts	Net impact
<b>Status quo</b>	ENVIRONMENTAL: Small potential negative biodiversity impact COMPLIANCE: Compliance costs for landowners	Not applicable
<b>Option 1 (remove the requirement for 500 stems per hectare at 4 years)</b>	ENVIRONMENTAL: Small positive biodiversity impact COMPLIANCE: Reduced compliance costs for landowners	Improves status quo due to increased environmental benefit and reduced compliance
<b>Option 2 (exempt deforestation where it is being regenerated to indigenous forest)</b>	FISCAL: Fiscal cost to Crown of deforestation exemption ENVIRONMENTAL: Small positive biodiversity impact COMPLIANCE: Reduced compliance costs for landowners	No improvement on the status quo as the fiscal cost outweighs the environmental and compliance gains

85. Again, as the 4-year rule in the ETS varies from how New Zealand treats accounts for deforestation internationally, there is scope to relax the ETS rule somewhat without fiscal cost.

<sup>23</sup> Based on 100 hectares per commitment period at 560t CO<sub>2</sub>-e per hectare and a carbon price of \$10.41.

86. In terms of delivering fair share, Option 1 (removing the 4-year 500 stems per hectare requirement) does not affect the deforestation signal – deforestation liabilities still apply if the land is deforested, or the re-establishment thresholds are not met at 20 years. Therefore, this change has low reputation risk for New Zealand, with improved biodiversity outcomes.
87. In terms of delivering cost-effective emission reductions, Option 1 is preferred as it and promotes positive biodiversity and wider environmental outcomes, and removes possible compliance or deforestation costs for landowners including the Crown. Implementation is simple, it provides certainty for the sector, and there is no additional compliance effort for the Crown with the extended timeframes as there is already a check-point at 20 years. The impact on New Zealand’s reference level emissions is expected to be negligible; it is likely to only be taken up in limited cases where intentions are genuine to improve biodiversity outcomes - as the landowner is forgoing the commercial forestry use of the land.
88. Option 2 of using a section 60 exemption was rejected as an exemption would incur unnecessary fiscal costs for the Crown when the land is not reforested in the 20-year timeframe. Also, an exemption is not appropriate for this issue as the intent is to leave the deforestation signals in place, while providing greater flexibility in timing for landowners.
89. In terms of long-term economic resilience, both options maximise other positive environmental outcomes relative to the status quo.

*Recommendation*

90. Officials recommend option 1, i.e. removing the requirement for 500 stems per hectare at 4 years where forest is re-established by natural regeneration of indigenous forest species, provided the land is used in a manner consistent with it regenerating to predominantly indigenous forest species, and that after 10 years, the land meets the forest land criteria. A summary of the assessment against the objectives is set out in the table below.

<b>Summary assessment of the options against the high level objectives relative to the status quo</b>			
<b>Option</b>	<b>Status quo</b>	<b>1: Remove the requirement for 500 stems per hectare at 4 years</b>	<b>2: Exempt this class of deforestation</b>
Delivering fair share	-	-	-
Cost-effective emission reductions	-	✓	X
Long-term economic resilience	-	✓	✓

*Implementation*

91. Implementation of option 1 would require the Act to be amended, communications with the forestry sector and updating of information guides.

*iv Re-establishment of poplars and willows*

*Status quo*

92. Poplars and willows are exotic forest species and must meet two tests to avoid being treated as deforested. These tests are:
- (i) 4 years after clearing, the land must have been replanted or naturally established at least 500 stems of forest species per hectare
  - (ii) 10 years after clearing, if the forest cover is predominantly exotic, there must be tree crown cover of at least 30 per cent from trees that have reached 5 metres in height.

*Problem definition*

93. To avoid deforestation, 500 stems per hectare of forest species at 4 years are required. This is also unnecessarily stringent for widely-spaced poplars and willows planted for erosion control. Recommended stockings start from 100 stems per hectare for poles, and 200 stems per hectare for wands. As these species have high root biomass, these relatively low stockings are acceptable for soil conservation purposes, and they usually also meet the ETS 30 per cent crown cover requirement for forest land once established. This imposes higher than necessary compliance costs on landowners with this class of forest.

*Options analysis*

94. As with the previous issue, the status quo (4-year rule 500 stems per hectare requirement) in the ETS is more stringent treatment of deforestation than that New Zealand accounts for internationally, so there is scope to relax the ETS rule somewhat without fiscal cost.
95. The options identified to address the issue are:

<b>Option</b>	<b>Key features</b>
<b>Status quo (500 stems per hectare of forest species required at 4 years)</b>	<ul style="list-style-type: none"> <li>• Forests that are cleared and re-established in poplars or willows must have 500 stems per hectare at 4 years, and 30 per cent crown cover from trees 5m in height at 10 years</li> <li>• Otherwise the land is treated as deforested</li> </ul>
<b>Option 1 (remove the requirement for 500 stems per hectare at 4 years)</b>	<ul style="list-style-type: none"> <li>• Amend the Act so that 500 stems per hectare at 4 years is not required where re-establishment is with poplars or willows</li> <li>• Require a minimum stocking of 80 stems per hectare</li> <li>• Limited to erosion-prone land</li> </ul>
<b>Option 2 (exempt this class of deforestation)</b>	<ul style="list-style-type: none"> <li>• Use section 60 to exempt landowners from the activity of deforestation</li> <li>•</li> </ul>

96. A summary of the impacts for the policy options is presented in the table below.

Option	Impacts	Net impact
<b>Status quo</b>	ENVIRONMENTAL: Possible small negative impact COMPLIANCE: Unnecessary compliance costs for landowners	Not applicable
<b>Option 1 (remove the requirement for 500 stems per hectare at 4 years)</b>	ENVIRONMENTAL: Neutral or small positive impact COMPLIANCE: Reduced compliance costs for landowners	Improves status quo due to increased environmental benefit and reduced compliance
<b>Option 2 (exempt this class of deforestation)</b>	ENVIRONMENTAL: Neutral or small positive impact FISCAL: High administrative cost to the Crown in assessing and granting many small exemptions COMPLIANCE: Costs for landowners in obtaining exemptions	No improvement on the status quo due to additional costs to both the Crown and landowners

97. Option 1 (removing the 500 stems per hectare rule) is preferred primarily in terms of cost-effective emission reductions. Landowners would either face compliance costs with the status quo, or not comply. Compliance costs are estimated at \$1.5m to \$7.5m incurred over 30-40 years as the stands are replaced. This is based on the additional stocking required (on average, 150 stems per hectare at \$10 each) over an estimated poplar and willow area of 1,000-5,000 hectares.<sup>24</sup>

98. Other advantages of option 1 include:

- in terms of delivering fair share, it does not affect the deforestation signals – deforestation liabilities still apply if the land is deforested or the re-establishment thresholds are not met at 10 years. Also, there is no additional incentive created to change to low-stocked poplars or willows.
- there is low reputation risk for New Zealand.
- implementation of is simple, just requiring communication of the change.
- long term economic resilience may be improved as the revised rule removes an unnecessary restriction on land use so land is more likely to find its highest-value use.
- environmental resilience may be marginally improved as landowners are not encouraged to replant in pines, or remove them altogether under their *de minimus* allowance.

99. Again, an exemption is not preferred as the Crown incurs unnecessary fiscal costs for the exemption, and the objective is to leave the deforestation signals in place so that deforestation is not encouraged.

#### *Recommendation*

100. Officials recommend option 1, i.e. amend the Act so that forest land that is cleared and re-established with poplars or willows does not have to meet the 500 stems per hectare

<sup>24</sup> Officials are not aware of any attempt to estimate the actual area of poplars and willows in New Zealand.

at 4 years test, provided that the land has a moderate to severe erosion potential and that at least 80 stems per hectare are established.

101. A summary of the assessment against the objectives is set out in the table below.

<b>Summary assessment of the options against the high level objectives relative to the status quo</b>			
<b>Option</b>	<b>Status quo</b>	<b>1: Remove the requirement for 500 stems per hectare at 4 years</b>	<b>2: Exempt this class of deforestation</b>
<b>Delivering fair share</b>	-	-	-
<b>Cost-effective emission reductions</b>	-	✓	X
<b>Long-term economic resilience</b>	-	✓	✓

*Implementation*

102. Implementation of option 1 would require the Act to be amended, communications with the forestry sector and updating of information guides.

v *Natural disturbance events preventing forest re-establishment*

*Status quo*

103. Under the ETS pre-1990 forest landowners incur deforestation liabilities when their land is deforested by a natural disturbance event such as a landslide, river or sea erosion. Deforestation that is not human-induced is not covered by the Kyoto Protocol and New Zealand does not report it internationally.

*Problem definition*

104. Landowners incur deforestation liabilities following any failure to re-establish the forest following clearance (unless the land has been exempted); regardless of whether the clearance was human-induced (e.g. harvest) or not (e.g. a natural event such as fire, wind throw).
105. Note that where post-1989 forest land in the ETS is deforested through a natural event, the landowner would not have to surrender units that may have been previously issued to the land, and this is mirrored in New Zealand's accounting under the Kyoto Protocol.
106. Some natural events may make it impossible to re-establish the forest. The main example of concern is erosion, where replanting may not be possible due to the land being eroded to substrate, or a water course shifts location. The area affected annually in exotic forests is relatively small and estimated as 20 hectares. Volcanic eruption is another example, albeit unlikely, where land may not be able to be re-planted in the required period.
107. The following issues arise with the status quo:
- as New Zealand has no liabilities for these cases, the status quo is inconsistent with the default position of passing New Zealand's Kyoto Protocol liabilities to landowners
  - it is unfair to hold landowners liable for factors beyond their control (natural disturbance events where they have no ability to replant)
  - landowners cannot insure against erosion.<sup>25</sup>

*Options analysis*

108. Under the status quo, the Crown could receive some revenue from deforestation liabilities in commitment period 1 from landowners including Department of Conservation, local authorities, and possibly some private landowners; this is estimated at \$0.85m<sup>26</sup> for the current commitment period. However, enforcement of this rule would be unpopular with the few parties affected. The value of the deforestation can be expected to be similar or slowly increasing in future periods.

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<sup>25</sup> The Earthquake Commission only covers losses to residential properties.

<sup>26</sup> 100 hectares at 816.2t CO<sub>2</sub>-e and a carbon price of \$10.41.

109. Two options have been identified that could address this issue:

Option	Key features
<b>Status quo (participants face deforestation liabilities where natural disturbance prevents forest re-establishment)</b>	<ul style="list-style-type: none"> <li>Deforestation liabilities apply where a natural event prevents forest re-establishment</li> </ul>
<b>Option 1 (participants are not liable for deforestation liabilities where natural disturbance prevents forest re-establishment)</b>	<ul style="list-style-type: none"> <li>Amend the Act so that deforestation liabilities are not imposed where a natural event prevents forest re-establishment</li> </ul>
<b>Option 2 (exempt this class of deforestation)</b>	<ul style="list-style-type: none"> <li>S60 exemption for deforestation where forest re-establishment is prevented by a natural disturbance</li> <li>Crown carries the fiscal cost of deforestation</li> </ul>

110. A summary of the impacts for the policy options is presented in the table below.

Option	Impacts	Net impact
<b>Status quo (deforestation liabilities)</b>	COMPLIANCE: Deforestation liabilities for landowners	Not applicable
<b>Option 1 (remove deforestation liabilities)</b>	COMPLIANCE: No deforestation liabilities for landowners	Improves on the status quo due to removal of unnecessary compliance costs to landowners
<b>Option 2 (exempt this class of deforestation)</b>	FISCAL: Fiscal cost to Crown of deforestation exemption COMPLIANCE: No deforestation liabilities for landowners	No improvement on the status quo as the fiscal costs outweigh the reduced compliance

111. As this class of deforestation revenue has not been included in Treasury revenue forecasts, both options have no fiscal cost. As the revenue forgone by the Crown is matched by the saving to landowners, there is no economic cost to New Zealand.
112. Both options remove the deforestation costs for landowners arising under the status quo. In terms of delivering cost-effective emission reductions, option 1 (remove deforestation liabilities) is preferred as implementation is simpler than option 2 (exempt this class of deforestation), there are no reporting requirements for landowners, and it provides greater certainty for the sector. Option 1 also makes the ETS more consistent with the Kyoto Protocol; otherwise New Zealand would be doing more than is required.
113. None of the options makes a difference in terms of environmental impact and delivering fair share, as the events are beyond the landowner's control.

*Recommendation*

114. Officials recommend that the Act is amended to provide for option 1, i.e. participants would not be liable for deforestation liabilities where natural disturbances prevent forest re-establishment.

115. A summary of the assessment against the objectives is set out in the table below.

<b>Summary assessment of the options against the high level objectives relative to the status quo</b>			
<b>Option</b>	<b>Status quo</b>	<b>1: Remove deforestation liabilities</b>	<b>2: Exempt this class of deforestation</b>
<b>Delivering fair share</b>	-	-	-
<b>Cost-effective emission reductions</b>	-	✓	X
<b>Long-term economic resilience</b>	-	-	-

*Implementation*

116. Implementation of option 1 would require the Act to be amended, communications with the forestry sector and updating of information guides.

vi *Excluding land with high wilding spread risk from post-1989 participation in the ETS*

*Status quo*

117. Post-1989 forest land with high wilding<sup>27</sup> spread risk (tree weed land) can earn carbon credits in the ETS. The resulting incentive to retain these forests conflicts with biodiversity, landscape and primary production protection objectives expressed in the Biosecurity Act 1993 (BA) and Resource Management Act 1991 (RMA) planning provisions. Even in the ETS, the clearance of pre-1990 wilding forest with a high spread risk is encouraged by providing an exemption from deforestation liabilities. To be more consistent, the ETS needs to be at least neutral (provide no financial incentive for landowners to retain these forests or allow them to spread), or negative (discouraging retention or spread, or encouraging transition to another species).
118. Under the status quo, the ETS relies on strategies and plans prepared under the BA and RMA to address the risk of spread; applicants must declare compliance with those acts since 2008. However, those plans and strategies were prepared prior to the introduction of the ETS and do not consistently or adequately address the risk of wilding spread. Also, recent work on wilding conifers has found these mechanisms “are unlikely to have much impact on wilding conifers” for a variety of reasons.

*Problem definition*

119. Tree weeds negatively impact on pastoral farming, conservation, landscape values and catchment water yield. There are very large areas of land currently infested with tree weeds, and at risk of future infestation. Central and local government collectively spend approximately \$6m annually on the control of wilding conifers (pine species) alone.
120. The ability for landowners to register tree weed forest land in the ETS to earn revenue, creates a strong incentive to both retain current tree weeds that in turn permits further spread. In addition, the associated deforestation liability and control costs are a twofold disincentive for landowners to remove them. This makes it problematic for regional councils to be more stringent when plans come up for review as they are required to consider the costs (removal costs) and benefits (revenue) of any plan changes to landowners. Retained tree weed stands also create a continual “seed rain” in the environment, and create an ongoing liability once the stands are mature and all the credits have been claimed.
121. Despite the above, an advantage of the status quo is that the ETS provides revenue to landowners that can be use to either manage the tree weeds e.g. controlling spread elsewhere on the property or neighbouring properties, or to transition the forest by replacement planting with a less invasive species. However, there is no requirement for that income to be used in this way, and it would be difficult to enforce such a requirement.

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<sup>27</sup> A wilding is a tree that has established naturally i.e. without human intervention. The Climate Change (Forestry Sector) Regulations 2008 lists “Forest species that are tree weeds”. In specific circumstances and environments, it is desirable that these species are eradicated.

*Options analysis*

122. Four options have been identified that could address this issue:

<b>Option</b>	<b>Key features</b>
<b>Status quo</b>	<ul style="list-style-type: none"> <li>• Landowners can register post-1989 tree weed land in the ETS</li> <li>• Required to declare compliance with the RMA and pest management strategies</li> </ul>
<b>Option 1 (exclude wilding tree weeds from registering)</b>	<ul style="list-style-type: none"> <li>• A schedule in the Act specifies a list of tree weed species</li> <li>• Wilding forest with a high risk of spread is not permitted in the ETS, but planted stands are permitted</li> </ul>
<b>Option 2 (exclude wilding tree weeds unless district plans expressly permit it)</b>	<ul style="list-style-type: none"> <li>• A schedule in the Act specifies a list of tree weed species</li> <li>• Registration permitted if district plans expressly permit it</li> </ul>
<b>Option 3 (a levy to fund control work)</b>	<ul style="list-style-type: none"> <li>• Levy post-1989 tree weed participants a small proportion of their carbon revenue</li> <li>• Funds used to control ETS tree weed spread</li> </ul>
<b>Option 4 (permit registration but require control and transition)</b>	<ul style="list-style-type: none"> <li>• Tree weeds permitted to register in the ETS</li> <li>• Landowners must control spread on neighbouring land</li> <li>• Requirement to transition to non-weedy species in specified timeframes</li> </ul>

123. A summary of the impacts for the status quo and policy options is presented in the table below.

Option	Impacts	Net impact
<b>Status quo</b>	<p><b>ECONOMIC:</b> Risk of slow reduction in land productivity over long-term, and increasing landowner &amp; council control costs</p> <p><b>FISCAL:</b> Risk of slow increase in tree weed control costs to Crown.</p> <p><b>ENVIRONMENTAL:</b> Slow gradual negative impact on biodiversity, landscape values.</p> <p><b>COMPLIANCE:</b> Higher risk of default as land has no productive value once all credits are claimed</p>	Not applicable
<b>Option 1 (exclude wilding tree weeds)</b>	<p><b>ECONOMIC:</b> Marginal positive economic benefit possible over status quo</p> <p><b>FISCAL:</b> Fiscal savings from sequestration credits devolved to participants. Neutral with if fiscal savings are re-allocated to fund tree weed control.</p> <p><b>ENVIRONMENTAL:</b> Improved biodiversity and landscape values. Eradication may be possible in some areas.</p>	Improvement on the status quo due to better environmental, fiscal and economic outcomes
<b>Option 2 (exclude wilding tree weeds unless district plans expressly permit it)</b>	<p><b>ECONOMIC:</b> Marginal positive economic benefit possible over status quo</p> <p><b>FISCAL:</b> Fiscal savings from sequestration credits devolved to participants. Neutral with if fiscal savings are re-allocated to fund tree weed control.</p> <p><b>ENVIRONMENTAL:</b> Improved biodiversity and landscape values, but possible inconsistent approach by councils may make benefits variable.</p>	Improvement on the status quo, but not as great as option 1 as environmental benefit is less
<b>Option 3 (levy)</b>	<p><b>ECONOMIC:</b> Marginal positive economic benefit possible over status quo</p> <p><b>FISCAL:</b> Fiscal savings from sequestration credits devolved to participants. Neutral with if fiscal savings are re-allocated to fund tree weed control.</p> <p><b>ENVIRONMENTAL:</b> Improved biodiversity and landscape values. Eradication may be possible in some areas.</p> <p><b>COMPLIANCE:</b> Additional administrative costs for Crown</p>	Improvement on the status quo as compliance costs outweigh environmental and fiscal benefits
<b>Option 4 (permit registration but require control and transition)</b>	<p><b>ECONOMIC:</b> Marginal positive economic benefit possible over status quo</p> <p><b>FISCAL:</b> Fiscal savings from sequestration credits devolved to participants. Neutral with if fiscal savings are re-allocated to fund tree weed control.</p> <p><b>ENVIRONMENTAL:</b> Improved biodiversity and landscape values. Eradication may be possible in some areas.</p> <p><b>COMPLIANCE:</b> Risk of non-compliance, and risk that conditional requirements are not enforceable. Compliance costs for Crown</p>	Improvement on the status quo, but compliance risk outweighs other benefits

124. Both options 1 (exclude wilding tree weeds) and 2 (exclude wilding tree weeds unless district plans expressly permit it) involve specifying a list of tree weed species that are not permitted to be registered in the ETS unless they are planted.<sup>28</sup> That is, predominantly self-sown or wildings stands are not permitted. The existing tree weed list used for pre-1990 exemptions would be suitable.
125. Option 2 (exclude wilding tree weeds unless district plans expressly permit it) is otherwise similar to option 1, but provides scope for district councils to expressly permit tree weeds to be registered. This approach requires councils to specifically consider the tree weed issue as plans come up for review, without the risk of encouraging spread in the interim. This option may result in some inconsistency in the treatment of the same weed species nationally.
126. In terms of delivering cost-effective emission reductions, both options 1 and 2 have ongoing fiscal savings for the Crown from the NZUs that are not devolved to landowners, estimated at \$4.75m.<sup>29</sup>
127. In terms of long-term economic resilience, both options 1 and 2 minimise risk of tree weed spread relative to the status quo.
128. Landowners are likely to object to loss of credit revenue and the Crown retaining the sequestration credits for the tree weeds on their land, on the basis that they face only ongoing liabilities for the control of wilding spread, and the reducing productivity of their land. They can argue the Crown has a responsibility to assist landowners, as many of the current problem areas originated from Crown plantings. **[Withheld under s9(2)(f)(iv)].**
129. In terms of delivering cost-effective emission reductions, both Options 3 and 4 involve additional and ongoing administration or compliance and enforcement costs for the Crown, which are estimated as \$200,000 per year.
130. Currently post-1989 forestry participants are fully liable if there is a fire or other catastrophic loss. Therefore, landowners are likely to oppose Option 3 (levy) involving the Crown withholding a portion of the carbon credits from tree weed forests.
131. Officials consider that consultation on this issue would be useful for implementation as there are merits to options 1, 2 and 4, and a broader debate on whether the carbon benefits outweigh the biodiversity costs and risks could help further clarify the issue.

#### *Recommendation*

132. Officials recommend option 1 - preventing forest land where the forest species are predominantly wildings from registering in the ETS as post-1989 forest land. In addition, it is recommended that funds be made available for tree weed clearance based on the credits from sequestration that are not devolved to landowners. A summary of the assessment against the objectives is set out in the table below.

<b>Summary assessment of the options against the high level objectives relative to the</b>
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<sup>28</sup> The exclusion for planted stands is necessary as the main commercial species such as radiata pine, Douglas fir, larch and Corsican pine are included in the tree weed species list. It is the existing and future wilding forests that threaten the environment through seed dispersal.

<sup>29</sup> An estimated 190,000ha is "affected" by post-1989 tree weeds. Of this a quarter is estimated as being eligible to earn credits at a rate of 10t CO<sub>2</sub>-e per hectare, at a carbon price of \$10.41. Figures have high uncertainty.

<b>status quo</b>					
	<b>Status quo</b>	<b>Option 1 (exclude wilding tree weeds)</b>	<b>Option 2 (exclude wilding tree weeds unless district plans expressly permit it)</b>	<b>Option 3 (levy)</b>	<b>Option 4 (permit registration but require control and transition)</b>
<b>Delivering fair share</b>	-	-	-	✓	✓
<b>Cost-effective emission reductions</b>	-	✓	✓	X	X
<b>Long-term economic resilience</b>	-	✓	✓	✓	✓

*Implementation*

133. Implementation would require the Act to be amended, communications with the forestry sector and updating of information guides.

## C ETS participation by the energy sector

### i. Surrender obligation for the own-use of oil by an oil miner

#### *Status quo*

134. Under the ETS as legislated, miners do not face an ETS surrender obligation for the emissions from their own use of oil. However, these emissions are part of New Zealand's inventory and the Government currently has an obligation (and hence fiscal cost) for these emissions under the first commitment period of the Kyoto Protocol.

#### *Problem definition*

135. The treatment of emissions from the own use of oil by miners is different to the way that emissions from the own-use of gas and coal by miners are treated. Miners have obligations for all gas and coal emissions, including the emissions from the own-use of gas or coal during the mining operation. This creates two problems under the status quo. First there is an equity issue in terms of the ETS treatment of the own-use of fuels in different mining operations. Second there is a risk of distorting miners' decisions on which fuel to use in their mining operations. Currently no distortion currently arises but this may arise in future where a miner is mining oil and gas together.
136. The different treatment of the own use of fuels is not due to any policy-related reason, but simply because at the time the ETS was established there was no own-use of oil by miners. Since then, the Maari oil field has started production and a relatively small amount of oil is used in the mining operation.

#### *Options analysis*

137. An alternative option (option 1) has been identified in which miners face reporting and surrender obligations for their own-use of oil. A summary of the impacts under the status quo and the policy option is set out in the table below.

Option	Impacts	Net impact
<b>Status quo (no obligation)</b>	<p><b>ECONOMIC:</b> Inequitable treatment of different mining operations and potential market distortion</p> <p><b>FISCAL:</b> No fiscal revenue</p> <p><b>ENVIRONMENTAL:</b> No incentive for oil miners to reduce emissions from their own-use of oil as they do not face carbon price</p> <p><b>COMPLIANCE:</b> No compliance or administrative costs</p>	Not applicable as it is the status quo
<b>Option 1 (obligation)</b>	<p><b>ECONOMIC:</b> Addition cost for oil miners that use some of the oil mined in their production process (\$110,000 per annum) but achieves equitable treatment of different mining operations and avoids risk of market distortions</p> <p><b>FISCAL:</b> Additional fiscal revenue (\$110,000 per annum)</p> <p><b>ENVIRONMENTAL:</b> Oil miners have incentive to reduce emissions from their own-use of oil as they face carbon price</p> <p><b>COMPLIANCE:</b> Additional, but negligible, compliance and administrative costs</p>	Improves on status quo as economic and environmental benefits outweigh the economic costs

138. In terms of long-term economic resilience, option 1 (obligation) is preferred. This is because option 1 treats the own-use of oil by miners in the same way as the own-use of coal and gas, unlike the status quo (no obligation). This ensures equitable treatment of all miners and prevents the risk of distorting miners' decisions on which fuel to use in their mining operations. In addition, option 1 ensures the miner, rather than the Government, faces the costs of own-use oil under any future international obligations.
139. In terms of delivering fair share and cost effective emission reductions, option 1 is preferred. While this option imposes a cost on oil miners (estimated at \$110,000 per annum) this provides an incentive for them to reduce emissions where it is economic to do so. This cost is likely to be passed-on to oil consumers, although the impact on prices is likely to be negligible. This additional cost to oil miners is effectively a transfer to the Government. Additional compliance and administrative costs are likely to be very small for option 1 compared to the status quo.

*Recommendation*

140. Accordingly, option 1 is preferred. However, this proposal has not been consulted on previously and therefore officials recommend consultation as this proposal imposes a cost on oil miners. A summary of the assessment against the objections is set out in the table below.

<b>Summary assessment of the policy options against the high level objectives relative to the status quo</b>		
	<b>Status quo (no obligation)</b>	<b>Option 1 (obligation)</b>
<b>Delivering fair share</b>	-	✓
<b>Delivering cost-effective emission reductions</b>	-	✓
<b>Long-term economic resilience</b>	-	✓

*Implementation*

141. Schedule 3 of the Act would need to be amended to add own-use of oil as an emissions source.

ii. *Voluntary participation for liquid fossil fuel purchasers*

*Status quo*

142. Under the ETS as currently legislated, purchasers of obligation jet fuel may opt in as a voluntary participant if they meet the relatively low threshold (ten million litres or approximately 7500 tonnes of fuel). However the option of opting in is not available to purchasers of other liquid fossil fuels, such as fuel oil, petrol, or diesel.

*Problem definition*

143. At the time that the ETS was established airlines were the only parties buying large volumes of liquid fossil fuel domestically, and who had expressed an interest in opting in. The retail liquid fuels market has changed since that time, with the emergence of retailers who buy substantial volumes of petrol and diesel from the major oil companies.
144. The major oil companies, who are mandatory ETS participants, pass on the costs they face under the ETS to their customers such as retailers. This creates a market distortion when these retailers compete with the oil companies to sell fuels overseas or for use in international transport. This is because the major oil companies do not face costs under the ETS for such sales. However, retailers would have indirectly incurred ETS costs as these would have been passed on to them by major oil companies. While it is difficult to quantify the scale of this impact in the status quo, concerns about market distortions have been expressed, both by retailers and oil companies.
145. Under amended regulations passed in 2010, a retailer may provide the oil company that sold the fuel to it information on subsequent sales it made overseas or for use in international shipping. The oil company may then modify its ETS emissions return accordingly, thereby reducing its costs under the ETS which it in turn then passes on to the retailer. The oil companies and retailers have complained about this process as it imposes additional compliance costs for them and relies on trust and co-operation between both parties, although the scale of these impacts is difficult to quantify. It also creates a potential cash flow issue for retailers as there is likely to be a delay between when it has to pay for the fuel it receives from the oil company when it receives a rebate for the ETS costs. Again, it is difficult to quantify the scale of this impact.

*Options analysis*

146. Two options for the treatment of liquid fossil fuels in the ETS have been identified and are set out in the table below.

Option	Status quo	1: allow opt-in for other liquid fossil fuels	2: allow opt-in for other liquid fossil fuels above threshold
<b>Key features</b>	<ul style="list-style-type: none"> <li>no ability to opt-in for other liquid fossil fuels</li> </ul>	<ul style="list-style-type: none"> <li>allow opt-in for other liquid fossil fuels</li> </ul>	<ul style="list-style-type: none"> <li>allow opt-in for other liquid fossil fuels but set appropriate thresholds for each fuel type</li> </ul>

147. A summary of the impacts under the status quo and the policy options is set out in the table below.

Option	Impacts	Net impact
<b>Status quo (no opt-in)</b>	ECONOMIC: Market distortion where oil companies and retailers compete for sales overseas or for use in international transport	Not applicable as it is the status quo

	COMPLIANCE: Compliance costs for liquid fossil fuel purchasers and oil companies.	
<b>Option 1 (opt-in)</b>	ECONOMIC: Removes market distortion. Provides flexibility for purchasers of liquid fossil fuels to directly manage their costs under the ETS COMPLIANCE: Compliance costs for liquid fossil fuel purchasers and oil companies (similar to status quo). Additional administrative costs for Government compared to status quo	Improves on status quo as economic benefits outweigh the compliance costs
<b>Option 2 (opt-in with threshold)</b>	ECONOMIC: Removes market distortion. Provides flexibility for purchasers of liquid fossil fuels above threshold to directly manage their costs under the ETS COMPLIANCE: Compliance costs for liquid fossil fuel purchasers and oil companies (similar to status quo). Additional administrative costs for Government compared to status quo but less than option 1	Improves on status quo and option 1 as economic benefits outweigh the compliance costs

148. In terms of cost-effective emission reductions, option 2 (opt-in with threshold) is preferred.
149. Under option 1 (opt-in) there a risk that, absent a threshold, small purchasers of liquid fossil fuels may opt-in to the ETS. If so, this would create more complexity and compliance cost for the oil companies, who are mandatory ETS participants, in terms of managing their ETS emission returns and their surrender obligations. In addition, it is likely to create greater administrative costs for Government as it would have more ETS participants to deal with. Option 2 would, by setting a threshold at an appropriate level manage these additional compliance and administrative costs. The thresholds set for voluntary ETS participants purchasing coal and gas were set at a level to avoid excessive compliance and administrative costs.
150. Both options would provide greater flexibility for liquid fossil fuel retailers to manage their costs arising from the ETS, compared to the status quo. This is because they could opt-in to the ETS and manage their ETS costs directly rather than having them passed on to them indirectly by the oil companies. Retailers would do this if it cost them less than the ETS costs that are passed on to them by the oil companies.
151. Both options would remove the market distortion identified under the status quo.
152. In terms of delivering fair share and long-term economic resilience, both options would deliver similar outcomes as the status quo.

*Recommendation*

153. Option 2 (opt-in with threshold) is preferred as a threshold set at an appropriate level would avoid excessive administrative and compliance costs. However, further consultation is required on the appropriate thresholds for voluntary participation by liquid fossil fuel retailers. A summary of the assessment against the objections is set out in the table below.

<b>Summary assessment of the policy options against the high level objectives relative to the status quo</b>			
	<b>Status quo</b>	<b>Option 1 (opt-in)</b>	<b>Option 2 (opt-in with threshold)</b>
<b>Delivering fair share</b>	-	-	-
<b>Delivering cost-effective emission reductions</b>	-	✓	✓✓
<b>Long-term economic resilience</b>	-	-	-

*Implementation*

154. This could be implemented through changes to the Act (Schedule 4) or through regulations. Specifying the thresholds in the Act would however be consistent with the approach adopted for the other fuels.

## D Phase-out of industrial and agricultural allocations

### *Status quo*

155. Under the ETS as currently legislated, allocation is provided to prevent a loss of competitiveness and carbon leakage<sup>30</sup> due to New Zealand businesses competing against overseas businesses that do not face a cost on their emissions. The sectors most at risk of competitiveness impacts are agriculture and certain industrial activities. Industrial and agricultural allocations are to be phased out at a rate of 1.3 per cent per year, with the reductions starting after 2012 (industry) and after 2015 (agriculture). This will be done by reducing the allocation rate. Currently the Act specifies that the allocation rate is to be reduced each year by 1.3 per cent of the previous year's rate, and rounded to two decimal places. For example, in the case of a highly emission-intensive industrial allocation recipient receiving 90 per cent allocation, the allocation rate starts to change as shown below:
- until 2012 the rate is 0.90 (or 90 per cent)
  - in 2013 it is reduced to  $0.90 - (0.013 \times 0.90) = 0.89$  (rounded to two decimal places) or 89 per cent
  - in 2014 it is reduced to  $0.89 - (0.013 \times 0.89) = 0.88$  (rounded to two decimal places) or 88 per cent

### *Problem definition*

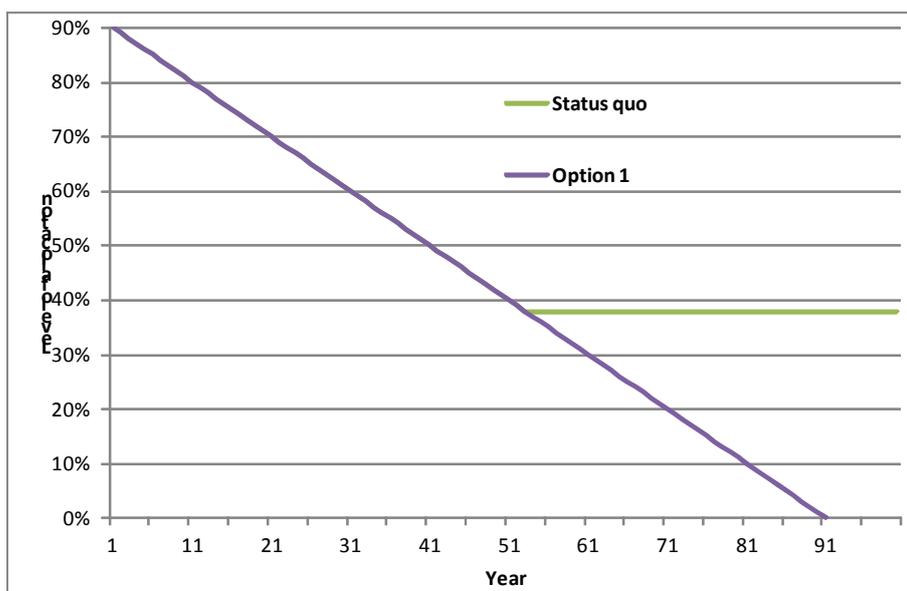
156. The rounding rule means that the allocation rate is simply reduced by 0.01 every year, i.e. by 1 per cent per annum rather than by 1.3 per cent per annum specified in the Act. However, there comes a point when the rate rounds back up to the previous year's value. This means there would be no further reductions in the allocation rate (i.e. it remains constant forever). For highly emissions intensive activities this point is reached in 2063 when the allocation rate becomes constant at 0.38 (or 38 per cent). For moderately emission intensive activities, the allocation rate remains constant at this level from 2034. This means that, under the status quo, the allocation rate does not phase-out to zero. This means that businesses eligible to receive allocation will get it forever. This is likely to weaken the incentives for them to invest in long-term emission reduction measures. However, it is difficult to quantify the scale of this impact.
157. The Panel recommended a change to a phase-out of the allocation rate on a straight-line basis by 1.3 percentage points of the previous years' rate (subject to rounding as at present). This would signal that there is a point at which allocations will be phased out entirely.

### *Options analysis*

158. One option has been identified to address this problem: implement the Panel's recommendation of reducing the allocation rate on a straight line basis by 1.3 percentage points per annum to ensure the level of allocation eventually phases-out to zero (option 1).
159. The figure below shows the allocation rate over time for highly emissions intensive industrial activities and agriculture under the status quo and option 1.

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<sup>30</sup> Carbon leakage arises when domestic production (and hence the emissions associated with that production) shifts overseas as a result of a loss of domestic competitiveness.



160. A summary of the impacts under the status quo and the policy options is set out in the table below.

Option	Impacts	Net impact
<b>Status quo</b>	ENVIRONMENTAL: Allocation rate does not phase out to zero, dampening incentives to invest in emission reductions	Not applicable as it is the status quo
<b>Option 1 (straight-line)</b>	ECONOMIC: ETS participants receive same level of allocation (and hence face same costs) as status quo initially but will face increased costs in long term (i.e. about 24 or 50 years later) ENVIRONMENTAL: Allocation rate phases-out to zero over time, providing incentives to invest in emission reductions in the long term	Improves on status quo as environmental benefits outweigh the economic costs

161. In terms of delivering cost-effective emission reductions, the status quo and option1 (straight-line) are likely to deliver similar outcomes as businesses eligible for allocation will receive the same levels of allocation (and hence face the same level of costs) under the status quo and option 1 for about the first 50 years after the phase out of allocation begins for highly emissions intensive industrial activities and agriculture (sooner – 24 years - for moderately emissions intensive activities).

162. In terms of long-term economic resilience, option 1 is preferred as it provides a clear incentive for firms to invest in emission reductions in the long-term.

163. In terms of delivering fair share, the status quo and option1 are likely to deliver similar outcomes.

*Recommendation*

164. Option 1, phase-out on a straight-line basis by 1.3 percentage points per annum, is recommended.

*Implementation*

165. This will be implemented through an amendment to the Act.

## Consultation

166. In March 2011, the Panel published its *Issues statement and call for written submissions*.<sup>31</sup> The Panel received 162 written submissions. In addition, the Panel met with a number of stakeholders. Annex 2 of the Panel's final report provides further details.<sup>32</sup> In addition the Panel published a comprehensive summary of submissions.<sup>33</sup> The consultation covered specific issues and on possible policy options. The concerns raised by submitters have been reflected in the analysis set out above.
167. In terms of excluding egg producers from the ETS, the Agriculture ETS Advisory Committee has considered this issue. This eight member committee includes representatives from the pastoral sector, research groups and Māori. Their views have been reflected in the assessment of egg producers (Section A).
168. In terms of the forestry rule changes, the issue of the eligibility of land vested in trustees (including Maori land) was raised by some submitters to the Panel. The other forestry issues have been raised by the forestry sector and government departments outside of formal consultation proposals. These are:
- minor clearing on forest boundaries being treated as deforestation
  - the relevance of the current forest re-establishment criteria where forest is
    - naturally regenerated to indigenous species, or
    - replanted in poplars or willows on erosion-prone land.
  - landowners being liable for deforestation where a natural event permanently prevents forest re-establishment
  - the exclusion of land with high wilding spread risk from post-1989 forestry participation.
169. In terms of adjusting the phase out of allocation, some submitters to the Panel (primarily environmental NGOs) argued that allocation should be phased out more quickly as it reduces the incentives to reduce emissions. Several submitters noted that under current settings some sectors would receive allocations forever. Other submitters (primarily businesses) argued that the phase out of allocation should be delayed because their international competitors do not face a similar cost for their emissions. These points have been reflected in the assessment of the phase out of allocation (Section D).
170. However, not all of the policy problems and/or specific policy options covered in this RIS were considered by the Panel or the Agriculture ETS Advisory Committee because they were not specified in the terms of reference and/or submitters did not raise them during consultation. These are:
- a reporting and surrender obligation for own-use of oil by an oil miner
  - the threshold for voluntary participation in the ETS by liquid fossil fuel purchaser

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<sup>31</sup> See: <http://www.climatechange.govt.nz/emissions-trading-scheme/ets-review-2011/consultation/>

<sup>32</sup> See: <http://www.climatechange.govt.nz/emissions-trading-scheme/ets-review-2011/index.html>

<sup>33</sup> See: <http://www.climatechange.govt.nz/emissions-trading-scheme/ets-review-2011/consultation/>

171. There has also been substantial departmental consultation during the course of this RIA. In addition, MPI conducted the RIA, and wrote the relevant RIS sections, of the issues in relation to forestry and agriculture.

## Conclusions and recommendations

172. In summary the following conclusions and recommendations are reached:

- egg producers should be excluded from the ETS
- in respect of the less than 50 hectare exemption for pre-1990 forest land:
  - unrelated land holdings of the Māori Trustee and other sole professional trustees landholdings should not prejudice unrelated trusts
  - trustees appointed under Te Ture Whenua Māori Act should be treated as professional trustees, so their land holdings on 1 September 2007 are not counted
- minor clearing on forest boundaries should not be treated as deforestation provided certain criteria are met
- the requirement for forest owners to have 500 stems per hectare at 4 years should be removed where the forest owner is either
  - re-establishing forest by natural regeneration of indigenous species, or
  - re-establishing poplars and willows on erosion-prone land.
- deforestation liabilities should not apply where a natural event permanently prevents forest re-establishment
- land with high wilding spread risk should be excluded from the ETS
- miners should face reporting and surrender obligations for their own-use of oil, subject to consultation
- other liquid fossil fuel purchasers should be permitted to opt in to the ETS as voluntary participants, subject to consultation on the level of the threshold
- industrial and agricultural allocations should be phased out in a straight-line basis by 1.3 per cent per annum

## Implementation

173. All of the proposals will be implemented through amendments to the Act and/or through regulations.

174. In terms of the forestry technical and operational amendments, most are expected to be quite simple to implement (though require careful drafting), with minor business process or systems impacts. The main effort will be rewriting guidance material and communication of the new rules to the sector.

## Monitoring, evaluation and review

175. The Act requires the Minister to conduct regular reviews of the operation and effectiveness of the ETS (s160). The first review occurred in 2011 and will occur every five years thereafter. The Act (s160(5)) also specifies what the review must cover, although the review is not limited to these matters. Under the Act, the Minister sets the

terms of reference and appoints a panel to conduct any review (s160(6)). The Minister is required to publish the panel's report on the review.

176. The Act also requires the Minister to publish an annual report on the ETS. This contains details of the number of ETS participants, the number and types of emission units surrendered and the amount of NZUs allocated each year.<sup>34</sup>
177. A substantial amount of information and data on the ETS is already collected. For example, ETS participants are required to report on their emissions annually. In addition, data are collected each year to assist New Zealand to complete its national inventory. Survey data are collected periodically from the industry<sup>35</sup> and forestry sectors.<sup>36</sup> Data are also collected for use in a number of sector models to produce emission projections, such as the energy sector.<sup>37</sup>
178. There is close liaison between policy and implementation officials that ensures early identification of any problems arising. Officials also meet regularly with businesses and groups, including Māori, most affected by the ETS.
179. There may however be a need to collect data that is not currently collected for monitoring and evaluation purposes. A Ministry for the Environment monitoring and evaluation plan will be completed for each policy proposal once approved by Cabinet.

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<sup>34</sup> See: <http://www.climatechange.govt.nz/emissions-trading-scheme/building/reports/ets-report/>

<sup>35</sup> See for example: Ministry of Economic Development Occasion Paper 11/04, *Business responses to the introduction of the New Zealand emissions trading scheme. Part I: Baseline*. Available at: <http://www.med.govt.nz/about-us/publications/publications-by-topic/occasional-papers>

<sup>36</sup> See, for example: <http://www.mpi.govt.nz/news-resources/publications?title=Deforestation%20Survey>

<sup>37</sup> See, for example, Ministry of Economic Development, *Energy Outlook*. Available at: <http://www.med.govt.nz/sectors-industries/energy/energy-modelling/modelling/new-zealands-energy-outlook>

## Annex 1: Objectives, sub-objectives and criteria used in the regulatory impact analysis

180. The table below shows the top level objectives, sub-objectives and assessment criteria used in the analysis.

<b>Top level objectives</b>	<b>1. Help New Zealand to deliver its 'fair share' of international action to reduce emissions, including meeting any international obligations</b>		<b>2. Deliver emission reductions in the most cost-effective manner</b>					<b>3. Support efforts to maximise the long-term resilience of the New Zealand economy at least cost</b>			
<b>Sub-objectives</b>	<b>1A. Meet international obligations</b>	<b>1B. Achieve a level of emissions consistent with New Zealand's 'fair share'</b>	<b>2A. Minimise negative economic impacts in the short term</b>	<b>2B. Maintain international competitiveness of New Zealand businesses in the short term</b>	<b>2C. Ensure administrative efficiency and effectiveness</b>	<b>2D. Minimise fiscal costs</b>	<b>2E. Ensure efficiency of carbon market</b>	<b>3A. Maximise long term economic resilience</b>	<b>3B. Maximise equity between sectors and groups</b>	<b>3C. Ensure the Crown-iwi relationship under the Treaty of Waitangi is appropriately reflected in ETS legislation, regulation, policy and implementation</b>	<b>3D. Minimise negative environmental impacts and promote positive environmental impacts</b>
<b>Assessment criteria</b>	a) Facilitate progress of international efforts to address climate change	a) Contribute to meeting New Zealand's 'fair share' by 2020	a) Minimise short term negative impacts on economic welfare (e.g. GDP, National Disposable Income, etc)	a) Minimise carbon cost differentials between New Zealand's trade exposed businesses and its trading competitors and partners	a) Minimise administrative and implementation costs to Government	a) Minimise fiscal costs	a) Maximise market liquidity	a) Minimise negative economic impacts in the long term	a) Maximise equity between sectors of the economy	a) Appropriately reflect the Crown's responsibilities as a Treaty partner and deliver on any relevant Treaty settlement obligations	a) Minimise negative (wider) environmental impacts
	b) Contribute to meeting New Zealand's existing international obligations	b) Provide incentives for businesses to adopt existing emission abatement opportunities	b) Minimise costs to non-trade exposed businesses	b) Minimise risks of trade sanctions or harm to New Zealand's clean and green reputation for New Zealand's exporters	b) Minimise compliance costs to ETS participants	b) Maximise fiscal savings	b) Maximise market transparency	b) Maintain international competitiveness of New Zealand's businesses in the long term	b) Maximise socio-economic equity, e.g. between high- and low-income households	b) Support the development by Māori of their natural resources in ways that contribute to the development of the Māori economy, and which are consistent with their environmental values	b) Maximise positive (wider) environmental impacts
	c) Enhance	c) Provide	c) Minimise		c) Minimise		c) Facilitate	c) Provide	c) Promote		c) Ensure

	New Zealand's international credibility to influence the outcome of international climate change negotiations.	incentives for consumers to buy low-emission products	competition distortions within and between sectors of the New Zealand economy		transaction costs to ETS participants buying or selling emission units		future links with overseas emissions trading schemes	incentives for the development of new emission abatement opportunities at least cost and businesses' ability to meet future demand for low-carbon products	inter-temporal equity, namely equity between present generation and future generations		environmental integrity of international emission units surrendered in the ETS
		d) Contribute to meeting New Zealand's 2050 domestic emission reduction target			d) Promote understanding of the ETS				d) Ensure appropriate risk-sharing between emitters and Government/taxpayers		