Ministry for the Environment
Manatū Mō Te Taiao

Regulatory Impact Statement: 2025 update to New Zealand Emissions Trading Scheme limits and price control settings for units

Decision sought	*Cabinet approval for the 2025 annual update to New Zealand Emissions Trading Scheme limits and price control settings for units*
Agency responsible	*Ministry for the Environment*
Proposing Ministers	*Hon Simon Watts, Minister of Climate Change*
Date finalised	*05 August 2025*

The Minister of Climate Change proposes to amend the unit limits and price control settings in the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 as part of the annual review of New Zealand Emissions Trading Scheme (NZ ETS) settings required under the Climate Change Response Act 2002.

Additionally, the Minister of Climate Change proposes to amend the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 to change how unsold auction units roll over into future auctions within the same calendar year.

Summary: Problem definition and options

What is the policy problem?

The NZ ETS is the Government's key tool to help New Zealand meet its emissions reduction targets. Under the NZ ETS emitters are required to surrender one 'emissions unit' (NZU or unit) to the Government for each tonne of emissions they are responsible for.

The Government mainly introduces NZUs into the market through quarterly auctions. NZ ETS unit limits and price control settings for those auctions are prescribed in the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020. Both unit limits and price control settings form a package of 'NZ ETS settings' and the next four years of NZ ETS settings are required to be reviewed and updated every year to ensure accordance with emissions budgets and targets. A fifth year is also required to be added to the regulations (2030 in this review).

This annual process ensures NZ ETS settings remain in accordance with emissions budgets, the Nationally Determined Contributions under the Paris Agreement (NDC), and the 2050 target (target), and additionally provides the Government the opportunity to address any issues that arise for a particular year.

Unit limits include:

- a limit on the units available by auction: base auction volumes + volume available within the cost containment reserve
- a limit on approved overseas units
- an overall limit on units: which consists of units available by auction and by other means, as well as approved overseas units.

The price control settings for units are:

- auction price floor – the price below which the Government will not sell units at auction (price floor)
- cost containment reserve (CCR) trigger price(s) – the price, or prices, at which additional units will be released if an auction's interim clearing price reaches or exceeds this level (trigger prices)
- CCR volume(s) – the number of units that will be released if the trigger price is reached.

A large quantity of NZUs are banked in private accounts. Some of the banked NZUs are held to meet future surrender liabilities, or for other reasons. Some of these NZUs are held for investment purposes and can be more readily sold when market price expectations change. The stockpile of these 'surplus' units represents a risk to meeting emissions reduction targets: emitters can choose to surrender the surplus units instead of reducing emissions, which reduces the Government's ability to ensure New Zealand achieves a particular emissions budget. Other stockpile units might also be used in this way, particularly if price expectations are flat to falling. Last year, unit volumes were set with the aim of reducing the surplus stockpile down to zero by 2030.

Key issues for the 2025 NZ ETS settings update are outlined below:

1. How does the Government best support New Zealand's achievement of emissions reduction targets and, in particular position New Zealand better for achieving EB3?
2. How do we address changing methodologies for estimating the surplus stockpile and consider market pricing signals?
3. Which option will best reduce the risk of not achieving emissions reduction targets, while also ensuring that businesses can efficiently manage surrender obligations?

The above issues relate to the final option package and are discussed further on pages 25-26 of this RIS.

What is the policy objective?

The primary policy objectives are as follows:

1. Accordance with emissions reductions targets:
    a. 2050 target, which is net zero emissions of all greenhouse gas emissions other than biogenic methane by 2050 and 24 to 47 per cent reduction below

2017 biogenic methane emissions by 2050, including 10 per cent reduction below 2017 biogenic methane emissions by 2030.
   b. emissions budgets, which are stepping stones along the path to the 2050 target
   c. NDC1 and NDC2.
2. Ensure proper functioning of NZ ETS
   a. Transparent and durable decision making
   b. NZ ETS participants can attain and surrender NZUs to meet NZ ETS obligations.
3. Price controls that.
   a. Support NZU prices to be consistent with international trajectory of emissions prices
   b. Manage overall cost to economy and households

What policy options have been considered, including any alternatives to regulation?
When assessing NZ ETS settings against the accordance requirements, options need be considered as packages, composed of choices for unit limits and price control settings to understand their combined impact on emissions. All packages considered should meet the accordance requirements.

We have considered three options for unit limits, option one which extends status quo limits (16.9 million units across 2026-2030), option two that reflects a similar analysis as that taken by the Commission, but with updated forecasts for industrial allocation and a refined, larger estimate of the stockpile surplus (26.9 million units across 2026-2030), and option three that represents the Climate Change Commission's (the Commission) recommended unit limits (30.5 million units across 2026-2030).

The Minister recommends extending status quo limits.

Status quo price control settings are considered to be fit for purpose, and we recommend they are extended to 2030. No price control options, beyond the status quo, are considered.

What consultation has been undertaken?
Consultation was in the form of a public discussion document, online webinars and some targeted engagement with Māori stakeholders. In total, 68 unique submissions were received from experts, NGOs, businesses, and individuals.

Most submissions (87%) supported maintaining status quo unit limits because they support a faster draw down of the surplus stockpile, better support achieving emissions reduction targets and provide greater predictability of unit supply. Of submissions that referred to price controls, most (80%) expressed a preference for maintaining the current price auction price floor.

Is the preferred option in the Cabinet paper the same as preferred option in the RIS?
Yes.

Summary: Minister's preferred option in the Cabinet paper

Costs (Core information)

Outline the key monetised and non-monetised costs, where those costs fall (e.g. what people or organisations, or environments), and the nature of those impacts (e.g. direct or indirect)

Costs presented are relative to Options Two and Three because the Minister's preferred approach extends the status quo for a further year. The majority of impacts stem from the higher NZU price expected under the Minister's preferred option, which have flow on impacts to almost all parts of the economy. The Minister's recommended option is expected to result in NZU prices that are approximately $5 higher by 2030 compared with Option Two.

- **Government**: Compared with Options Two and Three, *assuming auctions clear*, cash receipts from NZU auctions over 2026-2030 could be $0.8 - $1 billion lower (based on central estimates from projections). However, there is a higher probability that auctions do not clear under Options Two and Three because of the higher unit volumes, which would reduce cash receipts under those options.
- **Emitting firms subject to NZ ETS obligations:** Higher costs for firms to meet surrender obligations, depending on the extent to which firms have invested in transitioning to lower emissions alternatives, hedged their forward obligations, and how these costs can be passed on to households.
- **Firms that receive industrial allocation:** As above for the residual surrender these firms face after industrial allocation is accounted for.
- **Landowners**: Increase in land use for exotic carbon forestry has potential for unintended impacts on environment, rural communities, and regional economies.
- **Households, including Māori households and whānau:** Our modelling estimates that Option One could result in NZU prices around $5 and $9 higher in 2030 than Option Two and Three respectively, resulting in $40 and $60 higher NZ ETS cost to households annually by 2030. It should also be noted that in general, rising prices have a disproportionate impact on low income or single adult households.
- **Wider economy**: Relatively higher NZU prices are likely to marginally increase inflationary pressures but are unlikely to influence trajectory of monetary policy.

Benefits (Core information)

Outline the key monetised and non-monetised benefits, where those benefits fall (e.g. what people or organisations, or environments), and the nature of those impacts (e.g. direct or indirect)

The Minister's preferred approach (Option One) best supports achievement of EB2 and positions New Zealand better for achieving EB3. It will result 10.0 million fewer units being available for auction over the next five years compared with the closest option. Modelling shows that these fewer units are expected to drive more emissions reduction through the EB2 and EB3 periods through increased NZU prices.

Option One will also reduce the surplus stockpile faster than Options Two and Three, reducing the risk the surplus stockpile poses to achieving our emissions reduction targets.

Option One is most consistent with market pricing signals, which suggest there remains a strong supply of NZUs. Option One supports market confidence by maintaining more consistent volumes across the settings period and signalling support for stability of supply

Below are the benefits to various stakeholder groups. Benefits presented are relative to Options Two and Three because the Minister's preferred approach continues the status quo and extends it a further year. The majority of impacts stem from higher NZU price expected under the Minister's preferred option, which have flow on impacts to almost all parts of the economy. The Minister's recommended option is expected to result in NZU prices that are approximately $5 higher by 2030 compared with Option Two.

- **Government**: Tighter unit settings strengthen the likelihood of meeting emissions reduction targets by increasing the NZU price and eliminating the surplus stockpile faster than other options. Increased chance of auctions clearing.
- **Emitting firms subject to NZ ETS obligations:** Increased certainty on the direction of NZU prices for investment decisions.
- **Firms that receive industrial allocation:** Higher prices nominally increase value of units provided to firms by industrial allocation.
- **Other NZ ETS participants, including Māori businesses that rely on NZU earnings**: Higher prices would increase financial value of stockpiled units.
- **Landowners**: Higher prices would lead to higher returns for foresters and increase in value of land suitable for forestry. Additionally, forestry plays a large role in the Māori economy, boosting Māori businesses' asset base.

Balance of benefits and costs (Core information)

Does the RIS indicate that the benefits of the Minister's preferred option are likely to outweigh the costs?
Yes.

Implementation

How will the proposal be implemented, who will implement it, and what are the risks?
Updates to NZ ETS unit settings will be made under the 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.

The amendment regulations will be published in the New Zealand Gazette in September 2025, to take effect from 1 January 2026. 2026 auctions will be conducted according to these settings.

Limitations and Constraints on Analysis

NZ ETS settings are made using the most accurate and up-to-date information available, and tested with different modelling and methodological approaches, however there are always unknown factors and uncertainties involved.
One key uncertainty is around the estimated size of the surplus stockpile, which is a point-in-time estimate that can change significantly from year to year.
There is also inherent uncertainty in emissions projections, which are used to determine appropriate NZ ETS caps, auction volumes and price controls. This uncertainty increases as we project emissions further into the future.

Summary: Regulatory Update – Auction Rollover Volumes

Problem definition and options

The number of NZUs set for auction in a year are evenly distributed into quarterly auctions. For auctions to clear, there must be no bids below the confidential reserve price (CRP) *or* enough bids above the CRP to sell all the units available for auction.

Following each auction, any unsold units are rolled over to the next auction held in the same calendar year. This ensures participants still have the opportunity to access the full allocation of auction units set by the annual NZ ETS cap.

Currently, when the number of NZUs available for auction increases due to additional rollover units, there is a greater risk successive auctions will fail to clear because of bids below the CRP. The risk increases as the units accumulate across the auction year. This can prevent NZ ETS participants from purchasing units even when they are bidding above the CRP. This is inconsistent with the policy objective of the auction mechanism.

We have considered how auction rollover volumes could better support participants to engage in NZ ETS auctions and have access to the units they require to meet their emissions obligations. We have primarily considered three options:

- Option One: Status quo
- Option Two: Sell unsold units if there is enough demand - unsold units are rolled over but only made available if the originally allocated number of units clears the auction
- Option Three: Spread unsold auction volumes across remaining auctions for the year – unsold units are rolled over but spread evenly across the remaining auctions for the year, rather than all into the next auction.

We consulted on the above options through a public discussion document, online webinars and some targeted engagement with Māori stakeholders. Option Two received the most support and was the preferred option by 8 of 18 submitters.

Costs and Benefits of Minister's preferred option

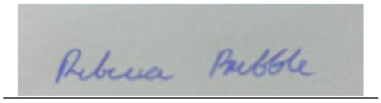
Option Two best addresses the underlying issue. It maintains the ability for participants to access units at auctions later in the year if there is sufficient demand, while eliminating the increased risk of later auctions not clearing because of the additional volume.

There is a small administrative cost to the government to implement this change. But this is outweighed by the improved ability for participants to access units when there is sufficient demand.

Implementation is considered straightforward. Following implementation officials will monitor impacts on auction clearance rates, NZUs issued, and Crown cash receipts.

I have read the Regulatory Impact Statement and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the preferred option.

Responsible Manager(s) signature:



Becky Prebble
Chief Advisor – Climate Change
Mitigation and Resource Efficiency
05 August 2025

Quality Assurance Statement	***[Note this isn't included in the four-page limit]***
Reviewing Agency: Ministry for the Environment	**QA rating:** Meets

Panel Comment:

A Quality Assurance Panel with members from the Ministry for the Environment has assessed the Regulatory Impact Statement.

Using the assessment criteria (complete, convincing, consulted, clear & concise) for all relevant sections of the document, the panel considers that it meets the Quality Assurance criteria for the purpose of informing Cabinet decisions.

The policy problem, assessment of options, and preferred approach are laid out comprehensively and convincingly. The wider context, including the role of the Climate Change Commission and the requirement for NZ ETS settings to accord with emissions reductions targets, is provided in sufficient detail and logically follows through to the analysis.

While acknowledging the complexity of the subject matter, the Panel finds that the RIS could benefit from greater clarity and conciseness in certain areas. Given that this is an annual regulatory process, future work should focus on striking an appropriate balance between robust analysis and clear, effective communication to decision-makers. Improving clarity and conciseness may also encourage broader public engagement during consultation, enhancing the overall quality of this annual process.

Section 1: Diagnosing the policy problem

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

Overview of NZ ETS

1. The NZ ETS is the Government's key tool to help New Zealand meet its:
    - Nationally Determined Contributions (NDCs)
    - 2050 target: net zero greenhouse gas emissions (except biogenic methane) and a 24 to 47 per cent reduction in biogenic methane, including 10 per cent reduction below 2017 biogenic methane emissions by 2030
    - emissions budgets: a set of descending interim targets to reach the 2050 target.
2. The NZ ETS supports emissions reductions by:
    - requiring emitters to measure and report on their emissions
    - pricing emissions and removals
    - requiring businesses to surrender one 'emissions unit' (unit) to the Government for each tonne of emissions they are responsible for under the NZ ETS
    - limiting the number of units supplied into the scheme through auctioning and industrial allocation.

These collectively incentivise investment in decarbonisation or in removals.

3. The Government sets and reduces the number of units supplied into the scheme over time, apart from units supplied for removal activities (primarily forestry). This limits the total volume of net emissions that can be emitted by participants in the scheme, in line with New Zealand's emissions reduction targets.
4. Businesses that participate in the NZ ETS can buy and sell units from each other. The unit price reflects supply and demand in the scheme. This price signal encourages businesses to make economically efficient choices about how to reduce emissions and increase removals.

Annual process for unit limits and price control settings

5. The Climate Change Response Act 2002 (the Act) requires NZ ETS unit limits and price control settings (NZ ETS settings) for the next five years to be made through an annual update process to the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 (the Regulations).
6. NZ ETS settings are updated annually to ensure they remain in accordance with emissions budgets and targets, and NZ ETS settings are put in place to cover the next five years.

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

7. The Climate Change Commission (Commission) is legally required to give annual advice on NZ ETS unit settings. The Minister of Climate Change (Minister) must consider the Commission's advice when recommending updates to settings. If there are any differences between the recommendations of the Commission and those made by the Minister, the Minister must table a report in Parliament to explain the reasons for differences.
8. The Commission's advice on settings was published in April 2025. The Commission's main recommendations this year are:
    - 13.6 million more units could be auctioned across 2026–30 than the current settings allow
    - to make no changes to the unit limits for 2026–27, with higher auction volumes distributed evenly across 2028–30

- keep the auction price floor and CCR settings at current levels, adjusted only for inflation.

What is the policy problem or opportunity?

9. NZ ETS unit limits and price control settings need to be updated annually and should continue to assist New Zealand in meeting its emissions budgets and climate change targets. They also need to be extended to cover an additional year to meet the requirement that there must always be 5 years of settings in place.
10. The Government must set NZ ETS settings that accord with emissions reduction targets, while balancing the impacts of emissions pricing on businesses and New Zealanders more generally. It must also support a transparent, durable and proper functioning ETS market. These objectives are described more in the section below.

What objectives are sought in relation to the policy problem?

11. The objective sought are:
    a. Accordance with emissions reduction targets
    b. Proper functioning of the NZ ETS
    c. Price control settings that support NZU prices consistent with the level and trajectory of international emissions prices
    d. Price control settings that manage overall costs to the economy and households

Accordance with emissions reduction targets

12. The primary objective is prescribed by the Act, which requires that unit settings must accord with New Zealand's:
    - 2050 target, which is:
        a. net zero emissions of all greenhouse gas emissions other than biogenic methane by 2050
        b. 24 to 47 per cent reduction below 2017 biogenic methane emissions by 2050, including 10 per cent reduction below 2017 biogenic methane emissions by 2030.
    - emissions budgets, which are stepping stones along the path to the 2050 target
    - NDCs, specifically
        a. NDC1, which sets a target of a 50 per cent reduction of net emissions below the gross 2005 level by 2030
        b. NDC2, which sets a target of a 51-55 per cent reduction of net emissions below the gross 2005 level by 2030.
13. NZ ETS settings must **strictly accord** with New Zealand's 2050 target, meaning there is a **very high** probability that settings constrain emissions to levels necessary to meet the target.
14. For emissions budgets and NDCs, the settings do not have to strictly accord if the discrepancy is justified after considering matters prescribed in the CCRA. Even if deviating from strict accordance, the settings must still **accord**, meaning there is a **good** probability that settings constrain emissions to the levels necessary to meet the targets.
15. We refer to this as the 'accordance test' in this RIS.

Surplus stockpile drawdown

16. A large quantity of units are banked in private accounts. These provide liquidity to the market and help to reduce price volatility. However, the current number of banked units presents a risk to achieving emissions budgets.

17. Some of the banked NZUs are held to meet future surrender liabilities, or for other reasons. Some NZUs are held for investment purposes and can be more readily sold when market price expectations change – these are considered 'surplus'. Emitters can surrender these surplus units instead of reducing emissions. Other stockpile units might also be used in this way, particularly if price expectations are flat to falling. This poses a risk to the Government's continuing duty to ensure it meets emissions budgets.
18. A key part of this year's decision is to reduce this risk by managing the surplus down to zero by 2030. The Government set out this objective through the 2023 NZ ETS settings process and reaffirmed the objective through the 2024 NZ ETS settings process. Our advice has been developed on the basis that the Government remains committed to this objective.
19. There is inherent uncertainty about the size of the surplus, but options with more accurate estimates or approaches that reduce the surplus sooner will better support this objective.

Accordance with NDC1

20. NZ ETS settings decisions are required to accord with NDC1. However, NZ ETS settings are unable to strictly accord with NDC1 because the gap between the NDC and domestic emissions budgets is larger than the forecast volume of auctioned units. Put simply, even if no units were auctioned between now and 2030, it still wouldn't be enough to close the gap.
21. In the absence of being able to strictly accord, NZ ETS settings must still accord with the NDC and the deviation from strict accordance must be justified with reference to matters in s 30GC of the CCRA. The NZ ETS settings options outlined in this RIS are underpinned by the core assumption that the Government intends to meet NDC1 and settings must deliver the NZ ETS's share of achievement of NDC1.
22. NDC2 is set at approximately the same level as EB3. Therefore, the accordance of options will approximate the accordance with EB3.
23. Assessment of the accordance of 2025 ETS settings options with the NDCs, emissions budgets and 2050 target is substantially addressed in the accordance assessment.

Proper functioning of the NZ ETS

24. There are two major concepts that support the proper functioning of the NZ ETS and are essential for the NZ ETS to play its role in meeting emissions reduction targets: Transparent and durable decision making, and NZ ETS participants' ability to attain and surrender NZUs to meet NZ ETS obligations.

Transparent and durable decision making

25. Government decisions on NZ ETS setting that are transparent and durable provide market participants with the stability and confidence necessary to support investment decisions. This includes providing predictability to participants by taking a consistent approach to incorporating new information and clearly explaining the Government's reasoning behind decisions.

NZ ETS participants' ability to attain and surrender NZUs to meet NZ ETS obligations.

26. The settings should avoid creating unexpected NZU supply shortages such that participants are unable to attain and surrender the NZUs necessary to meet their NZ ETS obligations, which would result in further price volatility and uncertainty in future market dynamics.

Price control objectives

27. There are also two objectives that specifically apply to price control settings, discussed further in **Table 1**. Price control settings should:
    a. support NZU prices consistent with the level and trajectory of international emissions prices

b. manage overall costs to the economy and households.

What consultation has been undertaken?

28. Consultation on NZ ETS settings ran from 28 May to 29 June 2025. Consultation was in the form of a public discussion document, online webinars and some targeted engagement with Māori stakeholders. In total, 68 unique submissions were received from experts, NGOs, businesses, and individuals.
29. Most submissions (87%) generally supported maintaining status quo unit limits because it supports a faster draw down of the surplus stockpile, better supports achieving emissions reduction targets and provides greater predictability of unit supply.
30. Only a few submissions (6%) supported the option to increase unit limits. These submissions referred to the higher unit price path under the status quo and suggested that increasing unit limits would better reflect the current state of the market, support market stability and allow for the lowest cost path to our 2030 targets.
31. Of the submissions that referred to price controls, most (87%) expressed a preference for maintaining the current price auction price floor.

Section 2: Assessing options to address the policy problem

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

32. The criteria used to assess the options are described in table 1 below. They broadly align with the factors in section 30GC of the Act (see **Appendix One**) and with the objectives described above.
33. The first two criteria apply to both unit limit and price control settings. The third and fourth criteria apply to price control settings only.

Table 1: Criteria for options analysis of unit limits and price control settings

Criteria	Description
Likelihood of incentivising net emissions reductions	The NZ ETS must accord with New Zealand's emissions budgets, NDCs and the 2050 target, which all require a mix of gross emissions reductions and removals. Settings should provide a price signal to incentivise emissions reductions and removals. Because the stockpile could impede the achievement of emissions reductions and increase the risk of not meeting budgets, options that risk continuing the stockpile beyond the intended drawdown date will rate negatively for this criterion.

Proper functioning of the NZ ETS	The NZ ETS should operate in a transparent and durable manner so that participants can form expectations about supply and demand. This supports investment in reducing emissions. The legislative restrictions on how settings are updated allow for changes in response to new information, while maintaining regulatory predictability especially in the shorter run. Options that undermine this regulatory predictability will rate negatively for this criterion. Settings decisions should result in predictable levels of supply for participants, avoiding fluctuations of supply that undermine participants confidence in future NZU availability. Decisions should avoid creating unnecessary and unexpected shortages of supply of NZUs such that participants are unable to attain and surrender the NZUs necessary to meet their NZ ETS obligations. This can result in price volatility that is disruptive to participants and is disconnected from cost of reducing net emissions
Support for NZU prices consistent with the level and trajectory of international emissions prices	There are two reasons for considering the level and trajectory of international emissions prices. • International emissions prices provide a way of comparing New Zealand's contribution with that of other countries in the global effort towards addressing climate change, notwithstanding fundamental differences between individual emissions pricing schemes. • Offshore mitigation could be needed to meet emissions reduction targets in addition to reducing emissions domestically.
Management of overall costs to the economy and households	Settings influence, and can help manage, the costs of the NZ ETS on the economy, households, sectors and regions.

34. 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

What scope will options be considered within?

35. When assessing NZ ETS settings against the accordance requirements, options need be considered as packages, composed of choices for unit limits and price control settings to understand their combined impact on emissions. All packages considered should meet the accordance requirements.
36. None of the options presented include changes to price control settings, beyond adjustment for inflation. The rationale for this is explained in the price control settings section below (paragraphs 82-93).

Auction volume options

Context

37. The limits for units that are prescribed in regulations are:
    a. a limit on the units available by auction: base auction volumes + volume available within the CCR
    b. a limit on approved overseas units
    c. an overall limit on units: which consists of units available by auction and by other means, as well as approved overseas units.

Developing and assessing options

38. We used two major approaches together to inform our judgements on appropriate options for unit settings that would meet the accordance tests and goals of the New Zealand Emissions Trading Scheme (NZ ETS):
    a. Seven steps methodology
    b. NZ ETS market model
39. The implications of recent secondary market and auction outcomes also inform the development and assessment of the options.

Seven steps methodology

40. Developed in 2020, the seven steps methodology is an approach for calculating maximum annual auction volumes. The Government and the Commission have used this approach every year since then.
41. The appropriate auction volumes are determined using seven calculations.
    i. Align with emissions reduction targets.
    ii. Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors.
    iii. Make technical adjustments.
    iv. Account for industrial allocation volumes.
    v. Set the reduction volume to address the New Zealand Unit (NZU or unit) surplus.
    vi. Set the approved overseas unit limit.
    vii. Calculate the base auction volumes.
42. Working through these seven steps provides an estimate of the maximum number of units that could be auctioned while meeting our emissions reduction targets, given current circumstances and our best assumptions for other sources of units. Different assumptions and choices can result in different estimates for auction volumes. One limitation is that the seven steps methodology treats the surplus stockpile in binary terms. Units are either surplus or they are not. By contrast, the NZ ETS Market Model allows for a spectrum of liquidity across the stockpile.
43. Appendix 2 shows the seven steps, and the underpinning methodology and assumptions.

NZ ETS market model

44. The NZ ETS market model estimates supply and demand for NZUs under different conditions and can generate price projections based on supply and demand.
45. The ETS market model allows for a more realistic approximation of the real-world situation. It determines demand for NZUs in terms of price-responsiveness and allows for more of a spectrum of liquidity across units in the stockpile. This means that if the marginal price of reducing emissions is lower than the expected value of holding the most liquid unit in the stockpile, emitters will choose to reduce emissions rather than purchase a surplus unit for surrender. The practical consequence of this is that the model can show units remaining in the stockpile beyond 2030 without meaning that net emissions necessarily exceed emission budgets. It also means that in scenarios when the model projects non-surplus units come to market, emissions budgets can be exceeded even if the surplus stockpile is eliminated.
46. As with any model there are limitations in the modelling and it is unlikely that things will play out precisely as the model suggests. The model was not designed to estimate total net emissions; its focus is on net emissions covered by the NZ ETS. However, the projections from the model can be combined with other information to estimate total net emissions. This can help with assessing whether a given combination of unit and price control settings are in accordance with emissions budgets.
47. More details on the NZ ETS market model can be found in Appendix Three
48. Using both models together can help overcome the shortcomings of each approach. It also provides a more robust overall assessment of the merits and trade-offs of each option considered here.

Market signals

49. The signals provided by the secondary market are a further source of information to be reflected in the assessment of unit and price control settings. This has particular relevance to the assessment of the stockpile and the risk it poses to budgets, and considerations with respect to proper functioning of the ETS.
50. Following a period of stability after the 2024 settings decisions were announced, secondary market spot prices declined from around $65 in January 2025 to below $50 in late April. Across June and July, prices were tightly range bound around the $57-58 mark, about 15% below the floor price of $68. Forward and futures price curves are sitting below future auction price floor levels, although these instruments are not traded in large volumes. No bids were made at either the March or June auctions.
51. Market commentary has been mixed on the possible cause of the decline in prices. Some has focused on short-term factors that could reverse, such as selling by smaller foresters to meet cashflow needs, and weakening global and domestic economic sentiment.
52. Other commentators have noted that current price dynamics could represent a more fundamental re-pricing of the cost of reducing net emissions. This means that emissions budgets could be achievable at a lower market price than previously anticipated. Afforestation has been considerably higher over the past few years than was anticipated when auctions were introduced. In addition, a growing share of forestry has switched into the permanent forest category, which frees up NZUs previously held against future harvest liabilities.
53. To the extent a repricing is taking place, current price levels would indicate that the market has enough supply that additional units from auction are not needed.

Auction volume options

54. Three options for auction volumes are being presented.

Auction volume Option One – Status quo volumes extended to 2030

55. Option One includes total auction volumes of 16.9 million units across the settings period.
56. In Option One, auction volumes are unchanged from 2024 settings which apply to 2025-29 and would be extended to 2030. To make the 2030 auction volume internally consistent with settings already in regulation, it has been calculated based on the same information used to determine 2024 settings, including industrial allocation forecasts and surplus drawdown volumes as estimated at the time.[1]

Auction volume Option Two – Updated methodology

57. Option Two includes total auction volumes of 26.9 million units across the settings period.
58. This option uses the updated information for each step as available to the Commission but with different assumptions leading to a higher surplus stockpile estimate and more recent forecasts for industrial allocation, described below. The seven-step methodology as applied to Option Two is described in more detail in Appendix Two.

Updated surplus stockpile assumption - Introducing an overlap between holding and hedging volumes

59. A key change in the surplus estimate methodology this year has been the introduction of the concept of "holding" volumes. These refer to units that are being held to cover emissions that have already occurred but haven't yet been surrendered to fulfil the current compliance cycle. Holding volumes are subtracted from the total stockpile to calculate the estimated surplus stockpile.
60. The Commission's advice treated holding volumes and hedging volumes (units held in anticipation of future emissions) as entirely separate and additional to each other. This methodological change, amounting to -34.2 million units, was a significant driver in reducing the estimated surplus stockpile, thereby supporting its recommendation for higher future auction volumes. However, the Commission also acknowledged in its advice that its estimate of holding volume may partially overlap with what was previously attributed to hedging volume, and suggested the Government tests its assumptions during consultation.[2] If an overlap in hedging and holding volumes exists, it would result in higher estimates of the surplus stockpile because fewer units are being subtracted from the overall stockpile of units.
61. The evidence we have been able to gather indicates that at least some emitters, do not hold distinct (or additional) holding and hedging volumes. Instead, many use units held for upcoming compliance to hedge price (if at all).
62. However, it has been challenging to quantify this overlap. The NZU holders survey, submissions on the ETS Settings discussion document and desktop research based on firms' financial reports have provided limited insight on the specific level of overlap.
63. In absence of robust quantitative evidence, there is value in taking a conservative estimate (i.e., assuming a greater overlap between hedging and holding stockpiles), as underestimating the overlap risks underestimating the size of the surplus stockpile. This could mean the surplus stockpile is not fully drawn down as intended, increasing the challenge in achieving New Zealand's emissions reduction targets.
64. Given the holding volume estimate is based on emissions that have actually occurred, it is more appropriate to retain this estimate based on the best available data (either emissions projections for that year or actual net surrender data once available – see next section).

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[1] Additional details can be found in the Regulatory Impact Statement: 2024 update to New Zealand Emissions Trading Scheme limits and price control settings for units

[2] He Pou a Rangi | Climate Change Commission. *NZ ETS unit limits and price control settings for 2026–2030*. P44

Therefore, an adjustment to the overlap between hedging and holding should be applied to the hedging volume estimate via changes to the future hedging assumptions.

65. The hedging volume estimate is taken as at 2030. It is based on projected sectoral emissions net of industrial allocation and assumptions about the extent to which different sectors future emissions are hedged. Previously, all sectors were assumed to be fully hedged for the first year, except liquid fossil fuel (27%). This is effectively equivalent to the new holding category.
66. Given this, retaining the previous hedging assumptions represents no overlap between hedging and holding volumes. This approach is used for the lower bound surplus estimate. Setting the first-year hedging assumption to zero represents the maximum possible overlap with holding volume. This approach is used for the upper bound surplus estimate.
67. In the absence of strong evidence to a specific value, the central assumptions have been set at the midpoint of these two extremes i.e. assumed 13% year 1 hedging for liquid fossil fuels and 50% for all other sectors. This increases the surplus central estimate by 5.4 million units compared with the Commission's estimate, with a corresponding reduction in auction volumes.

Adjusting surplus estimates based on 2024 net surrenders information.

68. Data on 2024 surrender compliance volumes published by the Environmental Protection Authority has allowed the Ministry for the Environment to refine the estimate of holding volumes. These figures indicate net surrenders of 34.0 million for the period 1 July 2024 to 30 June 2025, 0.2 million units lower than provisional estimates of the holding volume. This increases the surplus estimate by 0.2 million units compared with the Commission's estimate, with a corresponding reduction in auction volumes.

Updating industrial allocation forecasts for recent data and to align with 2025 projections.

69. Industrial allocation forecasts have been updated to incorporate 2024 actual allocations. Aggregate industrial allocation was very close to the level forecast by the Commission but with some differences at the sectoral level.
70. In addition, future output adjustment assumptions have been updated to align information available as of mid-July 2025. The most material change is bringing forward the assumption of when Methanex will close by one year to the end of 2027 and assuming lower production levels prior to reflect ongoing winter closures to release gas for electricity generation.
71. Together, these changes result in industrial allocation forecasts 2.1 million units lower than the Commission forecast for the settings period. Changes in forecast industrial allocation for 2025-2027 are addressed as part of the discrepancy adjustment step (5b). Changes to 2028-2030 are addressed as part of step 4.

Auction volume Option Three – Commission recommended volumes

72. Option Three includes total auction volumes of 30.5 million units across the settings period.
73. The Commission determined its recommended auction volumes based on the seven-step methodology explained above and in Appendix Two.

Additional option considered

74. In addition to the above, we also considered but ultimately did not proceed with an additional unit settings option.
75. Options Two and Three are based on the assumption that unit limits can increase based on any 2024 auction volumes that went unsold. When setting unit limits, all upcoming auctions are assumed to clear. When auctions do not fully clear in a calendar year, this means less supply has entered the market than expected, which reduces future estimates of the size of

the surplus. A smaller estimated surplus means more units can be made available for future auctions while remaining aligned with the NZ ETS cap.

76. The additional option was to use the same methodology as Option Two, with an additional adjustment to ensure that settings do not increase as a result of 2024 auction volumes that went unsold.
77. However, further work to determine the appropriate approach towards unsold auction volumes is ongoing and progressing separately to these settings decisions. This option was therefore not progressed further at this time.
78. It is important to take the additional time necessary to address this issue, as it could also impact on future NZ ETS settings decisions. Decisions are expected to be made to inform advice from the Commission on 2026 NZ ETS settings decision.

Consultation feedback on auction volume options

79. Most submitters (86%) supported Option One. Key rationales were that it supports a faster draw down of the surplus stockpile, better supports achieving emissions reduction targets and provides greater predictability of unit supply.
80. Only four submitters supported Option Three, the Commission's option to increase auction volumes. Key rationales were to allow the lowest cost path to achieving emissions reduction targets and to reduce the risk of price volatility and higher price path under Option One. One of the submissions in favour of increasing unit limits, however, did acknowledge that an increase of 13.6 million units may be too much, given indications of the market being well-supplied and that maintaining the status quo or reducing the size of the increase may be better for consistency.
81. Option Two wasn't presented through consultation and is an intermediate option between Option One and Option Three. However, the submissions still favour Option One and the key rationale highlighted in support for Option One align better with Option One than Option Two.

Price control settings

Context

82. Auction price controls provide the Government with tools to manage the supply of units. Auction price controls include the:
    a. auction price floor (price floor) – the price below which the Government will not sell units at auction (the price control). It stays at a prescribed value for each auction in a year.
    b. cost containment reserve (CCR) trigger price(s) – the price or prices at which additional units will be released if an auction's interim clearing price reaches or exceeds this level (the trigger price).
    c. CCR volume(s) – the number of units that will be released if the trigger price is reached.
83. The price floor minimises the risks of the unit price at auction being inconsistent with the prices necessary to meet emissions budgets and targets. The price floor is the lower price control setting of the auction price corridor; however, it is not a 'hard' price floor as the secondary market price can fall below it (as is currently the case).
84. The CCR helps manage the risk of extremely high prices in the NZ ETS from shocks and unforeseen events. It functions by releasing reserve volume into an auction where prescribed prices have been met. The volume of the CCR needs to be large enough to enable it to perform its function of mitigating the risk of auction prices that are too high. The

trigger prices for the CCR must be high enough that the CCR is only released at a price that does not risk the achievement of emissions reduction targets.

Auction price floor and CCR trigger prices

85. Analysis suggests that the current price floor remains fit for purpose. The Commission has highlighted evidence suggesting that prices at or above the current auction price floor are needed to support emissions reductions necessary for meeting EB2 and EB3.
86. Current secondary market prices are below the current auction price floor, which could be a signal that the market is currently oversupplied. The auction price floor helps limit supply until the oversupply is addressed.
87. Internal modelling suggests that pricing is likely to return to above the auction floor price for all options. Maintaining the auction price floor will also support the Government's key objectives of supporting confidence in the NZ ETS and encouraging investment in decarbonisation activities.
88. For the CCR trigger prices, the Commission highlighted a risk that trigger prices may be too low to encourage the high NZU prices needed to meet EB3 through additional gross emissions (if afforestation follows the trajectory projected in ERP2). However, additional afforestation in the next few years could help meet EB3 at a relatively lower price. It advised maintaining current CCR trigger prices (adjusted for inflation) until it is clearer whether current trigger prices are too low to allow the NZU prices needed to meet EB3. We agree with the Commission's findings.
89. The only option we are presenting is to adjust price control settings for inflation and extend them to 2030. This would apply for all auction volume options.

Cost containment volumes

90. The CCR volumes need to be large enough for the CCR to bring down the auction price when it gets too high. Where prices are high, there is a risk that the cost will be passed on to consumers, potentially resulting in pressure on household budgets.
91. As with last year, there is no indication that changes to CCR volumes are necessary. We consider the current volumes to be sufficient for the CCR to perform its role without risking accordance with emissions budgets if the CCR is triggered. This aligns with the Commission's recommendations.
92. The only option we are presenting is to extend CCR volumes to 2030 in line with 2022 advice on CCR volumes. This would apply for all auction volume options.

Table 2: Proposed price control settings for the next five years, 2026–30

	2026	2027	2028	2029	2030 (new)
Auction price floor	$71	$75	$78	$82	$87
Cost containment reserve (CCR) tier 1	$203	$213	$224	$236	$248
CCR tier 2	$254	$267	$280	$295	$309
Tier 1 volume (million NZUs)	2.3	2.1	1.9	1.7	1.4
Tier 2 volume (million NZUs)	4.2	3.8	3.4	3.0	2.5
Total CCR volume (million NZUs)	6.5	5.9	5.3	4.7	3.9

Consultation feedback on price control settings

93. Many submitters did not express views on the price control settings. Of those that did, most (80%) supported maintaining current price control settings. A few submissions suggested

increasing the auction price floor and only one submission supported reducing or removing price control settings.

What options are being considered?

94. It's important that we consider options as combined packages of auction volumes and price control settings to assess their overall impacts and accordance with emissions reduction targets. As noted above, we are not presenting options that change price controls because current price controls are considered fit for purpose.

Option One – Status quo unit settings and price controls extended to 2030

95. In Option One, auction volumes are unchanged from 2024 settings which apply to 2025-29, and would be extended to 2030. To make the 2030 auction volume internally consistent with settings already in regulation, it has been calculated based on the same information used to determine 2024 settings, including industrial allocation forecasts and surplus drawdown volumes as estimated at the time.
96. Option One includes total auction volumes of 16.9 million units across the settings period.
97. Under Option One, price control settings will be adjusted for inflation and extended to 2030. CCR volumes will also be extended to 2030.

Option Two – Updated methodology and price controls extended to 2030

98. Option Two determines auction volumes based on the seven-step methodology explained above and in Appendix Two.
99. Option Two includes total auction volumes of 26.9 million units across the settings period.
100. This option uses the updated information for each step compared to the Commission's recommended volumes. We also make different assumptions on a key variable within the stockpile estimate (see paras 59 to 67 above) leading to a higher surplus stockpile estimate and more recent forecasts for industrial allocation.
101. Under Option Two, price control settings will be adjusted for inflation and extended to 2030. CCR volumes will also be extended to 2030.

Option Three – Commission recommended volumes and price controls extended to 2030

102. The Commission determined its recommended auction volumes based on the seven-step methodology explained above and in Appendix Two.
103. Option Three includes total auction volumes of 30.5 million units across the settings period.
104. Under Option Three, price control settings will be adjusted for inflation and extended to 2030. CCR volumes will also be extended to 2030.

How do the options compare?

105. Table 3 below compares the estimated impacts for the options on accordance, net emissions, and household and fiscal implications.

106. One critical judgement is the short-term outlook for the market and auctions. For each option, we have modelled two scenarios. One scenario assumes secondary prices in 2025 above the floor price and therefore that auctions will clear (including the unsold volumes from earlier in 2025). The other scenario uses the year-to-date secondary market price ($59 for the first half of 2025) and therefore assumes that auctions do not clear in 2025.

107. Which of the two scenarios is more likely to occur depends on the unit and price control settings adopted. If option one is adopted, secondary market prices are more likely to increase in the short term (all else equal) than under the other two options, making the 2025 auctions more likely to clear. Conversely, adopting option two or three is more likely to result in downward pressure on prices and auctions clearing in 2025 less likely.

108. In officials' judgement, it therefore is most appropriate to compare the status quo option and markets clear scenario against the non-clearance scenarios for the other two options. However, given the degree of uncertainty both sets of scenarios have been presented for all three options.

Table 3: Estimated impact for NZ ETS settings options 2026-2030

Option	Summary of accordance	Summary of modelling and net emissions impacts[3]	Summary of price impacts (household and fiscal implications)[4]
Option One	**Meets accordance test.** • Modelling indicates this option meets EB2. • It does not meet EB3 but positions us better than Options 2 or 3. • It has the highest chance of eliminating the stockpile risk to budget accordance, with	**Estimate of total net emissions (Mt CO_2-e)** **EB2 (305)**: 303.1 (290.5-307.4) **EB3 (240)**: 249.2 (232.1-258.8)	• Modelling projects NZU prices to rise to between $87 and $103 by 2030. • This would result in additional household expenditure caused by emissions pricing between $650 to $770 per household (or between 0.5% and 0.6% of household gross income) in 2030. • If prices increase sufficiently for auctions to clear in 2025, NZ ETS cash proceeds are projected at about $1.4 billion for 2026-2030 (range $1.3-

[3] Modelled impacts are derived from the ETS market model using ERP2 projections and information that informed unit settings options. They are not the official emissions projections which will be presented to Cabinet later this year. Ranges in the central estimates represent different judgements regarding the short-term price outlook and auction clearance. Bracketed ranges represent the modelled uncertainty bands using different price responsiveness assumptions. Central total net emissions estimates for EB3 have been calculated by taking the ERP2 projection for this period and adding the modelled difference in emissions impacts from different price pathways. See Appendix Three for more details on the modelling approach and key assumptions.

[4] Modelled ranges for price and fiscal impacts are dependent on the level of stockpile liquidity and assumptions about market activity in 2025, including whether prices rise above the auction floor price by the end of the year. Price and household impacts are expressed in 2025-dollar terms. Lower end of cash receipts estimate assumes auctions clearing at the floor price. Central and upper estimates are based on auctions clearing at the modelled central and upper price projections.

<table>
<tr><th>Option</th><th>Summary of accordance</th><th>Summary of modelling and net emissions impacts[3]</th><th>Summary of price impacts (household and fiscal implications)[4]</th></tr>
<tr><td></td><td>the total stockpile projected at 60-71M units in 2030 and the surplus eliminated.</td><td></td><td>2.3 billion). This outcome is more likely under option one than the other options.
• If prices remain near their current levels in the short term, NZ ETS cash proceeds are estimated at $1.0 billion ($0.9-1.3 billion) and no auctions are projected to clear in 2026.</td></tr>
<tr><td>Option Two</td><td>Meets accordance test, with more risk than Option One

• Modelling indicates this option meets EB2.
• It does not meet EB3 and has a higher chance of retaining surplus stockpile into the EB3 period, with a higher risk to budget accordance.
• The total stockpile is projected at 65-81M units in 2030. If auctions clear in the short term, a small amount of surplus units (6M) are projected to remain in 2030.</td><td><table><tr><th colspan="2">Estimate of total net emissions (Mt CO_2-e)</th></tr><tr><td>EB2 (305)</td><td>303.5
(290.5-307.4)</td></tr><tr><td>EB3 (240)</td><td>249.8
(232.1-258.8)</td></tr></table></td><td>• Modelling projects NZU prices to rise to between $82 and $91 by 2030.
• This would result in additional household expenditure caused by emissions pricing between $610 to $680 per household (between 0.5% and 0.6% of household gross income) in 2030.
• If prices increase sufficiently for auctions to clear in 2025, NZ ETS cash proceeds are projected at about $2.2 billion for 2026-2030 (range $2.1-4.1 billion). However, there is a lower probability that auctions clear under Option 2 because of the higher unit volumes.
• If prices remain near their current levels in the short term, NZ ETS cash proceeds are estimated at $1.6 billion ($1.4-2.3 billion) and no auctions are projected to clear in 2026 or 2027.</td></tr>
<tr><td>Option Three</td><td>Meets accordance test, with more risk than Options One or Two

• Modelling indicates this option meets EB2.
• It does not meet EB3 and has the highest chance of retaining surplus stockpile into the EB3 period, and highest risk to budget accordance.
• The total stockpile is projected at 69-84M units in 2030. If auctions clear in the short term, a small amount of surplus units (9M) are projected to remain in 2030.</td><td><table><tr><th colspan="2">Estimate of total net emissions (Mt CO_2-e)</th></tr><tr><td>EB2 (305)</td><td>303.7
(293.2-308.0)</td></tr><tr><td>EB3 (240)</td><td>249.9
(236.1-259.3)</td></tr></table></td><td>• Modelling projects NZU prices to rise to between $78 and $86 by 2030. The upper end of the range also assumes that unsold auction volumes are not displaced to later in the settings period; altering this judgement would reduce the upper end of the range.
• This would result in additional household expenditure caused by emissions pricing between $580 to $650 per household (about 0.5% of household gross income) in 2030.
• If prices increase sufficiently for auctions to clear in 2025, NZ ETS cash proceeds are projected at about $2.4 billion for 2026-2030 (range $2.4-4.8 billion). However, there is a lower probability that auctions clear under Option 3 because of the higher unit volumes.
• If prices remain near their current levels in the short term, NZ ETS cash proceeds are estimated at $1.8 billion ($1.7-2.8 billion) and no auctions are projected to clear in 2026 or 2027.</td></tr>
</table>

109. Table 4 evaluates each option against the criteria outlined in table 1 above

Table 4: Assessment of NZ ETS settings options 2026-2030

	Option One – Status Quo unit settings and price controls extended to 2030*	Option Two – Updated methodology and price controls extended to 2030	Option Three – Commission recommended volumes and price controls extended to 2030
Likelihood of incentivising (net) emissions reductions	0 Compared with Option Two, Option One is expected to incentivise greater levels of emissions reductions and removals and reduce the stockpile faster. It is assessed as according with all emissions budgets, NDCs and the 2050 target. It is more likely to align with emissions reduction targets, including the challenging EB3.	– Option Two is expected to incentivise lower emissions reductions and removals than Option One, but still enough to achieve EB2. It is assessed as according with all emissions budgets, NDCs and the 2050 target. Given the uncertainty in the estimated surplus, this option also comes with higher risk that the surplus will persist into the EB3 period. The price floor mitigates this risk somewhat. It only allows supply to enter at a price expected to incentivise decarbonisation. Flat distribution of volumes and keeping 2026–27 volumes unchanged further mitigate the surplus risk. Option Two has a lower risk compared with Option Three because of its more conservative surplus stockpile estimate.	– Option Three is expected to incentivise lower emissions reductions and removals than Options One and Two, but still enough to achieve EB2. It is assessed as according with all emissions budgets, NDCs and the 2050 target. Given the uncertainty in the estimated surplus, this option also comes with the highest risk that the surplus will persist into the EB3 period. The price floor mitigates this risk somewhat. It only allows supply to enter at a price expected to incentivise decarbonisation. Flat distribution of volumes and keeping 2026–27 volumes unchanged further mitigate the surplus risk.
Proper functioning of the NZ ETS	0 Option One is formed on a different basis to the other options. It uses values created in 2024 (and only updated this year very slightly), derived from that year's seven steps approach. Unlike the other options, it does not use updated estimates of industrial allocation, or the surplus stockpile, nor	0 Option Two adheres to the seven steps approach that has been consistently applied to determine unit settings in previous years (though with different underlying assumptions). It specifically explains the cause of any changes in unit settings in a way that can be predictably applied to future settings decisions,	0 Option Three adheres to the broad seven steps approach that has been consistently applied to determine unit settings (though with different underlying assumptions). It specifically explains the cause of any changes in unit settings in a way that can be predictably

	Option One – Status Quo unit settings and price controls extended to 2030*	Option Two – Updated methodology and price controls extended to 2030	Option Three – Commission recommended volumes and price controls extended to 2030
	account for other changes since 2024, though it does account for market pricing signals unlike Options Two and Three. To the extent that this is a departure from previous years, using it creates a new question about how unit volumes will be estimated in the future. Option One has a higher risk than Option Two of constraining unit supply such that the draw down in the stockpile exceeds the estimated surplus. This may impede the ability of participants to efficiently manage their current and future surrender obligations and generate greater price volatility, with negative flow-on impacts on emissions reduction investments. However, this risk is expected to be manageable through future settings decisions as additional volumes can be released through future NZ ETS settings decisions. The option avoids a significant deviation in auction volumes based on uncertain surplus stockpile estimates. Option One takes a more conservative approach to estimates of the surplus and reflects recent market signals. Better alignment with EB3 also means it is less likely that volumes will need to be reduced again in the future. This supports greater stability for the market.	allowing participants to predict the impacts of future changes in data or methodology. However, the changes in methodology, particularly around the surplus stockpile estimate, were significant and may not have been expected by the market. Less risk of overly constraining unit supply compared with Option One, with correspondingly lower risk of excessive price volatility. However, incorporating changes in the surplus stockpile estimate and the reduced likelihood of aligning with EB3 make it more likely for future fluctuations in auction volumes. This reduces stability and predictability for the market. These impacts are less pronounced compared with Option Three because of the more conservative surplus stockpile assumption.	applied to future settings decisions, allowing participants to predict the impacts of future changes in data or methodology. However, the changes in methodology, particularly around the surplus stockpile estimate, were significant and may not have been expected by the market. Even less risk of overly constraining unit supply compared with Options One and Two, with correspondingly lower risk of excessive price volatility. However, fully incorporating changes in the surplus stockpile estimate and the reduced likelihood of aligning with EB3 make it most likely for future fluctuations in auction volumes. This reduces stability and predictability for the market.

	Option One – Status Quo unit settings and price controls extended to 2030*	Option Two – Updated methodology and price controls extended to 2030	Option Three – Commission recommended volumes and price controls extended to 2030
**Support for NZU prices consistent with the level and trajectory of international emissions prices ** **	0 It has been assessed that existing price control settings are within the range of international emissions prices and comparable to the efforts of developed country peers	0 It has been assessed that existing price control settings are within the range of international emissions prices and comparable to the efforts of developed country peers	0 It has been assessed that existing price control settings are within the range of international emissions prices and comparable to the efforts of developed country peers
**Management of overall costs to the economy and households ** **	0 Extending existing price control settings is expected to have a modest impact on households and inflation.	0 Extending existing price control settings is expected to have a modest impact on households and inflation.	0 Extending existing price control settings is expected to have a modest impact on households and inflation.
Overall assessment	0	–	–

* Option One is used as the counterfactual because the CCRA requires settings to be extended every year. This option therefore is the closest possible option to the status quo.

**These assessment criteria only apply to price controls. Because price controls are identical for all options, they are evaluated as the same

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

110. Option One – Status quo settings is most likely to address the policy problem and offer the highest net benefits. Under Option One the recommended unit limits for 2026-2030 would be as outlined below:

Table 5: Proposed unit limits for the next five years, 2026–30

Unit limits (millions)	2026	2027	2028	2029	2030
Base auction volumes	5.2	4.3	3.3	2.4	1.7
Total CCR volumes	6.5	5.9	5.3	4.7	3.9
NZUs available by auction	11.7	10.2	8.6	7.1	5.6
Industrial allocation	4.6	4.4	4.1	4.0	4.0
Approved overseas units	0	0	0	0	0
Overall limit on units	16.3	14.6	12.7	11.1	9.6

Option One best supports achievement of EB2 and positions New Zealand better for achieving EB3

111. Maintaining status quo volumes will better position New Zealand to achieve EB2 and EB3 compared with options that increase auction volumes (Options Two and Three).

112. Option One (16.9 million units) will result in 10.0 million fewer units being available for auction over the next five years compared with Option Two (26.9 million units), and 13.6 million fewer units compared with Option Three (30.5 million units). Modelling shows that these fewer units are expected to drive more emissions reduction through the EB2 and EB3 periods through increased NZU prices. Higher prices are projected to lead to net emissions of around 303Mt CO_2-e in EB2[5], similar to the level projected in ERP2 and within the 305Mt CO_2-e limit. Options with higher unit supply are projected to result in slightly higher net emissions (304Mt CO_2-e) and less reduction in the stockpile. Appendix Three includes the findings from the Ministry for the Environment modelling in more detail.

113. The major driver for increasing auction volumes under Options Two and Three is lower estimates of the surplus stockpile. There are still considerable uncertainties around surplus estimates and if the surplus continues into the EB3 period, it will make it more challenging for New Zealand to meet its emissions target. Given this, there is a benefit to being more conservative in our estimates. Maintaining status quo volumes takes a more conservative approach and means we can be much more confident that the surplus stockpile, a key risk for achieving EB3, will be eliminated by 2030, and sooner than under the other options

114. Maintaining status quo volumes also puts us in a better position to respond in future ETS settings decisions to policy underway where decisions are yet to be taken. For example, between April and May 2025, the Ministry for Primary Industries consulted on proposed changes to default carbon table for exotic forests in the NZ ETS. If these proposed changes are agreed by Cabinet, then foresters using default carbon tables for exotic forests will be allocated increased levels of NZUs. This would mean that auction volumes will need to be decreased by around 7.5 million NZUs over the EB3 period. This would lessen the ability to further adjust volumes during the EB3 period and supports the decision to maintain status quo volumes.

[5] These projected emissions estimates are based on ERP2 projections and other information that informed the unit settings options. The 2025 official projections are currently being prepared and will be available later in 2025.

115. While all options meet the accordance requirements, Option One provides greater confidence in meeting emissions reduction goals and accordance requirements for current and future NZ ETS settings decisions.

Option One is most consistent with market pricing signals and most likely to support market confidence

116. Recent market signals, including prices significantly below the auction floor, and unsold 2024 auction volumes further suggest that there remains strong supply of NZUs in the market. This supports taking a more conservative estimate of the surplus stockpile, and not increasing auction volumes compared with the status quo.
117. The seven steps methodology used by both Options Two and Three involve significant changes in methodology, including changes that have lowered the estimate of the surplus stockpile. These methodological changes are conceptually valid and likely to improve the accuracy of the surplus estimate. However, lower surplus stockpile estimate runs counter to recent market signals and substantial uncertainty remains about the true size of the surplus stockpile.
118. The lower revised estimate of the surplus stockpile under the seven steps methodology in part reflects that auction volume that went unsold in 2024 did not enter the surplus stockpile, as was estimated in 2024 NZ ETS settings decisions. This issue has been highlighted by submitters and market participants as leading to uncertainty. Some said auctions not fully clearing is sign that the market is sufficiently supplied and so these unit should not be 'reintroduced' in later years.
119. Market participants value stable and predictable unit volumes. The status quo option will maintain more consistent volumes across the settings period and signal support for stability of supply.

Option One best balances the risk of not achieving emissions reduction targets with the risk of undersupply

120. Compared with Options Two or Three, Option One could lead to tighter supply in 2028-30, potentially resulting in price volatility. Price volatility also leads to investment uncertainty which can discourage emissions reduction investments. Tighter supply could also make it difficult for some compliance participants to source units. However, recent low secondary market prices suggest there is still strong supply, and the risk of tight supply leading to price volatility is relatively low and likely outweighed by the increased risk of not achieving emissions reductions targets under Options Two or Three.
121. Maintaining status quo auction volumes now under Option One does not preclude increasing auction volumes (if further information suggests increased supply may be needed) in future ETS settings decisions.
122. The status quo is expected to result in higher peak NZU prices compared with Option Two, with flow on impacts on cost of living. Our modelling estimates that Option One could result in a peak NZU price about $5-12 higher (in 2025-dollar terms) than Option Two, resulting in up to $40-80 higher peak annual NZ ETS cost to households by 2030. This would have a negligible impact on annual inflation of about 0.01-0.03% per annum. Per table three above, the lower range of these impacts assumes that prices increase in the short term sufficiently to clear 2025 auctions, while the upper range assumes that prices remain around their current levels in the near term and therefore auctions do not clear.

Is the Minister's preferred option in the Cabinet paper the same as the agency's preferred option in the RIS?

123. Yes.

What are the marginal costs and benefits of the preferred option in the Cabinet paper?

124. Costs and benefits presented are relative to Options Two and Three. We have presented impacts on groups of stakeholders, the wider economy and the Government. The majority of the impacts stem from the higher NZU prices expected under Option One, which have flow on impacts to almost all parts of the economy. The Minister's recommended option is expected to result in NZU prices that are approximately $5 higher by 2030 compared with Option Two.

Table 6: Marginal costs and benefits of Option One, compared with Options Two and Three

Affected groups	Benefits	Costs	Overall impact assessment
Emitting firms subject to NZ ETS obligations	Increased certainty on the direction of NZU prices for investment decisions.	Higher costs for firms to meet surrender obligations. This may be mitigated by the extent to which: • firms invest in transitioning to lower-emissions alternatives • firms have hedged their forward obligations • these additional costs can be passed on to households (see 'Households' row below).	The short-term (approx. next 1-2 years), response to relatively higher NZU prices is likely to be fairly inelastic and result in limited additional emission reductions relative to the status quo. Over longer timeframes (approx. next five years), relatively higher NZ ETS prices would increase the incentive for firms to invest in emissions reduction actions.
Firms that receive industrial allocation of NZUs (additional to firm impacts above)	Relatively higher prices nominally increase the value of units provided to firms by industrial allocation.	As above for the residual surrender obligations these firms face after industrial allocation is accounted for.	The overall impact will be dependent on the level of residual surrender obligations for each firm.
Other NZ ETS participants, including Māori businesses that	Relatively higher prices would increase the financial value of stockpiled units, both those held for hedging		The higher price increase expected under Option One means a larger increase in the value of stockpiled units.

Affected groups	Benefits	Costs	Overall impact assessment
rely on NZU earnings	purposes and the liquid stockpile.		
Landowners (e.g., foresters and farmers), including Māori	Higher NZU prices can lead to greater returns for foresters that participate in the NZ ETS. Higher returns on forestry land also increases the option value of farming and other land that is suitable for forestry use (regardless of whether this option is exercised).	Higher carbon prices could lead to increased levels of existing exotic forests being managed for carbon, rather than production[6]. This has the potential for unintended impacts on the environment, rural communities, and regional economies. Increased cost to landowners of deforestation due to increased price.	In the short-to-medium term, extending status quo unit limit settings is likely to marginally increase the rate of afforestation and farm conversions, subject to existing capacity constraints (e.g., labour, seedling supplies) and relevant policy decisions (such as restrictions on converting productive farmland). Increased afforestation now may lead to greater downward pressure on prices in the 2030s when these forestry units enter the market in material volumes.
Households, including Māori households and whānau		Our modelling estimates that Option One could result in NZU prices around $5-12 and $9-17 higher in 2030 than Option Two and Three respectively, resulting in $40-80 and $60-120 higher NZ ETS cost to households annually by 2030.The variation depends on how much the stockpile decreases and whether the remaining auctions in 2025 clear. The mitigating factors will be the extent to which businesses pass on additional costs, and the extent to which households are able to change their consumption patterns in	A $10 increase in NZU prices is estimated to increase annual household expenditure on emissions costs by about $84 (in 2025 dollars) for the average household ($1.61 per week).[7] For lower income households, the increase is estimated at $44–52 per annum, while for higher income households it is estimated at $120–147. Rising prices have a disproportionate impact. Low-income households, and single-adult households such as sole-parent families, bear the largest relative impacts and may be less able to change

[6] Based on research and analysis completed by the University of Canterbury School of Forestry in 2021 - Afforestation Economic Modelling

[7] This assumes 100 per cent and instantaneous pass through of NZ ETS costs to households and does not account for behaviour change. Therefore, this is an upper bound estimate of the impact.

Affected groups	Benefits	Costs	Overall impact assessment
		response. Most of the impact on households is via fuel and electricity prices. Households may also be affected via the labour market. Businesses may adjust the type or number of jobs they offer in response to cost changes.	consumption pattern where this involves high upfront costs. The impacts on lower-income households are partly offset by the indexing of some existing income support payments to the consumers price index (CPI). This means that, as the cost of goods and services increases because of efforts to reduce emissions, some benefits will increase as well. Recent Treasury analysis found that around 80 per cent of household equivalised disposable income decile 1–4 households received CPI-indexed payments, and these payments compensate for around 50 per cent of increasing costs from emissions pricing.[8]
Wider economy	Higher prices in the medium term may incentivise firms to invest in emissions reduction technologies or changes to processes.	Relatively higher prices for household items cause a marginal reduction in disposable income for low-income households, which may impact the wider economy through reduced spending. Forestry plays a large role in the wider Māori economy. The expected increase in value of NZUs under Option One impacts on businesses' asset base and capacity as an employer. Relatively higher NZ ETS prices are likely to marginally increase inflationary pressures.	A $10 increase in NZU prices is estimated to contribute to a 0.14% increase in inflation as measured by the Consumer Price Index, largely due to higher fuel and electricity prices. Investment in emissions reductions technologies and processes may be productivity enhancing. However, these investments may be at the expense of other productivity enhancing investments firms could make (the opportunity cost). The net impact on productivity and economic capacity is difficult to determine but is likely to be quite small from this change alone.

[8] The Treasury. Internal analysis – Treasury Analytical Reports 365 and 367

Affected groups	Benefits	Costs	Overall impact assessment
		However, we judge this highly unlikely to influence the trajectory of monetary policy.	
Government	Tighter unit settings strengthen the likelihood of meeting emissions reduction targets as well as the domestic contribution towards NDCs. Increased chance of auctions clearing, possibly increasing cash receipts, particularly in the short term.	Under the status quo option and assuming auctions clear, cash receipts from NZU auctions over 2026-2030 are up to $1 billion lower than the Commission's recommended option (based on central estimates from projections). However, there is a higher probability that auctions do not clear under Options Two and Three because of the higher unit volumes.	Option One positions New Zealand best for achieving its emissions reduction targets. The exact impact on auction clearance and cash receipts is difficult to evaluate. If prices increase such that all auctions clear, then the Government will face reduced cash receipts under Option One, however Option One will be more effective at increasing the market price and clearing auctions by signalling constrained supply through to 2030.

Section 3: Delivering an option

How will the proposal be implemented?

125. Updates to NZ ETS unit settings will be made under the 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.
126. The amendment regulations will be published in the New Zealand Gazette in September 2025, to take effect from 1 January 2026.

How will the proposal be monitored, evaluated, and reviewed?

127. Agencies will closely monitor the impacts of NZ ETS unit settings. The Ministry for the Environment routinely tracks the price of units 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.
128. 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 other public and private organisations.
129. 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.
130. 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.

Section 4: Regulatory Update – Auction Rollover Volumes

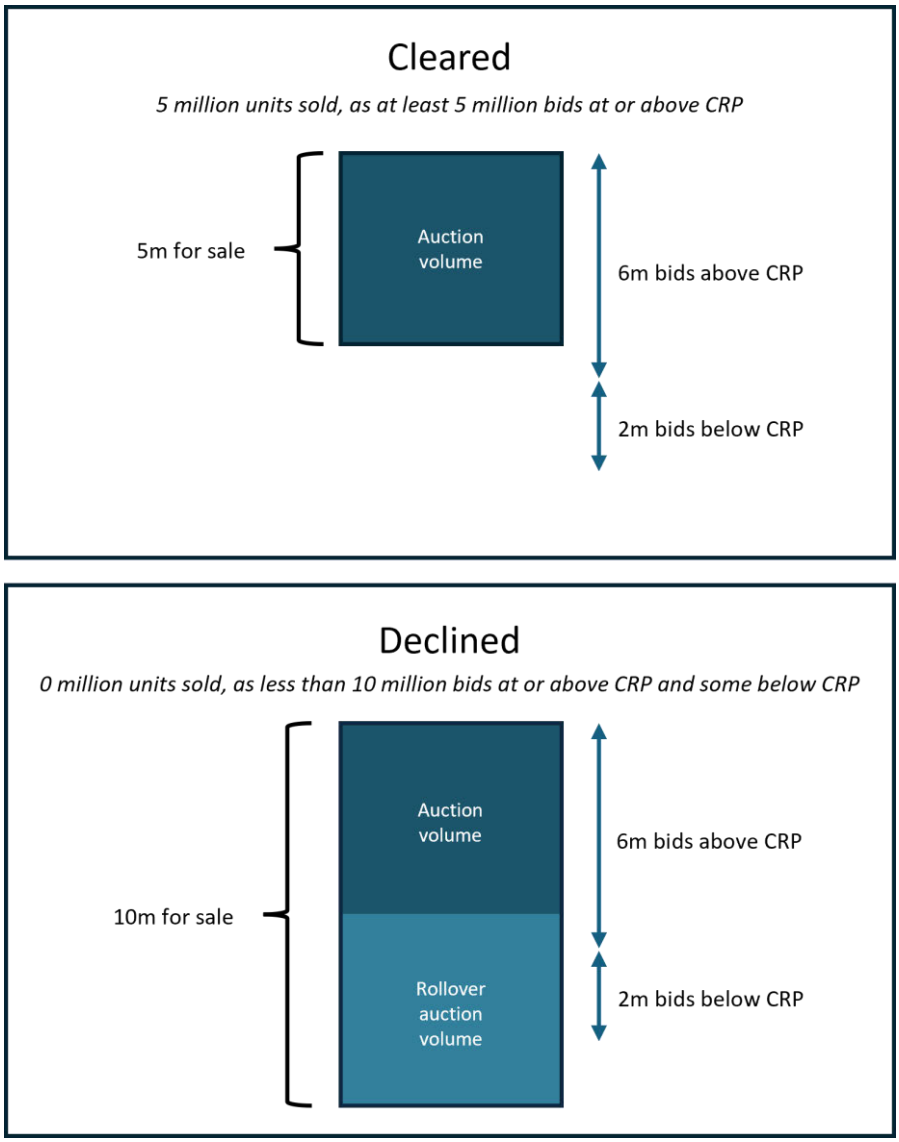
Context

131. Currently, the number of NZUs set for auction in a year are evenly distributed into quarterly auctions. Bidders submit bids for a specific volume of units at a specific price. The auction clearing price is determined by ranking all bids from highest to lowest price. Units are allocated to bids until there are no more bids or all of the units available at auctions are allocated. The bid price of the lowest-rank bid that receives units becomes the clearing price. All bidders at or above the lowest-rank bid will then pay the same clearing price for all the NZUs they bid for.
132. For auctions to clear, there must be no bids below the confidential reserve price (CRP) *or* enough bids above the CRP to sell all the units available for auction.
133. Following each auction, any unsold units are rolled over to the next auction held in the same calendar year. Units are rolled over within the year (instead of being discarded or cancelled after an uncleared or partially cleared auction), to ensure participants can access the full allocation of auction units set by the annual NZ ETS cap.
134. At the end of the year any unsold units are cancelled and not carried over into the next calendar year

Policy problem

135. Currently, the way in which unsold units are rolled into the next auction impacts on the likelihood of auctions clearing. When the number of NZUs available for auction increases due to additional rollover units, there is a greater risk that any bids below the CRP will result in a failure for the bids above the CRP to clear, as illustrated in Figure 1 below. The risk increases as the units accumulate across the auction year.
136. This can prevent NZ ETS participants from purchasing units even when they are bidding above the CRP. This is inconsistent with the policy objective of the auction mechanism.
137. Figure 1 illustrates how the accumulation of unsold NZUs within a calendar year can affect auction outcomes. Both scenarios have identical bidding behaviour. However, the latter, which includes previous unsold NZUs, fails to clear due to bids below the confidential reserve price.

Figure 1: Example of impact of current auction rollover provisions for units within the same calendar year



138. There is an opportunity to adjust the unit rollover provisions to ensure participants can still access the full allocation of units set by the annual NZ ETS cap but avoid

circumstances where progressively large auction volumes constrict their ability to purchase.

Objective

139. To better support participants to engage in NZ ETS auctions and have access to the units they require to meet their emissions obligations.

Consultation

140. Consultation on NZ ETS regulations, including the proposed auction rollover changes ran from 28 May to 29 June 2025. Consultation was in the form of a public discussion document, online webinars and some targeted engagement with Māori stakeholders.
141. There were 18 responses to questions on the proposed auction rollover changes. Option 2, as outlined below, was the preferred option by 8 submitters, option 1, no change, was preferred by 5 and option 3 was preferred by 3.
142. Submitters who commented also offered alternative options. Five suggested that unsold NZUs should be cancelled after each auction because by not selling, the market is indicating that they are not required and by adding them back in, they are suppressing the NZU price. It was further suggested that bids below the auction floor should not result in a failed auction. Those above the floor should still clear.

Options for managing rollover auction volumes

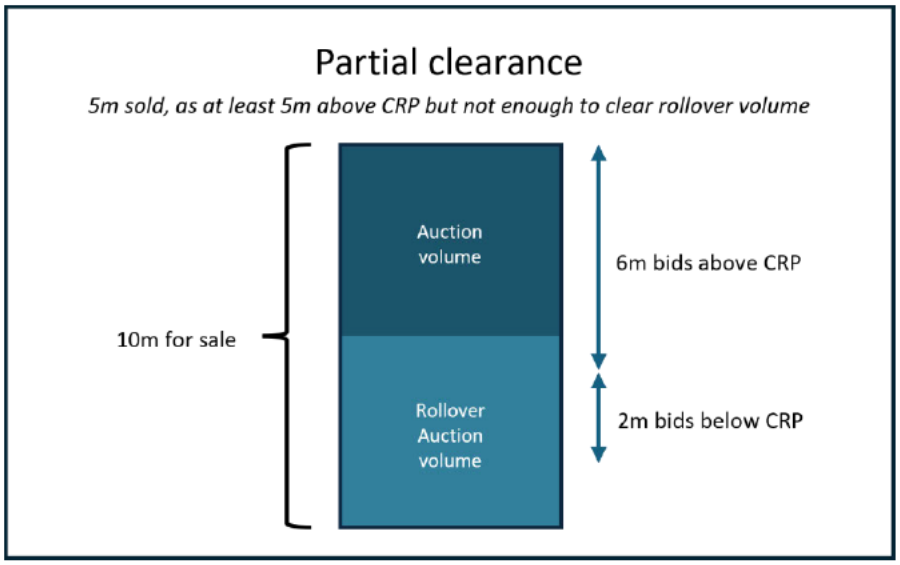
Option One: Status quo

143. Under the status quo, unsold NZUs will continue to roll over to the next auction. This may result in progressively larger auction volumes throughout the year and greater risk that bids below the CRP will cause auctions to decline.

Option Two: Sell unsold units if there is enough demand

144. Under Option Two, unsold units will be rolled over but only made available if the original number of units clears the auction.
145. This approach maintains market stability by preventing a buildup of unsold units that could distort auction outcomes while also ensuring the volume of units remains available to participants if there is demand.
146. At the end of the year, any unsold units will be cancelled as per current policy settings.
147. Figure 2 below highlights how Option Two would work, using the same scenario as in Figure 1. In it, 5 million units are sold, whereas the auction would fail to clear under the status quo.

Figure 2: Example of impact of auction rollover provisions under Option 2 for units within the same calendar year



Option Three: Spread unsold auction volumes across remaining auctions for the year

148. Under Option Three, the number of units to be rolled over will be spread evenly across the remaining auctions for the year. While unsold units will continue to be available, this option does not reduce the risk of auctions not clearing due to bids below the CRP.

Other options considered

149. We also considered holding two additional auctions per year, at regular intervals, so NZ ETS participants can access NZUs that were not sold in previous auctions or cancelling any unsold NZUs after an auction has failed to clear. However, we do not consider they are viable. Holding two additional auctions would be administratively complex, and cancelling rollover NZUs would remove the ability of NZ ETS participants to access these NZUs

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

150. The options will be compared against two key criteria:
    a. Proper functioning of NZ ETS auctions – Allows consistent auctioning of units when there is sufficient demand above the confidential reserve price.
    b. Efficiency – Minimises administrative and compliance costs and burdens for participants and the Government

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

Table 7: Assessment of options for managing rollover auction volumes

	Option One – Status quo	Option Two – *Sell unsold units if there is enough demand*	Option Three – Spread unsold auction volumes across remaining auctions for the year
Proper functioning of NZ ETS auctions	**0** There will continue to be a higher risk of auctions not clearing when rollover units increase the number of NZUs available for auction.	++ This will enable participants to access units when there is sufficient demand (at above the confidential reserve price), and therefore more closely reflects demand.	+ Compared with the status quo, Option Two may enable better access to units throughout the year, but an increased risk of auctions not clearing despite demand for units still applies. Particularly for the final auction of the year.

	Auction volumes are maintained throughout the year if they are required in later auctions.	Reduces the unintended consequences meaning auctions likely to function as intended. Auction volumes are maintained throughout the year if they are required in later auctions.	Auction volumes are maintained throughout the year if they are required in later auctions.
Efficiency	**0** No implementation costs with continuing status quo approach	**–** There is a small administrative cost to the Crown to implement this change, but it is relatively small. Participants may find accessing units in larger quantities via auction more convenient than the secondary market. Simple for NZX to implement. However, it is still a change to the status quo.	**–** Similar implementation costs as Option Two. Simple for NZX to implement. However, it is still a change to the status quo
Overall assessment		**++**	**0**

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

151. Option Two best addresses the underlying issue. It maintains the ability for participants to access units at auctions later in the year if there is sufficient demand, while eliminating the increased risk of later auctions not clearing because of the additional volume.

Is the Minister's preferred option in the Cabinet paper the same as the agency's preferred option in the RIS?

152. Yes.

What are the marginal costs and benefits of the preferred option in the Cabinet paper?

153. There is a small administrative cost to government of changing the management of rollover units.
154. Enabling participants to better access units when there is sufficient demand is beneficial to participants who have more opportunity to secure NZUs and could result in cash receipts from clearing those auction units to the Crown.

How will the proposal be implemented?

155. Option Two will be implemented by the auction service platform provider and it is considered a simple change to put in place.

How will the proposal be monitored, evaluated, and reviewed?

156. Officials will monitor the impacts from changing how we rollover auction volumes to understand how this impacts:

a. Auction clearance rates
b. NZUs issued
c. Crown cash receipts

Appendix One: Considerations for determining unit limits and price control settings

1. As described above, the Act requires that the limits and price control settings are in accordance with the NDC, the emissions budgets, and the 2050 target.
2. Section 30GC of the Act also provides relevant factors for determining settings. These relevant factors can also justify settings that do not strictly accord with these emissions targets.
3. The relevant factors are provided in Table 1 below. The table also explains how the factors have been considered in our analysis. Some of the relevant factors have been used to derive criteria to evaluate how these options compare with the status quo. These criteria are provided in Table 2.

Table 1: Mandatory considerations for determining unit limits and price control settings

Matters in section 30GC of the Climate Change Response Act 2002	Comments
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** **(b) the 2050 target.**	The NZ ETS must accord with New Zealand's emissions budgets, the NDC, and 2050 target, which all require either gross emissions reductions or increased emissions removals. Accordingly, settings should support emissions reductions and removals. The NZ ETS supports gross emissions reductions by providing a price signal to incentivise the uptake of low-emissions technology, energy efficiency measures, and other emissions reductions opportunities. The NZ ETS drives emission removals by providing a price signal that rewards removal activities such as afforestation. Due to the risk the stockpile creates to the achievement of emissions budgets, options that risk continuation of the stockpile will rate negatively on this criterion.
Matters the Minister must consider	
Projected trends in greenhouse gas emissions, including both emissions covered by the NZ ETS and those that are not covered.	This is considered when determining the unit limits as an input to emissions inside and outside the NZ ETS.
The proper functioning of the NZ ETS.	The NZ ETS should operate in a transparent and durable manner that allows participants to form expectations about supply and demand to support investment in domestic emissions abatement. The restrictions on how settings are updated allow changes to be made in response to new information, while maintaining regulatory predictability. Options that undermine this

	standard approach rate negatively in this criterion. Settings decisions should result in predictable levels of supply for participants, avoiding fluctuations of supply that undermine participants confidence in future NZU availability. Decisions should avoid creating unnecessary and unexpected shortages of supply of NZUs such that participants are unable to attain and surrender the NZUs necessary to meet their NZ ETS obligations. This can result in price volatility that is disruptive to participants and is disconnected from cost of reducing net emissions
International climate change obligations and contracts New Zealand may have for accessing offshore mitigation from other carbon markets.	New Zealand has no current instruments or contracts with other jurisdictions to access emissions reductions in their carbon markets.
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.	This is derived from the policies and measures in the emissions reduction plan and is considered when the unit limits are calculated in step 1 and step 2.
The recommendations made by the Climate Change Commission (the Commission) under section 5ZOA of the Act.	The Commission's recommendations are included among the options considered for all NZ ETS unit settings decisions.
Any other matters that the Minister considers relevant	We note two additional matters the Minister may consider relevant when considering this advice. This is that that the framework of the Climate Change Response Act does not require a plan be in place to meet the third emissions budget yet, and that policies will continue to evolve over time, and that the Government remains committed to achieving NDC1.
Additional matters the Minister must consider in analysing price control settings	
The impact of emissions prices on households and the economy.	Settings manage the costs imposed by the NZ ETS on the economy, on households, and on different sectors and regions.
The level and trajectory of international emissions prices (including price controls in linked markets).	There are two reasons for considering the level and trajectory of international emissions prices. First, that international emissions prices provide a comparison of New Zealand's contribution to the global effort towards addressing climate change, notwithstanding fundamental differences exist between individual emission pricing schemes. Secondly, that offshore mitigation could be needed to meet emissions reduction

	targets in addition to reducing emissions domestically.
Relevant matters in section 30GC of the Climate Change Response Act 2002	**Criteria that reflect this matter**
Inflation.	All price control options have been adjusted for forecast inflation. Inflationary impacts of the NZU price are considered in the criterion 'the impact of emissions prices on households and the economy above'.

Table 2: Criteria for options analysis of limit and price control settings for units

Criteria	Description
Likelihood of incentivising (net) emissions reductions	The NZ ETS must accord with New Zealand's emissions budgets, NDCs and the 2050 target, which all require a mix of gross emissions reductions and removals. Settings should provide a price signal to incentivise emissions reductions and removals. Because the stockpile could impede the achievement of emissions reductions and increase the risk of not meeting budgets, options that risk continuing the stockpile beyond the intended drawdown date will rate negatively for this criterion.
Support the proper functioning of the NZ ETS	The NZ ETS should operate in a transparent and durable manner that allows participants to form expectations about supply and demand to support investment in domestic emissions abatement. The restrictions on how settings are updated allow changes to be made in response to new information, while maintaining regulatory predictability. Options that undermine this standard approach rate negatively in this criterion. Settings decisions should result in predictable levels of supply for participants, avoiding fluctuations of supply that undermine participants confidence in future NZU availability. Decisions should avoid creating unnecessary and unexpected shortages of supply of NZUs such that participants are unable to attain and surrender the NZUs necessary to meet their NZ ETS obligations. This can result in price volatility that is disruptive to participants and is disconnected from cost of reducing net emissions
Support for NZU prices consistent with the level and trajectory of international emissions prices **	There are two reasons for considering the level and trajectory of international emissions prices. • International emissions prices provide a way of comparing New Zealand's contribution with that

	of other countries in the global effort towards addressing climate change, notwithstanding fundamental differences between individual emissions pricing schemes. • Offshore mitigation could be needed to meet emissions reduction targets in addition to reducing emissions domestically.
Management of overall costs to the economy and households **	Settings influence, and can help manage, the costs of the NZ ETS on the economy, households, sectors and regions.

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

Appendix Two: Seven step methodology

The seven steps methodology calculates theoretical maximum auction volumes within the New Zealand Emissions Trading Scheme (NZ ETS) that accord with emissions targets.

The Climate Change Commission (the Commission) has published detailed technical materials about the seven steps methodology to support its recommended unit limits (Option Three). Its reports are as follows.

- ***Advice on NZ ETS unit limits and price control settings for 2026–2030:*** *Part 3: Te herenga utu – Unit limits*. This is a detailed discussion of the Commission's analysis using the seven steps, and its implications for this year's advice on New Zealand Unit (NZU or unit) limits.
- **Technical annex 1: Unit limit settings:** This gives further information on the data, methodology and assumptions the Commission used to reach its final recommendations for unit limit settings. The same analysis underpins this consultation document.
- **Supporting spreadsheet: 2025 NZ ETS settings advice:** This presents the data, analysis and calculations that informed the Commission's advice on unit limits.

For more details, please see the Commission's website[9]

This appendix does not attempt to duplicate this technical material. Instead, it gives a summary of the analysis and different assumptions relevant to policy decisions and explains the Ministry for the Environment's application of the methodology, resulting in Option 2.

Step 1: Align with emissions reduction targets

This first step sets out how units should align with Aotearoa New Zealand's climate change goals (including emissions budgets, the nationally determined contribution (NDC) and the 2050 target).

Adjustments from 2024 settings are required both to account for methodological changes made in the 2024 New Zealand's Greenhouse Gas Inventory (GHG inventory), and to align with the latest emissions projections as outlined in ERP2.

Methodological changes to the GHG inventory are refinements to how emissions are calculated, to reflect better data and information. They are not actions that have reduced emissions. Aligning with these changes keeps the NZ ETS in line with our international reporting and actual emissions levels.

Additionally, last year's second emissions reduction plan (ERP2) includes new emissions projections. These incorporate ERP2 policy decisions to show expected emissions over the second emissions budget (EB2) and third emissions budget (EB3) periods. This update adjusts unit limits in line with the Government plan for achieving EB2.

Table A2.1 shows the projected unit limits following this step.

[9] Climate Change Commission. *NZ ETS unit limits and price control settings for 2026–2030*. Retrieved 18 May 2025

Table A2.1: Update for step 1 in the seven steps methodology, 2026–30

	Year (million NZUs)				
	2026	2026	2028	2029	2030
Align with emissions budget	65.9	63.7	60.4	57.9	55.2

Step 2: Allocate the budgets to NZ ETS and non-NZ ETS sectors

This step allocates emissions budgets between emissions and removals that the NZ ETS covers, and those that it does not. It recognises that non-NZ ETS emissions and removals will account for a portion of the emissions budget.

For previous settings decisions, the budgets were allocated to NZ ETS and non-NZ ETS sectors based on sector sub-targets. However, we can now base allocations on projections in ERP2 to reflect the Government's plan for achieving EB2.

This approach means that if non-NZ ETS emissions (mainly from agriculture) are different from projections, the level of reductions required by NZ ETS sectors does not change. For example, if non-NZ ETS emissions increase compared with projections, further reductions would not be expected from NZ ETS sectors to 'make up' for that increase. Conversely, if emissions from non-NZ ETS sectors decrease, NZ ETS sectors retain the same level of effort as before. This increases predictability and certainty for NZ ETS participants, which is particularly important for making long-term investment decisions on reducing and removing emissions.

The following sources of emissions and removals are currently outside the NZ ETS[10]

- Agriculture. Biogenic methane (CH_4), nitrous oxide (N_2O) and carbon dioxide (CO_2) from fertiliser use are outside the NZ ETS.
- Waste. All waste emissions except CH_4 from municipal landfills are outside the NZ ETS.
- Synthetic greenhouse gases. Some sources of emissions associated with certain goods and vehicles are priced through the Synthetic Greenhouse Gas Levy, instead of facing NZ ETS unit emissions surrender obligations. Some additional, very small sources (such as medical uses) are not covered by either pricing mechanism.
- Industrial processes and product use. Several small emissions sources in the industrial processes and product use category of the GHG inventory are outside the NZ ETS, including:
  - non-energy products from fuels and solvent use
  - N_2O from medical applications
  - other uses of carbonate.
- Forestry. Sources of removals outside the NZ ETS comprise the subset of post-1989 forest land that is not registered in the NZ ETS. The Commission has assumed that all currently registered forest land will remain registered, and that all eligible post-1989 forests planted from 2019 will register or have already done so. This equates to allocating 100 per cent of

[10] For more information, see: Climate Change Commission. 2025. *Advice on NZ ETS Unit Limits and Price Control Settings for 2026–2030: Technical Annex 1: Unit limit settings*. Wellington: Climate Change Commission, from step 2

post-1989 forestry (both CO_2 removals from forest growth, and emissions from deforestation) to the NZ ETS sectors.

ERP2 sets out the Government's proposal to allocate the volume between sectors in and outside the NZ ETS. The plan proposes apportioning 89.4 megatonnes carbon dioxide equivalent (Mt CO_2e) to the NZ ETS scheme for the EB2 period (2026–30).

Table A2.2 shows the updated allocated volume of emissions budgets to sectors in and outside the NZ ETS scheme.

Table A2.2: Update for step 2 in the seven steps methodology, 2026–30

	Year (million NZUs)					
	2026	2027	2028	2029	2030	Total
Share of net emissions budget allocated to non-NZ ETS sectors	42.7	42.9	42.8	42.8	42.6	213.7
Share of net emissions budget allocated to NZ ETS sectors	23.2	20.8	17.6	15.1	12.6	89.4

Note: Totals may not add due to rounding

An NZ ETS cap for the third emissions budget EB3 will be needed to inform NZ ETS settings updates from next year onwards as these settings cover part of EB3. ERP2's 'new measures projections' estimate net emissions of 249.2 Mt CO2e in EB3. The EB3 limit is 240 Mt CO2e. This means additional abatement of 9.2 Mt CO2e is required across 2031–35 to meet EB3.

We propose that for the provisional NZ ETS cap for EB3 we assume additional 9.2 Mt CO2-e emissions reductions necessary to achieve EB3 will come from NZ ETS covered sectors. This results in a provisional EB3 cap of 40.7 Mt CO2-e.

This provisional cap is expected to change over time, and for a final cap to be confirmed as part of developing the third emissions reduction plan.

Step 3: Make technical adjustments

Emissions reported into the NZ ETS for the sectors it covers are intended to align with emissions reported in the GHG inventory, as New Zealand uses inventory data to report progress towards emissions reduction targets. Any accounting misalignment could mean too many, or too few, emissions units are supplied into the market, risking over- or under-achieving those targets.

The 2024 settings included a technical adjustment to account for an observed discrepancy between the GHG inventory and the NZ ETS of about 3 per cent in the total liquid fossil fuels and stationary energy emissions.

On further investigation, the Commission has determined that this discrepancy no longer exists, and it is no longer necessary to carry this adjustment through to future years. This is reflected in this year's technical adjustment. We agree with the Commission's view.

This adjustment increases the volume of units available over the NZ ETS settings period by 3.4 million.

The Commission has also identified a discrepancy between waste emissions in the GHG inventory and NZ ETS reported emissions. This issue is believed to be connected to an error in the calculation of the unique emissions factors (UEFs) used for several waste disposal

facilities. We expect it to be resolved before it impacts on any of the years covered by this settings decision, so no technical adjustment is required.

Table A2.3 outlines the update for this step[11]

Table A2.3: Update for step 3 in the seven steps methodology, 2026–30

	Year (million NZUs)				
	2026	2027	2028	2029	2030
Technical adjustment	0	0	0	0	0

Step 4: Account for industrial allocation volumes

The Government allocates units to businesses undertaking industrial activities that are prescribed as 'emissions-intensive' and 'trade-exposed'. To ensure alignment with emissions budgets, these units reduce the number of units that the Government can sell at auction.

The Commission forecast industrial allocation volumes for the coming five years at 23.2 million units. This was based on the existing allocative baselines and production levels of businesses in eligible activities known to the Commission at the time of its advice.

The Ministry for the Environment has revised the Commissions forecast with more recent data (2024 actual industrial allocations) and to align production level assumptions with those used in the forthcoming 2025 emissions projections. The most material of these is bringing forward the date at which Methanex trains are expected to close by one year to the end of 2027.

The revised industrial allocation forecast is 21.1 million units over the period 2026–30, which is about 25 per cent of the total emissions volume allocated to NZ ETS sectors. This is 6.5 million units lower over the next five years than forecast in 2024 settings. Table A2.4 outlines the update for this step.

Table A2.4: Update for step 4 in the seven steps methodology, 2026–30

	Year (million NZUs)				
	2026	2027	2028	2029	2030
Industrial allocation	–4.6	–4.4	–4.1	–4.0	–4.0

Step 5a: Set the reduction volume to address the unit surplus

This step calculates the reduction of surplus units. A large quantity of units is banked in private accounts. These units provide liquidity to the market and help to reduce price volatility. However, the current number of banked units presents risks to achieving the budgets.

Some of these banked NZUs are held to meet future surrender liabilities or for other reasons. Others are estimated to be held for investment purposes and will more readily be sold when

[11] For more information, see: Climate Change Commission. 2025. *Advice on NZ ETS Unit Limits and Price Control Settings for 2026–2030: Technical Annex 1: Unit limit settings*. Wellington: Climate Change Commission.

market price expectations change. The latter are considered ‘surplus’ to the needs of emitters. Emitters’ use of these surplus NZUs to meet increased NZ ETS obligations potentially causes challenges in meeting the budgets. To reduce this risk, the surplus must be managed.

Units move from the Crown **into** participants’ accounts as the units are:

- sold by auction
- transferred for industrial allocation
- transferred for removal activities such as forestry.

Units move **out of** accounts as they are surrendered to the Crown by participants to meet their obligations.

The methodology used to calculate auction volumes includes a surplus reduction step. This step involves setting an auction limit to reduce the risk of emissions being allowed to exceed emissions budgets. With this limit, participants must use some NZUs from the surplus to meet their surrender obligations.

In 2024, the Government made adjustments to units available for auction, to reduce the surplus to zero by 2030. This year’s settings remain in line with this goal.

Changes to estimating the surplus volume

In 2024, the Ministry for the Environment commissioned Ernst & Young (EY) to assess the surplus calculation methodology and analysis of the NZ ETS stockpile. The purpose was to support the continuous improvement of our understanding of the stockpile. EY found the surplus estimate methodology was robust and fit for purpose but recommended some improvements for future estimates. [12] The changes to the methodology in this year’s estimate were driven by EY’s recommendations, and additional analysis by the Commission. [13]

The substantive changes include:

- Include units held by emitters for emissions that have already occurred “holding volume”
- Include post-1989 forestry units relating to the fourth mandatory emissions return period (MERP4) that may become surplus in EB2
- Change the date when the hedge estimate is made; and
- Make adjustments to emitter hedge assumptions to account for the new “holding volume” step.

Include units held for emissions that have already occurred

This year, the Commission has included a new category of non-surplus units, referred to as ‘holding volume’. These are units that are held for surrender for emissions that have already occurred. This differs from the existing ‘hedging volume’, which estimates units held in anticipation of future emissions. This inclusion was recommended by EY.

We have considered EY’s recommendation and the Commission’s approach and agree additional units should be removed for the holding volume when calculating the surplus.

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[12] Ernst & Young. 2024. *New Zealand’s Emissions Trading Scheme (ETS) NZU Surplus Advice: Final report*.Prepared for the Ministry for the Environment by EY.

[13] For a detailed discussion of these changes, see: Climate Change Commission. 2025.*Advice on NZ ETS Unit Limits and Price Control Settings for 2026–2030: Technical Annex 1: Unit limit settings*. Wellington: Climate Change Commission, from p16

Like the Commission's approach, our estimate assumes the holding volume will increase over the year, as emitters accumulate units for their obligations. This volume will continue to rise until the annual surrenders are due at the end of May, before falling to a minimum and then growing again. We have been able to use actual surrender data for the 2024 compliance year as the holding volume estimate, which was very close the projected level the Commission used (0.2 million units lower).

Including this 'holding volume' reduces the size of the central surplus estimate by 34.0 million units.

Include forestry units for MERP4 (2023–25) that may become surplus in EB2

An emitter can use forestry units in a different budget period from that in which the removal those units represent took place. Such use would allow for higher net emissions in the budget period, putting meeting the budget at risk. These units can contribute to the surplus.

To quantify and manage this risk for EB2, the Commission has included an estimate of these units in this year's surplus estimate. We agree with the Commission and have included these units when estimating the total unit surplus to be reduced by 2030.

Including these surplus post-1989 forestry units increases the size of our central surplus estimate by 10 million units.

Change the date when the hedge estimate is made

This year, the Commission has estimated the hedging volume for the target year of reducing the surplus (i.e., 2030). This differs from previous years, when estimates were taken for the number of units held for hedging in the current year (i.e., 2025). We agree with this approach.

This is based on the goal of reducing the stockpile, so that the surplus is zero in 2030. Thus, taking the hedging estimate at 2030 takes into account that, as emissions reduce, the units needed for hedging volume will also reduce.

The hedging category reflects that emitters need to hold a certain number of units to manage their obligations. However, as emitters decarbonise, some of these units will no longer be needed and will become surplus over time.

Make adjustments to emitter hedge assumptions to account for the new "holding volume" step

The Commission's advice treated holding volumes and hedging volumes (units held in anticipation of future emissions) as entirely separate and additional. However, the Commission also acknowledged in its advice that it it's possible that holding volume may partially overlap with what was previously attributed to hedging volume, and suggested the Government tests its assumptions during consultation. If an overlap in hedging and holding volumes exists, it would result in higher estimates of the surplus.

The evidence we have been able to gather indicates that at least some emitters, do not hold distinct (or additional) holding and hedging volumes. Instead, many use units held for upcoming compliance to hedge price (if at all).

However, it has been challenging to quantify this overlap. The NZU holders survey, submissions on the ETS Settings discussion document and desktop research based on firms' financial reports have provided limited insight on the specific level of overlap.

In absence of robust quantitative evidence, there is value in taking a conservative estimate (ie, assuming a greater overlap), as underestimating the overlap risks underestimating the size of the surplus.

Given the holding volume estimate is based on emissions that have actually occurred, it is more appropriate to retain this estimate based on the best available data. Therefore, the adjustment should be applied to the hedging volume estimate via changes to the future hedging assumptions.

The hedging volume estimate is taken as at 2030. It is based on projected sectoral emissions net of industrial allocation and assumptions about the extent to which different sectors future emissions are hedged. Previously, all sectors were assumed to be fully hedged for the first year, except liquid fossil fuel (27%). This is effectively equivalent to the new holding category.

Given this, setting the first-year hedging assumption to zero represents the maximum possible overlap with holding volume, while retaining the previous hedging assumptions represents no overlap. In the absence of strong evidence either way, the central assumptions have been set at the midpoint of these two extremes i.e. assumed 13% year 1 hedging for liquid fossil fuels and 50% for all other sectors.

This increases the surplus estimate by 5.4 million units compared with the Commission's estimate, with a corresponding reduction in auction volumes.

Updated surplus estimate

Applying the updated methodology results in a central estimate of the surplus of 55.8 million units, within a range of 28.7 – 78.0 million units. This is set out in table A2.5.

Table A2.6 shows how the surplus reduction is allocated over 2026-30.

Table A2.5: Surplus estimate (thousands of units)

	Year (million NZUs)			
	Low	Central	High	Difference to Commission (central)
Units in registry as of Dec 2024	150,389			0
P90 held long-term to 2030	9,067	5,556	3,370	0
Held for harvest liabilities	63,464	53,098	43,653	0
Units required for hedging in 2030	21,501	11,968	3,226	-5,398
Holding units for 2024 emissions	34,005	34,005	34,005	-232
Additional MERP 4 surplus units	6,301	10,027	11,846	0
Total surplus estimate (thousand units)	28,653	55,790	77,981	5,631

Table A2.6: Surplus reduction, 2026–30

	Year (million NZUs)				
	2026	2027	2028	2029	2030
Surplus reduction	11.5	10.5	7.4	7.2	6.8

Step 5b: Adjust for discrepancies

This step makes adjustments to address changes to unit limits that cannot be made in the year when the change occurs. These adjustments are needed due to limitations on changes to existing limit settings. This year we propose applying a discrepancy adjustment to 2028–30 to account for changes across 2025–27.

This discrepancy adjustment would account for the volume changes that otherwise would have been implemented for the first two years of the settings period (i.e., 2026 and 2027). This is because we do not propose changing volumes for those years. The discrepancy adjustment would also account for differences between current regulations and updated estimates of unit requirements in 2025, which also cannot be changed.

The discrepancy adjustment for 2025–27 represents a 5.6 million increase in possible auction volume across the settings period. This reflects the differences in the NZ ETS emissions cap, industrial free allocation forecasts and removal of the technical adjustment. This volume would be proportionally allocated across auction volumes for 2028–30. Table A2.7 outlines the update for step 5b.

Table A2.7: Update for step 5b in the seven steps methodology, 2026–30

	Year (million NZUs)				
	2026	2027	2028	2029	2030
Discrepancy adjustment	0.3	0.3	–1.9	–1.9	–1.8

Note: Adjustments for 2026 and 2027 are already incorporated into regulations, and as such are also fixed.

Step 6: Set the approved overseas unit limit

There are currently no overseas units approved for use in the NZ ETS. Therefore, the approved overseas unit limit is zero.

Step 7: Calculate the base auction volumes

Table A2.8 sets out the calculation of the annual auction volumes, using the above updates. This is the unit volume setting referred to as option two in this paper. It incorporates the Commission's recommendation to make no changes to settings for 2026 and 2027, and to distribute volumes evenly across 2028–30, instead of taking the default approach of declining in line with the emissions cap.

Table A2.8: Calculation of the base auction volume, 2026–30

	Year (million NZUs)				
	No Changes		Updated recommendations		
Step	2026	2027	2028	2029	2030
Step 1: Align with emissions reduction targets	65.7	63.4	60.4	57.9	55.2
Step 2a: Allocate to non-NZ ETS sectors	42.3	41.9	42.8	42.7	42.6
Step 2b: Allocate to NZ ETS sectors	23.4	21.4	17.6	15.1	12.6
Step 3: Make technical adjustments	0.7	0.7	0.0	0.0	0.0
Step 4: Account for industrial allocation volumes	5.7	5.7	4.1	4.0	4.0
Step 5a: Set the reduction volume to address the unit surplus	11.5	10.5	7.4	7.2	6.8
Step 5b: Adjust for discrepancies	0.3	0.3	-1.9	-1.9	-1.8
Step 6: Set the approved overseas unit limit	0	0	0	0	0
Step 7: Calculate the base auction volumes – flat distribution*	**5.2**	**4.3**	**5.8**	**5.8**	**5.8**

Table A2.8 excludes adjustments for:

- abatement that was not expected when budgets were set (Step 1)
- the possibility that the non-NZ ETS share of the budget will be exceeded.

Both adjustments would reduce auction volume.

Appendix Three: Modelling of ETS settings unit and price control settings options

The NZ ETS unit and price control settings options were modelled using the ETS Market Model.

Model description

The NZ ETS Market Model estimates supply and demand for NZUs in the ETS under different conditions and can generate price and stockpile projections based on supply and demand.[14]

The model can be operated in two main ways. The most relevant approach to supporting ETS settings advice is to set government supply (unit settings and industrial allocation) exogenously and then allow the model to endogenously estimate an internally consistent mix of other supply sources, demand, and price that meets a given objective, in this case minimising differences between supply and demand over time. Alternatively, prices and/or other supply sources can also be set exogenously, and the model will estimate the implications on key factors such as the stockpile.

Key modelling assumptions

For final policy decisions, most of the key underlying data and important assumptions remain unchanged from that documented in the consultation technical annex.[15] The section below sets out where new data is available and summarises key assumptions.

The following data has been updated in the model:

- Industrial allocation has been updated to align with latest historical data and with output adjustments aligned to 2025 projections. See appendix two, step 4.
- The revised surplus stockpile estimate is used. See appendix two, step 5.
- Afforestation and forestry unit flow data have been aligned with the Ministry for Primary Industries (MPI) projections.
- Non-ETS sector emissions (an exogenous input to the model) have been aligned with ERP2 projections.

The following are key assumptions used in the model:

- Auction supply is based on the options set out in this RIS and include the "for visibility" estimates from 2031-35. The latter are the same across the options.
- Afforestation and forestry unit supply use the MPI central projections in most scenarios. This means afforestation is not responsive to price in most scenarios. However, prices are generally projected to be around or above the estimated breakeven levels for forestry. Finally, these afforestation projections are consistent with the policy to constrain conversion of farmland to exotic afforestation registered in the ETS (see below for further detail).
- The surplus / other stockpile split is set for 2024 per the revised surplus estimate noted earlier in this paper. The model draws down the surplus first. The other stockpile can

[14] Review of the New Zealand Emissions Trading Scheme: Summary of modelling | Ministry for the Environment

[15] Annual updates to New Zealand Emissions Trading Scheme limits and price control settings for units 2025 Technical annex to the consultation document | Ministry for the Environment

also be made available to meet NZU demand. For this analysis a transfer rate of 11% was used in most scenarios, and other rates tested through sensitivity analysis.

- The aggregate NZU demand response to price is unchanged from earlier iterations. Baseline demand is based on the ERP2 "zero price" run from ENZ. To test sensitivity and to construct error ranges, particularly for total net emissions projections, we used the standard errors of the coefficients. This includes applying +/- one standard error for smaller changes in responsiveness, or using the 95 per cent confidence intervals (ie, +/- 1.96 standard error) for larger changes.

Afforestation and NZ ETS settings

The Government has introduced the Climate Change Response (Emissions Trading Scheme – Forestry Conversion) Amendment Bill. The amendment Bill places restrictions on exotic forestry registering in the ETS on LUC classes 1 - 6. The amendment Bill is currently before Select Committee.

Officials estimate that, under current NZ ETS settings and NZU prices, annual exotic afforestation is likely to be around 27,000 ha per year once the policy is in place. However, modelled NZU prices under the recommend NZ ETS settings are expected to significantly increase the incentive for exotic afforestation. These higher NZU prices could result in increased rates of exotic afforestation than modelled on land which the new ETS restrictions do not apply (LUC classes 7 and 8, on Māori-owned land, and on-farm integrated planting enabled through limits, allowances and exemptions).

NZU prices above $50 are also likely to increase the incentive for permanent exotic forests over production forests.

Methodology for estimating total net emissions

Delays to the development of the 2025 official emissions projections mean that the estimates used to support ETS settings decisions are derived from the ETS market model.

The market model was not designed to estimate total net emissions – its focus is on net emissions covered by the scheme. However, the projections can be combined with other information to make a high-level projection of total net emissions. This can help with assessing whether a given combination of unit and price control settings accords with emissions budgets. Two additional sources of information/assumptions are needed:

1. **An estimate of emissions outside the NZ ETS (mostly agriculture)**
   ERP2 projections are primarily used to estimate non-ETS sector emissions. These projections also capture estimates of the impact on removals of afforestation on Crown-owned land policy.

2. **A conversion of 'low-risk' forestry NZUs to total 'target' accounting removals**
   Not all emissions removals are within the scheme, and the accounting treatment for some forestry units differs between the NZ ETS and 'target' accounting used for emissions budgets. This means the market model projections of 'low-risk' forestry NZUs usually underestimate removals that contribute towards the budgets. To adjust for this, an estimate of total removals is made by scaling up projected low-risk forestry units. The scaling factor has been set by comparing MPI's low-risk forestry removals projections with total removals projections (which are calculated with consistent information).

Net emissions are calculated as the total demand for NZUs (i.e., gross emissions in NZ ETS sectors) plus non-ETS sector emissions less total removals. These point estimates are subject to a high degree of uncertainty.

A further adjustment has been made to the estimate of EB3 total net emissions. This is because the market model is slightly overstating gross ETS sector emissions through this period (by ~4Mt CO_2-e, or 2%) when compared to more robust emissions projections developed for ERP2. To account for this, the EB3 emissions projections in this RIS is based on the ERP2 estimate for EB3 (249.2Mt CO_2-e) and adjusted by the difference in ETS sector gross emissions as implied by the model's market price assumptions.

Modelling results

Central scenarios with rising then falling price

Central modelling scenarios are based around a common core assumption about market dynamics. That assumption is that ETS prices will need to be sufficiently high over EB2 and into EB3 to release auction volume and to induce enough stockpile drawdown to meet compliance demand while forestry supply is relatively low. Over the medium to long term, ETS prices are expected to then converge towards the long run marginal cost of the dominant source of long run supply, forestry units. This assumption also underpinned ERP2. The inflexion point has been exogenously set at 2030.

Beyond this core view of the price outlook, there are two other key judgements that need to be made. The first judgement regards the short-term outlook, specifically what to use as the near-term price and whether this means auctions clear in 2025 and subsequent years. This has been modelled using two different approaches – either leaving the model to determine the 2025 price endogenously or imposing the 2025 price based on the year-to-date average (about $59/NZU for the first half of 2025).

The second key judgement relates to the responsiveness of afforestation to prices and the extent to which the restrictions on converting productive farmland to exotic forestry registered in the ETS act to constrain this response. Our central judgement is that the policy does act as a constraint and therefore afforestation and related forestry unit flows are exogenously set based on MPI projections. Alternative scenarios, using the "Manley" model to approximate the afforestation response endogenously, are explored further below.

Central scenarios with rising then falling price and exogenous afforestation

Supply of low-risk forestry units (light green area) is projected to steadily increase over time to be the dominant source of supply. In the nearer term, the surplus stockpile (teal area) is steadily drawn down and eliminated in 2030. Expected falling real price over time leads to steady drawdown of the other stockpile (dark blue area).

The steady drawdown of the stockpile of units can be seen in the lower right hand side chart. The bulk of the adjustment happens in EB2 as the surplus is run down. Although the stockpile reduces in absolute terms, it remains fairly stable in relative terms at about 2-3 times the volume of compliance demand.

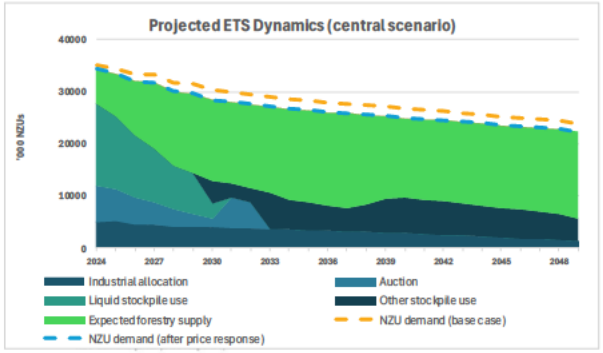
Figure A over page presents a suite of charts to illustrate the projected sources of ETS supply, compliance demand, price, and stockpile for option one and assuming that the 2025 auctions clear. This scenario helps explain the broad direction of travel across all the options considered before delving into the differences between the options.

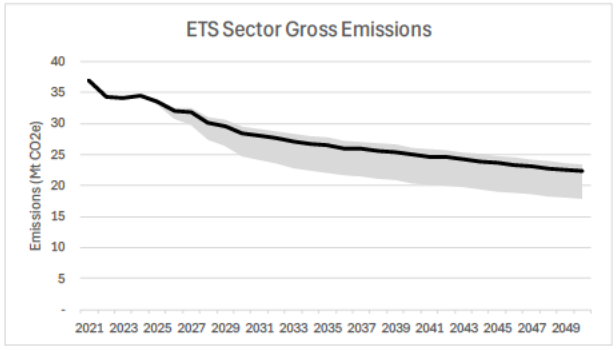
The top left chart illustrates the mix of supply sources (areas in the chart) projected to meet compliance demand adjusted for price impacts (blue dashed line). Government supply from industrial allocation and auctions trends steadily lower over time. In terms of the latter, the price is projected to remain above the auction floor price until 2032, after which auctions cease. The chart on the lower left shows the projected price in nominal terms; nominal prices are broadly flat post 2030 but are declining in real terms.

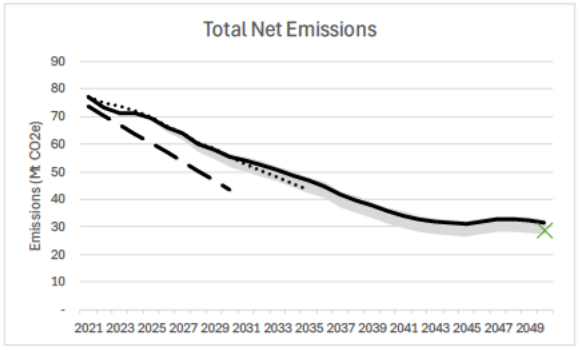
Supply of low-risk forestry units (light green area) is projected to steadily increase over time to be the dominant source of supply. In the nearer term, the surplus stockpile (teal area) is steadily drawn down and eliminated in 2030. Expected falling real price over time leads to steady drawdown of the other stockpile (dark blue area).

The steady drawdown of the stockpile of units can be seen in the lower right hand side chart. The bulk of the adjustment happens in EB2 as the surplus is run down. Although the stockpile reduces in absolute terms, it remains fairly stable in relative terms at about 2-3 times the volume of compliance demand.

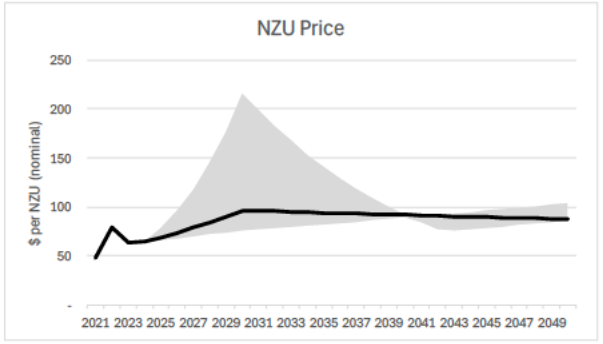
Figure A: Projected ETS Dynamics under Option 1 and assuming 2025 auctions clear

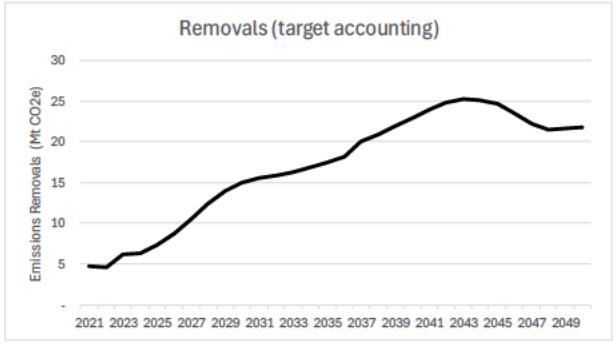


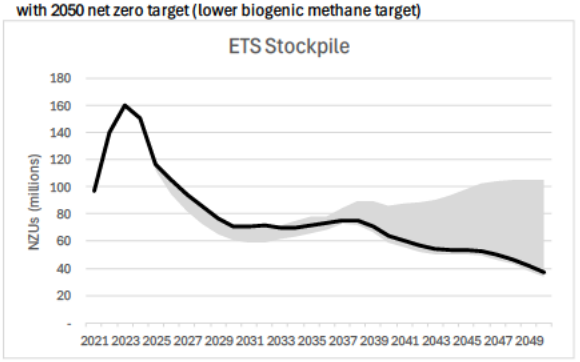




Note: Dotted line is consistent with emission budgets, dashed with NDC, cross with 2050 net zero target (lower biogenic methane target)



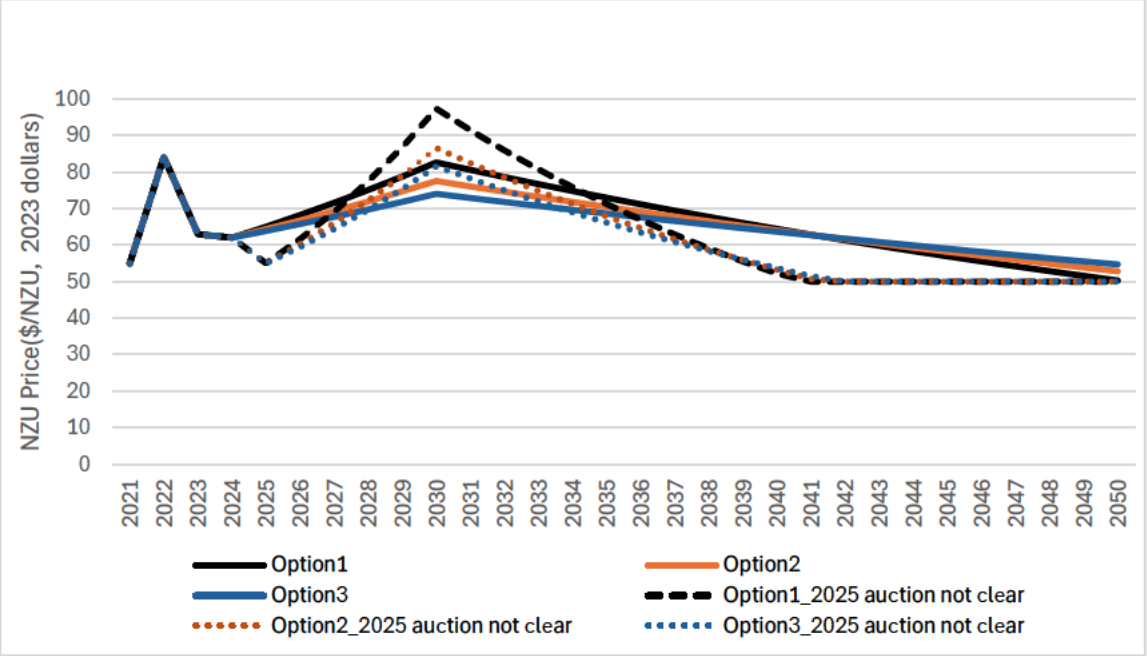




Note: grey areas represent uncertainty bands. These have been modelled by using the 95 percent confidence interval of the coefficients in the aggregate demand response to price.

The main difference under options two and three if 2025 auctions are assumed to clear is that additional auctioned units later in EB2 displace some of the surplus drawdown that was otherwise expected to occur. With higher government supply and slightly slower stockpile drawdown, the projected price pathway is slightly lower than under option one (Figure B). The lower price pathway also means that auctions cease in 2032 and 2031 under option two and three respectively, slightly earlier than option one (2033).

Figure B: Projected Price Pathways for Central Scenarios



The differences between the options are somewhat more pronounced under the assumption that 2025 prices remain around their current levels and that auctions do not clear in the short term as a result.

Under these circumstances, the projected price remains below the auction floor price for both 2025 and 2026 for Option One. This reduces the surplus more rapidly than anticipated and is projected to lead to a stronger price response in the shorter term and auctioning for slightly longer in the medium term (auctions ceasing in 2034 versus 2033).

Options Two and Three follow a similar pattern, however the availability of higher auction volumes late in EB2 dampen the price response compared with option one. For Options Two and Three, projected prices remain below the auction floor price for 2025-27. Similar to Option One, the point at which auctions are projected to cease shifts out slightly.

Overall net emissions outcomes are projected to be quite similar across all six of the scenarios referenced above, noting the limitations of the market model in this respect. This is a function of two factors. Firstly, non-ETS emissions and removals are exogenous and the same in all these scenarios. Secondly and relatedly, this means that only ETS sector gross emissions are responding to different price signals and the price pathways between the different options are relatively similar, leading to relatively small differences in emissions outcomes as well.

While variations in net emissions outcomes are relatively small, the risk posed by the stockpile is quite different. Option One reduces the estimated overall stockpile of units in 2030 relative to the other two options, reducing the risk posed by these units to achieving EB3.

Central scenarios with rising then falling price and endogenous afforestation

Our central modelling assumption is that the policy to restrict exotic afforestation registering in the ETS will act to constrain overall afforestation. However, if the price incentive is sufficiently strong, afforestation on land not covered by the new restrictions could accelerate. This is discussed further in the section on **Error! Reference source not found.**.

To test the implications of this, the different unit and price control settings options were also modelled using an endogenous afforestation response. Under this approach, afforestation was projected to average around 33,500-33,800 ha per annum over EB2 and EB3, very similar to the upper end of Ministry for Primary Industries projections for that period (33,450 ha per annum). For reference, Ministry for Primary Industries central projections sit at 27,300 ha per annum over the medium term. Note, all of these afforestation rates include very small amounts of native afforestation (~100-150 ha per annum).

Because of the lag from afforestation occurring to sequestration, the projected supply and demand dynamics are largely the same in EB2 as in the central scenarios discussed in the previous section (Figure D). Government supply provides a material but declining source of supply, while forestry unit supply steadily increases. The surplus stockpile is drawdown by 2030 under option one but persists into the early part of EB3 under options two and three.

Projected differences are more material post 2030. Increased afforestation and therefore low-risk forestry unit supply displaces some of the other stockpile drawdown projected in the other scenarios. This reduces the overall price pathway for option one and, to a lesser extent, option two. Option three prices are largely unchanged compared to the exogenous afforestation scenario, sitting just above the auction price floor through EB2. Under all three options, the total stockpile of units initially declines through EB2 and into EB3 before steadily increasing again over the latter years of the projection.

Total net emissions are largely the same for EB2 as the central scenarios, and within the budget. However, more rapid afforestation over EB2 leads to increased removals from EB3 onwards. For EB3, this increase is estimated at around 9 Mt CO_2-e, which would largely close the gap to achieving EB3. However, the model may be slightly overstating the additional removals, as the difference in MPI central and upper removals projections (which use very similar afforestation projections) is closer to 7.5 Mt CO_2-e. Nonetheless, a reasonable conclusion is that faster afforestation over EB2 would contribute to closing at least some of the gap in EB3.

Robustness checks

This section tests the impacts of using a different core assumption about the overall profile of ETS prices. The main insight is that the modelling shows EB2 being achieved under these different conditions but that EB3 remains challenging.

Higher scenarios with constantly rising prices

A further alternative is that ETS prices continue to rise over the medium to long term. This may be feasible if the policy restricting exotic forestry registering in the scheme acts as an enduring and binding cap on afforestation, preventing additional afforestation from curbing prices over the longer term.

Under these conditions, the projected price increases at a steady rate of 3% per annum in real terms for all three options (Figure E). Units are auctioned throughout EB3. Even though price levels are not materially different over EB2 and EB3 to those in the rising then falling price

scenarios, the expectation of higher and rising future prices drives slightly faster gross emissions reductions. This largely materialises in EB3 where gross ETS sector emissions are about 2Mt CO_2-e lower than under the option one rising then falling price scenario. However, total net emissions in EB3 continue to exceed the budget.

Lower scenarios with flat to falling prices

An alternative to the central scenario is to assume that prices will converge directly to the long run marginal cost of forestry from today's price levels. This is a plausible outcome if expected industrial allocation, forestry supply, and stockpile use are sufficient to meet compliance demand on their own i.e. without auction volume. Lower than expected compliance demand could also drive this outcome.

To test what this outcome could look like, the base model is modified in two key aspects. Firstly, baseline demand is reduced by 1.5M units per annum from 2025 onwards to reflect compliance demand being lower than expected. Note this is quite a significant change in outlook and a strong assumption that such a level shift would persist indefinitely. Secondly, the higher stockpile liquidity assumption (14%) is used.

Error! Reference source not found. shows the sources of supply to meet this adjusted compliance demand. The price has been assumed to gradually fall to $50 in real terms and then remain flat, consistent with a level sufficient to incentivise afforestation at around 27,500 ha per annum. The stockpile trends steadily lower over time in absolute terms but remains fairly steady as a ratio of two times compliance demand. The level shift down in compliance demand makes projected net emissions lower, well within the EB2 budget (about 298Mt CO_2-e) but still exceeding EB3 by around 4Mt CO_2-e.

Figure C: Projected ETS dynamics with lower compliance demand and flat ETS price.

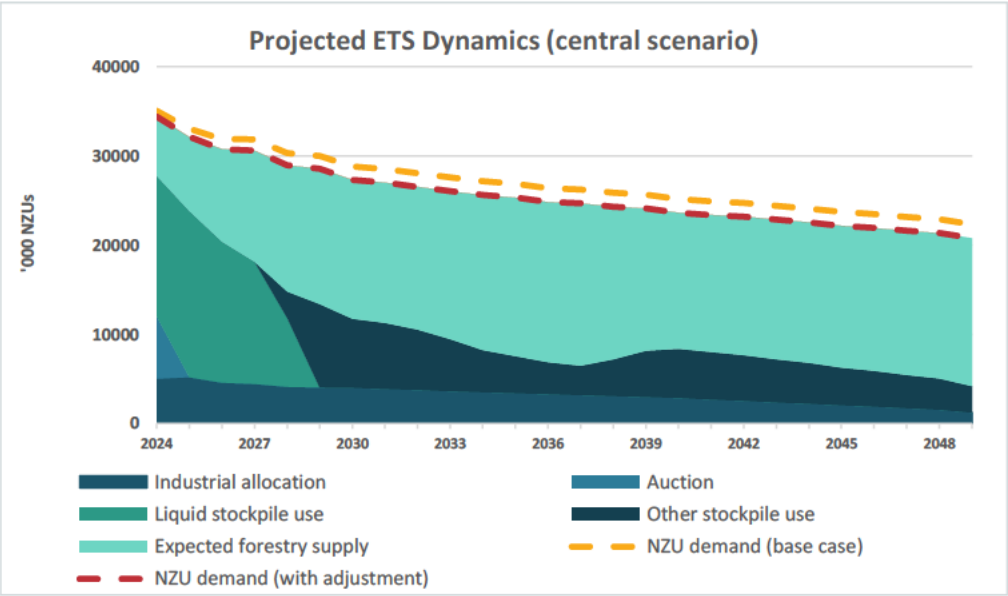
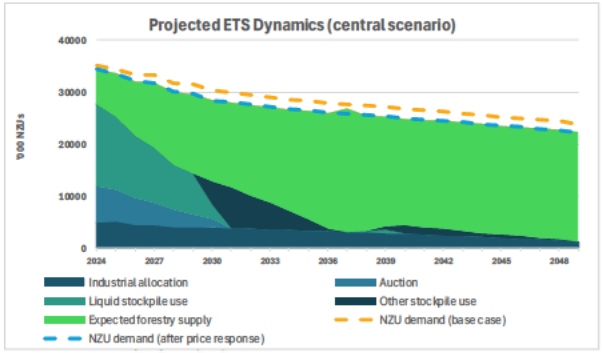
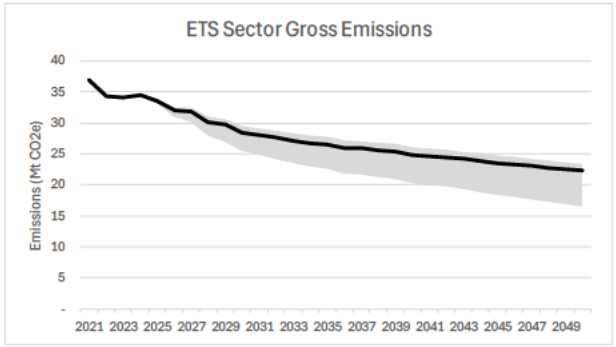
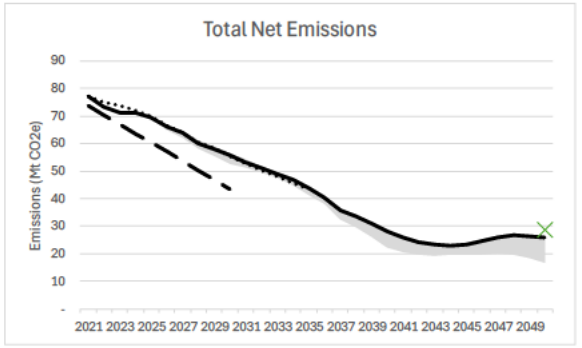


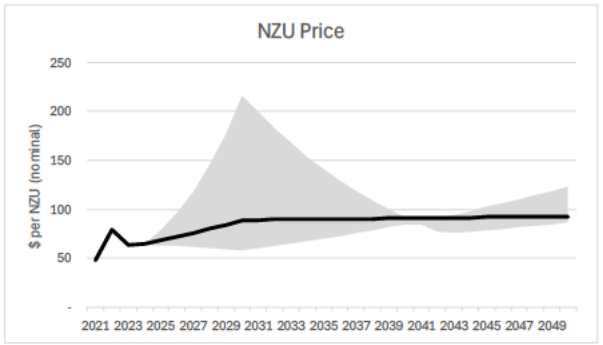
Figure D: Projected ETS Dynamics under Option 1, assuming 2025 auctions clear and with endogenous afforestation response

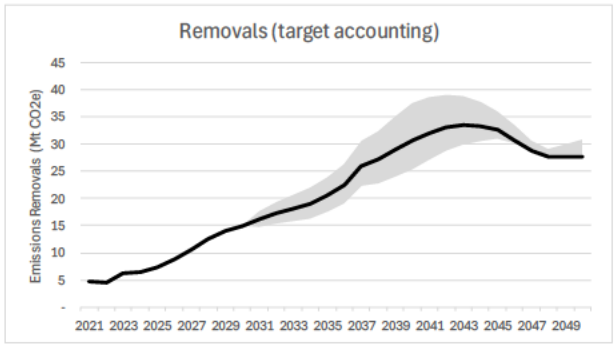


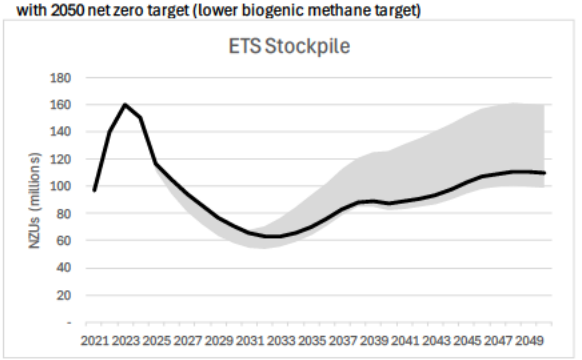




Note: Dotted line is consistent with emission budgets, dashed with NDC, cross with 2050 net zero target (lower biogenic methane target)

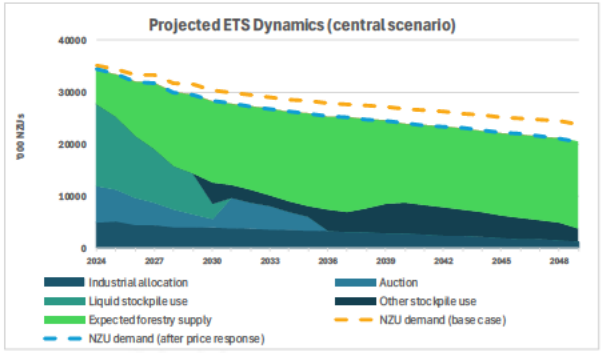


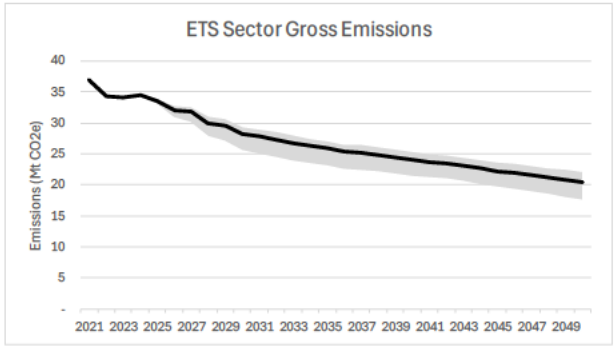


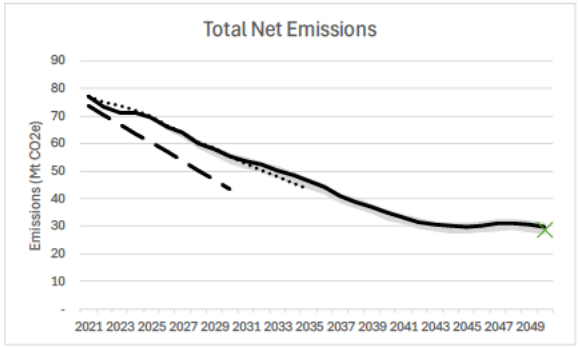


Note: grey areas represent uncertainty bands. These have been modelled by using the 95 percent confidence interval of the coefficients in the aggregate demand response to price.

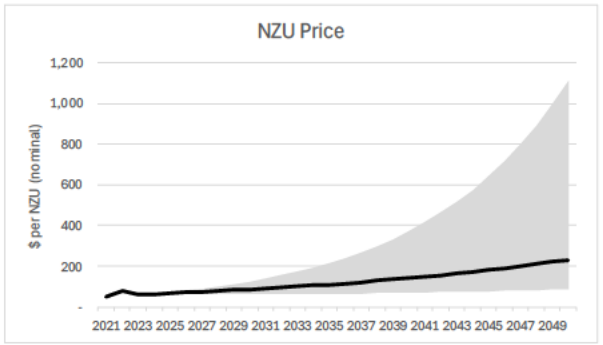
Figure E: Projected ETS Dynamics under Option 1, assuming 2025 auctions clear, exogenous afforestation response, and constantly rising price

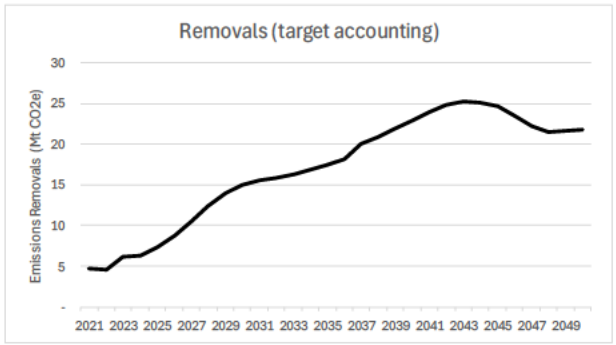


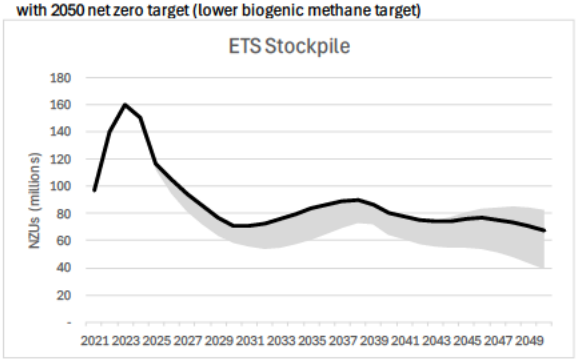




Note: Dotted line is consistent with emission budgets, dashed with NDC, cross with 2050 net zero target (lower biogenic methane target)







Note: grey areas represent uncertainty bands. These have been modelled by using the 95 percent confidence interval of the coefficients in the aggregate demand response to price.