

Annual updates to the New Zealand Emissions Trading Scheme limits and price control settings for units 2023

Consultation document



Ministry for the
Environment
Manatū Mō Te Taiao



Te Kāwanatanga o Aotearoa
New Zealand Government

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This document may be cited as: Ministry for the Environment. 2023. *Annual updates to New Zealand Emissions Trading Scheme limits and price control settings for units 2023: Consultation document*. Wellington: Ministry for the Environment.

Correction note: This document was first published on 19 May 2023. An updated version was published on 24 May 2023 to correct minor errors in the calculation of some figures in **table 13: Auction reserve price under each option** and **table 16: Cost containment reserve trigger price options**. The relevant numbers have now been corrected and do not materially affect the options presented.

Published in May by the
Ministry for the Environment
Manatū mō te Taiao
PO Box 10362, Wellington 6143, New Zealand

ISBN: 978-1-991077-55-4
Publication number: ME 1767

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This document is available on the Ministry for the Environment website: environment.govt.nz.

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Abbreviations used

Many abbreviations are routinely used when discussing the New Zealand Emissions Trading Scheme. The list below includes the abbreviations used through this consultation document.

CCR	cost containment reserve
EBIT	earnings before interest and tax
EBITDA	earnings before interest, tax, depreciation and amortisation
EITE	emissions-intensive and trade-exposed
ERP	emissions reduction plan
NDC	Nationally Determined Contribution
NZ ETS	New Zealand Emissions Trading Scheme
NZU	New Zealand Unit
SGG	synthetic greenhouse gas
the Act	Climate Change Response Act 2002
the Commission	He Pou a Rangi – Climate Change Commission
the Inventory	New Zealand’s Greenhouse Gas Inventory
the Minister	Minister of Climate Change

About this consultation

This consultation is on proposals to update New Zealand Emissions Trading Scheme (NZ ETS) unit settings for the period 2024–28.

NZ ETS limits and auction price control settings for units are set in regulations for five years in advance. These need to be reconsidered, and added to, every year. This is the third year that these settings will be updated since they were prescribed in regulations in 2020.¹

This consultation document considers amendments to the NZ ETS limits and price control settings for units prescribed in Schedule 3 of the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 made under the Climate Change Response Act 2002 (the Act).

Limits for units describe the volume of New Zealand Units (NZUs) the Government can provide to the market for purposes other than removal activities. Price control settings provide the Government with a mechanism to help manage unacceptably low or high prices in the NZ ETS.

These settings need to be updated every year to extend the settings by one calendar year. In some circumstances, it is possible to update existing settings for the earlier years as part of this process.

This consultation seeks feedback from a broad range of respondents. They include mandatory and opt-in participants in the NZ ETS, and anyone with an interest in the regulatory framework of the NZ ETS.

The proposals in this document may impact choices around land use. A broader package of work is underway to manage this issue – including changes to the resource management system, the National Environmental Standards for Plantation Forestry, review of the permanent forestry activity in the NZ ETS, and review of the NZ ETS to assess whether changes are needed to balance incentives for gross and net emissions reductions.

Background

The NZ ETS is one of the Government’s key tools to address climate change. It was established by the Climate Change Response Act 2002.

The NZ ETS supports and encourages domestic and global efforts to reduce greenhouse gas emissions. Its purpose is to help New Zealand meet its:

- international obligations under the Paris Agreement
- 2050 target
- emissions budgets.

¹ Details of updates made to NZ ETS unit settings in 2022 are available on our website: [Proposed changes to NZ ETS limit and price control settings for units for 2022](#).

The New Zealand Emissions Trading Scheme helps reduce emissions by:

- requiring businesses to measure and report on their greenhouse gas emissions
- requiring businesses to surrender one 'emissions unit' (known as a New Zealand Unit or NZU) to the Government for each one tonne of emissions they emit
- enabling businesses carrying out some removal activities (eg, forestry) to register for the NZ ETS and receive NZUs for these activities
- limiting the number of NZUs supplied into the scheme through auctioning and industrial allocation.

The Government sets limits on the number of units supplied into the scheme, other than for removal activities, over time. This limits New Zealand's net emissions, in line with New Zealand's emissions reduction targets.

Businesses who participate in the NZ ETS can buy and sell NZUs from each other. The price for NZUs reflects supply and demand in the scheme. This price signal allows businesses to make economically efficient choices about how and when to reduce emissions.

All sectors of New Zealand's economy, apart from agriculture, pay for their emissions through their NZ ETS surrender obligations.

The agriculture sector reports its livestock and fertiliser emissions through the NZ ETS but does not have surrender obligations.

The role of the NZ ETS, emissions budgets, and the emissions reduction plan

The Government set emissions budgets in 2022. These place limits on New Zealand's net emissions for the periods 2022–25, 2026–30 and 2031–35.

The Government published the first emissions reduction plan (ERP) in May 2022. The ERP describes how we are going to meet the first (2022–25) emissions budget, and further policies and strategies for the second (2026–30) and third (2031–35) emissions budgets and progress towards our 2050 target.

The ERP includes:

- policies and strategies for specific sectors (transport, waste, heat, industry, power, building and construction, agriculture and forestry) to reduce emissions and increase removals of greenhouse gases from the atmosphere or from New Zealand's reported emissions
- a multi-sector strategy to meet emissions budgets and improve how those sectors adapt to the effects of climate change
- ways to mitigate the impacts of reducing emissions and increasing removals on employees and employers, regions, iwi and Māori, and wider communities
- additional policies and strategies that are necessary to reduce emissions and increase removals.

The ERP sets out coherent measures that are complementary and reinforce each other. Emissions pricing, through the NZ ETS (and the related synthetic greenhouse gas (SGG) levy²), is a critical part of the ERP policy package. Many of the complementary measures and actions in the ERP are designed to support firms, households, workers and communities to meet the challenges and seize the opportunities that the transition brings.

The role of the NZ ETS is being considered through the ETS review.

Public consultation for the review is expected to take place in mid-2023. The Government will seek feedback on how the NZ ETS can better support gross emissions reductions and activities that remove carbon, such as forestry.

The NZ ETS review is considering questions related to the design of the ETS and its role within New Zealand's climate change response. Whereas this unit settings consultation is looking at specific ETS policy settings, which the Act requires are reviewed and adjusted annually.

Further detail on how people and businesses interact with the NZ ETS is provided in the [appendix](#).

Scope of regulations being consulted on

A set of regulations and Orders in Council supports the NZ ETS to run efficiently and accurately.

This document describes consultation on updates to NZ ETS limit and price control settings for units in the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020.

Regulations prescribe NZ ETS limits (including a limit on NZUs available for auction) and price control settings for units five years in advance. This is the third year that these settings will be updated since they were prescribed in regulations in 2020, and the second time since emissions budgets were set.

He Pou a Rangi – Climate Change Commission (the Commission) has provided advice on these settings.³ The Minister of Climate Change (the Minister) must consider this advice as part of the process of updating the settings. If there are differences between settings and recommendations made by the Commission the Minister is required to publish a report on the reasons for these differences.

Updates to settings must align with requirements listed in the Act. This includes that they must be in accordance with emissions budgets, the Nationally Determined Contribution (NDC)⁴, and the 2050 target.

² The SGG levy ensures importers of synthetic greenhouse gases in goods and vehicles face comparable emissions costs to manufacturers of those items in New Zealand. Such manufacturers incur emissions costs from the bulk imports of SGGs, which are subject to the NZ ETS. The SGG levy simplifies NZ ETS obligations for the importers.

³ Advice available on the Commission's website: [Our advice on the NZ ETS » Climate Change Commission](#).

⁴ An NDC is a communication by a Party to the Paris Agreement to the United Nations Framework Convention on Climate Change setting out its intended efforts to implement the Paris Agreement, including specified emissions reductions goals and targets. New Zealand's first NDC comprises a target of a 50 per cent reduction of net emissions below gross 2005 levels by 2030.

The methodology, or series of steps, for determining annual auction volumes is well understood and broadly agreed. Changes to this methodology are outside the scope of this consultation, although there are changes proposed within some of these steps.

Considerations of possible changes resulting from the recently announced NZ ETS review are out of scope of this consultation.

Objectives for updating NZ ETS unit settings

The overall objective of the unit settings is to align the settings, as best as possible, to help New Zealand meet its emissions budgets, NDC and 2050 targets.

The objectives for the price controls include mitigating the risk of unacceptably low or high NZU prices and signalling expectations of the possible range of future emissions prices.

Criteria for assessing options

Updates to regulations for NZ ETS unit supply and price control settings must be in accordance with the emissions budgets, the NDC for New Zealand under the Paris Agreement, and the 2050 target. They must also consider matters described in section 30GC of the Act, described in table 2. The options are assessed against criteria based on these factors (table 1). There have been minor updates to the criteria used in the 2022 consultation on NZ ETS unit settings updates.

The Commission is required to consider these same matters when making recommendations on unit settings.

Table 1: Criteria for NZ ETS unit limit and price control settings analysis

Criteria	Description
Accordance with New Zealand’s emissions budgets, NDC, and 2050 emissions targets	The NZ ETS should generally accord with emissions budgets and help deliver the emissions reductions needed to meet New Zealand’s current Nationally Determined Contribution and 2050 emissions reduction targets.
Support the proper functioning of the NZ ETS	Settings should allow the NZ ETS to function as intended. This includes auctions that operate as designed every year, and NZ ETS participants being able to attain and surrender NZUs to meet NZ ETS obligations.
Improve regulatory certainty and predictability	The NZ ETS should operate in a transparent and durable manner that allows participants to form expectations about future market conditions. This is necessary to build confidence in the NZ ETS and encourage investment in cost-effective opportunities for domestic emissions abatement. The NZ ETS unit settings should avoid the need for review and update of settings for the first two years every year to build confidence in the NZ ETS market and encourage investment in cost-effective opportunities for domestic emissions abatement.

Criteria	Description
Additional criteria for analysing price control settings	
Support consistency of NZU prices with the level and trajectory of international emissions prices	NZ ETS settings should support efforts to allow access to offshore mitigation. This includes keeping NZU prices in line with international prices.
Manage the risk of unacceptable economic and inflationary impacts	Settings manage the risk of unacceptable impacts from emissions costs being incurred by affected groups and the wider economy.

Key for criteria assessment

- ++ 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

The overall assessment is based on the 'average' rating against each criterion in that assessment.

These criteria relate directly to the obligations on the Minister, described in the Act, when making recommendations on unit settings, as table 2 describes.

Table 2: How the criteria in table 1 reflect matters that the Minister must consider

Obligations under section 30GC of the Act	Criteria that reflect this matter
(2) The Minister must be satisfied that the limits and price control settings are in accordance with (a) the emissions budget and the Nationally Determined Contribution and (b) the 2050 target (3) However, they need not strictly accord with the budgets or contributions as long as the Minister is satisfied that the discrepancy is justified, after considering other matters	Accordance with New Zealand's emissions budgets, NDC and 2050 target
Matters the Minister must consider	
(5)(a) Projected trends in greenhouse gas emissions, including both emissions covered by the NZ ETS and those that are not covered	Accordance with New Zealand's emissions budgets, NDC and 2050 target
(5)(b) The proper functioning of the NZ ETS	Support the proper functioning of the ETS
(5)(c) International climate change obligations and contracts New Zealand may have for accessing offshore mitigation from other carbon markets	Support consistency of NZU prices with the level and trajectory of international emissions prices Accordance with New Zealand's emissions budgets, NDC and 2050 target
(5)(d) The forecast availability and costs of ways to reduce greenhouse gas emissions that may be needed for New Zealand to meet its emissions reduction targets	Accordance with New Zealand's emissions budgets, NDC and 2050 target Support the proper functioning of the NZ ETS Support consistency of NZU prices with the level and trajectory of international emissions prices
(5)(e) The recommendations made by the Climate Change Commission under section 5ZOA	The Commission's recommendations are included among the options considered for all NZ ETS unit settings decisions
(5)(f) Any other matters that the Minister considers relevant	No additional matters are considered in the criteria analysis

Obligations under section 30GC of the Act	Criteria that reflect this matter
Additional matters the Minister must consider in analysing price control settings	
(6)(a) The impact of emissions prices on households and the economy	Manages the risk of unacceptable economic and inflationary impacts
(6)(b) The level and trajectory of international emissions prices (including price controls in linked markets)	Support consistency of NZU prices with the level and trajectory of international emissions prices
(6)(c) Inflation	Manages the risk of unacceptable economic and inflationary impacts

Your views

We want to know your thoughts on the options for updates to the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 that this consultation document outlines. Your response will help us understand the issues and options, and their impact.

The following sections explain the issues, present options and analysis, and include questions for you to consider. Your views will help us fill information gaps and measure support for the options.

Consultation process

This consultation will close at 5 pm on 16 June 2023.

Once we have considered submissions, we will put final proposals to the Minister of Climate Change and Cabinet for approval. Following Cabinet approval, any new regulations or amendments to existing regulations will be published in the *New Zealand Gazette* by 30 September 2023 and come into force from 1 January 2024.

Submitting your views

For details on sending feedback to us, see the [How to have your say](#) section.

Summary of proposals

Regulations set limit and price control settings for units five years in advance. These settings need to be reconsidered, and added to, every year. This is the third year that these settings will be updated since they were prescribed in regulations in 2020. Table 3 summarises the changes being consulted on this year.

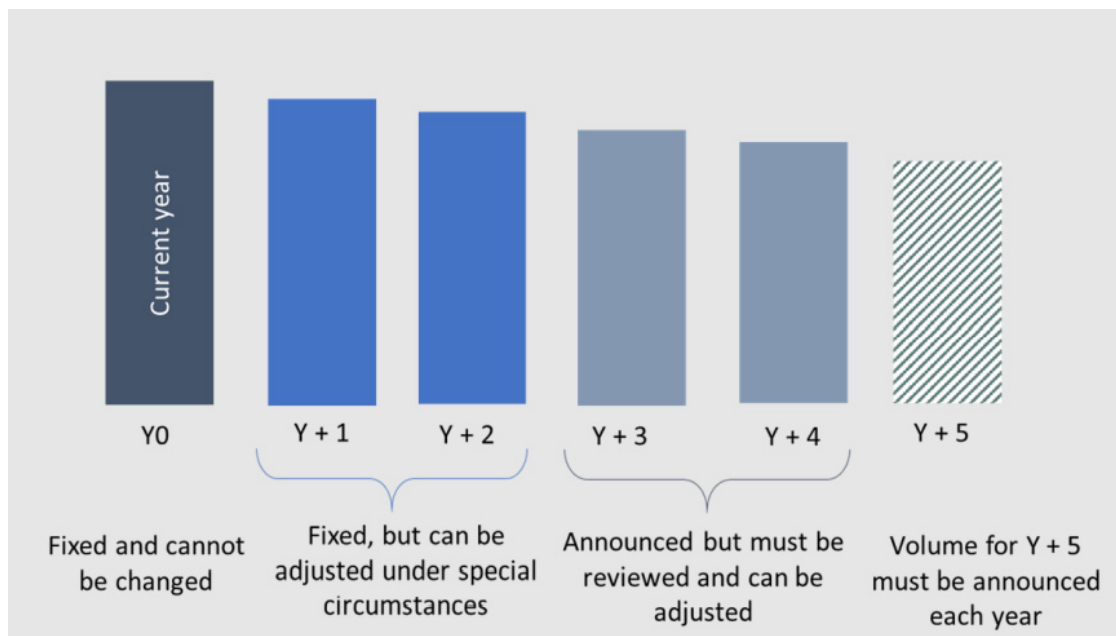
Table 3: Updates to the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020

Proposals	
1	Update unit settings for 2024 and 2025
2	Update limits for units
3	Update price control settings for units

Legislative requirements for updates

Section 30GC of the Act sets out specific matters that the Minister must consider as part of the process of updating NZ ETS unit settings. These matters include emissions budgets, projected emissions trends, and the Commission’s recommendations. Under the Act, updates to unit settings must occur on a five-year rolling basis (figure 1). Although settings in years 1 and 2 are fixed, it is possible to change them if special circumstances enable or justify the change.⁵

Figure 1: The five-year rolling process for limits and price control settings for units



Section 5ZOA of the Act requires the Commission to give advice on NZ ETS unit settings. The Minister must consider this advice when recommending updates to unit settings. If the Minister makes a recommendation that differs from the Commission’s advice, a report of the reasons for the difference must be prepared and made public.

⁵ [Section 30GB\(5\)](#) describes these special circumstances.

The Commission provides advice annually

The Government appointed the Commission to provide independent advice on climate change. Under section 5ZOA of the Act, the Commission must provide recommendations on NZ ETS unit settings each year after the Government has set emissions budgets.

The first iteration of this required advice was provided in July 2022.⁶ Not all of the Commission's 2022 recommendations were implemented, and a report on reasons for differences was made available in December 2022.⁷

The Commission has provided new advice on limits and price control settings for units

The Commission provided its 2023 advice on NZ ETS limit and price control settings to the Minister of Climate Change on 31 March 2023. This advice is available on the Commission's website: [Our advice on the NZ ETS » Climate Change Commission](#).

The Commission is currently consulting on its draft advice for the second emissions reduction plan. This advice includes recommendations to adjust the NZ ETS.

We are interested in your views on the impacts that decisions last year on unit settings had on regulatory certainty and market behaviour.

Question

- 1 Do you think the decisions on NZ ETS unit settings announced in December 2022 had any impact on NZ ETS market behaviour?

⁶ The Commission had previously provided recommendations on NZ ETS unit settings in 2021 as part of its report *Ināia tonu nei: a low emissions future for Aotearoa*.

⁷ He Pou a Rangi Climate Change Commission, Report on reasons for differences between prescribed NZ ETS limits and price control settings for units and the Climate Change Commission's advice on these settings, 14 December 2022.

Options presented in this consultation document

There is an obligation to review NZ ETS unit settings, and to consider the Commission's advice as part of this process.

This consultation seeks feedback on:

- whether to make changes to unit settings for 2024 and 2025
- whether to make adjustments to auction volumes based on an increase in post-1989 forest land registration
- whether to make technical adjustments to reflect a possible discrepancy between the NZ ETS and emissions reported in the Greenhouse Gas Inventory
- how to address any discrepancies that might result from adjustments to limits that have not occurred or are unable to occur due to restrictions on updating unit settings for 2024 and 2025
- auction reserve price settings
- cost containment reserve⁸ structure and volume, including a cost containment reserve of zero NZUs
- cost containment reserve trigger price(s).

This consultation document discusses these options and assesses them against the criteria set out in table 1.

We are interested in your feedback on whether there are any additional elements of NZ ETS unit settings, including the calculation of limits, where the status quo should be reconsidered.

⁸ The cost containment reserve, or CCR, is a reserve volume of units that is available for sale at auction if the interim auction clearing price is above a prescribed CCR 'trigger' price. Its intent is to mitigate against unacceptably high NZU prices.

Should NZ ETS unit settings for 2024 and 2025 be updated?

Background

The Act requires⁹ updates to regulations every year to ensure that unit settings are prescribed for each of the following five calendar years. These updates can only include changes to unit settings for the first two years (ie, 2024 and 2025 this year) in specified situations.

Limiting the ability to change the first two years is intended to maintain regulatory predictability, and to support participants being well informed. This limitation is an important feature of the annual updates to the NZ ETS settings.

Sale of NZUs from the cost containment reserve or sale of NZUs at the auction reserve price during 2023 would allow unit settings for 2024 and 2025 to be updated. This has not occurred to date in 2023 NZ ETS auctions.

Settings for the first two years can also be amended if the Minister is satisfied that the amendment is justified by special circumstances. These special circumstances are:

- significant changes in any of the matters that must be considered when updating unit settings
- changes in emissions budgets or the NDC
- a *force majeure* event.

The Commission has concluded that no conditions exist that enable updates to settings for 2024 and 2025. However, the Commission has recommended that settings for 2024 and 2025 are updated if NZUs are sold from the cost containment reserve at the June 2023 NZ ETS auction.

We are interested in your feedback on whether you think special circumstances exist that might enable updates to settings for these first two calendar years, and if so, whether these would justify updating settings for 2024 and 2025.

Of note, among these matters that must be considered is “the anticipated volumes of greenhouse gas emissions to which the emissions trading scheme does not apply”.¹⁰ A significant change to this matter is a special circumstance that could justify updating settings for 2024 and 2025.

The Commission has recommended material adjustments to limits for units to reflect changes to forestry removals outside the NZ ETS, stating that “as less forestry is now outside the scheme, we have reduced our previous adjustment significantly”. The Commission has not recommended updates to settings for 2024 to 2025, and has provided no commentary on how it considered the forestry adjustment in making this recommendation. More detail on this is in the section [Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors](#) section.

⁹ Section 30GB(3)(b) of the Act requires the amendment of unit limit and price control settings to ensure that, at all times, they prescribe limits and price control settings for each of the next five calendar years.

¹⁰ [Section 30GC\(5\)\(a\)\(ii\) Climate Change Response Act 2002 No 40](#) (as at 1 January 2023).

Assessment of updating settings for 2024 and 2025, if possible, against retaining status quo settings for these years is provided in table 4.

Table 4: Assessing whether to update unit settings for 2024 and 2025

Criterion	Option one: Retain status quo settings for 2024 and 2025	Option two – Update settings for 2024 and 2025 if possible (Commission’s advice)
Accords with New Zealand’s emissions budgets, NDC and 2050 target	0	+ Changes to unit supply for 2024 and 2025 would better align the NZ ETS with the emissions budget one period of 2022–25.
Supports the proper functioning of the NZ ETS	0	0
Improves regulatory certainty and predictability	0	- Reduces regulatory certainty and predictability by updating settings that are generally intended to be fixed.
Overall assessment	0	0 Weighting of criteria could result in a different overall assessment.

Questions

- 2 Do you think that the proposed update to auction volumes to reflect a change in forestry emissions outside the NZ ETS is sufficient to allow unit settings for 2024 and 2025 to be updated?
- 3 What other special circumstances, if any, do you think exist that might enable updating NZ ETS unit settings for 2024 and 2025?
- 4 If there are special circumstances, do you think updates to NZ ETS unit settings for 2024 and 2025 are justified and should be made?
- 5 Do you think that updates to NZ ETS unit settings for 2024 and 2025 should occur if NZUs from the cost containment reserve are sold at the June NZ ETS auction? Note, the Commission recommends that settings for 2024 and 2025 are updated in this situation.

Updating NZ ETS limits for units

Background

The Act requires¹¹ updates to regulations every year to ensure that limits are prescribed for each of the following five calendar years. These limits are:

- **a limit on the NZUs available by auction** (annual auction volume plus volume available within the cost containment reserve)
- **a limit on approved overseas units**
- **an overall limit on units** (often referred to as the ETS cap, which consists of units available by auction and by other means¹² and approved overseas units).

Although regulations do not prescribe annual auction volumes, it is possible to calculate them from the published limits (by subtracting the cost containment reserve volume from the limit on units available by auction). These annual auction volumes must be published along with the annual auction calendar.

These limits describe the volume of new NZUs the Government can provide to the market for purposes other than removal activities.¹³ Participants can use any units, including those already stockpiled and those transferred for removal activities, to meet their NZ ETS surrender obligations.

The Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 came into force on 4 January 2021 and included unit limits for 2021–25. The first Government NZU auction took place in March 2021. Updates to regulations mean that they now prescribe limits for units for the years 2023–27.

Methodology to calculate limits for units

To update the NZ ETS limits for units, this document proposes following the same methodology that was used to calculate limits in 2022. This involves a step considering how limits should accord with emissions budgets, the NDC and the 2050 targets, followed by a series of six calculation steps to arrive at auction volumes. These auction volumes are then used with other data points, including the cost containment reserve volume, to calculate the limits that regulations will prescribe.

¹¹ Section 30GB(3)(b) of the Act requires the amendment of unit limit and price control settings to ensure that, at all times, they prescribe limits and price control settings for each of the next five calendar years.

¹² The Act defines New Zealand Units available by other means as the number of NZUs that are allocated for eligible activities (industrial allocation) or provided under negotiated greenhouse agreements.

¹³ There is no limit on the number of units that can be transferred for carbon removal activities, and the limits do not cap industrial allocation.

In summary, the seven steps are to:

1. Accord with the domestic emissions budgets, the NDC, and the 2050 target.
2. Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors.
3. Make technical adjustments.
4. Account for free NZU allocation volumes.
5. Set the reduction volume to address unit surplus.
6. Set the approved overseas unit limit.
7. Calculate the auction volume and assess sensitivity and risks.

These steps are described in more detail below.

1. Accord with the domestic emissions budgets, the NDC, and the 2050 target

The Act requires the NZ ETS limits for units to accord with the emissions budgets, NDC and 2050 target. However, they do not need to strictly accord with these if the Minister is satisfied that any discrepancy is justified after considering other prescribed matters.

The NDC is set at a different level to emissions budgets. Offshore mitigation is required to meet New Zealand's first NDC. Until more detail on New Zealand's approach to acquiring offshore mitigation is available, it is not appropriate to set limits on approved overseas units.

In 2022, the Commission recommended that: "The overall unit limit and the limit on units available by auction are set in line with the emissions budgets, as stepping stones to the 2050 target and the Government's intended domestic contribution to the NDC."

This was the approach taken in updates to NZ ETS unit limits in 2022, and is the approach recommended this year.

2. Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors

This step allocates emissions budgets between sectors that the NZ ETS covers and those sectors that it does not. This can be described as 'setting the cap' for the NZ ETS, where the 'cap' refers to the targeted level of net emissions for sectors the NZ ETS covers – that is, sectors for which emissions are reported and that either receive NZUs for removals or are obliged to surrender NZUs for these emissions.

Sectors the NZ ETS does not cover include:

- agriculture
- non-municipal waste
- fluorinated gases covered by the synthetic greenhouse gas (SGG) levy
- methane and nitrous oxide emissions from biomass combustion
- a small subset of industrial process and product use emissions
- the subset of post-1989 forest land that is not registered in the NZ ETS and deforestation of pre-1990 native forest land.

In 2022, the Commission recommended using emissions data from its demonstration path – one pathway towards meeting emissions budgets – to calculate the component of emissions budgets allocated to NZ ETS and non-NZ ETS sectors. Policy decisions in 2022 reflected this recommendation.

The Commission has updated its estimates of forestry emissions outside the NZ ETS to account for recent changes in levels of forest land registered in the NZ ETS. The Commission’s analysis suggests the portion of the emissions budget allocated to the NZ ETS should now be smaller. Their recommendation is to reduce auction volumes to reflect this. We are interested in your feedback on the Commission’s estimates of forestry emissions outside the NZ ETS and on the Commission’s recommendation to make a resulting adjustment to auction volumes.

Using the demonstration path means the emissions from each sector used in this calculation have not changed for 2023. However, the Commission’s analysis suggests that the significant increase in the proportion of eligible post-1989 forest land registered in the NZ ETS has had an impact on demonstration path forestry emissions outside the NZ ETS.

This has the impact of increasing estimates of net emissions outside the NZ ETS, which means that emissions outside the scheme take up a greater proportion of the emissions budget. The result is that the NZ ETS has a smaller share of the emissions budget, leading to a reduction of auction volumes. This is described in more detail below.

The contribution of forestry emissions to the demonstration path is based on ‘target accounting’

The net emissions from forestry used in the demonstration path are calculated with respect to ‘Target accounting’ methodologies, the way in which forestry emissions are calculated to determine achievement against New Zealand’s first NDC, domestic emissions budgets, and 2050 target.

This accounting approach means that forests planted before 1990 (pre-1990 forests) do not contribute to additional carbon removals but are counted as emissions when they are deforested. Under these same principles, exotic pre-1990 forests are not eligible to earn NZUs in the NZ ETS, but become mandatory participants and must pay NZUs if they are deforested.

Target accounting also takes an ‘averaging’ approach to net emissions from carbon sequestration on post-1989 forest land that is subject to harvesting and replanting.

This accounting approach means that once post-1989 forests have reached their long-term carbon stock average, the continued normal cycles of forest growth, harvesting, and replanting of this land makes no contribution to annual emissions calculated against targets.

The proportion of demonstration path forestry emissions outside the NZ ETS can change over time

At the time of the Commission’s previous advice, it was assumed that all currently registered forest land would remain registered, and that all forests planted from 2019 would be included in the NZ ETS. Therefore, the only factor that will change the estimate of forestry emissions outside the NZ ETS is forest land that was planted before 2019 and has been registered or de-registered after the first advice was provided.

If the amount of post-1989 forest land established before 2019 registered in the NZ ETS changes, so does the split between demonstration path forestry emissions inside and outside the NZ ETS.¹⁴

There were high levels of post-1989 forest land registration in the NZ ETS during 2021 and 2022

During 2021 and 2022 there were high levels of post-1989 forest land registered in the NZ ETS. Some of the registration was due to high levels of afforestation. However, registration of forest land planted before 2019 also made a significant contribution. This included significant registration of long-established native post-1989 forest land.

The Commission has updated its estimates of forestry emissions outside the NZ ETS

The Commission has updated its estimated breakdown of forestry emissions inside and outside the NZ ETS to reflect the most recent data from the Ministry for Primary Industries and the high rates of registration from eligible post-1989 forest land that was already established before 2019. This update was based on the following inputs:

- The volume of total native post-1989 forest land registered in the NZ ETS has increased from approximately 35,000 hectares to 90,000 hectares, 92 per cent of which was planted before 2019
- The volume of post-1989 exotic forest land has increased from approximately 297,000 hectares to 471,000 hectares, 81 per cent planted before 2019.

Drawing on this, updated proportions of total post-1989 forest land area registered in the NZ ETS have been used to update estimates of forestry emissions remaining outside the NZ ETS.

These updated estimates are compared with previous estimates in table 5.

Table 5: Estimates of net forestry emissions inside and outside the NZ ETS

Net forestry emissions inside and outside NZ ETS (kt CO ₂ e)	2024		2025		2026		2027		2028	
	2022 advice	2023 advice	2022 advice	2023 advice	2022 advice	2023 advice	2022 advice	2023 advice	2022 advice	2023 advice
Inside NZ ETS	-4,101	-5,786	-5,303	-6,919	-7,236	-8,889	-9,012	-10,491	-11,053	-12,526
Outside NZ ETS	-1,950	-265	-1,470	146	-1,701	-49	-1,475	3	-1,382	91
Total	-6,051	-6,051	-6,773	-6,773	-8,937	-8,937	-10,488	-10,488	-12,435	-12,435

These updates would result in reduced recommended auction volumes

The Commission has recommended updating the calculation of the share of emissions budgets allocated to NZ ETS sectors to reflect these new estimates.

¹⁴ Registration of post-1989 forest land established at rates higher than anticipated by the demonstration path is not relevant to this calculation. This is because net emissions from this ‘additional’ forest land were not considered as part of the demonstration path.

If auction volumes are updated to reflect this advice for all years from 2024 onwards,¹⁵ this change would contribute an annual reduction in calculated auction volumes ranging from a 1.7 million unit reduction in 2024 to a 1.5 million unit reduction in auction volumes for 2028.

Table 6 assesses the following options for this step of calculating limits for units.

1. Option one – Status quo. Continue to use previous estimates of forestry emissions outside the NZ ETS to calculate auction volumes.
2. Option two – Update to reflect the Commission’s more recent estimates of changes to post-1989 forestry emissions outside the NZ ETS.

We are interested in your views on our assessment, which will help us prepare recommendations for policy decisions.

Table 6: Assessing whether to update calculation of auction volumes to reflect the Commission’s updated estimates of forestry emissions outside the NZ ETS

Criterion	Option one – Status quo	Option two – Update to reflect new Commission estimates of post-1989 forestry estimates outside the NZ ETS
Accords with New Zealand’s emissions budgets, NDC and 2050 target	0	+ Improved reflection of emissions inside and outside the NZ ETS.
Supports the proper functioning of the NZ ETS	0	0
Improves regulatory certainty and predictability	0	0 One off change, unlikely to need updating in future Material reduction in auction volumes.
Overall assessment	0	+ Although this has a minor impact on regulatory certainty, it would improve accordance with emissions budgets and targets.

Questions

- 6 Do you think the Commission’s updated estimates of forestry emissions outside the NZ ETS are accurate?
- 7 Do you think that an update to calculations, and a corresponding reduction in auction volumes, should be made to reflect this updated estimate?

3. Make technical adjustments

This step considers the treatment of misalignment between emissions reported in the NZ ETS and those reported in New Zealand’s Greenhouse Gas Inventory.

¹⁵ Note, the Commission has recommended that no updates are made to NZ ETS unit settings for 2024 or 2025 unless price controls take effect by either the sale of units at the auction reserve price or sale of units from the cost containment reserve volume. This is discussed in the [Should NZ ETS unit settings be updated for 2024 and 2025?](#) section.

Work has uncovered what appear to be discrepancies between emissions reported in the Inventory and those in the NZ ETS.

The discrepancy relates to energy sector emissions for coal and liquid fossil fuels. Officials have yet to confirm the basis for the discrepancy and, if it is valid, whether addressing it will require adjustments to the Inventory or NZ ETS technical adjustments to emissions factors or calculations.

New Zealand uses inventory data to report progress towards targets. Any accounting misalignment could mean too many, or too few, NZUs are supplied each year.

This discrepancy was known about last year, and no adjustments were made to limits for units to account for this discrepancy. A full understanding of the discrepancy would inform the appropriate response, and this is still being sought. Limits for units will be able to be updated correctly once this is available. Without this full understanding, a decision is still required on how to treat it.

Options

1. Option one – Status quo. No technical adjustments are made during the calculation of auction volumes.
2. Option two – A technical adjustment to reduce auction volumes is made to reflect half of the observed discrepancies.
3. Option three – Commission’s advice. A technical adjustment to reduce auction volumes is made to reflect the full amount of the observed discrepancies. This would reflect the relatively steady liquid fossil fuel discrepancy over the period of 2010–20, and a fixed percentage adjustment for coal emissions based on the observed discrepancy for years 2019–20.

The three listed options, and their impacts on calculations of auction volumes and limits, are shown in the table 7.

Table 7: Options to address the observed discrepancy between emissions reported in the Inventory and reported in the NZ ETS

	Reduced auction volumes in millions of NZUs				
	2024	2025	2026	2027	2028
Option one – Status quo, no technical adjustment	0	0	0	0	0
Option two – Technical adjustment, half of discrepancy amount	0.7	0.7	0.7	0.6	0.6
Option three – Technical adjustment, full discrepancy amount (Commission advice)	1.4	1.3	1.3	1.3	1.3

Table 8 assesses the options outlined above. We are interested in your views on our assessment, which will help us prepare recommendations for policy decisions.

The criteria analysis below does not strongly identify any clear preferred option. All options have risk and uncertainty from making, or not making, a technical adjustment for the discrepancies. The decision made at this step has material impacts on auction volume and NZUs supplied to the market, as well as Crown revenue from auctions.

Table 8: Assessing options to address technical discrepancies

Criterion	Option one – Status quo	Option two – Technical adjustment, half of discrepancy amount	Option three – Technical adjustment, full discrepancy amount (Commission recommendation)
Accords with New Zealand’s emissions budgets, NDC and 2050 target	0	0 If adjustment is appropriate for both, or neither, a partial adjustment would be inaccurate. If adjustment is appropriate for one only, a partial adjustment would be somewhat accurate. Reduced auction volumes result in stockpile reductions as NZUs need to be acquired from the stockpile instead. The stockpile is a risk in meeting emissions budgets; however, this is dealt with in the stockpile reduction step described in a later section.	0 Until it is clear whether a technical adjustment is appropriate, it is unknown if full adjustment will make the NZ ETS limits more or less aligned with New Zealand’s targets and budgets. Reduced auction volumes result in stockpile reductions as NZUs need to be acquired from the stockpile instead. The stockpile is a risk in meeting emissions budgets; however, this is dealt with in the stockpile reduction step described in step 5 below.
Supports the proper functioning of the NZ ETS	0	0 No impact on NZ ETS participants or operation.	0 No impact on NZ ETS participants or operation.
Improves regulatory certainty and predictability	0	-- A change at this step without certainty about whether this will be retained introduces uncertainty in addition to the change itself.	-- A change at this step without certainty about whether this will be retained introduces uncertainty in addition to the change itself.
Overall assessment	0	--	0

The status quo avoids the risk of withholding NZUs from auction when this would be inappropriate, while the full technical adjustment avoids the risk of providing NZUs at auction when that would be inappropriate. In the case that the decision made here results in an additional ‘surplus’ component of the stockpile, this can be addressed as part of the stockpile surplus reduction step in future.

Question

8 Do you think that reductions in auction volumes and limits should occur to reflect the identified discrepancies between emissions reported in the Greenhouse Gas Inventory and the NZ ETS?

4. Account for free NZU allocation volumes

Some NZUs are freely allocated to emission-intensive, trade-exposed businesses to reduce the risk of closure or losing market share to overseas businesses that do not face the same emissions costs. Such a shift in production, and therefore emissions, is known as emissions leakage and may have negative effects on levels of global emissions.

The purpose of industrial allocation is to reduce the risk of emissions leakage by supporting firms in eligible activities to meet some of their emissions costs.

Free allocation used to calculate auction volumes is based on production-level projections, rather than on unit volumes set in advance. This makes it important to review the projections every year and adjust them to take account of any major changes in businesses that receive free allocations, for example, if a business carrying out an activity eligible for industrial allocation shuts down.

We have reviewed the projections on industrial allocation that the Commission made and used to inform its recommendations in 2022, and the updates made to reflect more recent data in its 2023 advice. Based on this review, we agree with the assumptions it used to determine its projections.

Table 9 sets out the forecast free allocation volumes for 2024–28. This forecast does not consider any changes likely as a result of the decisions to address over-allocation.¹⁶ These decisions will not affect 2023 allocation, and the impacts on 2024 allocations are unknown. Once data are available on the impacts on the level of industrial allocation, these can be incorporated into future updates to NZ ETS limits for units.

Table 9: Forecast industrial allocation volumes

	Millions of NZUs				
	2024	2025	2026	2027	2028
Forecast industrial allocation (2022)	6.3	6.3	6.2	6.1	6.0
Forecast industrial allocation (2023 update)	6.1	6.1	6.0	5.9	5.8

It is considered appropriate to update calculations to reflect more current projections of industrial allocation.

5. Set the reduction volume to address unit surplus

NZ ETS account holders are able to bank NZUs in their accounts in the NZ ETS Register. This ability to bank is a valuable feature of the NZ ETS to help reduce price volatility, ensure the NZU price is forward-looking, and support participants to manage their future liabilities. For these reasons, all emissions trading schemes currently operating in the world allow banking.

Banking also provides market liquidity as it better ensures that NZU buyers can more readily find a source of NZUs for purchase and NZU sellers can more readily find a buyer. A more liquid market helps to ensure prices settle at a price that more closely balances supply and demand of NZUs over time.

A large quantity of NZUs has accumulated in private accounts. Some of the NZUs in this ‘stockpile’ are held to meet future surrender liabilities or for other reasons, while others are estimated to be held for investment purposes and will more readily move out of the stockpile when current market prices are favourable. If the long-run expectation is of rising prices, the stockpile can help ensure prices remain on that trajectory. But if market conditions change such that future price expectations are lower than they were previously, supplies from the

¹⁶ A review of industrial allocation found that for some activities, allocation is likely to exceed that intended, which in some cases results in a net ETS revenue rather than cost to that firm. Policy decisions to address this were announced in July 2022, with legislation currently before Select Committee.

stockpile can dampen current NZU prices and potentially cause challenges in meeting emissions budgets. To reduce these risks, the size of the stockpile needs to be managed.

Units move into the stockpile as they are:

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

Units move out of the stockpile as they are:

- surrendered to the Crown by NZ ETS participants to meet their ETS obligations.

The methodology used to calculate auction volumes includes a stockpile reduction step, which means setting an auction limit lower than the entire volume of emissions technically available. This requires NZ ETS participants to use some NZUs from the stockpile to meet their NZ ETS surrender obligations.

The Commission has recommended including two sub-steps in this calculation this year. The first, 'step 5a' is consistent with the approach taken in 2022 and is described below.

Step 5a

Estimating the excess liquid component of the stockpile is difficult. The Commission analysed the NZUs held at 1 June 2022, after the 31 May deadline for meeting surrender obligations for 2021 emissions. Of the 144 million privately held NZUs, 95 million are considered to be unavailable to market, as account holders are holding them for specific purposes, including to:

- meet future post-1989 forest harvest liabilities
- hedge against future surrender emissions liabilities
- meet forward supply contracts
- hold pre-1990 forestry NZUs indefinitely
- provide a vehicle for investment exposure to NZU price changes.

In 2022, the Commission estimated that the excess liquid, or 'surplus', component of the stockpile is 49 million NZUs. The size of the 'surplus' is uncertain, and this estimate is the mid-point of the Commission's estimated range of 33–66 million NZUs. As there has not been another round of annual surrenders since this advice was provided in July 2022, there have been no updates made to this estimate.

The Commission's recommendation at this step was implemented as part of updates to unit settings made in 2022. The Commission recommends no change at this step as part of calculations of auction volumes this year.

Question

9 Do you think the status quo approach to stockpile reduction should be retained?

Step 5b

The Commission has recommended that the stockpile reduction step also includes an adjustment to take into account its recommendations that were not accepted in previous years or that will not be made if unit settings for 2024 and 2025 are not updated.

An alternative approach would be to address any stockpile impacts as part of the annual process to update estimates of excess liquidity used to calculate stockpile adjustments. The data required to update these estimates becomes available after annual surrender liabilities are due. Because of the short time elapsed between the Commission’s July 2022 advice and this year’s advice, new estimates have not been able to be made this year. This will not be the case for advice in future years. The approach recommended by the Commission this year is based on projections of the likely impact of changes not made on the surplus element of the stockpile, rather than based on real data describing the magnitude of the stockpile surplus.

There are several elements to this new step recommended by the Commission including:

- whether previous recommended changes to limits that were not made should have been made
- whether limits will or will not be adjusted for years 2024 and 2025
- whether the intended outcome of this step would be better achieved by updated assessments of surplus stockpile volumes
- the time period over which any adjustment recommended at this step should occur
- whether further adjustments should be made if the sale of NZUs from the cost containment reserve occurs.
- More detail on Commission’s proposal for this step is available in the Commission’s advice, starting on page 37 [2023-advice-on-NZ-ETS-unit-limit-and-price-control-settings.pdf](#) .

We are interested in your feedback on this proposed new step in calculating auction volumes and limits for units. This is assessed against the status quo in table 10.

Table 10: Assessing whether to include a new stockpile adjustment step as part of the calculation of auction volumes

Criterion	Option one – Status quo	Option two – Include an additional step this year as updated estimates of the surplus component of the stockpile are unavailable
Accords with New Zealand’s emissions budgets, NDC and 2050 target	0	0 The annual surplus estimate approach already accords with targets.
Supports the proper functioning of the NZ ETS	0	0 No impact on NZ ETS participants or operation.
Improves regulatory certainty and predictability	0	-- New approach (and one-off), and significant step-change in auction volumes in 2026.
Overall assessment	0	-

Questions

- 10 Should a new sub-step be added this year to address projected impacts on surplus stockpile liquidity rather than addressing it through annual updates to estimates of surplus stockpile liquidity?
- 11 Should adjustments to auction volumes be made to address historic actions?

6. Set the approved overseas unit limit

International mitigation will be required for New Zealand to achieve its 2021–30 NDC. Although the Act allows for limits on the use of approved overseas units to be prescribed, agreements for the import of those units have not occurred.¹⁷ Therefore, consistent with current regulations, the proposed approved overseas unit limit will remain at zero units per year.

7. Calculate the annual auction volume and assess sensitivity and risks

This step calculates the annual auction volumes for the 2024–28.

Table 11 shows these calculations based on the Commission’s recommendations alongside status quo calculations.

Notably, the Commission’s advice is that updates are not made to settings for 2024 and 2025, so the Commission’s recommendations for these years match the status quo. However, this would change if updates to 2024 and 2025 were made.

The Commission has also recommended that any sale of cost containment reserve volume at the June 2023 NZ ETS auction is considered as part of the calculation of final auction volumes.

Table 11: Calculated annual auction volumes, status quo extended to 2028, and based on the Commission’s recommendations

	Millions of NZUs									
	2024		2025		2026		2027		2028	
Step	Status quo	CCC	Status quo	CCC	Status quo	CCC	Status quo	CCC	Status quo	CCC
Step 1 – accord	72.1	72.1	69.7	69.7	66.5	66.5	63.9	63.9	60.7	60.7
Step 2 – allocate	-41.0	-41	-41	-41	-40.3	-42	-40.2	-41.6	-39.8	-41.3
Step 3 – technical adjustments	0	0	0	0	0	-1.3	0	-1.3	0	-1.3
Step 4 – free allocation	-6.3	-6.3	-6.3	-6.3	-6.2	-6.0	-6.1	-5.9	-6.0	-5.8
Step 5 – surplus reduction	-7.7	-7.7	-7.2	-7.2	-6.5	-6.5	-5.9	-5.9	-5.3	-5.3
Step 5b – additional step recommended by the Commission in 2023	NA	NA	NA	NA	NA	-2.2	NA	-2.0	NA	-1.7
Step 6 – approved overseas units	0	0	0	0	0	0	0	0	0	0
Step 7 – NZU auction volumes	17.1	17.1	15.3	15.3	13.5	8.5	11.7	7.1	9.6	5.2

Note: CCC = Climate Change Commission recommendation

¹⁷ The CCRA includes this provision to allow for opening the ETS to offshore units at some future time, but there is currently no policy to do so.

The resulting auction volumes will vary depending on the options chosen at steps 2 (allocating emissions budget), 3 (technical adjustments), and the new step 5b proposed by the Commission (discrepancy adjustment). Table 12 presents the range of auction volumes resulting from these options.

Table 12: Commission and status quo extended auction volumes

	Millions of NZUs				
	2024	2025	2026	2027	2028
Status quo auction volumes	17.1	15.3	13.5	11.7	9.6
Commission calculations, applied to auction volumes for all years	13.6	12.0	10.2	8.7	6.6
Commission recommended auction volumes	17.1	15.3	8.5	7.1	5.2

Limits for regulations to prescribe

To set the limit on NZUs available by auction and the overall limit that regulations must prescribe, it is necessary to consider the cost containment reserve volume, in addition to the elements described above. The following section, ‘Update price control settings for units’, describes the cost containment reserve volume and presents options for it.

The limit on approved overseas units will be set to zero for each year.

The limit on units available for auction is made up of:

- annual auction volume
- cost containment reserve volume.

The resulting limit depends on choices made among the range of options presented elsewhere in this consultation document.

The overall limit for units is arrived at using the same methodology as in previous years and is consistent with the methodology used to calculate annual auction volumes. This overall limit is made up of:

- annual auction volume
- cost containment reserve volume
- a projected free allocation volume
- approved overseas units.

The resulting overall limit depends on the range of options chosen presented elsewhere in this consultation document.

Question

- 12 What do you think of the methodology used to calculate auction volumes, including on each specific step?

Update price control settings for units

Purpose of price controls

Price controls provide the Government with a mechanism to help manage unacceptably low or high prices in the NZ ETS and limit the risk of prices falling outside of a range needed to meet emissions budgets. All emissions trading schemes in the world currently include some price control features.

Price controls also enable businesses to develop long-term expectations about their costs of participating in the NZ ETS, better informing their investment decisions and business planning. Price control settings have historically been set outside the bounds we expect prices need to be to meet emissions budgets and targets.

Reason for updating price controls

The Act requires annual updates to regulations to ensure price controls are set for each of the next five calendar years on the:

- minimum price that units can be sold at auction (price floor)
- cost containment reserve trigger price(s)
- cost containment reserve unit volume(s).

History of price controls

These price controls were first set in regulation in September 2020, and the first NZ ETS unit auction took place in March 2021. Price control settings have since been updated in 2021 and again in 2022.

Before the introduction of NZ ETS auctions, the NZ ETS had an effective price ceiling in place in the form of the 'fixed price option'. This option allowed NZ ETS participants to pay a fixed price to meet surrender obligations, which also meant that the NZ ETS functioned as a 'cap-and-trade scheme without a cap'.

The upper price control, the cost containment reserve, was triggered at auctions in both 2021 and 2022. This has not occurred in auctions to date in 2023.

No NZUs were sold at the March 2023 NZ ETS auction as the clearing price was below the confidential reserve price. This confidential reserve price is not a price control setting, instead being an additional mechanism to prevent sales by auction at prices significantly below prices of NZUs on secondary markets.

Role of price control settings

While the auction reserve and CCR trigger price signal the limits of expected and acceptable prices in the NZ ETS, they are not intended to be the key driver for the market price. When the 2020 reforms introduced them into the NZ ETS, it was stated that the price controls should rarely be triggered.

The upper price control is specifically designed to mitigate against prices that are ‘too high’ and result in unacceptable impacts of emissions prices on households and the economy. The more that other policies address these impacts, the higher NZU prices can be without resulting in impacts that are deemed unacceptable.

The Commission states in its advice that:

“we conclude the price control settings are not the appropriate tool for addressing domestic distributional impacts or other equity considerations in the transition, as the Government can act on climate change and manage impacts to households or businesses through policies outside the NZ ETS”.

Operation of price control settings

These price control settings operate at the Government’s quarterly auctions of NZUs. They do not prevent secondary market prices from going above or below the price floor or CCR trigger prices, nor do they prevent auctions clearing at prices above the upper price control. Rather, they provide an automatic response mechanism to increase or reduce the amount of NZUs the Government supplies into the NZ ETS, when the auction clearing price is above or below specified levels. In this way, these price controls can help limit the extent of increases or declines in the NZU price.

The settings for the auction reserve and CCR trigger price can act as a proxy for what are seen as the lower and upper ends of the acceptable range for NZU prices, but they do not necessarily provide any guidance on what prices should be within this range.

The Commission has retained the price components of its price control settings recommendations from 2022, with a recommendation for minor changes to reflect more recent projections of inflation. In its 2022 advice the Commission made clear that it did not see the price control settings, particularly the trigger price, as providing any market guidance on expected prices. It stated (p 66):¹⁸

“We wish to emphasise that our recommended price control settings are deliberately outside the bounds we would currently expect price discovery to occur” and “For the avoidance of doubt, we would like to state clearly that the recommended CCR trigger prices do not constitute ‘any desirable emissions price path’. We have heard that market participants may potentially see the CCR trigger prices as a ‘target’ or anchor for price expectations in the absence of clearer signals being available. The CCR is intended to only be triggered in rare or exceptional circumstances, and our recommendations reflect this intent. We expect the increased trigger prices to add considerable headroom to allow for price discovery, rather than unduly influencing market price expectations.”

¹⁸ [NZ ETS settings for 2023-2027](#).

Observed relationship between market price and price controls

Since the NZ ETS closed to international markets in 2015, the market price of NZUs has closely tracked the upper limit price controls, the \$25 and then \$35 fixed price option, and the more recent \$50 and then \$70 cost containment reserve trigger price.

Secondary market prices for NZUs spiked upwards from \$73 to \$83 immediately following the public release of the Commission's 2022 advice to significantly adjust price control settings. When the Government announced in December 2022 that status quo price control settings would largely be retained, the secondary market price of NZUs immediately slumped from \$86 to around \$70. NZUs have this year largely traded in a range between \$55 and \$65. These responses further highlight the unintended role that price control settings have played in secondary market prices for NZUs.

The risk of significant increases in NZU prices in response to any significant increase in CCR trigger prices is a reason that only minor modifications to the CCR trigger prices were made in 2022.

Question

- 13 To what extent do you believe that increasing the CCR trigger price would influence NZU prices? Do you think that this influence would remain if CCR trigger prices were increased more significantly?

NZU demand elasticity and implications for the cost containment reserve

Part of the reason for this correlation between price control settings and market prices is likely to be that changes in price do not influence compliance demand for NZUs in the short term.¹⁹ and marginal abatement costs are difficult to identify.

NZ ETS participants need to acquire and surrender NZUs to meet NZ ETS obligations. If they fail to surrender NZUs by the deadline, they receive a financial penalty of three times the price of carbon prescribed in regulations and used for assessing penalties and calculating SGG levy rates.

This penalty cannot be reduced,²⁰ and is additional to the ongoing requirement to meet the original obligation to surrender NZUs. As reference, the prescribed price of carbon in regulations that is used for calculating penalties for the 2023 calendar year is \$67.63.

Sale of cost containment reserve volume to date

As described above, the CCR trigger price is intended to signal the upper limit of expected and acceptable prices in the NZ ETS. When the 2020 reforms introduced it into the NZ ETS, it was stated that the price controls should rarely be triggered.

¹⁹ This is technically called demand inelasticity, meaning demand is largely independent of price.

²⁰ A Bill is currently being progressed through the House to provide different penalties for small forestry obligations – the Climate Change Response (Late Payment Penalties and Industrial Allocation) Amendment Bill.

The entire CCR volume has sold in both 2021, during one auction, and 2022, across two auctions. This has released an additional 14 million NZUs into the stockpile, effectively nullifying the 'stockpile reduction' component of setting annual auction volumes in those years. CCR volume available at auctions in 2023 has not been sold in 2023 auctions to date, which is aligned with the intent that sale of CCR volume is rare.

The reasons for this are uncertain. Demand at prices above the trigger price has exceeded the initial auction volume either because of the near-term requirements of participants with surrender obligations or in anticipation of rising future prices.

Factors to consider in making price control settings for units

The NZU price has a flow-on effect on prices across the New Zealand economy, ranging from petrol and electricity to the food we eat. The main driver of the NZU price should not be what the price controls are set at, but the pressure on NZU supply and demand within the NZ ETS market.

The annual review of the price control settings is intended to give participants a degree of predictability and stability, noting that the price control settings should not be seen as representing desirable or expected secondary market NZU price levels. It also allows the NZU market to respond to significant shifts in the New Zealand economy.

Updates to price control settings must meet specific requirements under the Act. These requirements consist of the main requirements for setting the unit limits under section 30GC, as well as three additional matters (also described in section 30GC). All of these matters are listed below.

Price control settings must be in accordance with the emissions budget, NDC and 2050 target. However, they need not strictly accord with emissions budgets or NDC if a discrepancy is justified after the Minister has considered relevant matters. The following are the relevant matters the Minister must consider when making recommendations on price control settings:²¹

- the projected trends for New Zealand's greenhouse gas emissions in the five years after the current year
- the proper functioning of the Emissions Trading Scheme
- international climate change obligations and instruments or contracts that New Zealand has with other jurisdictions to access emissions reductions in their carbon markets
- the forecast availability and cost of ways to reduce greenhouse gas emissions that may be needed for New Zealand to meet its targets for the reduction of emissions
- the recommendations made by the Climate Change Commission under [section 5ZOA](#)
- any other matters that the Minister considers relevant
- the impact of emissions prices on households and the economy
- the level and trajectory of emissions prices
- inflation.

²¹ These are listed in section 30GC of the Climate Change Response Act 2002.

Considering gross or net emissions reductions in setting price controls

In *Ināia tonu nei: a low emissions future for Aotearoa*,²² the Commission states that its modelled demonstration path represents one scenario that would be expected to meet the 2050 target.

In arriving at its recommendations for price control settings, the Commission considers gross emissions reductions independently. To do this, the Commission established a target level of gross NZ ETS emissions. This is based on its demonstration path and aligns with the sector sub-targets described in table 1.2 of the emissions reduction plan (ERP). The ERP set these sector sub-targets as a tool for monitoring sectoral progress.

The Commission then tested for the emissions price path required to meet this overall target level under different scenarios created to reflect the baseline and policy uncertainty. This allowed for under- or over-achievement of the sector sub-targets so long as total NZ ETS emissions meet the target level.

The Commission describes this in its advice as “testing uncertainty around the emissions prices needed to deliver the intended gross emissions reductions for NZ ETS sectors”.²³

NZ ETS unit settings are required to accord with emissions budgets, the NDC, and the 2050 target. These are all defined in terms of net emissions, with no reference to the relative contributions that gross emissions reductions and carbon sequestration/removals make.

The ERP includes an action to review the NZ ETS to drive a balance of gross and net emissions reductions.

The Government recently announced a review of the NZ ETS. A focus for the review will be what balance of gross emissions reductions and emissions removals should be incentivised by the NZ ETS in future. It will also canvas high-level proposals to amend the NZ ETS to support emissions reductions and removals. Public consultation is currently expected to take place in mid-2023.

The Commission’s use of gross emissions reduction ‘targets’ as the fundamental input to its recommendations on price control settings reflects the sector sub-targets described in the ERP. It does not reflect possible reductions in required gross emissions reductions if emissions removals from forestry are higher than are modelled in the demonstration path and reflected in the forestry sector sub-targets.

Question

- 14 What do you think of the approach of setting price controls with reference to prices required to deliver gross emissions reductions?

²² Te Pou a Rangi – Climate Change Commission. 2021. *Ināia tonu nei: a low emissions future for Aotearoa*. Wellington: Te Pou a Rangi – Climate Change Commission.

²³ NZ ETS settings for 2023-2027 (climatecommission.govt.nz). p 49.

Overview of price control settings

In addition to the three prescribed price control settings listed above, a fourth concerns the structure of the cost containment reserve. We discuss these settings below in the following order:

1. price floor
2. CCR structure
3. CCR trigger price
4. CCR volume.

Price floor

To avoid unacceptably low auction prices, regulations must set the minimum price below which NZUs must not be sold at auction (auction reserve price) for the next five calendar years.

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

The auction reserve price is not a hard price floor as secondary market prices can fall below it. Instead, it prevents the Government from adding further NZUs into the market when prices are low.

Each NZ ETS auction also includes a confidential reserve price that is calculated for that specific auction. This confidential reserve price is set in reference to representative prices for NZUs sold on secondary markets recently before that auction. It uses a methodology that prevents sales by auctions at prices significantly below the prices of NZUs sold at the time in other ways, on secondary markets. This means the price floor only influences auction outcomes when secondary market prices, and thus the confidential reserve price, are already close to or below it.

No NZUs were sold at the March 2023 auction as the clearing price was below the confidential reserve price calculated for that auction. This is unrelated to the price floor set in regulations.

Updating price floor settings

The existing values are calculated on the basis of a start point of \$30 in 2022 and an annual increase of 5 per cent plus inflation. The inflation rate used is the Treasury's projected inflation rates in its *Budget Economic and Fiscal Update 2022*.²⁴

What the Commission recommends

The Commission recommends updating the price floor as recommended in its 2022 advice, with minor adjustments to reflect more recent inflation projections.

²⁴ Treasury. 2022. *Budget Economic and Fiscal Update 2022*. Wellington: Treasury. Retrieved from <https://www.treasury.govt.nz/sites/default/files/2022-05/befu22.pdf> (6 August 2022), p 158.

Notably, the Commission has recommended not updating the auction reserve price unless the cost containment reserve price is also updated.

The Commission based its recommendation on assessment of three options (status quo, a trajectory resulting in an inflation-adjusted \$70 in 2030, and a trajectory resulting in an inflation-adjusted \$100 in 2030) against the following five criteria:

- alignment with minimum NZU prices modelled to meet emissions budgets
- risks to mitigation investments
- consistency with international emissions prices
- comparison with potential cost of offshore mitigation to meet the NDC
- proper functioning of the NZ ETS.

The Commission uses modelling to identify the emissions prices required to meet gross sectoral sub-targets. The Commission states: “Our recommended settings are **predicated on delivering reductions in gross emissions** in line with the Commission’s *Ināia Tonu Nei* advice and the emissions reduction plan’s sector sub-targets” (emphasis added).²⁵

This consideration of gross emissions reductions applies to the Commission’s recommendations on both auction reserve price and cost containment reserve trigger price. For more detail, see [Considering gross or net emissions reductions in setting price controls](#).

Notably, extending the Commission’s methodology of including inflation in calculating auction reserve settings would result in a price floor of \$87 in 2030.²⁶

Options

Table 13 presents four options for the auction reserve price. All options presented in table 13 show updated figures from 2024 onwards. Figures for 2024 and 2025 would only be updated if there are circumstances that enable changes to be made to the first two years. The options are:

1. Option one – Status quo (increasing at 5 per cent and adjusted for more recent inflation projections).
2. Option two – ‘Delayed ramp’ two years of status quo settings (increasing at 5 per cent and adjusted for inflation), then increasing in a linear way towards the Commission’s recommended 2030 auction reserve.
3. Option three – Immediate step to \$45, then increasing at the same rate as status quo settings (increasing at 5 per cent and adjusted for inflation).
4. Option four – Commission’s recommendations if all years are updated. Note, the Commission has recommended that status quo settings are retained for 2024 and 2025.

We considered presenting an option for auction reserve prices at higher prices than recommended by the Commission. This was discounted as it is the intent of price control settings that they do not directly influence price; however, auction reserve prices above the

²⁵ [NZ ETS settings for 2023-2027 \(climatecommission.govt.nz\)](#). p 26.

²⁶ From table 12 of [2023-advice-on-NZ-ETS-unit-limit-and-price-control-settings.pdf \(climatecommission.govt.nz\)](#).

Commission’s recommended settings would be above currently observed NZU prices and would have a direct influence on market price.

We are interested in hearing your views on this range of options and any alternatives you propose.

Table 13: Auction reserve price under each option

Option	2024	2025	2026	2027	2028
Option one – Status quo	\$35.93	\$38.67	\$41.41	\$44.35	\$47.50
Option two – ‘Delayed ramp’	\$35.93	\$38.67	\$48.33	\$58.00	\$67.67
Option three – Immediate step to \$45	\$45	\$48.43	\$51.87	\$55.55	\$59.50
Option four – Commission’s recommendations if all years are updated	\$65	\$68	\$72	\$75	\$79

Table 14 assesses the options outlined above. We are interested in your views on our assessment, which will help us prepare recommendations for policy decisions.

Table 14: Assessing options for auction reserve price against the status quo

Criterion	Option one – Status quo	Option two – ‘Delayed ramp’	Option three – Intermediate \$45	Option four – Commission’s advice
Accords with New Zealand’s emissions budgets, NDC and 2050 target	0	+	++	++
		Allows some management of the risk of misalignment between emission unit prices and those needed to incentivise abatement, but risk of delay.	Closer relationship between emission unit prices and abatement incentives.	Closer relationship between emission unit prices and abatement incentives.
Supports the proper functioning of the NZ ETS	0	+	++	+
		No change to the NZ ETS operation or complexity. Steep ramp rewards speculation and this interferes with the compliance needs of participants.	No change to the NZ ETS operation or complexity. Better supports investment in emissions reductions – both afforestation and gross reductions.	No change to the NZ ETS operation or complexity. Better supports investment in emissions reductions – both afforestation and gross reductions. Likely to influence secondary market prices as above recently observed prices.
Improves regulatory certainty and predictability	0	-	-	--
		Some risk of regulatory change in future due to non-linear approach. Signalled change several years in advance.	Some risk of regulatory change in future as reserve price close to recently observed market prices. Abrupt and significant increase in	Higher risk of regulatory change in future as reserve price close to recently observed market prices. Abrupt and precipitous increase

Criterion	Option one – Status quo	Option two – ‘Delayed ramp’	Option three – Intermediate \$45	Option four – Commission’s advice
			auction reserve price level would undermine regulatory certainty.	in the auction reserve price level would undermine regulatory certainty.
Supports consistency of NZU prices with the level and trajectory of international emissions prices	0	+ Remains well below current and expected international prices, but corrected over time.	++ Closer to current and expected international prices.	++ Closer to current and expected international prices.
Considers the impact of emissions prices on households and the economy, and inflation	0	0 Risk to abatement investments from falling prices. No additional likely inflationary impact.	- High signal for land-use change to forestry. No additional likely inflationary impact.	- High signal for land-use change to forestry. No additional likely inflationary impact.
Overall assessment	0	+	++	+

Question

15 What do you think of the proposed auction price floor settings? What impacts do you think will result from different settings?

Cost containment reserve

The CCR is an additional reserve of NZUs that is released for sale at auction if the auction clearing price reaches or exceeds a specific ‘trigger price’. By increasing unit supply, it means demand can be met at a lower price than otherwise would result. The intent is that this increased supply will moderate secondary market prices that have spiked or otherwise reached levels that are regarded as unacceptably high. However, release of the CCR does not mean auction or secondary prices stay below the trigger price.

The primary purpose of the CCR is to contain high NZU prices that could cause unacceptable economic and distributional impacts for New Zealand. It is, however, important that the CCR trigger price is set at a level that:

- allows effective price discovery of the prices needed to achieve required emissions reductions
- allows prices to rise to levels required to meet emissions targets
- does not simply function as a magnet for secondary market prices and speculation
- aligns with the intent that the CCR is rarely, if ever, triggered.

The CCR trigger price signals the upper extreme of acceptable prices in the NZ ETS and, if it is triggered at all, such occasions should be rare.

The CCR has been triggered three times since auctions began in 2021, with the entire CCR volume being sold in both 2021 and 2022. The CCR has not been triggered in the first 2023 auction; rather the market did not clear at a price above the confidential reserve price.

Cost containment reserve structure

The CCR currently has a single trigger price. When this is met the entire reserve volume of NZUs becomes available for sale during the current auction.

The Act allows for the CCR design to include one or more trigger prices unless the reserve amount is zero. For example, there could be two or three trigger prices, each with a tranche of NZUs to release at that price.

Multiple price triggers were considered when introducing price control settings. A single trigger price and reserve volume was seen as the most appropriate choice because this approach is simple and provides a clearer market signal, although multiple price triggers were not ruled out as an option to consider later. At that time, the majority of submitters who commented on the use of single or multiple trigger prices supported a single price trigger.

The option of moving to a two trigger cost containment reserve was consulted on in 2022 and was recommended by the Commission. The Government decided to retain the single tier cost containment reserve structure. Just over half of the submitters who commented on the options for single or multi-tier trigger prices at this time supported retaining the single price trigger.

Some submitters suggested removing the CCR, which is possible by having an available volume of zero units. This option is considered as part of the CCR structure, although it could equally be considered as part of the CCR volume section.

Options

Table 15 presents the following options:

1. Option one – Status quo of a single tier cost containment reserve.
2. Option two – No cost containment reserve.
3. Option three – A cost containment reserve with a two-tier structure.

Three volumes not considered

A third option of a three tier CCR was considered then discarded. It would require consideration and decisions on multiple trigger prices.

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

Table 15 presents assessment of the options above. More detail is provided in the section below this table. We are interested in your views on our assessment, which we will reconsider when we are preparing recommendations for policy decisions.

Table 15: Assessing options for cost containment reserve structure against the status quo

	Option one – Status quo, single reserve volume	Option two – No CCR volume	Option three – Two CCR volumes
Accords with New Zealand’s emissions budgets, NDC and 2050 target	0	+	+
		Removes risk of slowing stockpile reduction, in turn supporting achievement of emissions targets.	Tiered volumes reduce the risk of slowing stockpile drawdown, in turn supporting achievement of emissions targets.
Supports the proper functioning of the NZ ETS	0	-	-
		Increases the risk that participants will not be able to access units to meet surrender requirements if the NZU market becomes unexpectedly illiquid.	Having tiered volumes makes auctions marginally more complex.
Improves regulatory certainty and predictability	0	--	-
		Removing the CCR would be a significant change, damaging regulatory confidence.	Changes to the CCR structure reduce regulatory certainty.
Supports consistency of NZU prices with the level and trajectory of international emissions prices	0	0	0
Consider the impact of emissions prices on households and the economy, and inflation	0	--	-
		Removing the CCR would remove the NZ ETS tool designed to mitigate unacceptable impacts due to too high prices.	A two tiered CCR is less effective at dampening prices.
Overall assessment	0	--	0
		Rating applied to more clearly distinguish this option from the two volume option.	

In its 2022 advice, the Commission considered disabling the CCR by setting the reserve volume at zero. The Commission’s view was that this should not occur. More detail is available in the Commission’s 2022 advice on page 54.²⁷

A single tier increases the likelihood that the full cost containment reserve volume will be sold when compared with a two-tier system with a small initial volume and a larger volume only released at a higher price.

²⁷ [NZ ETS settings for 2023-2027 \(climatecommission.govt.nz\)](https://climatecommission.govt.nz).

The way in which the CCR volume is calculated means that volume is entirely within the emissions budgets, meaning that although the sale of these NZUs will reduce the extent of stockpile reduction it will not introduce additional NZUs above emissions budgets.

The CCR has been triggered repeatedly, whereas the intent was for this to be rare. This is a problem that has been addressed by adjusting the trigger prices and these could be further adjusted to reduce the probability.

The purpose of the CCR is to mitigate against unacceptably high prices. Multiple trigger prices with a low initial volume are likely to be less effective in significantly dampening prices. Multiple prices would be better suited to a cost containment reserve intended to smooth prices by releasing a steady supply if NZU prices continued to rise.

Evidence from the auctions at which CCR volume has been sold to date indicates that volume is the key driver of effectiveness in dampening the auction clearing price.

The status quo of a single tier CCR equal to the stockpile reduction volume performs better against the criteria listed above.

The Commission recommended a two-tiered CCR to provide for a more controlled release of reserve NZUs compared to the status quo. While option two would have such an effect, it would also diminish the price dampening effect of the CCR.

The Commission also noted that two tiers could weaken the magnet effect of the trigger price on price expectations (that market NZU prices are pulled towards the CCR trigger prices as they change). There is limited evidence to support this. It is conceivable that market participants would simply target the higher second trigger, driving price expectations even higher.

Questions

- 16 Do you think the cost containment reserve should be disabled by having no reserve volume?
- 17 If retained, do you think the cost containment reserve should consist of one or two tiers?

Cost containment reserve total volume

The CCR is the volume of NZUs that is available for release when an auction reaches the trigger price. The volume in the reserve affects the CCR's ability to effectively manage emissions prices.

How effectively the cost containment reserve can dampen emission unit prices depends on the volume of NZUs allowed for release, and the impact this additional supply has.

The status quo has the cost containment reserve volume set as equal to the stockpile reduction volume amount used in calculating auction volumes.

The Commission has recommended an additional component (step 5b) of the stockpile reduction step, which is discussed as part of this consultation. Two options are discussed here for consideration. Note, the option of having a CCR volume of zero NZUs is addressed earlier as an option for the CCR structure.

1. Option 1 – Status quo, CCR volume reflecting the total amount of NZUs withheld from auction as part of the stockpile reduction step of calculating auction volumes.

- Option 2 – CCR volume reflecting the surplus reduction volume component of the stockpile reduction step only, without also including the Commission’s proposed technical adjustment in step 5b.

These options will be identical if a decision is made not to include a technical adjustment as part of the calculation of withholding NZUs from auction volumes.

Otherwise, they will differ by the degree to which a technical adjustment is made.

Question

- 18 If a technical adjustment is included as part of the stockpile reduction component of auction volumes, should this technical adjustment amount be included in the total cost containment reserve volume?

Cost containment reserve, tier volumes

If a decision is made to modify the cost containment reserve to be comprised of two volumes, decisions need to be made on how the volume should be split.

The Commission’s recommendation is for the first tier to contain a portion based on an estimate of the average demand gap between the NZ ETS cap and forecast emissions under current policies for sectors covered by the NZ ETS.

The Commission’s recommendation is for the second tier to contain the remainder of the total cost containment reserve volume.

Under this approach, the lower tier comprises around a third of the total CCR volume.

Question

- 19 If a multi-tier cost containment reserve is progressed, how should the volume of units in these tiers be decided on?

Cost containment reserve trigger price

The CCR is an additional reserve of NZUs that is released for sale at auction if the auction clearing price reaches or exceeds a specific ‘trigger price’. By increasing unit supply, it releases pressure on demand and reduces the clearing price. The CCR trigger price signals the upper extreme of acceptable prices in the NZ ETS and, if it is triggered at all, such occasions should be rare.

The CCR has been triggered three times since auctions began in 2021, with the entire CCR volume being sold in both 2021 and 2022.

What the Commission recommends

The Commission recommends updating the CCR trigger price considering:

- updated inflation forecasts
- prices needed to meet sectoral gross emissions sub-targets published in the ERP.

The Commission recommends retaining status quo settings for 2024 and 2025 unless price controls are triggered, eg, through sale of NZUs from the CCR, at the June 2023 NZ ETS auction.

Notably, extending the Commission’s methodology for calculating CCR reserve trigger settings would result in a tier 1 trigger of \$249 in 2030, and a tier 2 trigger of \$312 in 2030.

Options

For ease of presentation, options have been presented as single tier prices. This does not discount the possibility that two tiers could be implemented, and the Commission’s recommended two-tier structure and prices are included among these options. The Commission has advised that if a decision is made to apply a single tier only the price triggers and reserve volume from its recommended lower tier should be adopted.

Prices higher than the Commission’s suggested trigger prices are not presented. This is because there has been no suggestion by the Commission that suggests that prices higher than these would be required to meet emissions budgets.

Four trigger price options are presented in table 16. This is a range of options, and we are interested in hearing your views on these, and any alternatives. All options presented in table 16 show updated figures from 2024 onwards. Figures for 2024 and 2025 would only be updated if there are circumstances that enable change to be made to the first two years. The options are:

1. Option one – Status quo (increasing at 10 per cent and adjusted for more recent inflation projections).
2. Option two – ‘Delayed ramp’ two years of status quo settings (increasing at 10 per cent and adjusted for inflation), then increasing in a linear way towards the Commission’s recommended 2030 CCR trigger prices.
3. Option three – An immediate increase to \$120 in 2024, then increasing at 3 per cent and adjusted for inflation.
4. Option four – Commission’s recommended low tier trigger (note, the Commission recommends retaining status quo settings for 2024 and 2025 unless settings for these years are able to be updated).
5. Option five – Commission’s recommended high tier trigger (note, the Commission recommends retaining status quo settings for 2024 and 2025 unless settings for these years are able to be updated).

Table 16: Cost containment reserve trigger price options

Option	2024	2025	2026	2027	2028
Option one – Status quo extended	\$91.81	\$103.51	\$116.14	\$130.31	\$146.21
Option two – ‘Delayed ramp’	\$91.81	\$103.51	\$132.61	\$161.71	\$190.81
Option three – \$120 then increasing	\$120	\$126.69	\$133.10	\$139.84	\$146.91
Option four – Commission’s low trigger	\$184	\$195	\$205	\$215	\$226
Option five – Commission’s high trigger	\$231	\$243	\$256	\$269	\$282

Table 17 assesses the options above. We are interested in your views on our assessment, which we will reconsider when we are preparing recommendations for policy decisions.

Impacts at various emissions prices are described in the [Impacts of emissions pricing](#) section.

Table 17: Assessing options for cost containment reserve trigger price against the status quo

	Option one – Status quo	Option two – ‘Delayed ramp’	Option three – \$120 +	Option four – Low CCC trigger	Option five – High CCC trigger
Accords with New Zealand’s emissions budgets, NDC and 2050 target	0	0 Enables higher prices, however delayed if required to generate sufficient emissions reductions.	+ Enables higher prices if required to generate sufficient emissions reductions. Lower likelihood of sale of CCR volume.	++ Enables higher prices if required to generate sufficient emissions reductions. Much lower likelihood of sale of CCR volume.	++ Enables higher prices if required to generate sufficient emissions reductions. Much lower likelihood of sale of CCR volume.
Supports the proper functioning of the NZ ETS	0	0 Generally similar.	0 Generally similar.	0 Generally similar.	0 Generally similar.
Improves regulatory certainty and predictability	0	0 Generally similar.	- Significant change after equivalent changes were not agreed to last year. Reduced risk of being triggered (resulting in opportunity to make updates to settings) as setting for 2024 is far higher than recently observed prices.	- Significant change after equivalent changes were not agreed to last year. Reduced risk of being triggered (resulting in opportunity to make updates to settings) as setting for 2024 is far higher than recently observed prices.	- Significant change after equivalent changes were not agreed to last year. Reduced risk of being triggered (resulting in opportunity to make updates to settings) as setting for 2024 is far higher than recently observed prices.
Supports consistency of NZU prices with the level and trajectory of international emissions prices	0	+ Closer to current and expected international prices.	+ Closer to current and expected international prices.	+ Closer to current and expected international prices.	+ Above current and expected international prices.
Considers the impact of emissions prices on households and the economy, and inflation		0 In 2024 and 2025, impacts are the same as the status quo. From 2026, higher impacts on households and the economy including inflationary impacts, could occur before price controls take effect.	- Higher impacts on households and the economy, including inflationary impacts, could occur before price controls take effect.	-- Significantly greater impacts on households and the economy, including inflationary impacts, could occur before price controls take effect.	-- Significantly greater impacts on households and the economy, including inflationary impacts, could occur before price controls take effect.
Overall assessment	0	0	+	+	+

Question

20 What do you think of the proposed cost containment reserve trigger price settings? What impacts do you think will result from different settings?

Impacts of emissions pricing

Impacts on Māori

Māori have made clear that they have a significant interest in New Zealand's climate response. This is, in part, because climate change, and the actions we take to mitigate climate change, have a material impact on the relationship of Māori to their whenua, ngāhere, moana and physical taonga.

Māori have an interest in the NZ ETS as rangatira, kaitiaki, land and forest owners, rural communities, workers, business owners, and whānau, who are subject to rising costs of living. Previous consultations confirmed the views that an equitable transition needs to consider these interests, reduce existing barriers for Māori participation, and avoid creating new ones.

Impacts on Māori are complex to assess. The multiple interests in the NZ ETS mean that options could have positive, negative and neutral impacts simultaneously. Two key examples are provided below.

Any increase in NZU price, or an increase in auction reserve price, which could imply an NZU price guarantee, could initially benefit Māori forest owners or owners of land suitable for afforestation, due to the possibility of increases in returns from carbon. This would provide particular benefit to those entered in the post-1989 permanent forest category, as well as to participants who are registered under averaging accounting (as they no longer face surrender obligations when they harvest).

The intent of the upper price control setting is to mitigate against NZU prices high enough to result in unacceptable impacts. Any increase to the cost of emissions will have implications across the economy, with flow-on effects for households and communities.²⁸ Whānau Māori are disproportionately represented in lower-income groups with the most limited ability to absorb cost increases. This is considered as part of our assessment using the criteria 'manage the risk of unacceptable economic and inflationary impacts' throughout this paper.

We acknowledge our analysis may contain gaps, including on whether there are impacts specific to Māori. These gaps will be addressed through the Treaty of Waitangi analysis that will be completed for the regulatory impact statement, which will inform final decisions on the consultation proposals.

²⁸ For example, the fuel supplier sector may pass costs onto their consumers, which could increase the cost of transporting goods – in turn increasing food prices and the cost of other household items.

Specific impacts at different NZU price points

As discussed above, the CCR trigger is set at the level where NZU prices become unacceptably high.

This section describes impacts at various prices and invites feedback on the impacts at various price points.

As the ERP notes, New Zealand needs a mix of emissions pricing, well-targeted regulations, tailored sectoral policies, direct investment (public and private), innovation and mechanisms to meet our climate targets and support an equitable transition to a low-emissions economy. The ERP sets out these policies, actions and strategies a to meet the first emissions budget and the path for much deeper reductions out to 2030 and beyond.

Many of the complementary measures and actions in the ERP are designed to support firms, households, workers and communities to meet the challenges and seize the opportunities that the transition brings. They act to address various market failures and information asymmetries, which in turn makes the price signals from the NZ ETS more effective at incentivising emissions reductions. Such actions sit alongside broader measures to support workers and households to manage the impacts and seize the opportunities of New Zealand’s transition to a low-emissions economy.

Emissions pricing has a direct impact on energy prices

Because electricity generation continues to rely on sources that face an emissions cost (eg, coal and gas), electricity prices are sensitive to emissions pricing.

Drawing on work undertaken by the Treasury, the Commission has identified impacts of various NZU prices on the price of electricity, as table 21 shows.

Table 21: Impact of emissions price on the price of electricity (c/kWh)

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

Note: c/kWh = cost per kilowatt hour.

The Commission has used the same work from the Treasury to predict the impacts of emissions prices on the prices of fossil gas, diesel, petrol and coal (table 22).

Table 22: Impact of emissions price on the prices of fossil fuels

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

Note: c/kWh = cost per kilowatt hour; c/l = cost per litre; c/GJ = cost per gigajoule.

Energy prices in tables 21 and 22 already include a component that is attributable to the NZU price. Comparison with the impacts at current NZU prices is necessary to calculate the impact of any future changes to NZU prices.

Impact on household costs

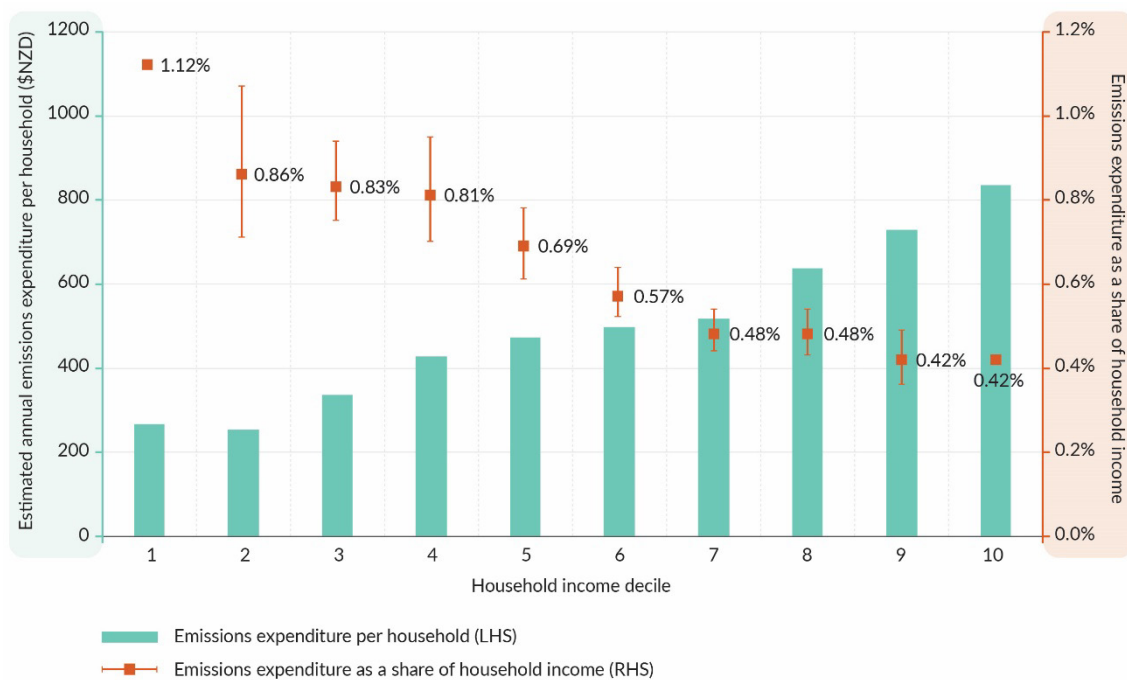
New Zealand households are exposed to the NZ ETS, largely through emission price impacts on fuel and energy costs. The impact of emissions prices on other goods and services is usually more indirect, often reflecting fuel and energy as an input into production of that good or service, or as part of freight costs.

In 2019, the Treasury led a preliminary analysis showing that the direct impact of higher emissions prices on households was likely to be moderate, on average. For example, the analysis predicted that doubling emissions prices (to \$50) from the 2019 level (\$25) would increase costs for middle-income households by \$3.40 (0.3 per cent) per week.

Additionally, recent analysis has concluded that for every \$10 increase in NZU prices there would be only an approximately 0.1 per cent impact on inflation as measured by the Consumer Price Index.

While absolute expenditure on emissions prices tends to rise with income, expenditure on emissions prices makes up a larger share of income of lower income households (figure 2). We estimate that at an emissions price of \$75/tonne, expenditure on emissions makes up, on average, about 0.5 per cent of household gross income (just under \$500 per annum per household).

Figure 2: Estimated household expenditure on emissions prices at current levels (NZU price of \$75/tonne)



Source: Stats NZ, MfE, MfE calculations

Vertical bars on the chart denote the change in expenditure as a percentage of the lower and upper brackets of each income decile, while the square denotes the change as a percentage of the mid-point of each income decile.

In its analysis of impacts on households, the Commission reaches the overall conclusion that the potential impacts are moderate but not insignificant. It finds that:

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

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

The Commission urges the Government to put in place complementary policies to deliver on a just transition. Doing so would reduce the need to address unacceptable impacts through the price controls in the NZ ETS.

Impacts on emissions-intensive and trade-exposed firms

Some businesses are eligible to be freely allocated NZUs under the NZ ETS. This ‘industrial allocation’ reduces the risk of emissions leakage – that is, the risk that New Zealand companies will lose market share through emissions pricing or will shift overseas to avoid it.

Although industrial allocation supports emissions-intensive and trade-exposed (EITE) firms by meeting a portion of their emissions costs, these firms still face a net, or residual, NZ ETS cost. As NZU prices rise, the net NZ ETS costs EITE firms face also rise.

Previous analysis on industrial allocation and profitability found that for the production of burnt lime, cartonboard and cement, emissions leakage is expected to occur at various

net NZ ETS costs.²⁹ Table 23 shows the results of this analysis, as well as the NZU price in 2030 at which emissions leakage would occur, based on existing phase-out rates for industrial allocation.

In 2023, these industries will receive allocation to meet 87 per cent of their emissions costs. At prices of \$70, this translated to net ETS costs net of allocation of \$9 a tonne, and this will rise as industrial allocation is phased out.

In the event that prices increased to reach the Commission’s recommended CCR trigger prices, this price rise, in combination with the phase-out of industrial allocation, might have the impact of closing down firms in some industries, unless they rapidly decarbonise. While analysis of other industries is less thorough, submissions and initial modelling as part of the recent work on reforming industrial allocation policy highlight that, for firms carrying out any of the 26 activities eligible for industrial allocation, their risk of closure would increase if NZU prices rise towards these levels.

Table 23 shows the NZU price at which closure is expected to occur for production of cartonboard, cement and burnt lime, and the corresponding ‘residual ETS cost’ remaining at these NZU prices after industrial allocation is taken into account. It is likely that firms carrying out some other activities eligible for industrial allocation are similarly affected.

Table 23: Residual NZ ETS cost after industrial allocation, and corresponding NZU price in 2030 at which activities eligible for industrial allocation close

Criterion	Activity A		Activity B		Activity C	
	Residual ETS cost	NZU price	Residual ETS cost	NZU price	Residual ETS cost	NZU price
EBIT falls to zero: activity expected to wind down	\$30–\$80	\$150–\$400	\$35	\$175	\$20	\$100
EBITDA falls to zero: activity expected to stop	\$130	\$650	\$50	\$250	\$30	\$150

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

Impacts on land-use decisions

Potentially the emissions price could have a material impact on land-use change, such as conversion of farm land to forestry. Planting commercial forestry could achieve a significant level of sequestration. The most likely changes in the short to medium term are the conversion of sheep and beef farming land to forestry. The scale of such conversions and associated unit supply into the NZ ETS over time is potentially large in comparison with New Zealand’s gross emissions.

NZ ETS prices are also likely to have impacts on harvest decisions for at least some NZ ETS registered land.

The level of supply from forestry removals at relatively low prices is likely to have a significant and downward influence on NZU prices.

The Commission has repeatedly urged the Government to develop a credible response to the imbalance between gross emissions reductions and emissions removals through forestry. The

²⁹ [Potential for emissions leakage from selected industries in the ETS | Ministry for the Environment.](#)

redesign of the permanent forest category in the NZ ETS and the review of the NZ ETS are considering these issues.

Impacts on emissions reductions

At this stage, the impacts of prices on emissions reductions have not been estimated. However, the Commission's modelling and existing government analysis does give an indication of when reductions may become economical and realised in response to higher NZU prices.

The Commission's modelling is based on emissions reductions to achieve gross emissions reductions equal to the sum of the sectoral sub-targets presented in the ERP over the emissions budgets periods to 2035. The Commission's advice does not highlight specific additional sources of emissions reductions.

We have also developed marginal abatement cost curve analysis, which shows the abatement potential of greenhouse gas mitigation measures, and the relative costs associated with each of these measures.

There is some uncertainty associated with all modelling of future emissions reductions in response to price and the prices required to meet emissions budgets and targets. When using this modelling, it is important to understand its limitations. However, this uncertainty shouldn't prevent the use of modelled data in making decisions. It does mean, though, that decisions should not be based solely, or even mostly, on modelled data.

Emissions reductions (via carbon sequestration) from afforestation

If NZU prices are expected to be relatively high and increasing, this provides strong incentives for exotic afforestation and for changing rotational forests to permanent forests. Any increase in afforestation not met by correspondingly less emission reductions, will result in lower net emissions due to carbon sequestration as forests grow, although these reductions won't be realised for several years. This will also result in higher numbers of NZUs being transferred for forestry and is likely to result in a corresponding higher number of stockpiled units. The growth of the stockpile to high volumes or the expectation of this, may dampen NZU prices.

The Commission has cited recent data that indicate significantly more exotic afforestation than previously forecast. Updated afforestation projections for 2022 alone indicate 11 megatonnes³⁰ of additional carbon dioxide removals will occur between now and 2035.

In the short run, there is a ceiling for afforestation in New Zealand (given labour constraints, limited seedling supplies, and other factors) and, at a point, higher carbon prices will not drive more planting. Ministry for Primary Industries analysis³¹ indicates that afforestation rates increase at NZU prices up to around \$100, and that at prices beyond that is reasonably insensitive due to other constraints.

³⁰ Calculation is based on the post-1989 planted forest yield table in the New Zealand Greenhouse Gas Inventory (1990–2020) and excludes any emissions associated with soils and emissions from the previous land use (such as scrub clearance to plant forests). <https://environment.govt.nz/assets/publications/GhG-Inventory/New-Zealand-Greenhouse-Gas-Inventory-1990-2020-Annexes.pdf>.

³¹ Section 3.3 [Afforestation Economic Modelling](#).

Emissions reductions from other sources

The Commission has modelled prices required to achieve emissions reductions from the NZ ETS covered sectors, excluding forestry, over the period 2022–35.

The Commission’s modelling uses its proprietary ENZ model. The model does not consider emissions pricing to have an impact on:

- a. energy and transport demand
- b. energy efficiency measures
- c. mitigation (ie, emissions) in the waste sector
- d. mitigation (ie, emissions) from industrial processes and product use
- e. update of liquid biofuels
- f. assumptions affecting how fast electric vehicle uptake and household fuel switching can occur.³²

The Commission has modelled increased emissions reductions for transport energy and non-transport energy at higher NZU prices. When the price is increased from \$80 to \$170, this is modelled to result in around 1 million tonnes fewer emissions per annum from non-transport energy over the 2022–35 period, and around 0.1 million tonnes fewer emissions per annum from transport energy.

Recent analysis in support of the reduction of the fuel excise tax and road user charges suggested a material increase in transport emissions from a 25c reduction in petrol prices due to a change to vehicle kilometres travelled.³³ This is approximately the amount that petrol prices would rise by if the NZU price moved from current prices to \$171.

Impacts as a driver of price control settings

The main purpose of price control settings is to help manage unacceptably low or high prices in the NZ ETS. How much impact these prices have, including on New Zealand’s ability to meet emissions budgets and targets, establishes whether they are acceptable.

The Commission has considered the impact of prices on households and the economy, as well as the nature of the NZ ETS as a market mechanism. Based on this analysis, its view is that these impacts should not be a determinant for the NZ ETS price control settings.

The Commission states that:

In the absence of complementary policies, higher emissions prices will result in disproportionate impacts on lower income households and those least able to adjust. The NZ ETS price control settings are not the appropriate tool for addressing domestic distributional impacts or other equity considerations in the transition. These distributional impacts can be best managed if the Government puts in place targeted policies alongside the NZ ETS to support those most disadvantaged and those least able to adjust.³⁴

³² Detail taken from p14, Technical annex 2.

³³ Described here: '[Significant' emissions from fuel tax cut \(msn.com\)](#).

³⁴ [NZ ETS settings for 2023-2027](#). p 82.

Impacts are a key consideration when deciding on price control settings

As the Act requires, the impacts of price control settings on households and the economy are considerations for decisions on these settings.

We are interested in your views on these impacts, which will help inform our analysis.

Questions

- 21 Are there further impacts at these prices that should be considered?
- 22 What role should price controls play in containing the level of impacts, and what price control settings would be required for this?
- 23 If prices reached those presented in the cost containment reserve trigger price options above, do you feel that you have options to change behaviours or make new investments to address the impacts?
- 24 Could you change behaviours or make new investments to mitigate the impact of higher prices on yourself?

Consultation questions and providing feedback

Consultation questions

1. Do you think the decisions on NZ ETS unit settings announced in December 2022 had any impact on NZ ETS market behaviour?
2. Do you think that the proposed update to auction volumes to reflect a change in forestry emissions outside the NZ ETS is sufficient to allow unit settings for 2024 and 2025 to be updated?
3. What other special circumstances, if any, do you think exist that might enable updating NZ ETS unit settings for 2024 and 2025?
4. If there are special circumstances, do you think updates to NZ ETS unit settings for 2024 and 2025 are justified and should be made?
5. Do you think that updates to NZ ETS unit settings for 2024 and 2025 should occur if NZUs from the cost containment reserve are sold at the June NZ ETS auction? Note, the Commission recommends that settings for 2024 and 2025 are updated in this situation.
6. Do you think the Commission's updated estimates of forestry emissions outside the NZ ETS are accurate?
7. Do you think that an update to calculations, and a corresponding reduction in auction volumes, should be made to reflect this updated estimate?
8. Do you think that reductions in auction volumes and limits should occur to reflect the identified discrepancies between emissions reported in the Greenhouse Gas Inventory and the NZ ETS?
9. Do you think the status quo approach to stockpile reduction should be retained?
10. Should a new sub-step be added this year to address projected impacts on surplus stockpile liquidity rather than addressing it through annual updates to estimates of surplus stockpile liquidity?
11. Should adjustments to auction volumes be made to address historic actions?
12. What do you think of the methodology used to calculate auction volumes, including on each specific step?
13. To what extent do you believe that increasing the CCR trigger price would influence NZU prices? Do you think that this influence would remain if CCR trigger prices were increased more significantly?
14. What do you think of the approach of setting price controls with reference to prices required to deliver gross emissions reductions?
15. What do you think of the proposed auction price floor settings? What impacts do you think will result from different settings?

16. Do you think the cost containment reserve should be disabled by having no reserve volume?
17. If retained, do you think the cost containment reserve should consist of one or two tiers?
18. If a technical adjustment is included as part of the stockpile reduction component of auction volumes, should this technical adjustment amount be included in the total cost containment reserve volume?
19. If a multi-tier cost containment reserve is progressed, how should the volume of units in these tiers be decided on?
20. What do you think of the proposed cost containment reserve trigger price settings? What impacts do you think will result from different settings?
21. Are there further impacts at these prices that should be considered?
22. What role should price controls play in containing the level of impacts, and what price control settings would be required for this?
23. If prices reached those presented in the cost containment reserve trigger price options above, do you feel that you have options to change behaviours or make new investments to address the impacts?
24. Could you change behaviours or make new investments to mitigate the impact of higher prices on yourself?

How to have your say

The Government welcomes your feedback on the issues described in this consultation document. The questions throughout the document and summarised here are a guide only. You do not have to answer them all and any additional comments are welcome.

To ensure others clearly understand your point of view, you should explain the reasons for your views and give any supporting evidence.

Timeframes

This consultation starts on 19 May 2023 and ends on 16 June 2023.

When the consultation period has ended, we will develop recommendations on changes to regulations.

How to provide feedback

There are two ways you can make a submission.

1. Via Citizen Space, our consultation hub:
<https://consult.environment.govt.nz/climate/annual-updates-nz-ets-unit-settings-2023>
2. Write your own submission.

If you want to provide your own written submission, you can provide this as an uploaded file in Citizen Space.

We prefer that you don't email or post submissions as this makes analysis more difficult. However, if you need to please send written submissions to ETS regulation updates, Ministry for the Environment, PO Box 10362, Wellington 6143 and include:

- the title of the consultation
- your name or organisation
- your postal address
- your telephone number
- your email address.

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

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

Submissions close on 16 June 2023.

More information

Please direct any queries to:

Email: etsconsultation@mfe.govt.nz

Postal: ETS regulation updates, Ministry for the Environment,
PO Box 10362, Wellington 6143

Publishing and releasing submissions

All or part of any written comments (including names of submitters), may be published on the Ministry for the Environment's website, environment.govt.nz. Unless you clearly specify otherwise in your submission, the Ministry will consider that you have consented to website posting of both your submission and your name.

Contents of submissions may be released to the public under the Official Information Act 1982 following requests to the Ministry for the Environment (including via email). Please advise if you have any objection to the release of any information contained in a submission and, in particular, which part(s) you consider should be withheld, together with the reason(s) for withholding the information. We will take into account all such objections when responding to requests for copies of, and information on, submissions to this document under the Official Information Act.

The Privacy Act 2020 applies certain principles about the collection, use and disclosure of information about individuals by various agencies, including the Ministry for the Environment. It governs access by individuals to information about themselves held by agencies. Any personal information you supply to the Ministry in the course of making a submission will be used by the Ministry only in relation to the matters covered by this document. Please clearly indicate in your submission if you do not wish your name to be included in any summary of submissions that the Ministry may publish.

If you have any questions or want more information about the submission process, please email etsconsultation@mfe.govt.nz.

Appendix: How businesses interact with the NZ ETS

Various people and businesses interact directly with the NZ ETS. These include the following activities.

Reporting emissions and surrendering emission units

Some people and businesses have obligations to report their emissions. Some of them also have to surrender emission NZUs to cover their direct greenhouse gas emissions or the emissions associated with their products.

To do this, businesses need to calculate the emissions from their activity over a calendar year, report to the Environmental Protection Authority by the end of March the following year, and then acquire and surrender NZUs before the deadline.

This puts a price on greenhouse gas emissions.

Receiving units for removing greenhouse gases from the atmosphere or New Zealand's reported emissions

Some people and businesses may have opportunities to earn NZUs by carrying out an eligible removal activity. This activity must reduce emissions reported in New Zealand's Greenhouse Gas Inventory, and the person or business earns NZUs to reflect this.

A 'forestry removal activity' is a removal activity in which post-1989 forest growth sequesters carbon dioxide from the atmosphere. An 'other removal activity' is one in which an eligible product embeds a substance permanently (or at least until it has been exported) where that substance would otherwise emit greenhouse gases to the atmosphere. An 'other removal activity' includes exporting synthetic greenhouse gases in bulk or in goods.

This ensures that NZ ETS costs are not incurred for emissions that do not occur in New Zealand.

Receiving industrial allocation

Some businesses estimated to be emissions-intensive and unable to pass emissions prices on are eligible to be allocated NZUs under the NZ ETS. This 'industrial allocation' reduces the risk of emissions leakage – the risk of New Zealand companies losing market share or shifting overseas to avoid emissions pricing. These companies are involved in the NZ ETS because, if they apply for and receive an allocation, they can trade their units or use them to meet NZ ETS obligations.

Taking part in auctions

Auctions of NZUs take place in each quarter of the year. These auctions are a key feature of unit supply into the NZ ETS.

Anyone who holds an account in the New Zealand Emissions Trading Register can register to participate in these auctions.

Regulations set the volume of NZUs that are available for auction, along with auction price settings.

This consultation document contains proposals that affect unit volumes and price settings in NZ ETS auctions. An auction calendar must also be published by 30 September every year, which includes auction dates for the next calendar year and the number of NZUs for sale on each date.