

Regulatory Impact Statement: Annual update to New Zealand Emissions Trading Scheme limits and price control settings for units 2022

Table of Contents

Regulatory Impact Statement: Annual update to New Zealand Emissions Trading Scheme limits and price control settings for units 2022..... 1

Coversheet..... 4

Section 1: Diagnosing the policy problem 9

 What is the context behind the policy problem and how is the status quo expected to develop?..... 9

 What is the policy problem or opportunity? 11

 What objectives are sought in relation to the policy problem? 11

Section 2: Deciding upon options to address the policy problem 12

 Legal considerations when updating limits and price control settings for units..... 12

 What criteria will be used to compare options to the status quo? 12

 What scope will options be considered within? 16

 What options are being considered?..... 16

Section 3: Limit settings 18

Section 3.1: Technical adjustments 18

 Background..... 18

 Options..... 19

 Presenting options..... 19

 How do the options compare to the status quo/counterfactual? 20

 What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?..... 21

 What are the marginal costs and benefits of the option?..... 21

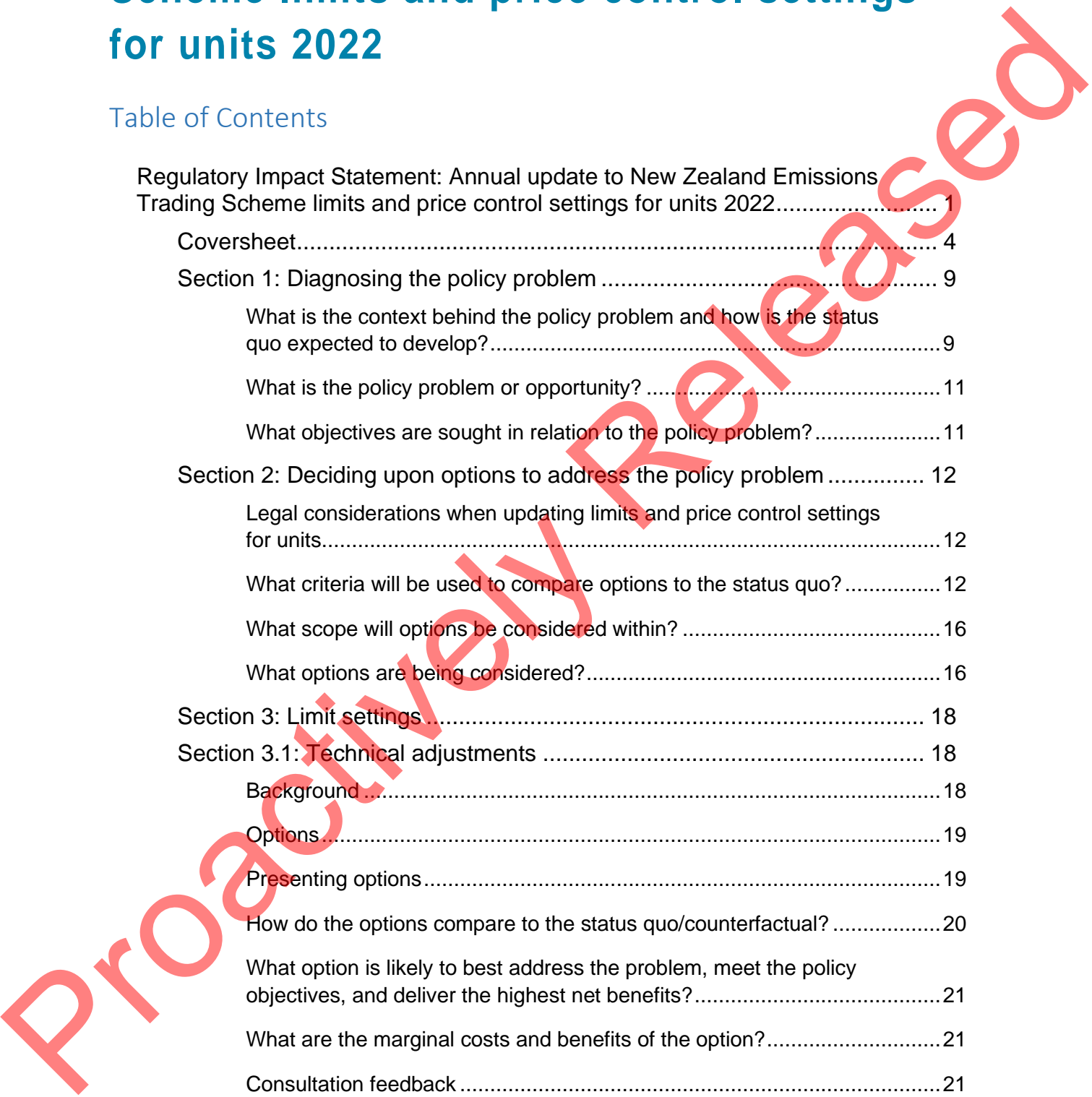
 Consultation feedback 21

 Recommendation 21

Section 3.2: Stockpile reduction volumes..... 22

 Background 22

 Options..... 22



Presenting options.....	23
How do the options compare to the status quo?	23
What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?.....	25
Consultation feedback	25
Recommendations.....	25
Section 3.3: Annual auction volume calculations	26
Section 3.4: Recommended NZ ETS Limits for units	26
Auction volumes	26
Limits to be prescribed in regulations.....	27
Section 4: Price control settings.....	28
Section 4.1: Auction reserve price	28
Background	28
Options.....	28
Presenting options.....	29
How do the options compare to the status quo/counterfactual?	29
What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?.....	33
What are the marginal costs and benefits of the option?.....	34
Consultation feedback.....	34
Recommendations.....	34
Section 4.2 Cost containment reserve (CCR)	35
Background	35
Section 4.2.1: CCR volume.....	35
Background	35
Options.....	36
Presenting options.....	36
How do the options compare to the status quo/counterfactual?	37
What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?.....	39
What are the marginal costs and benefits of the option?.....	39
Consultation feedback	39
Recommendations.....	39
Section 4.2.2 Cost Containment Reserve (CCR) structure	40

Background	40
Options	40
How does the alternative option compare to the status quo?	40
What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?	41
Consultation feedback	42
Recommendations	42
Section 4.2.3 CCR trigger price	43
Options	43
Presenting options	44
How do the options compare to the status quo?	44
What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?	55
Consultation feedback	55
Recommendations	56
Section 5: Delivering an option	57
How will the new arrangements be implemented?	57
How will the new arrangements be monitored, evaluated, and reviewed?	57

Proactively Released

Coversheet

Purpose of Document	
Decision sought:	Cabinet approval for the annual update to New Zealand Emissions Trading Scheme limit and price control settings for units
Advising agencies:	Ministry for the Environment
Proposing Ministers:	Hon James Shaw, Minister of Climate Change
Date finalised:	3 November 2022
Problem Definition	
<p>There are several problems to be addressed through the options in this RIS.</p> <p>Current New Zealand Emissions Trading Scheme (NZ ETS) unit settings were set with reference to a 'provisional emissions budget' for 2021-25. The settings need reconsidering because the Government made decisions on emissions budgets for 2022-25, 2026-30 and 2031-35 in May this year. There is a need to ensure the NZ ETS limits and price control settings are aligned with the role expected of the scheme in meeting these emission budgets.</p> <p>Price control settings, which address unacceptably high or low prices in auctions by either increasing or decreasing the supply of New Zealand units (NZUs), are intended to be triggered rarely. However, the cost containment reserve was triggered in 2021 and 2022. This indicates a misalignment between the cost containment reserve settings and market outcomes.</p> <p>Additionally, the settings need to be extended to cover at least an additional year to meet the requirement that, at all times, they prescribe limits and price control settings for each of the next 5 calendar years.</p>	
Executive Summary	
<p>The supply of NZUs into the New Zealand Emissions Trading Scheme affects the Government's ability to meet New Zealand's emissions targets¹. This is achieved by aligning the supply of units with these targets.</p> <p>This supply of units is affected by settings prescribed in schedule 3 of the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020. These NZ ETS unit settings are prescribed for five years and must be updated annually to ensure that, at all times, they prescribe settings for the next five calendar years. In specific circumstances, settings for all years can be updated. This is the case for this 2022 update to NZ ETS unit settings.</p> <p>These settings fall into two categories:</p> <ul style="list-style-type: none">• limits for units; and	

¹ Emissions targets is used at various points throughout this document to refer to emissions budgets, the 2050 emissions targets described in the Climate Change Response Act 2002, and New Zealand's nationally determined contribution (NDC) under the Paris Agreement.

- price control settings for units.

From this year, the Climate Change Commission (the Commission) is required to give annual advice on updates to these settings.² This advice is one of the matters that must be considered when recommending NZ ETS unit settings updates.

The Commission considered decisions at several steps as part of arriving at its final advice on updated unit settings. These decision points are examined in this Regulatory Impact Statement (RIS).

The Ministry's recommendations differ from the Commission's advice for some of these decisions, and for some decisions a range of options is recommended.

What stakeholders think

Feedback from consultation on these settings fell broadly into two categories, those supportive of the Commission's recommendations, and those supportive of retaining status quo settings. Some submitters supported some elements, but not others, of the Commission's advice, or recommended alternative options that hadn't been considered in the discussion document.

Those supportive of status quo settings have highlighted the potential impacts on households and the economy allowed for by these settings, and concerns about the modelling approach taken by the Commission.

Those supportive of the Commission's advice have tended to acknowledge potential impacts but consider that these should be addressed via complementary measures rather than via NZ ETS unit settings. They have also highlighted that settings should focus primarily on maximising emissions reductions, and that the Commission's role as an independent advisory body means that its recommendations should be followed.

Limits for units

The limits for units prescribed in regulations are:

- a limit on the NZUs available by auction (annual auction volume + volume available within the cost containment reserve);
- a limit on approved overseas units; and
- an overall limit on units (often referred to as the NZ ETS cap, which consists of units available by auction and by other means, and approved overseas units).

These settings are derived from calculated auction volumes, projections of units transferred for industrial allocation, and the number of units provided in the cost containment reserve (CCR) – which is one of the price control settings. Note that there are currently no approved overseas units, so the limit on approved overseas units remains zero.

Three decisions that affect the calculation of these settings are examined in this RIS:

- technical adjustment;
- stockpile adjustment; and
- CCR volume (described in the price control settings section).

² This requirement is described in section 5ZOA of the Climate Change Response Act 2002.

These are explained in more detail below.

Technical adjustment

Emissions reported into the NZ ETS for covered sectors are intended to align with emissions reported in New Zealand's Greenhouse Gas Inventory (the Inventory).

In its advice to the Minister on NZ ETS unit limit settings this year, the Commission described discrepancies between emissions reported in the Inventory and those reported in the NZ ETS. Three options are considered to address this as part of calculating auction volumes:

- Option One – status quo – no technical adjustment;
- Option Two – reduce calculated auction volumes by the full amount of the observed discrepancy – Commission's advice; and
- Option Three – reduce calculated auction volumes by half of the observed discrepancy.

While there is no clear 'best option' resulting from the criteria analysis, the least costly and lowest impact option is to make no adjustment to calculated auction volumes. Until officials are more confident there is a problem to be fixed via a technical adjustment, the most prudent approach is to not make one.

Officials recommend that no technical adjustment is made.

Stockpile adjustment

NZ ETS account holders can bank NZUs in their accounts in the NZ emissions trading register. A large quantity of units has accumulated in private accounts. The stockpile could cause challenges in meeting emissions budgets because it allows emissions outside the NZ ETS cap in the short term.

The methodology used to calculate auction volumes includes a stockpile reduction step, which means setting an auction limit lower than the entire volume of emission units estimated to be available.

The Commission has advised updating the approach to apportioning the stockpile reduction volume among years, and using an updated estimate of the 'surplus' component of the stockpile. This is the option recommended in this RIS, and is the approach recommended in the Cabinet paper.

Price control settings for units

The price control settings for units prescribed in regulations are:

- auction reserve price;
- cost containment reserve trigger price(s); and
- cost containment reserve volume(s).

Auction price control settings allow the Government to address unacceptably high or low NZU prices by moderating supply of units via auctions.

Auction reserve price

This auction reserve price is the price below which the Government will not sell units at auction. Its stated purpose is to act as a safety valve that helps guard against NZU prices dropping below the level needed to meet emissions budgets. Bids in an NZ ETS auction cannot be made at prices below the auction reserve price that applies at that auction.

Alternatives to the status quo considered in this RIS involve an increased auction reserve price either immediately, or after several years. All alternatives to the status quo are considered to be improvements, and arriving at a recommended option is finely balanced. The distinguishing factors are the risks to regulatory certainty, and the likelihood of the auction reserve price interacting with NZU secondary market prices – noting that price control settings are intended to rarely, if ever, take effect.

The RIS does not specifically recommend any single alternative to the status quo. All alternative options presented increase emissions reductions incentives, and act to safeguard investments already being made to reduce emissions.

Cost containment reserve

The cost containment reserve is the price control that provides the Government with a mechanism to help manage unacceptably high prices in the NZ ETS. It achieves this by releasing additional NZUs for sale at auction if the auction's interim clearing price is above a set cost containment reserve 'trigger' price. It is intended to be rarely used; however, it has been triggered in auctions in both years that auctions have taken place.

Decisions on CCR settings require careful consideration of emissions reductions and impacts that could occur or be incentivised at different price points.

The Commission has recommended updating the structure, volume calculation, and trigger price of the CCR.

The Ministry recommends updating the CCR volume calculation as recommended by the Commission, while retaining the current structure and increasing the trigger price, but does not recommend any specific alternative trigger price.

Limitations and Constraints on Analysis

The short timeframe available for analysis of settings and the Commission's advice has limited this analysis. The timing of public consultation and subsequent time available for review of submissions have exacerbated this constraint.

The almost month-long delay between the provision of the Commission's overarching advice in mid-July and the technical annexes, which provide much of the evidence base to the advice, has further constrained analysis. The Commission's model from which its scenarios and price modelling was derived, has not been made available to the Government or the public. This meant that we were not able to carry out our own sensitivity testing using the model itself.

The lack of agreed and shared modelling of responses to emissions pricing limits the extent to which emissions reductions at varying prices can be considered.

We have been unable to fully assess possible impacts of changes to the NZ ETS price corridor from updating price control settings. This includes the potential impacts on land use change, households, and the economy.

Responsible Manager

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ETS Policy, Markets Directorate
Climate Business Group
Ministry for the Environment



9 November 2022

Quality Assurance (completed by QA panel)

Reviewing Agency:	Ministry for the Environment
Panel Assessment & Comment:	The Regulatory Impact Analysis (RIA) is assessed by the Ministry for the Environment's RIA Panel as partially meets. The RIA is well structured, presents a range of options for assessment, shows evidence of appropriate engagement and contains a high-level of detail and good analysis in many areas. The RIA was not considered to fully meet the RIA requirements because the purpose of the package of changes should be more clearly and succinctly presented; some of the analysis is unnecessarily complex and focussed on technical issues rather than the purpose of the package; some critical information was missing for some options; and there were inconsistencies in some of the analysis.

Proactive Release

Section 1: Diagnosing the policy problem

What is the context behind the policy problem and how is the status quo expected to develop?

Problem summary

1. The supply of NZUs into the New Zealand Emissions Trading Scheme (NZ ETS) affects the Government's ability to meet New Zealand's emissions targets³. This is achieved by aligning the amount of emissions units (New Zealand Units, or NZUs) available with the levels required for consistency with these targets. The introduction of NZ ETS limits and price control settings for units (NZ ETS unit settings) alongside auctions of NZUs in 2021 provided a greater level of control on unit supply.
2. NZ ETS unit settings are required to generally accord with New Zealand's emissions budgets and targets⁴. Auction price control settings allow the Government to address unacceptably high or low NZU prices by managing the supply of units in the NZ ETS via auctions.
3. The Government set New Zealand's emissions budgets for 2022-25, 2026-30 and 2031-35 in 2022. Those decisions allow the Government to review and update the currently prescribed limits and price control settings for units in the NZ ETS in 2023 and 2024⁵, in addition to the requirement to consider updates for 2025 and 2026, and to extend settings to include 2027⁶.
4. The settings also need to be extended to cover an additional year to meet the legal requirement that, at all times, they prescribe limits and price control settings for each of the next 5 calendar years. Section 5ZOA of the Climate Change Response Act 2002 (the Act) requires the Climate Change Commission (the Commission) to provide advice on these settings. This advice is one of the matters that the Minister must consider when recommending updates to NZ ETS unit settings.

Emissions pricing is key to meeting emissions budgets and climate change targets

5. The NZ ETS is one of the Government's key tools to price greenhouse gas emissions and address climate change.
6. The NZ ETS supports and encourages domestic and global efforts to reduce greenhouse gas emissions. Its purpose is to help New Zealand to meet its:
 - a. international obligations including New Zealand's nationally determined contribution under the Paris Agreement (NDC);
 - b. 2050 emissions targets described in the Act; and
 - c. emissions budgets.

³ Emissions targets is used at various points throughout this document to refer to emissions budgets, the 2050 emissions targets, and the NDC.

⁴ Section 30GC requires that limits and price control settings are in accordance with the emissions budget and NDC, and the 2050 target. However, they need not strictly accord with these if the Minister is satisfied that the discrepancy is justified after considering the other matters that the Act requires be considered.

⁵ Clause 7(2) of Schedule 1AA of the CCRA allows for recommending new settings for the first two calendar years when an emissions budget is first set: [Climate Change Response Act 2002 No 40 \(as at 03 November 2021\), Public Act – New Zealand Legislation](#)

⁶ Additionally, the sale of units from the cost containment reserve and the 2021 update to New Zealand's NDC also allow for updates to settings for the first two calendar years.

7. The NZ ETS helps reduce emissions by doing five main things:
 - a. requiring people performing certain activities (like mining coal or producing cement) to measure and report on the greenhouse gas emissions that result from their activities;⁷
 - b. requiring these NZ ETS participants⁸ to surrender one 'emissions unit' (NZU) to the Government for each tonne of reported emissions;
 - c. allowing some people to measure and report on emissions removals from their activity, including the growth of forests;
 - d. allowing those people to receive one NZU for each one tonne of emissions removed from carrying out some activities (such as forestry); and
 - e. limiting the number of NZUs available to emitters (ie, that are supplied into the scheme), other than units transferred for removal activities.
8. The costs of meeting these NZ ETS obligations flow through New Zealand's economy. The NZ ETS increases the costs of commodities and services that use fossil fuels or produce significant levels of emissions.

Emissions pricing and unit supply

9. The Government makes annual decisions on the number of units supplied into the scheme over time. This limits or 'caps' the quantity of net emissions that can occur, in line with New Zealand's emissions reduction targets. NZ ETS unit limits are generally required to accord with New Zealand's emissions budgets and targets.
10. The purposes of price controls are to:
 - a. mitigate against prices that are unacceptable;
 - b. signal the outer limits of expected prices in the NZ ETS; and
 - c. manage the risk of the NZU price at auction being out of line with what is necessary to meet emissions budgets.
11. This is described further in the 2019 Regulatory Impact Statement on improving the NZ ETS framework for unit supply.⁹

Settings for unit supply via NZ ETS auctions

12. The Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 provide for auctions to sell NZUs under the Act. These regulations also prescribe limits and price control settings for units.
13. The 2022 update will be the second time that these settings have been updated since regulations were made in 2020. These settings will be reviewed and updated annually.

The Climate Change Commission has provided advice on NZ ETS unit settings

14. In 2021, the Commission recommended changes to NZ ETS unit settings. In its formal advice *Ināia tonu nei*, the Commission provided advice to Government on its first three emissions budgets and direction for the 2021-2024 emissions reduction plan.
15. NZ ETS unit settings were updated in 2021 and currently reflect those recommendations.
16. The Commission is required to give annual advice on NZ ETS unit settings after emissions budgets are set. New Zealand's first emissions budgets were set in May

⁷ Required participants are those performing any of the activities in Schedule 3 of the Climate Change Response Act 2002: <https://www.legislation.govt.nz/act/public/2002/0040/latest/DLM1662841.html>

⁸ Persons performing prescribed agricultural activities do not have this surrender obligation.

⁹ [Impact Statement: Improving the NZ ETS Framework for Unit Supply - 16 May 2019 - Ministry for the Environment - Regulatory Impact Assessment \(treasury.govt.nz\)](#)

2022, and the Commission provided advice on NZ ETS unit settings to the Minister of Climate Change in mid-July 2022. The technical annexes underlying this advice were made available four weeks later on 9 August 2022. The version of the model which generated the price and emissions values used in the Commission's advice has not been made available to the Government or the public; our analysis instead uses the data outputs from this model presented in technical annexes.

17. The above timeframes have significantly compressed the time available to make the required updates this year.
18. The Minister must consider the Commission's advice when recommending updates to settings. In future years, this advice will be provided in the first quarter of the year.

What is the policy problem or opportunity?

19. There are several problems to be addressed through the options in this RIS:
 - a. The current NZ ETS unit settings were set with reference to a 'provisional emissions budget' for 2021-25. The settings need reconsidering because the Government made decisions on emissions budgets for 2022-25, 2026-30 and 2031-35 in May this year. The budgets are substantially different in duration from the earlier 'provisional emissions budget'.¹⁰ There is a need to ensure the NZ ETS limits and price control settings are aligned with the role expected of the NZ ETS in meeting those emission budgets.
 - b. Price control settings, which address unacceptably high or low prices in auctions by either increasing or constraining the supply of NZUs, are intended to be triggered rarely. However, the cost containment reserve was triggered in 2021 and 2022. This indicates a misalignment between the cost containment reserve settings and market outcomes.
 - c. Additionally, the settings need to be extended to cover at least an additional year to meet the requirement that, at all times, they prescribe limits and price control settings for each of the next five calendar years.

What objectives are sought in relation to the policy problem?

20. NZ ETS unit limit settings generally must assist New Zealand to meet its emissions budgets, New Zealand's NDC, and the 2050 emissions targets. This is aligned with the purpose of the NZ ETS¹¹, which states it will support and encourage global efforts to reduce the emissions of greenhouse gases by assisting New Zealand to meet international and domestic emission obligations and targets. This includes ensuring that limits are correctly set in reference to the emissions budgets, and that price controls allow net emission reductions to occur while mitigating the risk of unacceptably low or high prices.

¹⁰ The provisional emissions budget covered 2021 to 2025 and was for a volume of 354 million tonnes of carbon dioxide equivalent (MtCO₂e): <https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/ets/nz-ets-market/setting-unit-limits-in-the-nz-ets/> In contrast, the first emissions budget covers 2022-25 and totals 290 MtCO₂e. Decisions were also made for the second (305 MtCO₂e) and third (240 MtCO₂e) emissions budgets at the same time: <https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-budgets-and-the-emissions-reduction-plan/>

¹¹ Section 3(1)(b) Climate Change Response Act 2002 No 40 (as at 03 November 2021), Public Act 3 Purpose – New Zealand Legislation.

Section 2: Deciding upon options to address the policy problem

Legal considerations when updating limits and price control settings for units

21. The Act allows for NZ ETS unit limit settings to be updated this year for each of the five years of 2023 to 2027. Generally, the first two years are unable to be amended from existing settings unless one of the special circumstances have been met. As described in paragraph 4, settings for all years can be updated this year.

What criteria will be used to compare options to the status quo?

22. As described above, updates to regulations for NZ ETS unit settings must align with obligations described in the Act and the purpose of the NZ ETS. The options for changes to NZ ETS unit settings are assessed against criteria listed in the table below.

Table 2.1: Criteria for options analysis of limit and price control settings for units

Criteria	Description
Accordance with New Zealand's emissions budgets, NDC, and 2050 emissions targets	The NZ ETS should generally accord with emissions budgets and help deliver the emission reductions needed to meet New Zealand's emissions reduction targets.
Support the proper functioning of the ETS	Settings should allow the NZ ETS to function as intended. This includes auctions that operate successfully every year, and NZ ETS participants being able to attain and surrender NZUs to meet NZ ETS obligations.
Improve regulatory certainty and predictability	<p>The NZ ETS should operate in a transparent and durable manner that allows participants to form expectations about future market conditions. This is necessary to build confidence in the NZ ETS market and encourage investment in cost-effective opportunities for domestic emissions abatement.</p> <p>Regulatory certainty is the reasoning behind strict limitations on being able to update NZ ETS unit settings in the first two years and the matters described in section 30GC of the Act that must be considered when making updates to these settings.</p> <p>The NZ ETS unit limit settings should avoid the need for review and update of settings for the first two years every year in order to build confidence in the NZ ETS market and encourage investment in cost-effective opportunities for domestic emissions abatement.</p>
Support consistency of NZU prices with the level and trajectory of international emissions prices **	NZ ETS settings should support efforts to allow access to offshore mitigation. This includes keeping NZU prices in line with international prices.
Appropriately considers inflationary impacts **	Settings should act to both ensure that the NZ ETS price signal is not eroded by inflation, while also minimising impacts on rates of inflation.

Manages the risk of unacceptable economic impacts **

Settings manage the risk of unacceptable emissions costs being incurred by affected groups and the wider economy.

** these criteria are considered for price control settings only.

23. Assessment of each option against the criteria is given a rating outlined in the key below:

Key for assessing options against the status quo	
++	much better than the status quo
+	better than the status quo
0	about the same as the status quo
-	worse than the status quo
--	much worse than the status quo

Criteria reflect requirements under the Climate Change Response Act 2002

24. The Act requires that the limits and price control settings are in accordance with the NDC, the emission budgets, and the 2050 targets but need not strictly accord if the Minister, after considering a range of other matters, consider a discrepancy is justified.
25. The Act also states that settings do not need to strictly accord if, after taking account of matters specified in section 30GC of the Act, a discrepancy is justified.
26. The criteria outlined above address these matters. A list of the obligations under section 30GC of the Act is provided in the table below, along with reference to the criteria that reflect each matter.

Table 2.2: How the criteria being used to assess options reflect obligations under section 30GC of the Climate Change Response Act 2002

Obligations under section 30GC of the Act	Criteria that reflect this matter
(2) The Minister must be satisfied that the limits and price control settings are in accordance with (a) the emissions budget and the nationally determined contribution and (b) the 2050 target (3) However, they need not strictly accord with the budgets or contributions as long as the Minister is satisfied that the discrepancy is justified, after considering other matters	Accordance with New Zealand's emissions budgets, NDC and 2050 target
Matters the Minister must consider	
(5)(a) Projected trends in greenhouse gas emissions, including both emissions covered	Accordance with New Zealand's emissions budgets, NDC and 2050 target

by the NZ ETS and those that are not covered	
(5)(b) The proper functioning of the NZ ETS	Support the proper functioning of the ETS
(5)(c) International climate change obligations and contracts New Zealand may have for accessing offshore mitigation from other carbon markets	Support consistency of NZU prices with the level and trajectory of international emissions prices Accordance with New Zealand's emissions budgets, NDC and 2050 target
(5)(d) The forecast availability and costs of ways to reduce greenhouse gas emissions that may be needed for New Zealand to meet its emissions reduction targets	Accordance with New Zealand's emissions budgets, NDC and 2050 target Support the proper functioning of the ETS Support consistency of NZU prices with the level and trajectory of international emissions prices
(5)(e) The recommendations made by the Climate Change Commission under section 5ZOA	The Commission's recommendations are included among the options considered for all NZ ETS unit settings decisions in this RIS
(5)(f) Any other matters that the Minister considers relevant	
Additional matters the Minister must consider in analysing price control settings	
(6)(a) The impact of emissions prices on households and the economy	Manages the risk of unacceptable economic impacts
(6)(b) The level and trajectory of international emissions prices (including price controls in linked markets)	Support consistency of NZU prices with the level and trajectory of international emissions prices
(6)(c) Inflation	Manages the risk of unacceptable economic impacts Appropriately considers inflationary impacts

Accordance with the NDC requires careful consideration

27. New Zealand has made a nationally determined contribution under the Paris Agreement. NZ ETS unit settings are required to be in accordance with the NDC, as well as emissions budgets and legislated emissions targets.
28. Government has indicated that offshore mitigation will contribute to meeting the NDC. The criterion of accordance with New Zealand's emissions targets is considered in the impact analysis below with reference to this.
29. The Commission has taken a similar approach, advising on limits that are set in line with emissions budgets as stepping-stones to the 2050 target and the intended domestic contribution to the NDC.
30. The Commission has further highlighted that the severe social and economic risks of limits in line with the NDC, without consideration of the role Government has signalled will be played by offshore mitigation, would mean that after consideration of other matters the settings should not be set to achieve NDC via domestic emissions reductions only.
31. Assessment of accordance with New Zealand's NDC is considered against the Government's intention that offshore mitigation will contribute to meeting the NDC.

Purpose of unit settings

32. The purpose of auction price controls is to mitigate the risk of unacceptably low or high NZU prices. Publishing at least five years of these price settings signals to the market expectations of the future range of NZU prices. This contributes to a stable and predictable domestic emissions price that allows market participants to form long-term expectations of their NZ ETS costs.
33. There is a tension between this role and the purpose of NZ ETS unit settings to assist in the achievement of targets. Higher NZU prices will be generally better at incentivising emission reductions and removals, which lowers the risk of New Zealand not meeting the emissions targets and budgets. At what price points the auction price controls are set may influence the impact of the NZ ETS settings on household costs and the economy. Conversely, price controls that mitigate price too much or too little may be inconsistent with meeting targets and budgets.
34. Limits and price control settings are not the only means of achieving targets or managing economic impact. The NZ ETS is only one component of the Government's emission reduction plan, and economic impacts of emissions pricing can be addressed by complementary actions.
35. In the emissions reduction plan, the Government noted complementary policies, such as standards, regulations and investments, are additional, potential means of contributing to meeting targets. These often include costs for emissions reductions that are orders of magnitude above observed NZ ETS prices. How much emissions pricing is required to achieve emissions reductions depends on the implementation and effectiveness of the non-pricing parts of the emissions reduction plan.

The Commission's modelling informed its recommendations

36. The Commission based its modelling that informed its advice on a range of scenarios in the context of three sources of uncertainty – baseline emissions from which reductions need to occur, mitigation costs, and other policies affecting NZ ETS sectors.
37. These scenarios were then used to consider the prices required to meet gross emissions reductions calculated by 'sector sub-targets' in the emissions reduction plan for non-forestry sectors covered by the NZ ETS. The prices required to meet the legislated targets and NDC were indirectly investigated via this approach.
38. The Commission noted the afforestation response to higher NZU prices would not assist the Government meet the first emissions budget¹² as forests have initially slow rates of carbon sequestration. The Commission's modelling on price and emissions responses covered the first three emissions budgets; by the third budget period, the removals from afforestation from 2023 will be material.
39. This modelling and its use in calculating what is required to meet sector sub-targets resulted in a need for relatively higher NZU prices, and therefore for a considerably higher NZ ETS auction price control ceiling than currently set, so that these higher prices would not be curtailed.
40. This higher price pathway will not be needed if the NZ ETS market mechanism is effective in driving the required emissions reductions. The purpose of the upper bound is to prevent unacceptable impacts from prices if emissions reductions have not occurred at lower prices.
41. The overarching purpose of the NZ ETS is to assist New Zealand to meet international and domestic emission targets. Settings that would be clearly unacceptable for that

¹² The Commission notes on p25 of its advice that "Due to the lag between planting and tree growth, the effect of higher afforestation on carbon removals and unit supply in the NZ ETS would emerge after 2025."

purpose are those that limited prices to levels too low to incentivise emissions reductions. Additionally, Government introduced the upper price control to acknowledge that the impacts at certain prices are unacceptable, irrespective of emissions outcomes.

42. The challenge is to set the price controls at points that are sufficiently high and low to signal boundaries that provide confidence on the role of emissions pricing in meeting targets, while limiting any impacts of emissions pricing to those that are deemed acceptable.

What scope will options be considered within?

43. Options for controlling unit supply and mitigating unacceptable prices are being considered in the context of adjusting the existing auctioning regulations.
44. The following matters are out-of-scope:
 - a. **The methodology for calculating unit limits.** The methodology for calculating unit limits was developed in 2020 for the NZ ETS limits for units. It estimates the auction volume from emission budgets, adjusted for factors that include other market supplies (such as industrial allocation), and desired reductions to the NZU stockpile. The Commission followed this methodology in their 2022 advice on NZ ETS unit limit settings. We consider there is no reason to change the sequential set of calculations, as the process remains the only appropriate way to determine these limits.
 - b. **Targets other than New Zealand's legislated targets.** New Zealand's emissions targets are premised on net emissions - the combination of emissions and removals of CO₂e to and from the atmosphere. The Commission has repeatedly urged changes to the NZ ETS to prioritise the reduction of gross emissions, that is emissions only rather than the net outcome of emissions and removals. Work is underway on this. However, consideration of the relative balance of emissions and removals towards meeting New Zealand's net emissions targets is out of scope for this analysis.

What options are being considered?

45. Changes are being considered to the limits for units and the price control settings for units prescribed in schedule 3 of the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020.

Options for limits for units (section 3)

46. Limit settings determine the number of new units available to be supplied into the NZ ETS via auctioning, introduction of approved overseas units, and free allocation. These limits do not restrict the number of units that can be transferred for removal activities such as carbon sequestration from forests that reduce New Zealand's net emissions.
47. The limits being updated are:
 - a. **a limit on the NZUs available by auction** (annual auction volume + volume available within the cost containment reserve);
 - b. **a limit on approved overseas units**; and
 - c. **an overall limit on units** (often referred to as the NZ ETS cap, which consists of units available by auction and by other means, and approved overseas units).
48. Although regulations do not prescribe annual auction volumes, it is possible to calculate them from the published limits (by subtracting the cost containment reserve volume from the limit on units available by auction). The Ministry for the Environment's

Chief Executive is required to make publicly available an auction calendar that includes the number of NZUs expected to be available to sell at each auction.

49. To update limits for units, an existing methodology is being applied. This methodology moves through a series of steps to determine the base auction volumes, which is then used as an input to calculate the limits prescribed in regulations. Options are being considered for the following steps within this methodology:
 - a. making technical adjustments to appropriately address any misalignment between emissions reported into the NZ ETS and those reported in New Zealand's Greenhouse Gas Inventory; and
 - b. setting a reduction volume to address the 'surplus' or 'excess' units in the privately held stockpile of NZUs.
50. Options for each of the decisions in carrying out this methodology are detailed in sections below.

Options for price control settings for units (section 4)

51. The price control settings being updated are:
 - a. the minimum price that units can be sold at auction for (price floor or auction reserve price);
 - b. the cost containment reserve trigger price(s); and
 - c. the cost containment reserve unit volume(s).
52. Options are being considered for the following:
 - a. the auction reserve price;
 - b. the volume of units in the cost containment reserve;
 - c. the structure of the cost containment reserve, meaning whether to have one or several trigger prices and volumes of units; and
 - d. the trigger price(s) for the cost containment reserve.

Options are analysed in sections below

53. Options for each of these are presented and analysed in sections below.

Section 3: Limit settings

54. The limits for units that are prescribed in regulations are:
 - a. **a limit on the NZUs available by auction** (annual auction volume + volume available within the cost containment reserve);
 - b. **a limit on approved overseas units**; and
 - c. **an overall limit on units** (often referred to as the NZ ETS cap, which consists of units available by auction and by other means, and approved overseas units).
55. These limits depend on the number of NZUs available for auction (excluding the cost containment reserve volume), and the number of units in the cost containment reserve. The volume of units available for auction is not directly prescribed in regulations, but required to be published in the auction calendar.
56. The methodology for calculating unit limits was developed in 2020 for the NZ ETS limits for units. There is no reason to change this sequential set of calculations as the process remains the only appropriate way to determine the number of emission units available for auction. The Commission used this methodology in their 2022 advice to the Minister, and it has been largely supported through responses to consultation.
57. The methodology for calculating the auction volumes uses the following calculation steps:
 - a. Step 1: Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors;
 - b. Step 2: Make technical adjustments;
 - c. Step 3: Account for free NZU allocation volumes;
 - d. Step 4: Set the reduction volume to address the unit surplus;
 - e. Step 5: Set the approved overseas unit limit; and
 - f. Step 6: Calculate the base auction volumes.
58. Options are considered in separate sections below for step 2 and step 4, as the technical adjustment and stockpile reduction volume steps.
59. The recommended approach at each decision point is then incorporated into the calculation of auction volumes in section 3.3 below, and the calculation of limits for units to be prescribed in regulations in section 3.4 below.

Section 3.1: Technical adjustments

Background

60. Emissions reported into the NZ ETS for covered sectors are intended to align with emissions reported in New Zealand's Greenhouse Gas Inventory (the Inventory).
61. In its advice to the Minister on NZ ETS unit limit settings this year, the Commission identified discrepancies between emissions reported in the Inventory and those reported in the NZ ETS for three sources:

Liquid fossil fuels	The variance for liquid fossil fuels has been consistent since 2010 at around 0.8 Mt CO ₂ e per annum lower than emissions reported into the NZ ETS than reported in the Inventory.
Coal and steel	The variance for coal and steel is only recently emerging. Alignment was reasonably close between 2012-2017, but differences has emerged since then. NZ ETS reported emissions were 0.5 Mt CO ₂ e lower than emissions reported in the inventory for 2018, and 0.9-1.0 Mt CO ₂ e (or around 16%) lower than the emissions reported in the national Greenhouse Gas Inventory from 2019-2020.

Geothermal	The variance for geothermal emissions was smaller and limited to recent years. Analysis has shown that this observed discrepancy was due to a methodological issue when compiling the Inventory. This has been corrected in the most recent Inventory submission, and does not require any technical adjustment when calculating auction volumes.
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62. Addressing these discrepancies is important because New Zealand uses inventory data to report progress towards targets. As noted above, the purpose of the NZ ETS is to assist New Zealand meet those targets. Any accounting misalignment could mean too many, or too few, emission units are supplied each year. This could risk over or under achievement of those targets.
63. Officials have been exploring methodologies and emissions factors used in both the NZ ETS and the inventory following the Commission’s discovery. However, two discrepancies remain. Options are presented below for how these are reflected in unit limits.

Options

Option One – status quo – no technical adjustment

64. No technical adjustments are made during the calculation of auction volumes

Option Two – reduce calculated auction volumes by the full amount of the observed discrepancy – Commission’s advice

65. A technical adjustment to reduce auction volumes is made to reflect the full amount of the observed discrepancies. This would reflect the relatively steady liquid fossil fuel discrepancy over the period of 2010-2020, and a fixed percentage adjustment for coal emissions based on the observed discrepancy for years 2019-2020.

Option Three – reduce calculated auction volumes by half of the observed discrepancy

66. A technical adjustment to reduce auction volumes is made to reflect half of the observed discrepancies.

Presenting options

67. The three listed options are presented in the table below.

Table 3.1.1 Impact of technical adjustment options on auction volume

Option	Technical adjustment (millions of units – reduced auction volume)				
	2023	2024	2025	2026	2027
Option 1 – Status quo	0	0	0	0	0
Option 2 – Full discrepancy	1.6	1.5	1.3	1.3	1.3
Option 3 – Half discrepancy	0.8	0.7	0.7	0.7	0.6

How do the options compare to the status quo/counterfactual?

68. An assessment of each option against the status quo is presented in the table below.

Table 3.1.2 Assessment of options against the status quo

	Option One – Status quo, no technical adjustment	Option Two – Reduce auction volume by entire amount – Commission’s advice	Option Three – Reduce auction volume partially
Accordance with New Zealand’s emissions budgets, NDC and 2050 target	0	0 Until it is clear whether a technical adjustment is appropriate, it is unknown if full adjustment will make the NZ ETS more or less aligned with NZ’s targets and budgets	0 Until it is clear whether a technical adjustment is appropriate, it is unknown if half adjustment will make the NZ ETS more or less aligned with NZ’s targets and budgets
Support of the proper functioning of the ETS	0	0 No impact on NZ ETS participants or operation	0 No impact on NZ ETS participants or operation
Improve regulatory certainty and predictability	0	- A change at this step without certainty about whether this will be retained introduces uncertainty in addition to the change itself.	- A change at this step without certainty about whether this will be retained introduces uncertainty in addition to the change itself.
Support consistency of NZU prices with the level and trajectory of international emissions prices	0	0 Unpredictable impact on emission unit prices	0 Unpredictable impact on emission unit prices
Overall assessment	0	0	0

69. The criteria analysis does not strongly identify any clear preferred option. All options have risk and uncertainty from making, or not making, a technical adjustment for the discrepancies.

70. The decision made at this step has material impacts on auction volume and units supplied to the market.

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

71. While there is no clear 'best option' resulting from the criteria analysis, the least costly and lowest impact option is to make no adjustment to calculated auction volumes.
72. Once the reasons for the discrepancies are understood, either a technical adjustment can be made with certainty or not at all, when making decisions on NZ ETS unit limit settings in the future.

What are the marginal costs and benefits of the option?

73. The status quo has no fiscal costs compared to the other options, as shown below:

	Option 1 – no adjustment	Option 2 – full adjustment – Commission's advice	Option 3 – mid point adjustment
2023 fiscal costs (Other years have different volumes)	No change	Auction volume reduced by 1.6m NZUs \$128m cost ¹³	Auction volume reduced by 0.8m NZUs \$64m cost

74. Reducing auction volumes could reduce the revenue generated by auctioning, depending on whether there is a corresponding price impact. It will also indirectly (and potentially materially) affect NZU prices by reducing the number of units supplied to market.
75. Until officials are more confident there is a problem to fix via a technical adjustment, the most prudent approach is to not make one.

Consultation feedback

76. Technical adjustment options were not specifically consulted on. However, the discrepancies were described in the consultation document. It had been anticipated that a full understanding of the discrepancy would enable simple identification of the best option to address this discrepancy. This full understanding is not yet arrived at.
77. Feedback from individual submissions and NGOs has shown support for including the technical adjustment in volume calculations. Industry submitters do not support the technical adjustment due to the uncertainty surrounding the source of the discrepancy and the lack of time available to investigate.

Recommendation

78. No change is recommended to auction volumes for technical adjustments. This differs from the Commission's advice.

¹³ Calculated at an NZU price of \$80, which reflects recent secondary market prices (September/October 2022).

Section 3.2: Stockpile reduction volumes

Background

79. NZ ETS account holders can 'bank' NZUs in their accounts in the NZ emissions trading register.
80. A large quantity of units has accumulated in private accounts. This 'stockpile' could cause challenges in meeting emissions budgets because it allows emissions outside the ETS cap.
81. The stockpile can provide market liquidity, which is essential for enabling the price discovery that is fundamental to the design of emissions trading schemes. The ability to bank units is a valuable feature of the NZ ETS to help reduce price volatility, ensure the NZU price is forward-looking, and support participants to manage their future liabilities.
82. The methodology used to calculate auction volumes includes a stockpile reduction step, which means setting an auction limit lower than the entire volume of emission units estimated to be available. This is to encourage NZ ETS participants to use some units from the stockpile to meet their NZ ETS surrender obligations, unless they are able to use additional supplies from forestry or other absorption activities.
83. Some of the units in the stockpile are not held for NZ ETS compliance purposes. Most are, however, including as hedges against obligations such as those required to be surrendered on forest harvest.
84. Estimating the excess liquid component of the stockpile is difficult. The Commission analysed the units held at 1 June 2022, after the 31 May deadline for meeting surrender obligations for 2021 emissions. Of the 144 million privately held units, the Commission estimated the excess liquid, or 'surplus' component of the stockpile is 49 million units. The rest were considered to be unavailable to the market.
85. There were diverse views on that estimate in submissions, largely focusing on the level of uncertainty. Views ranged from effectively zero liquidity through to a suggestion that the whole stockpile is 'surplus' and auction volumes should thus be reduced to zero. This RIS takes the Commission's middle point estimate as the best estimate of the surplus component.
86. It was also questioned in submissions whether the surplus component should be reduced to zero, noting the valuable roles of the stockpile explained above. Given the risk the stockpile poses to achieving emission budgets, our inability to fully understand the intentions of NZU holders, and the potential for large volumes of NZUs to enter the liquid stockpile from NZ ETS forests without compliance obligations from harvest, we think using a zero end point remains prudent.
87. Options to address this excess liquid component of the privately held stockpile of units are presented below. An option for not drawing down the excess stockpile is not provided, as this materially increases the risk of the NZ ETS being misaligned with targets, especially emission budgets.

Options

Option One – status quo extended – the stockpile reduction volume remains at 5.4 million units per year

88. The stockpile reduction volume is currently set at 5.4 million units per year. This was calculated when unit settings were first set and intended to reduce the estimated surplus component of the stockpile by the same amount each year to be reduced to zero over ten years by 2030.

Option Two – update excess component of stockpile only, and reduce evenly over ten years.

89. The stockpile reduction volume is recalculated using the updated estimate of excess units in the stockpile. This volume reduction is evenly split over a ten-year period.

Option Three – Commission’s recommendation - Update excess component of stockpile, update methodology to allocate among years to reduce to zero by 2030

90. The stockpile reduction volume is recalculated using the updated estimate of excess units in the stockpile by 2030. The volume reduction is split between years in proportion to the emissions budget allocated to NZ ETS sectors each year.

91. This means the volume reduction remains the same proportion of the cap each year.

Option Four - Update excess component of stockpile, update methodology to allocate among years to reduce to zero over ten years

92. The stockpile reduction volume is recalculated using the updated estimate of excess units in the stockpile over ten years. The volume reduction is split between years in proportion to the emissions budget allocated to NZ ETS sectors each year.

93. This option varies from that presented by the Commission by reducing the stockpile surplus over an additional two years.

Presenting options

94. The options described above are presented in the table below.

Table 3.2.1 Options for annual stockpile adjustment reduction volume for use in calculating auction volumes

Option	Stockpile adjustment (millions of units)				
	2023	2024	2025	2026	2027
Option 1 - Status quo	5.4	5.4	5.4	5.4	5.4
Option 2 – Update excess estimate, reduce evenly over ten years	4.9	4.9	4.9	4.9	4.9
Option 3 – Commission advice- Update excess estimate and allocation approach, reduce by 2030	8.0	7.7	7.1	6.5	5.9
Option 4 - Update excess estimate and allocation approach, reduce over ten years	7.1	6.8	6.3	5.8	5.2

How do the options compare to the status quo?

95. The options are compared to the status quo in the table below.

Table 3.2.2 Assessment of options against the status quo

	Option One – Status Quo	Option Two – Update excess estimate, reduce evenly over ten years	Option Three – Commission advice- Update excess estimate and allocation approach, reduce by 2030	Option Four – Update excess estimate and allocation approach, reduce over ten years
Accordance with New Zealand’s emissions budgets, NDC and 2050 target	0	0 Similar to the status quo.	++ Better reflects the required reduction in stockpile and considers the changes in emissions budgets over time.	+ Better reflects the required reduction in stockpile and considers the changes in emissions budgets over time.
Support of the proper functioning of the ETS	0	0 Similar to the status quo	- Risks too rapid reduction of supply into the NZ ETS, impacting the ability of participants to comply, but dependent on data on surplus Addresses over-supply risk	- Risks too rapid reduction of supply into the NZ ETS, impacting the ability of participants to comply, but dependent on data on surplus Addresses over-supply risk
Improve regulatory certainty and predictability	0	0 Similar to the status quo	0 Relatively small change to auction volumes resulting from this change Reduced risk of future regulatory change due to large share of cap not being supplied	0 Relatively small change to auction volumes resulting from this change Reduced risk of future regulatory change due to large share of cap not being supplied
Support consistency of NZU prices with the level and trajectory of international emissions prices	0	0	+ Reduced supply will have an upwards price pressure	+ Reduced supply will have an upwards price pressure
Overall assessment	0	0	+	+

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

96. The options can be differentiated by the amount of units that would be withheld and the pace of the reductions.
97. All options are improvements on the status quo as they reflect updated estimates of the excess liquid component of the privately held stockpile of units. The Commission's proposed methodology to reduce auction volumes by an equal proportion of the emissions budget allocated to NZ ETS sectors each year means that the risk to liquidity does not increase as emissions budgets tighten.
98. Reducing the stockpile quickly helps ensure the control on unit supply through the NZ ETS cap, which helps the Government meet emission budgets.
99. A too rapid reduction in auction volumes risks endangering the ability of NZ ETS participants to meet compliance obligations to surrender units, and increases the risk that participants would need to rely on buying units from the cost containment reserve to meet these obligations. This is, however, considered unlikely to result from this change.
100. Restarting the ten year period given the new estimate of surplus units in the stockpile has higher risk of regulatory uncertainty as it sets a precedent for future recalculation and method change. It also has higher risk of misalignment between the ETS cap and emission budgets due to the longer time take to drawn down the surplus.
101. Option 3, the Commission's advice, is preferred.

Consultation feedback

102. Individual submitters and NGOs who commented on this question were in support of the Commission's recommendations to reduce the unit stockpile. Some called for a more aggressive approach, highlighting the impact that forestry units will have on the stockpile if they are brought to market. Most individual submitters and NGOs noted that a large amount of stockpiled units poses a threat to the achievement of New Zealand's emissions budgets.
103. Most industry submitters noted that there was significant uncertainty surrounding the Commission's estimate of the unit stockpile, and more evidence was required before making adjustments.
104. Industry participants further claimed an incorrect assumption that units in the stockpile would come to market. They claim that many businesses are hedging for future surrender obligations due to regulatory uncertainty. There were also concerns that stockpile reduction efforts would increase the NZU price and lead to increased speculation.

Recommendations

105. The Commission's advice is recommended, which is reducing the updated estimate of the excess component of the privately held stockpile to zero by 2030, using the Commission's recommended approach to allocating this among years.

Section 3.3: Annual auction volume calculations

106. The following table displays the calculation of annual auction volumes using the recommended options at each of the steps above. These values differ from the Commission's advice because MfE recommends that no change is made at the technical adjustment step of auction volume calculation.
107. The industrial allocation and overseas units steps are not analysed in this RIS, as we do not propose alternatives at these steps. The industrial allocation values used are the estimates provided by the Commission in the technical annexes to its advice¹⁴ and reviewed by the Ministry.

Table 3.3.1 Calculation of auction volumes resulting from recommended options

Step	2023	2024	2025	2026	2027
Starting volume (emissions budget component)	73.6	72.1	69.7	66.5	63.9
Step 1: allocate the emissions budget, subtract emissions outside the NZ ETS from the demonstration path	-41.3	-41.0	-41.0	-40.3	-40.2
Emissions budget allocated to NZ ETS sectors	32.3	31.1	28.6	26.2	23.7
Step 2: technical adjustment	0	0	0	0	0
Step 3: industrial allocation	-6.4	-6.3	-6.3	-6.2	-6.1
Step 4: surplus reduction	-8	-7.7	-7.1	-6.55	-5.9
Step 5: international unit limit	0	0	0	0	0
Step 6: Preferred NZU auction volumes	17.9	17.1	15.3	13.5	11.7

Section 3.4: Recommended NZ ETS Limits for units

Auction volumes

108. The recommended auction volumes calculated using preferred options are provided in the table below. These are compared against the status quo auction volumes (where set) and the auction volumes that would be arrived at by following the Commission's recommended options.

¹⁴ See row 62 of the "4. Industrial free allocation" tab of the supporting spreadsheet for the Commission's technical annex 1 to its 2022 advice on NZ ETS unit settings: <https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/ETS-advice-July-22/Technical-annexes-and-supplementary-documents/Technical-annex-1-Unit-limit-settings-workbook.xlsx>

Table 3.4.1 Calculated auction volumes under recommended option, with comparison to status quo and Commission’s recommended auction volumes

Auction volume source	2023	2024	2025	2026	2027
Recommended option	17.9	17.1	15.3	13.5	11.7
Status quo	18.6	18.0	16.5	15.7	Not set
Based on Commission’s 2022 recommendations	16.3	15.6	14	12.1	10.4

Limits to be prescribed in regulations

109. The limits to be prescribed in regulations can be calculated by comparison with the numbers in table 3.3.1 above, and reference to the calculation of the cost containment reserve volume described in section 4.2.1 below.

110. The limit on units available for auction in each year is made up of the:

- a. annual auction volume; and
- b. cost containment reserve volume.

111. The overall limit on units in each year is made up of the:

- a. annual auction volume;
- b. cost containment reserve volume;
- c. projected free allocation (industrial allocation) volume; and
- d. approved overseas units.

112. These overall limits calculated based on the recommendations above are presented in the table below. These differ from the Commission’s advice due to the different recommendation on addressing the discrepancy between emissions reported into the NZ ETS and those reported in the Inventory.

Table 3.4.2 Recommended limits for units to be prescribed in regulations

Limit	Millions of units for each year				
	2023	2024	2025	2026	2027
New Zealand units available by auction (millions)	25.9	24.8	22.4	20.0	17.6
Approved overseas units used (millions)	0	0	0	0	0
Overall limit on units (millions)	32.3	31.1	28.7	26.2	23.7

Section 4: Price control settings

113. Auction price control settings allow the Government to address unacceptably high or low NZU prices by moderating supply of units via auctions.
114. Price control settings were introduced alongside regulations for NZ ETS auctions of NZUs in 2020 and were in place at the time of the first ETS auction in March 2021.
115. Noting the previous analysis, the already prescribed settings for 2023-2026 can be reviewed for the same reasons as the limits for units.

Section 4.1: Auction reserve price

Background

116. Regulations must set the minimum price below which units must not be sold at auction (auction reserve price) for the next five calendar years.
117. This auction reserve price is the price below which the Government will not sell units at auction. Its stated purpose is to act as a safety valve that helps guard against NZU prices dropping below the level needed to meet emissions budgets. Bids in an NZ ETS auction cannot be made at prices below the auction reserve price that applies at that auction.
118. The auction reserve price is not a hard price floor as secondary market prices can fall below it. Instead, it prevents the Government from adding further NZUs into the market at low prices.
119. The NZ ETS also includes a confidential reserve price, based on the secondary market price, below which units cannot be sold at auction. This means the auction reserve price only influences auction outcomes when the secondary market price is already close to or below it.
120. No option more stringent than the Commission's recommended auction reserve price is considered in this RIS. As noted in the Commission's advice, such settings would undermine the functioning of the NZ ETS by acting as reward on speculation and would undermine the purpose of the auction reserve price through potential repeated triggering.

Options

121. The extension of the inflation adjusted status quo is being treated as the status quo in the options presented. This means that all options perform equally against the 'appropriately consider inflationary impacts' criterion.

Option One – status quo, extended and inflation adjusted

122. The status quo has an auction reserve price starting from \$30 in 2022 and increasing at 5% plus a set inflation rate per annum.
123. This is the Commission's 2021 recommendation on the auction reserve price setting in Ināia tonu nei – A low emissions future for Aotearoa which was accepted by the Government and promulgated in the regulations. The inflation rate recommended then was 2%.
124. Inflation rates have significantly changed since those recommendations and Government decisions. This option updates that inflation rate and extends the settings to 2027. This is a combination of the options 1 and 2 that were consulted on.

Option Two – delayed ramp

125. Two years of status quo settings adjusted to reflect changes in inflation, then increasing in a linear way towards the Commission’s recommended 2030 auction reserve (‘delayed ramp’)

Option Three – high ramp

126. An immediate rapid increase, using the mid-point between inflation adjusted values and the Commission’s recommendations (‘high ramp’)

Option 4 – Increase to \$45, annual update of 3% + inflation adjustment

127. A trajectory based on a 2023 value of \$45, increasing annually by 3% plus inflation adjustment

Option Five – Commission’s 2022 advice

128. A trajectory based on a \$70 auction reserve price in 2030 (discounted by 3%) that results in a 2023 value of \$60, and then increases annually by 3% plus inflation adjustment.

Presenting options

129. The options described above are presented in the table below.

Table 4.1.1 Options considered for updating the auction reserve price

Option	Auction reserve price for each year, in dollars				
	2023	2024	2025	2026	2027
Option 1 – Status quo, inflation adjusted	\$33.06	\$35.90	\$38.67	\$41.45	\$44.35
Option 2 – ‘delayed ramp’	\$33.06	\$35.90	\$44.79	\$53.68	\$62.57
Option 3 – high ramp	\$46.42	\$49.82	\$53.02	\$56.16	\$59.38
Option 4 – \$45 starting point, 3%+inflation trajectory	\$45.00	\$47.97	\$50.70	\$53.34	\$56.01
Option 5 – Commission’s 2022 advice	\$60.00	\$64.00	\$68.00	\$71.00	\$75.00

How do the options compare to the status quo/counterfactual?

130. Detail on how the options compare to the status quo against criteria is provided below. This is then summarised in a table at the end of this section.

Accordance with targets

131. All options that involve material increases to the auction reserve price improve accordance with emissions reduction targets, although this is muted due to the gap between the proposed auction reserve prices and the secondary market price of NZUs. The Commission’s recommendation is the most aligned with the emission unit prices it

has modelled as necessary for achieving gross emissions reductions within a range of scenarios. However, this is not the same as being most aligned with reaching targets over the first three emissions budgets.

132. The Commission has modelled prices required to achieve emissions reductions from all NZ ETS covered sectors of the economy, excluding forestry. To do this, the Commission used a gross emissions target for NZ ETS covered sectors based on the sector sub-targets described in the emissions reduction plan, and then modelled prices required to achieve the sum of these sector sub-targets in a range of scenarios that make achievement of targets easier or more difficult.
133. A higher auction reserve price may be seen as a signal of a 'price guarantee' for NZUs in future, and further incentivise afforestation for carbon forestry purposes.
134. Afforestation, as a response to higher emission prices, will not result in material removals over the first emissions budget period and so cannot assist the Government with achieving the earliest of the emission budgets the same way incentivising gross emission reductions can. However, this will start to have an impact over later emissions budgets periods – providing greater levels of removals which support meeting emissions targets beyond the first emissions budget period.
135. Options 3-5 all limit the risk to mitigation investments made to reduce gross emissions. This supports these investments being made and the meeting of targets.

Impacts

136. The current auction reserve price is well below prevailing NZU prices. This means that direct price impacts on households and the economy are not significantly affected by any of the proposed options. Higher auction reserve prices have a likely impact of driving increased land-use change to afforestation as the floor price is seen as a form of price guarantee. This is beneficial for meeting emissions budgets two and three.

Other criteria

137. All options are an improvement on the status quo when considered against international prices.
138. Option 2, with its steeper price trajectory, increases the risk of market speculation, especially if a situation occurs where prices tumble to a low price initially.
139. All options other than options four and five retain a clear distance from prevailing secondary market prices. This means that all options are unlikely to materially affect the operation of the ETS in the short-term. However, options four and five have some additional risks to regulatory certainty as proximity to recently observed secondary market prices increases the chance that it will come into effect – which would result in possible reconsideration of settings for the first two calendar years during the next update to regulations.

140. The above analysis of options against criteria in comparison to the inflation adjusted status quo is summarised in table 4.1.2 below.

Table 4.1.2 Assessment of options against the inflation adjusted and extended status quo

	Option One – Extend Status Quo, inflation adjustment updated	Option Two – delayed ramp	Option Three – high ramp	Option 4 - \$45, then trajectory using Commission's methodology	Option Five – Commission's 2022 advice
Accordance with New Zealand's emissions budgets, NDC and 2050 target	0	+ Allows some management of the risk of misalignment between emission unit prices and those needed to incentivise abatement, but risk of delay	++ Closer relationship between emission unit prices and abatement incentives	++ Closer relationship between emission unit prices and abatement incentives.	++ Closer relationship between emission unit prices and abatement incentives.
Risk of unacceptable impacts of emissions prices on households and the economy	0	0 High risk to abatement investments from falling prices	0 Initial lack of consistency with abatement costs and investment benefit	- High signal for land-use change to forestry, while Cabinet has recently made decisions that it doesn't want rapid rural land conversion to permanent exotic forestry	- High signal for land-use change to forestry, while Cabinet has recently made decisions that it doesn't want rapid rural land conversion to permanent exotic forestry
Support of the proper functioning of the ETS	0	+ No change to the NZ ETS operation or complexity Steep ramp rewards speculation and this	+ No change to the NZ ETS operation or complexity Better supports investment in	++ No change to the NZ ETS operation or complexity Better supports investment in emissions reductions –	+ No change to the NZ ETS operation or complexity Better supports investment in emissions reductions- –

	Option One – Extend Status Quo, inflation adjustment updated	Option Two – delayed ramp	Option Three – high ramp	Option 4 - \$45, then trajectory using Commission’s methodology	Option Five – Commission’s 2022 advice
		<p>interferes with the compliance needs of participants</p> <p>Better supports investment in emissions reductions – both afforestation and gross reductions</p>	emissions reductions – both afforestation and gross reductions	both afforestation and gross reductions	<p>both afforestation and gross reductions.</p> <p>Risk of being triggered (resulting in updates to settings)</p>
Improve regulatory certainty and predictability	0	<p>-</p> <p>Some risk of regulatory change in future due to non-linear approach</p> <p>Signalled change several years in advance</p>	<p>Little risk of regulatory change in future.</p> <p>Abrupt and significant increase in auction reserve price level would undermine regulatory certainty</p>	<p>-</p> <p>Some risk of regulatory change in future as reserve price close to recently observed market prices.</p> <p>Abrupt and significant increase in auction reserve price level would undermine regulatory certainty</p>	<p>--</p> <p>Some risk of regulatory change in future as reserve price close to recently observed market prices</p> <p>Abrupt and precipitous increase in the auction reserve price level would undermine reg certainty</p>
Support consistency of NZU prices with the level and trajectory of international emissions prices	0	<p>+</p> <p>Remains well below current and expected international prices, but corrected over time</p>	<p>++</p> <p>Closer to current and expected international prices</p>	<p>++</p> <p>Closer to current and expected international prices</p>	<p>++</p> <p>Closer to current and expected international prices</p>

	Option One – Extend Status Quo, inflation adjustment updated	Option Two – delayed ramp	Option Three – high ramp	Option 4 - \$45, then trajectory using Commission’s methodology	Option Five – Commission’s 2022 advice
Appropriately considers inflationary impacts	0	0 current prices already above these so no additional likely inflationary impact	0 current prices already above these so no additional likely inflationary impact	0 current prices already above these so no additional likely inflationary impact	0 current prices already above these so no additional likely inflationary impact
Overall assessment	0	+	+	++	+

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

- 141. There is a need for the auction floor price to increase to better incentivise emissions reductions, and act to safeguard investments already being made to reduce emissions. Option four, increasing the auction reserve price to \$45 in 2023, and then increasing at 3 percent plus inflation annually, initially appears to perform marginally better than the alternative options.
- 142. This, however, risks being misleading. All options presented are improvements on the status quo, and perform similarly in the criteria analysis.

What are the marginal costs and benefits of the option?

143. Price control settings are intended to rarely, if ever, take effect. The preferred options for the auction reserve price move it to a level that remains significantly lower than current NZU prices in the secondary market. This means that another measure which is based on prevailing market prices, the confidential reserve price, already exists that would prevent sale by auction of units at prices close to this updated price control in the short term.
144. If the secondary market price was to fall significantly from current levels then the updated auction reserve price could begin to have an impact at auctions.
145. On these bases, there are no direct or expected marginal costs or benefits to this option compared to the status quo.

Consultation feedback

146. Just over half of submitters were in support of the status quo reserve price settings. Individual and NGO submissions, along with one industry submitter supported the Commission's recommendations. Fifteen of these were near-identical submissions modelled on the Coal Action Network submission, and therefore have been treated as one submission for the purposes of this analysis.
147. Submitters in support of the Commission's recommendations called for higher reserve prices, stating that current recommendations will have little impact in the short term as the market is already trading above the recommended reserve prices. Further attention was given to the possible influx of forestry units and the dampening effect this could have on NZU prices. Submitters also supported a focus on gross emissions reduction to ensure that the ETS aligns with New Zealand's emissions budgets and the NDC.
148. Submitters in support of status quo settings expressed concern toward the Commission's recommendations having a focus on gross emissions reduction.

Recommendations

149. We do not specifically recommend any single alternative to the status quo. All alternative options presented increase emissions reductions incentives, and act to safeguard investments already being made to reduce emissions.
150. On this basis, we recommend change to one of the presented alternative options. These options include the Commission's advised settings.

Section 4.2 Cost containment reserve (CCR)

151. The cost containment reserve is the price control that provides the Government with a mechanism to help manage unacceptably high prices in the NZ ETS. It achieves this by releasing additional units for sale at auction if the auction's interim clearing price is above a set cost containment reserve 'trigger' price. It is intended to rarely be used.
152. The cost containment reserve was triggered for the first time after the release of the Commission's 2021 recommendation to increase the CCR trigger price. An immediate spike in the secondary market price occurred on the day that the Commission's latest advice on increases to the CCR trigger price was released.
153. The settings for the CCR trigger price act as a proxy for the upper end of the acceptable range for NZU prices. Views on what is and is not 'acceptable' will vary.

Background

154. The CCR acts as an upper price control for the NZ ETS secondary market. For meeting surrender obligations for activity up to and including 2020, NZ ETS participants were able to transfer a fixed dollar amount per tonne (\$25 initially, then increasing to \$35) to the Crown. This acted much like a rigid price ceiling, as there was no incentive to pay more than required to meet NZ ETS compliance obligations.
155. Price control settings do not determine market price. Market prices are the result of buying and selling behaviour among market participants.
156. Although price control settings are not intended to drive emissions prices, to date a relationship has been observed. Since the NZ ETS closed to international markets in 2015, the market price of NZUs has closely tracked the upper limit price controls, the \$25 and then \$35 fixed price option, and the more recent \$50 and then \$70 cost containment reserve trigger prices. The price ceiling has appeared to act as a magnet for prices, with steep and rapid increases in market prices when the price ceiling value has been increased, or announcements made that indicate this value is likely to be increased.
157. This 'magnet effect' suggests that the prevailing secondary market price is currently heavily influenced by regulatory uncertainty rather than the intended fundamentals of the cost of achieving emissions reductions. This could also be due to future price expectations being influenced by trigger price levels, and causing speculative investments which change as the CCR trigger price changes.
158. Part of the reason for this correlation between price control settings and market prices is likely to be that changes in price do not influence compliance demand for units in the short term.¹⁵ NZ ETS participants need to acquire and surrender NZUs to meet NZ ETS obligations. If they fail to surrender NZUs by the deadline, they receive a financial penalty of three times the price of carbon prescribed in regulations and used for assessing penalties and calculating synthetic greenhouse gas levy rates. Speculative demand is, however, likely to be price-sensitive.

Section 4.2.1: CCR volume

Background

159. The volume of the cost containment reserve needs to be sufficient to enable it to perform its function of modifying supply, enough to mitigate against unacceptably high prices.

¹⁵ This is technically called demand inelasticity, meaning demand is largely independent of price.

160. At the September 2021 auction, the full seven million units of CCR volume available was sold. The interim clearing price was \$57, and the release of the CCR reduced this to \$50. At the March 2022 auction, the full volume was again available and most was sold. The interim clearing price was \$86, and the CCR release reduced this to \$70. At the June 2022 auction, only 1.3 million units remained in the reserve volume. The interim clearing price was \$78, and the clearing price after release of the CCR was \$76¹⁶.
161. These results illustrate that a larger CCR volume has a materially greater impact on auction clearing prices than a smaller volume does.

Options

Option One – status quo

162. The current CCR volume is set using previously calculated stockpile adjustment volumes¹⁷ plus an additional 5% of the previously calculated NZ ETS sector's component of emissions budgets¹⁸.

Option Two – recalculate using status quo methodology and updated data

163. The volume of the CCR is calculated as the stockpile adjustment amount set as a step in calculating auction volumes plus an additional 5% of the component of the emissions budget allocated to NZ ETS sectors.

Option Three – stockpile adjustment volume only

164. The volume of the cost containment reserve is calculated as the stockpile adjustment amount set as a step in calculating auction volumes. This is the Commission's recommended option.

Presenting options

165. These three options are presented in the table below

Table 4.2.1.1 – Assessment of CCR volume options against the status quo

Option	CCR volume				
	2023	2024	2025	2026	2027
Option 1 - Status quo	7.0	7.0	6.8	6.7	Not set
Option 2 - Status quo methodology, updated data	8.7	8.4	7.7	7.1	6.4
Option 3 – updated methodology, updated data	7.1	6.8	6.3	5.8	5.2

¹⁶ Details are available in the [auction monitor report](#)

¹⁷ See section 3.2 for recommendations on this adjustment volume.

¹⁸ This is the volume remaining after step one of the methodology used to calculate auction volumes, described in section 3.

How do the options compare to the status quo/counterfactual?

166. The described options are compared to the status quo in the table below.

Table 4.2.1.2 Comparing the alternative options for CCR volume against the status quo

	Option One – Status Quo	Option two – status quo methodology, updated reference data	Option Three – Stockpile adjustment volume
Accordance with New Zealand's emissions budgets, NDC and 2050 target	0	<p>+</p> <p>Based on most recent emissions budgets</p>	<p>++</p> <p>Based on most recent emissions budgets</p> <p>No volume additional to emissions budgets can be auctioned</p>
Mitigation of unacceptable impacts of emissions prices on households and the economy	0	<p>++</p> <p>Greater volumes of units in the cost containment reserve will have a greater price dampening effect if sold</p>	<p>+</p> <p>Greater volumes of units in the cost containment reserve will have a greater price dampening effect if sold</p>
Support of the proper functioning of the ETS	0	0	<p>0</p> <p>Removes some of the safety valve that supports participants being able to access units to meet NZ ETS obligations, while reducing likelihood of excess liquid supply being added to the stockpile, not materially different from the status quo</p>
Improve regulatory certainty and predictability	0	<p>0</p> <p>No change to regulatory certainty other than this proposal. Proposed change is reasonably minor.</p>	<p>0</p> <p>No change to regulatory certainty other than this proposal. Proposed change is reasonably minor.</p>
Support consistency of NZU prices with the level and trajectory of international emissions prices	0	0	0

	Option One – Status Quo	Option two – status quo methodology, updated reference data	Option Three – Stockpile adjustment volume
Appropriately considers inflationary impacts	0	0	0
Overall assessment	0	++	++

167. Both alternatives to the status quo are improvements. The removal of the additional volume beyond the stockpile adjustment (in option three) means that the entire volume is within the emissions budget; however, this also weakens the price dampening effect of the CCR.
168. These criteria need to be traded off against each other. The price dampening impact of an additional but relatively small volume (in percentage terms) of units is considered less significant in earlier years, when the stockpile adjustment is larger. This relationship changes as the emissions budgets decline over time. This only starts to matter if the CCR volume is sold, and if that occurs reconsideration of settings for all years can occur. Initially, it is considered more important that the full volume is within the emissions budget. In auctions where the CCR has been sold to date, the CCR volume has been similar to what is proposed in all options for 2023 and 2024. This suggests that it will have a similar price dampening effectiveness to the status quo.

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

169. We assess that setting the CCR volume as equal to the stockpile reduction volume calculated as part of the methodology to calculate annual auction volumes (Option three) will best address the problem, meet policy objectives, and deliver highest net benefits.
170. This option of calculating the cost containment reserve volume as equal to the annual stockpile reduction volume was recommended by the Climate Change Commission in its advice on these settings.
171. Removing the 5% contingency reduces fiscal risk, as it removes CCR volume outside emissions budget that could have to be 'backed'¹⁹ if supplied to the market. The requirement to back reserve units outside budgets would likely mean the Government having to purchase offshore mitigation at higher prices than NZUs.

What are the marginal costs and benefits of the option?

172. The identified option is only a minor deviation from the status quo, meaning that a full cost-benefit analysis is not required. Additionally, it is intended that the CCR volume is only rarely, if ever, sold at auction. If this intent is achieved, then the CCR volume should not affect Crown revenue from auctions, or the cost of purchasing units at auctions.

Consultation feedback

173. There was limited detailed feedback on the CCR volume.

Recommendations

174. We recommend that the volume of the cost containment reserve is calculated as the stockpile adjustment amount set as a step in calculating auction volumes (Option Three).
175. This is the Commission's recommended option. This option has a high dampening effect if triggered, and a reduced fiscal risk compared to higher volume options.

¹⁹ Section 30IA of the Act [Climate Change Response Act 2002 No 40 \(as at 03 November 2021\), Public Act 30IA](#) [Minister must obtain greenhouse gas reductions to match certain excess units – New Zealand Legislation](#) requires backing of units sold from the cost containment reserve to the extent that this sale causes the emissions budget for an emissions budget period to be exceeded.

Section 4.2.2 Cost Containment Reserve (CCR) structure

Background

176. The Act allows for the CCR design to include one or more trigger prices unless the reserve amount is zero. For example, there could be two or three trigger prices, each with a tranche of units to release at that price point.
177. Multiple price triggers were considered when introducing price control settings. A single trigger price and reserve volume were seen as the most appropriate choice because this approach is simple and provides a clearer market signal, although multiple price triggers were not ruled out as an option to consider later. At that time, the majority of submitters who commented on the use of single or multiple trigger prices supported a single price trigger.

Options

Option One – Status quo – A single tier cost containment reserve

178. The status quo prescribes a single trigger price at which additional units are released for sale at auction.

Option Two – A two tier cost containment reserve

179. This option would prescribe two trigger prices at which additional units are released for sale at auction. The Commission has recommended the use of two trigger prices with an initial price triggering the release of a small volume, less than the stockpile reduction volume and a second and higher price triggering the release of an additional and larger volume.

Three volumes not considered

180. A third option of a three tier CCR was considered then discarded. It would require consideration and decisions on multiple trigger prices.
181. Multiple reserves at increasing price levels could act to slow price increases during periods of increasing demand. It would require sufficient volume within each tier to have any material affect. Reducing reserve volumes would minimise impact, however that impact is both on price dampening and on risk to budgets. Multiple tiers would also add complexity to the NZ ETS auctions. The Commission considered any additional benefits to a three-tiered approach to be marginal, while imposing costs on both complexity and effectiveness in dampening price. On this basis it has not be assessed.

How does the alternative option compare to the status quo?

182. The alternative option of a two-tier CCR with volumes as proposed by the Commission is compared to the status quo in table 4.2.2.1 below.

Table 4.2.2.1 Comparing the alternative option for CCR structure against the status quo

	Option One – Status Quo	Option Two – two tiers
Accordance with New Zealand's emissions	0	+

	Option One – Status Quo	Option Two – two tiers
budgets, NDC and 2050 target		Tiered volumes reduce the risk of slowing stockpile drawdown, in turn supporting achievement of emissions targets.
Mitigation of unacceptable impacts of emissions prices on households and the economy	0	- A two tiered CCR is less effective at dampening prices
Support of the proper functioning of the ETS	0	- Having tiered volumes makes auctions marginally more complex
Improve regulatory certainty and predictability	0	- Changes to the CCR structure reduce regulatory certainty
Support consistency of NZU prices with the level and trajectory of international emissions prices	0	0
Appropriately considers inflationary impacts	0	0
Overall assessment	0	-

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

183. A single tier increases the likelihood that the full cost containment reserve volume will be sold when compared with a two tier system with a small initial volume and a larger volume only released at a much higher price. The recommendation on CCR volume in section 4.2.1 above means that the single tier volume will be entirely within the emissions budgets, meaning that although the sale of CCR volume will reduce the extent of stockpile reduction it will not introduce additional units above emissions budgets.
184. The CCR has been triggered repeatedly, whereas the intent was for this to be infrequent. This is a problem that has been addressed by adjusting the trigger prices and these could be further adjusted to reduce the probability.
185. The purpose of the CCR is to mitigate against unacceptably high prices. Multiple trigger prices with a low initial volume are likely to be less effective in significantly dampening prices. Multiple prices would be better suited to a cost containment reserve intended to smooth prices by releasing a steady supply of units if NZU prices continued to rise.
186. Evidence from the auctions at which CCR volume has been sold to date indicates that volume is the key driver of effectiveness in dampening auction clearing price.

187. The status quo of a single tier CCR equal to the stockpile reduction volume performs better against the criteria listed above.
188. As the default approach is to only summarise the additional costs and benefits of the preferred option relative to what would happen if no action were taken, the marginal costs and benefits of retaining the status quo are not assessed.
189. The Commission recommended a two-tiered CCR to provide for a more controlled release of reserve units compared to the status quo. While Option Two would have such an effect, it would also diminish the price dampening effect of the CCR.
190. The Commission also noted that two tiers could weaken the magnet effect of the trigger price on price expectations (that market NZU prices are pulled towards the CCR trigger prices as they change). There is limited evidence to support this. It is conceivable that market participants would simply target the higher second trigger, driving price expectations even higher.
191. We note the Commission recommended much higher trigger prices to, in part, avoid them being used as a targets by market participants. Accordingly, very high trigger prices should be sufficient to abate any magnet effect – negating the benefit of two tiers.

Consultation feedback

192. A key point of feedback provided via consultation is that the Commission carried out a criteria analysis that excluded the key intent of the CCR, to dampen prices, from the criteria considered. Instead, the criteria used were:
- simple and minimises complexity;
 - regulatory predictability; and
 - resilience to uncertainty and balances risks.
193. Concern was expressed that the Commission has determined price mitigation as unimportant in this assessment.

Recommendations

194. We recommend retaining a single cost containment reserve trigger price and volume. This differs from the Commission's advice.

Section 4.2.3 CCR trigger price

CCR Triggering is intended to be rare

195. Price controls are intended to play a role only rarely. However, the CCR has been fully sold in both years of auctions to date. Market participants are only expected to be prepared to pay at or above the CCR trigger price at auctions if sufficient volumes are not available for purchase at a lower price on the NZ ETS secondary market.
196. CCR triggering results in additional supply of units, and the intended stockpile adjustment introduced during calculation of auction volumes is reduced by the amount of the CCR volume that is sold.

Trade-offs between unacceptable price impacts and meeting emissions reduction targets

197. Fundamentally, there is trade-off between allowing prices high enough to achieve sufficient emissions reductions and removals, to achieve emissions targets, and the point at which the resulting economic impacts are considered too severe.
198. Higher NZU prices will generally incentivise more emission reductions and removals, which lowers the risk of New Zealand not meeting budgets, the NDC and the 2050 target. The price points the auction price controls are set at may influence NZU prices, and thus the impact of the NZ ETS settings on household costs and the economy. Conversely, price controls that constrain price too much or too little or add additional NZU supply may be inconsistent with meeting targets and budgets.
199. The analysis below does not attempt to disentangle these two key criteria, rather it presents the trade-offs involved with various price settings options.

Options

Climate Change Commission advice

200. The Commission advised two trigger prices and volumes. This has been considered in section 4.2.2. above, and the recommendation is to have a single tier CCR. Each of the Commission's recommended trigger prices is considered below as an option for the trigger price of a single CCR volume.
201. The Commission has considered the impact of prices on households and the economy, as well as the nature of the NZ ETS as a market mechanism. The Commission acknowledges that, in the absence of complementary measures, higher emissions prices will result in disproportionate impacts on lower income households and those least able to adjust.
202. However, its view is that these impacts should not be a primary determinant for the NZ ETS price control settings. This is a key point of difference between the Commission's advice and the analysis presented in this RIS, which considers trade-offs between emissions reductions and impacts resulting from NZU prices if they increase.

Option One – status quo extended and inflation adjusted

203. Extend the current CCR trigger price which has a starting price of \$70 in 2022, and then increase it at 10% plus inflation per annum.

Option Two – \$120 – increase using CCC trajectory methodology = 3% + inflation

204. Set the CCR trigger price at \$120 in 2023, then increase it using the trajectory approach recommended by the Climate Change Commission of an annual increase of 3% + inflation

Option Three – Delayed ramp

205. A ramped approach of two years of status quo settings adjusted to reflect changes in inflation, then increasing in a linear fashion towards the lower of the Commissions recommended 2030 cost containment trigger prices.

Option Four - Commission advice – lower trigger

206. The trigger price is set using the lower trigger price trajectory from the Commission's advice.

Option Five – Commission advice – higher trigger

207. The trigger price is set using the higher trigger price trajectory from the Commission's advice.

Presenting options

208. The options considered are presented in the table below.

Table 4.2.3.1 – CCR trigger price options considered

Option	CCR Trigger price for each year, in dollars				
	2023	2024	2025	2026	2027
Option One - Status quo extended, inflation adjusted	\$80.64	\$91.61	\$103.24	\$115.84	\$129.97
Option Two – \$120 in 2023	\$120.00	\$127.92	\$135.21	\$142.24	\$149.64
Option Three – delayed ramp	\$80.64	\$91.61	\$117.63	\$143.65	\$169.67
Option four – Commission's 2022 low trigger	\$171.00	\$182.00	\$193.00	\$203.00	\$214.00
Option five – Commission's 2022 high trigger	\$214.00	\$228.00	\$241.00	\$254.00	\$268.00

How do the options compare to the status quo?

209. Detail on how the options compare to the status quo against criteria is provided below. This is then summarised in a table at the end of this section.

Accordance with New Zealand's emissions budgets, NDC, and 2050 target

210. All options create an upper price pathway that could allow New Zealand to meet its emissions reduction targets²⁰. The status quo CCR trigger price pathway is informed

²⁰ Note that, as described in an earlier section, accordance with the NDC is considered against the Government's stated intention that offshore mitigation will contribute to meeting the NDC

by the emissions value of around \$140 per tonne of CO₂e in 2030 (in 2019 dollars). In its advice, the Commission reiterates that these emissions values from *Ināia tonu nei* remain its best estimate of the abatement costs associated with meeting emissions budgets²¹.

211. Meeting emissions budgets is dependent on a range of policies and actions, not just emissions pricing. The Commission advised higher price options that would increase the certainty of making emissions reductions under particular scenarios, however without also considering the input from an afforestation response that supports meeting later emissions budgets.

Emissions reductions modelling involves uncertainty

212. There is a high level of uncertainty associated with all modelling or prediction of future emissions reductions at various NZU price-points. This uncertainty can have implications for identifying prices required to meet emissions budgets and targets in different scenarios. This is not by itself a flaw of the analysis if the models themselves are considered sound, but there is a need to be transparent about and understand the impacts of uncertainty. This uncertainty simply needs to be acknowledged when assessing options.
213. As an example, Ministry for the Environment marginal abatement cost curves work could easily be mis-interpreted as identifying the emissions trading scheme NZU prices that would result in the presented emissions reductions opportunities occurring. However, the work clearly articulates that this would be inappropriate as:

“The analysis does not predict the market response to an emissions price. The estimated marginal abatement cost should therefore not be conflated with the required emissions price in the New Zealand Emissions Trading Scheme (NZ ETS).”²²

214. This kind of modelling and analysis provides a ‘ballpark’ estimate of costs and associated prices, but with considerable uncertainty. This uncertainty shouldn’t prevent the use of modelled data in making decisions. It does mean, though, that decisions should not be based solely, or even mostly, on modelled data.

Emissions reductions (via carbon sequestration) from afforestation

215. If NZU prices increase, this would increase incentives for exotic afforestation and for changing rotational forests to permanent forests. Any increase in afforestation will result in lower net emissions due to carbon sequestration as forests grow, although these reductions won’t be realised for several years. This will also result in higher numbers of NZUs being transferred for forestry, and a corresponding higher number of stockpiled units. If this eventuates, it is expected to depress NZU prices.
216. The Commission has cited recent data that indicate significantly more exotic afforestation than previously forecast. Updated afforestation projections for 2022 alone indicate an additional 11 megatonnes²³ of additional carbon dioxide removals will occur between now and 2035.

²¹ S5.3.1, p 69, [NZ ETS settings for 2023-2027 \(amazonaws.com\)](https://www.amazonaws.com)

²² Page 8 [marginal-abatement-cost-curves-analysis_0.pdf \(environment.govt.nz\)](https://environment.govt.nz/assets/publications/marginal-abatement-cost-curves-analysis-0.pdf)

²³ Calculation is based on the post-1989 planted forest yield table in the New Zealand Greenhouse Gas Inventory (1990-2020) and excludes any emissions associated with soils and emissions from the previous land use (such as scrub clearance to plant forests). <https://environment.govt.nz/assets/publications/GhG-Inventory/New-Zealand-Greenhouse-Gas-Inventory-1990-2020-Annexes.pdf>.

217. In the short run, there is a ceiling for afforestation in NZ (given labour constraints, limited seedling supplies, land availability, and other factors) and at a point higher carbon prices can't drive more planting and removals. MPI analysis²⁴ indicates that afforestation rate increases significantly at NZU prices up to around \$100, and that at prices beyond that is reasonably insensitive due to other constraints.
218. The Commission's analysis of prices required to meet targets does not consider any impact on change in the level of forestry removals due to emissions pricing. This means that the price paths presented are conservative towards 2035 when compared against the criteria being considered, which is meeting New Zealand's emissions budgets and targets

Emissions reductions from other sources

219. The Commission has modelled prices required to achieve emissions reductions from the NZ ETS covered sectors of New Zealand's economy, excluding forestry, over the period 2022-2035.
220. The Commission has used a gross emissions target for NZ ETS covered sectors based on the sector sub-targets described in the emissions reduction plan, and then modelled prices required to achieve the sum of these sector sub-targets for the period 2022-2035 in a range of scenarios that make achievement of targets easier or more difficult. Overall, the Commission states that the limitations of the ENZ model mean that it is likely to understate the mitigation response to significantly higher emissions prices
221. The Commission's modelling uses its proprietary ENZ model. This model has limitations at higher prices, and does not consider emissions pricing to have an impact on:
- energy and transport demand;
 - energy efficiency measures;
 - mitigation (i.e. emissions) in the waste sector;
 - mitigation (i.e. emissions) from industrial processes and product use (IPPU);
 - update of liquid biofuels; and
 - assumptions affecting how fast EV uptake and household fuel switching can occur.²⁵
222. The Commission has modelled increased emissions reductions for transport energy and non-transport energy at higher NZU prices. When the price is increased from \$80 to \$170, this is modelled to result in around 1 million tonnes fewer emissions per annum from non-transport energy over the 2022-2035 period, and around 0.1 million tonnes fewer emissions per annum from transport energy.
223. Recent analysis in support of the reduction of the fuel excise tax and road user charges suggested a material increase in transport emissions from a 25c reduction in petrol prices due to a change to vehicle kilometres travelled²⁶. This is approximately the amount that petrol prices would rise by if the NZU price moved from current prices to \$171, suggesting that a similar reduction in transport energy emissions would occur if the NZU price moved to this level.

²⁴ Section 3.3 [Afforestation Economic Modelling \(mpi.govt.nz\)](https://www.mpi.govt.nz)

²⁵ Detail taken from p14, Technical annex 2

²⁶ Described here: ['Significant' emissions from fuel tax cut \(msn.com\)](https://www.msn.com)

Options performance against accordance with emissions targets criterion

224. Higher prices drive increased emissions reductions, although this isn't a linear relationship. This is primarily due to afforestation responses, and with some lesser emissions reductions from other sectors. As described in the land-use change impacts section above, this response is assumed to be limited at emissions prices from around \$100.
225. All CCR trigger price alternatives to the status quo perform better than the status quo as they allow NZU prices to increase if needed without the price control measure being invoked. Options two, four, and five perform similarly. Additionally, option three (the 'delayed ramp') also performs well, although increased NZU auction clearing prices in earlier years would result in the CCR being sold.

Mitigation of unacceptable impacts of emissions prices on households and the economy

226. The CCR trigger price is the emissions price at which impacts on households and the economy are deemed to become unacceptable. When options for price controls were being considered, it was clearly stated that "the NZ ETS needs a price ceiling to manage the risk of short-term high prices negatively impacting the economy"²⁷. Cabinet agreed that the NZ ETS should retain a price ceiling to manage the risk of prices reaching unacceptable levels²⁸.

Impacts on households and across the economy

227. Because electricity generation continues to rely on sources that face an emissions cost (eg, coal and gas), electricity prices are sensitive to emissions pricing. Drawing on work undertaken by the Treasury, the Commission has identified impacts of various NZU prices on the price of electricity, as table 4.2.3.2 below shows.

Table 4.2.3.2 – Impacts of NZU price on electricity prices²⁹³⁰

Level of impact	Sector	Electricity price 2021 (c/kWh)	Emissions price					
			\$50	\$75	\$100	\$150	\$200	\$250
High impact	Residential	30.6	1.9	2.9	3.8	5.7	7.6	9.5
	Commercial	18.5	1.7	2.5	3.3	5.0	6.6	8.3
	Industrial	17.1	1.6	2.4	3.1	4.7	6.2	7.8
Low impact	Residential	30.6	1.1	1.7	2.2	3.3	4.4	5.5
	Commercial	18.5	1.0	1.5	1.9	2.9	3.8	4.8
	Industrial	17.1	0.9	1.4	1.8	2.7	3.6	4.5

²⁷ Para 71: [cabinet-paper-amendments-to-the-climate-change-response-act-2002-tranche-one-updated-may-2019-v2.pdf \(environment.govt.nz\)](#)

²⁸ CAB-18-MIN-0606.01 [amendments-to-ccra-tranche-1-cab-18-min-0606.01.pdf \(environment.govt.nz\)](#)

²⁹ The high impact electricity values assume that the average of the modelled wholesale price impact over the period of 2023-2027 is passed through to consumers. The low impact values assume that consumer price increases are based on average wholesale price impacts out to 2035.

³⁰ 2021 prices include a component that is due to the NZU price during 2021

228. The Commission has used the same work from the Treasury to predict the impacts of emissions prices on the prices of fossil gas, diesel, petrol and coal. This is displayed in table 4.2.3.3 below.

Table – 4.2.3.3 Impacts of NZU price on fossil fuel prices

Type of fossil fuels	Sector	Emissions price						
		2021 price	\$50	\$75	\$100	\$150	\$200	\$250
Fossil gas (c/kWh)	Residential	14.7	1.2	1.8	2.3	3.5	4.6	5.8
	Commercial	6.6	1.0	1.5	2.0	3.0	4.0	5.0
	Industrial	3.2	1.0	1.5	2.0	3.0	4.0	5.0
Diesel (c/l)		150.6	15.4	23.1	30.7	46.1	61.5	76.8
Petrol (c/l)		224.7	13.4	20.2	26.9	40.3	53.8	67.2
Coal (c/GJ)		10.0	4.5	6.8	9.0	13.6	18.1	22.6

229. At current NZU prices of around \$80, emissions pricing accounts for around 21 cents of the cost of every litre of petrol sold. The price impact is proportional to NZU price. At NZU prices of \$120 this increases to around 32 cents per litre of petrol, and at NZU prices of \$171 this would increase to be around 46 cents. Similarly, other price impacts increase by 50 per cent with an increase in NZU price from \$80 to \$120, and would a little more than double in the unlikely scenario that the NZU price increases to \$171. Even at these high price points, the emissions pricing contribution remains a small portion of the costs listed above.

230. Identifying the price impact at which this can be considered ‘unacceptable’ is fraught and inherently subjective. However, prices reaching levels that mean New Zealanders face energy hardship is likely to be regarded as unacceptable unless addressed by successfully implemented complementary policies.

231. The Commission did not assess whether these impacts were unacceptable as part of arriving at its advice on CCR trigger prices. Cabinet papers since 2018 have clearly articulated that price control settings are intended to mitigate the negative impacts on households and the economy if NZU prices reach too high levels.

232. The Commission concluded that:

“In the absence of complementary policies, higher emissions prices will result in disproportionate impacts on lower income households and those least able to adjust. The NZ ETS price control settings are not the appropriate tool for addressing domestic distributional impacts or other equity considerations in the transition. These distributional impacts can be best managed if the Government puts in place targeted policies alongside the NZ ETS to support those most disadvantaged and those least able to adjust³¹”

Distributional impacts

233. The Commission has concluded that

234. *“rising emissions price risks exacerbating inequities already experienced by many people in socioeconomically disadvantaged groups – including Māori and Pasifika communities, low income New Zealanders, women, and people with disabilities ...*

³¹ Page 82, advice on settings: [NZ ETS settings for 2023-2027 \(amazonaws.com\)](https://www.amazonaws.com)

While the magnitude of the impacts across households and the economy appear moderate, they are not insignificant or evenly distributed³²

235. [REDACTED]
236. [REDACTED]
237. Although this work is underway, further action to address distributional impacts is required. These impacts cannot be ignored when making price control settings.

Impacts on emissions-intensive and trade-exposed firms

238. Some businesses are eligible to be allocated NZUs under the NZ ETS. This 'industrial allocation' reduces the risk of emissions leakage – that is, the risk that New Zealand companies will lose market share through emissions pricing or shift production overseas to avoid it. Industrial allocation provides firms carrying out eligible activities with NZUs equivalent to a portion of the emissions costs they face.
239. The existence of industrial allocation highlights that emission leakage is considered a risk of emissions pricing. If emissions prices rise high enough, industrial allocation at levels that result in a net ETS cost being faced may no longer be effective in preventing emissions leakage for some activities, unless decarbonisation occurs or industrial allocation is changed. This is outlined in the table below for three industries where these prices overlap with recommended prices.
240. This risk starts to occur at emissions prices from \$100, which is well below the lower of the two trigger prices recommended by the Commission.

Table 4.2.3.4: Net ETS cost, and corresponding NZU price in 2030 at which some activities eligible for industrial allocation wind down activity or cease activity³³

Criterion	[REDACTED]		[REDACTED]		[REDACTED]	
	Net ETS cost	NZU price	Net ETS cost	NZU price	Net ETS cost	NZU price
EBIT falls to zero: activity expected to wind down	\$30-\$80	\$150-\$450	\$35	\$175	\$20	\$100
EBITDA falls to zero: activity expected to stop	\$130	\$650	\$50	\$250	\$30	\$150

Note: EBIT = earnings before interest and tax; EBITDA = earnings before interest, tax, depreciation and amortisation.

³² P74, Commission advice: [NZ ETS settings for 2023-2027 \(amazonaws.com\)](https://www.nzta.govt.nz/assets/Uploads/2023-2027-ETS-Settings-Advice.pdf)

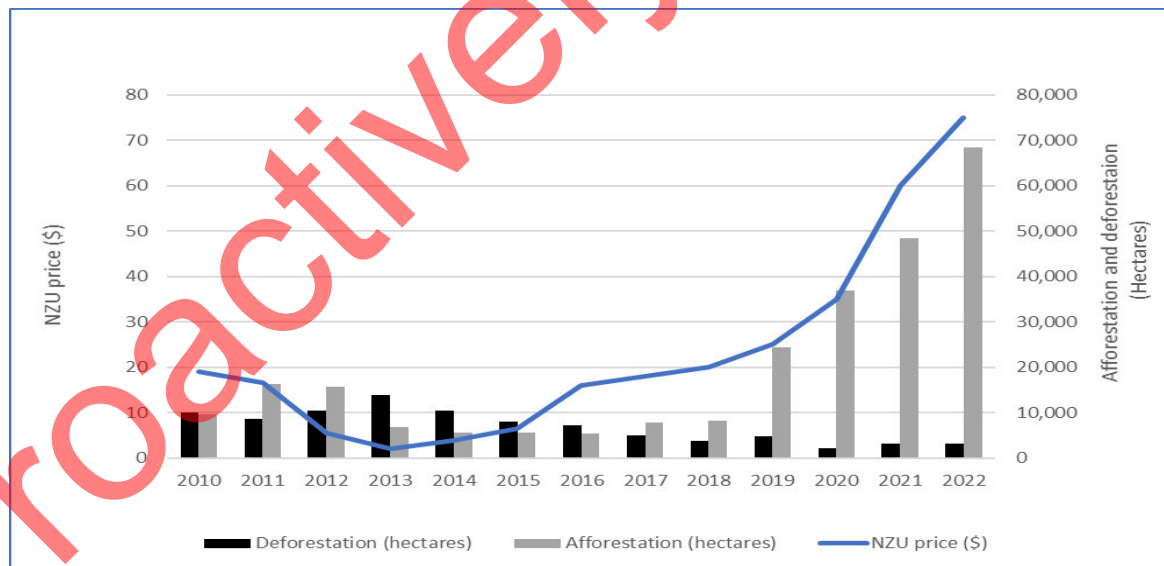
³³ [REDACTED]

241. This highlights that, unless policies to reduce emissions leakage likelihood are changed, relatively low prices can be considered unacceptable due to resulting emissions leakage.

Impacts on land-use decisions

- 242. Emissions prices could have a material impact on land-use change, such as conversion of farmland and currently unutilised land to forestry. Planting commercial forestry could achieve a significant level of sequestration. The most likely changes in the short to medium term are the conversion of marginal unfarmed land and sheep and beef farming land to forestry. The scale of such conversions and associated unit supply into the NZ ETS over time is potentially large in comparison with New Zealand’s gross emissions.
- 243. Allowing higher prices before price controls take effect could result in significantly higher conversion of land to forestry. MPI analysis³⁴ indicates that afforestation rate increases significantly at NZU prices up to around \$100, and that at prices beyond that is reasonably insensitive due to other constraints.
- 244. The Commission concluded that: *“The impact of the NZ ETS on land-use change can be material to the economy in some communities. Addressing this issue may require further changes to the design of the NZ ETS which are beyond the scope of this advice and may have implications for future NZ ETS settings advice”*
- 245. The NZ ETS is a powerful driver of afforestation. Planting rates are closely correlated with changes in NZU prices (Figure one below). Government has indicated that large-scale change in land use for exotic carbon forestry, if left unchecked and without any management oversight or requirements, has the potential for unintended impacts on the environment, rural communities, and regional economies. If prices rise in response to changes to NZ ETS unit settings, this could result in higher rates of afforestation.

Figure one: Comparison of NZU price with rates of afforestation and deforestation



Options performance against impacts criterion

246. Higher price control settings allow prices to reach higher levels before the mitigation tool to address unacceptable impacts takes effect. This results in potentially greater

³⁴ Section 3.3 [Afforestation Economic Modelling \(mpi.govt.nz\)](https://www.mpi.govt.nz)

impacts on households and the economy. The higher the NZU prices reached, the more likely it is that unacceptable impacts will result.

247. All options other than the status quo and inflation adjusted status quo perform poorly against this criterion.
248. The impacts at the higher price points perform significantly worse, while option two performs a little worse than the status quo.

Support of the proper functioning of the ETS

249. The ETS functions properly when it has characteristics that include:
- all participants are able to acquire units to meet their compliance obligations;
 - the NZU market is liquid such that buyers and sellers can easily find counterparties with whom to trade;
 - prices are stable and predictable;
 - participants face an equal marginal price of emitting; and
 - the supply of units is consistent with the achievement of emission budget.
250. All options are rated equally against this criterion.

Improve regulatory certainty and predictability

251. Introducing significant change only one year after prior significant change damages regulatory certainty and predictability. However, leaving CCR trigger prices at levels where the CCR is highly likely to be sold increases the chance that the unit settings for the earliest years will be updated again soon, as sale of units from the CCR is one of the criteria that allows settings for the first two calendar years to be updated.
252. Effectively, this likelihood of CCR sale is related to the extent to which the CCR trigger price acts as a magnet to the secondary market price. Options that move further from the current market price should exert less of a 'magnet effect', however the degree to which this occurs cannot be quantified. Additionally, NZU prices should relate to where abatement costs are and the timing of liquidity and stockpile release. Options that make a bigger price controls range allow for more price of abatement discovery.

Support consistency of NZU prices with the level and trajectory of international emissions prices

253. All options are improvements on the status quo as they allow prices to move further into the range of anticipated international prices before controls take effect. The range is wide, and prices vary significantly between schemes.

Inflation

254. All options consider the risk of the emissions price signal being eroded by inflation. Options that allow for higher prices before taking effect allow for higher prices in goods affected by emissions pricing, with flow-on inflationary impacts. This potential impact on inflation is unclear at this stage and is considered as part of the impacts on households and the economy criterion.

255. The alternative options are compared to the status quo in table 4.2.3.2 below

Table 4.2.3.2 Assessment of CCR trigger price options against the inflation adjusted and extended status quo

	Option One – Status Quo inflation adjusted	Option Two - \$120, 3%+inflation	Option Three -delayed ramp	Option Four – Commission’s low trigger price	Option Five – Commission’s high trigger price
Accordance with New Zealand’s emissions budgets, NDC and 2050 target	0	+	+	+	+
Mitigation of unacceptable impacts of emissions prices on households and the economy	0	-	0/-	--	--
Support of the proper functioning of the ETS	0	0	0	0	0

	Option One – Status Quo inflation adjusted	Option Two - \$120, 3%+inflation	Option Three -delayed ramp	Option Four – Commission’s low trigger price	Option Five – Commission’s high trigger price
Improve regulatory certainty and predictability	0	- Reduced risk of being triggered (resulting in updates to settings) as setting for 2023 is far higher than recently observed prices Significant change soon after significant change made only last year	0 Generally similar	- Reduced risk of being triggered (resulting in updates to settings) as setting for 2023 is far higher than recently observed prices Significant change soon after significant change made only last year	- Reduced risk of being triggered (resulting in updates to settings) as setting for 2023 is far higher than recently observed prices Significant change soon after significant change made only last year
Support consistency of NZU prices with the level and trajectory of international emissions prices	0	+ Closer to current and expected international prices	+ Closer to current and expected international prices	+ Closer to current and expected international prices	+ Above current and expected international prices
Appropriately considers inflationary impacts	0	+ Prices updated for inflation. Impact on inflation included in criteria analysis above	+ Prices updated for inflation. Impact on inflation included in criteria analysis above	+ Prices updated for inflation. Impact on inflation included in criteria analysis above	+ Prices updated for inflation. Impact on inflation included in criteria analysis above

	Option One – Status Quo inflation adjusted	Option Two - \$120, 3%+inflation	Option Three -delayed ramp	Option Four – Commission’s low trigger price	Option Five – Commission’s high trigger price
Overall assessment	0	+	0	0	0

Proactively Released

256. There is a need for the cost containment reserve trigger price to increase for two key reasons:
- reduce the likelihood of the CCR being triggered at auction. Current secondary market prices are above the status quo CCR trigger price for 2023; and
 - attempt to decouple secondary market NZU prices from the trigger price, i.e. to reduce or remove the magnet effect.
257. There is also a need for the CCR trigger price to be set at a level that supports the environmental outcome of reduced emissions. The price needs to be set to allow the NZU price to move within a required range without resulting in auction prices that result in the triggering of the CCR.
258. Although option 2, moving to a CCR trigger price of \$120 and increasing at 3% plus inflation, appears to perform marginally better than the alternative options, this risks being mis-leading. The options are finely balanced, and small changes in assessment against criteria or relative weighting of criteria could result in a change to preferred options.
259. As described previously, assessment of these options involves trade-offs between the importance of maximising emissions reductions and likelihood of meeting, or exceeding, emissions targets and the impacts that higher prices could have on households and the economy.

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

Preferred option

260. As described above, the options are finely balanced. Option three, the delayed ramp, is discounted as it doesn't move the trigger price soon enough to reasonably expect the CCR not to be triggered in 2023.
261. The observed tension between emissions reductions and impacts needs to be considered when arriving at a preferred option. The best option is one that allows for prices to reach levels that might be required to meet emissions targets, while minimising adverse or undesired impacts.
262. Additionally, price volatility and associated regulatory certainty are important.
263. All alternatives to the status quo achieve an improvement. They allow prices to rise, if required, high enough that the main emissions reduction response is maximised. Although prices rising to higher points would impose significant additional impacts, these need to be weighed against other considerations.
264. It is essential to note that these settings can be updated as further or better information becomes available.
265. The level of uncertainty in both the price response to changes to the trigger price, and the emissions reductions response at various price points means that we do not recommend any of the presented alternatives to the status quo above any others.

Consultation feedback

266. Just over half of stakeholder submissions were in support of status quo settings with the remainder supporting the Commission's advice on trigger price settings.
267. Submitters in support of Commission's recommendations suggested that a two-tier system at these prices supported the proper functioning of the CCR. They held that these settings reduced the risk that the CCR would be triggered and release its volume

of units into the market, further contributing to the stockpile. Some submitters called for the removal of the CCR entirely to support stockpile reduction.

268. Some submitters in support of the Commission's recommendations highlighted the need to address the impacts of price settings through complementary policies outside of the ETS. They also noted that the CCR being frequently triggered is counter to its function, and that a higher trigger price will decouple it from the NZU price.
269. Submitters in favour of status quo settings noted that raising trigger prices to the level recommended by the Commission could drive up energy and petrol prices leading to greater inflationary impact. They further state that higher trigger prices stray from the purpose of the CCR to contain NZU prices to an acceptable level, and ignore the speed at which industry is able to invest in low emissions outcomes.
270. A need for stability and certainty in Government policy was cited and stakeholders called for settings to be aligned with New Zealand's net-zero target. Submitters also highlighted that more significant changes to price settings adds to cost uncertainty and risks companies postponing decisions to invest in emissions reductions.

Recommendations

271. We recommend increasing the cost containment trigger price from the status quo to a 2023 setting of between \$120 and \$214 (i.e. one of options two, four, or five), and increasing from the chosen price based on the trajectory of each of the option start points presented. These options include the trigger values identified by the Commission.

Section 5: Delivering an option

How will the new arrangements be implemented?

272. Implementation of any updates to NZ ETS unit settings will be relative straightforward, as they are technical changes to an existing regulatory framework. Schedule 3 of the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 will be updated to reflect the new settings.
273. The amendment regulations will be published in the gazette in December, to take effect from 1 January 2023
274. The published 2023 auction calendar³⁵ will be updated to reflect the agreed auction volumes for 2023 once decisions have been made.

How will the new arrangements be monitored, evaluated, and reviewed?

275. Agencies will closely monitor the impacts of NZ ETS unit settings. The Ministry for the Environment routinely tracks the price of NZUs and informs the Minister of this, as well as the flow of units within the NZ ETS and the secondary market. It also measures and reports domestic emissions annually. This will be used to assess the impact of the NZ ETS under the proposed settings
276. Agencies will continue to update and refine emissions projections that will be used for future emissions budgets and informing unit limit and price control settings. The broader economic impacts of the proposed NZ ETS settings will be monitored and assessed by an array of Government agencies, and public and private institutions
277. The legislated coordinated decision-making process in the Act includes provision to review the NZ ETS settings under certain circumstances. The Government is obliged to review the settings if the price controls are used such as if the CCR is triggered
278. The Commission will continue to have a role monitoring and reviewing unit limits and price controls settings. Under section 5ZOA of the Act, the Commission must recommend to the Minister limits and price control settings, including any desirable emissions price path, each time regulation updates are required.

³⁵ [New Zealand Emissions Trading Scheme auction dates and volumes for 2023 | Ministry for the Environment](#)