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# **About this consultation**

This consultation is on proposals to update New Zealand Emissions Trading Scheme (NZ ETS) unit settings for the period 2023–27.

NZ ETS limit 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 second year that these settings will be updated since they were prescribed in regulations in 2020.

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 consultation 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 Overseas Investment Act, and an NZ ETS review.

## 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 Act).

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

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

The New Zealand Emissions Trading Scheme helps reduce emissions by doing three main things:

* 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
* limiting the number of NZUs available to emitters (ie, that are supplied into the scheme).accessed via the legislation.govt.nz website

The Government sets and reduces the number of units supplied into the scheme over time. This limits the quantity that emitters can emit, in line with New Zealand’s emission reduction targets.

Businesses who participate in the NZ ETS can buy and sell units from each other. The price for units reflects supply and demand in the scheme. This price signal allows businesses to make economically efficient choices about how 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 emissions through the NZ ETS but does not have surrender obligations. The Government has agreed to work with the primary sector to reduce emissions through [He Waka Eke Noa: Primary Sector Climate Action Partnership](https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/he-waka-eke-noa-primary-sector-climate-action-partnership/).

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

The Government set emissions budgets this year. These place limits on the emissions that New Zealand can produce for the periods 2022–25, 2026–30 and 2031–35.

The Government published the first emissions reduction plan (ERP) on 16 May 2022. The ERP describes how we are going to meet the first (2022–25), second (2026–30) and third (2031–35) emissions budgets and progress towards our 2050 target.

The ERP includes:

* policies and strategies for specific sectors (eg, 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) levy[[1]](#footnote-2)), 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.

This consultation document proposes amendments to the NZ ETS limit 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 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 because, at all times, they must prescribe settings for each of the next five calendar years. In some circumstances, it is possible to update existing settings for the earlier years as part of this process.

## How businesses interact with the NZ ETS

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

### Reporting emissions and surrendering emission units

Some people and businesses have obligations to report their emissions. Some of them also have to surrender emission units 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 units before the deadline.

This puts a price on greenhouse gas emissions.

### 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 (the Inventory), and the person or business earns units 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 are eligible to be allocated emission units 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 units 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 units for sale on each date.

### The impact of these proposed changes on Māori

We recognise Māori have a significant interest in climate change action and the NZ ETS.

We have assessed that proposed updates may have a disproportionate impact on Māori, for example if the proposals affect the incentives for afforestation. We acknowledge our analysis may contain gaps. For this reason, we are specifically requesting as part of this consultation that submitters consider whether Māori could experience disproportionate impacts from the proposed changes.

## Scope of regulations being consulted on

A set of regulations and Orders in Council supports the NZ ETS and SGG levy 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 (Auctioning, Limits, and Price Controls for Units) Regulations 2020.

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

He Pou a Rangi – Climate Change Commission (the Commission) has provided advice on these settings[[2]](#footnote-3). The Minister of Climate Change (the Minister) must consider this advice as part of the process of updating the settings.

The Commission included commentary on factors that are out of scope of this consultation. Other government work programmes are progressing some of these factors.

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)[[3]](#footnote-4) and the 2050 target.

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.

## Objectives for updating NZ ETS unit settings

The overall objective of the unit settings is to ensure the efficient and accurate operation of the NZ ETS and align the settings, as best as possible, to assist New Zealand to meet its emissions budgets and targets.

An important secondary objective is to address oversupply in the NZ ETS market. The ability of NZ ETS participants to hold or ‘bank’ NZUs has led to considerably more units being held in private accounts than is needed to meet surrender obligations (referred to as the stockpile). Oversupply reduces demand for units and dampens the emissions price – impacting the ability of the NZ ETS to reduce emissions and incentivise emissions removals.

The objectives for the price controls include mitigating the risk of unacceptably low or higher NZU prices and signalling to the market expectations of future emissions prices. Price controls should allow the Government to reduce the risk of unacceptably low or high emissions prices, contributing to a stable and predictable domestic emissions price that allows market participants to form long-term expectations of their NZ ETS costs.

## Criteria for assessing options

Updates to regulations for NZ ETS unit supply and price control settings must be in accordance with the emissions budget, 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).

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

|  |  |
| --- | --- |
| **Primary criteria** | **Description** |
| Accord with New Zealand’s emissions budgets, NDC and 2050 target  | The NZ ETS should accord with emissions budgets and help deliver the abatement required to meet New Zealand’s emissions reduction targets and transition to a low-emissions economy. |
| Support the proper functioning of the NZ ETS | Settings should allow the NZ ETS to function in a way that supports NZ ETS participants to comply easily, while minimising complexity. |
| 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. Regulatory stability is needed to build confidence in the NZ ETS market and encourage investment in cost-effective opportunities for domestic emissions abatement.  |
| Support consistency with international obligations and 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 an effective cap on unit supply within the market, maintaining the integrity of units and keeping NZU prices in line with international prices. |
| **Additional criterion for analysis of price control settings**  |
| Consider the impact of emissions prices on households and the economy, and inflation | The scheme should allocate risks, costs and benefits appropriately among the Crown, NZ ETS participants, households and other groups affected by an emissions price. Where possible, settings should avoid imposing excessive and disproportionate costs on 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

These criteria relate directly to the obligations on the Minister 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 s 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 the other matters | Accord with New Zealand’s emissions budgets, 2050 target and the NDC |
| 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 | Accord with New Zealand’s emissions budgets, 2050 target and the NDC |
| (5)(b) The proper functioning of the NZ ETS | Support the proper functioning of the NZ ETS |
| (5)(c) International climate change obligations and contracts New Zealand may have for accessing offshore mitigation from other carbon markets | Support consistency with international obligations and NZU prices with the level and trajectory of international emissions prices |
| (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 | Accord with New Zealand’s emissions budgets, 2050 target and the NDCSupport the proper functioning of the NZ ETS |
| (5)(e) The recommendations made by the Climate Change Commission under section 5ZOA | The Commission’s recommendations are presented as options for all NZ ETS unit settings |
| (5)(f) Any other matters that the Minister considers relevant | No additional matters are considered in the criteria analysis |
| Additional matters the Minister must consider in analysing price control settings  |
| (6)(a) The impact of emissions prices on households and the economy | Consider the impact of emissions prices on households and the economy, and inflation |
| (6)(b) The level and trajectory of international emissions prices (including price controls in linked markets)  | Support consistency with international obligations and NZU prices with the level and trajectory of international emissions prices |
| (6)(c) Inflation | Consider the impact of emissions prices on households and the economy, and inflation |

|  |
| --- |
| Question1. What do you think of the criteria we have chosen to assess options?
 |

## Your views

We want to know your thoughts on the options for proposed 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 Thursday 6 October 2022. 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 late December 2022 and come into force from 1 January 2023.

## 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 second year that these settings will be updated since they were prescribed in regulations in 2020. Table 3 summarises the changes we propose this year.

Table 3: Proposed changes to the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations for 2022

|  |
| --- |
| **Proposals** |
| 1 | Update limit settings for units |
| 2 | 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 in special circumstances. This includes setting new limits and price controls once the Government has officially set the first emissions budget.

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



Source: Adapted from figure 1 [Advice on NZ ETS unit limits and price control settings for 2023-2027](https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/ETS-advice-July-22/PDFs/NZ-ETS-settings-2023-2027-final-report-web-27-July-2022.pdf)

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.

### The Commission has provided advice on limit and price control settings for units

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 Government set emissions budgets earlier this year, which are published in the emissions reduction plan.

The Commission provided its advice on NZ ETS limit and price control settings to the Minister of Climate Change on 15 July 2022. This advice is available on the Commission’s website:
[NZ ETS unit limits and price control settings for 2023-2027 » Climate Change Commission.](https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/nz-ets/our-advice-on-the-nz-ets/nz-ets-unit-limits-and-price-control-settings-for-2023-2027/)

# Options presented in this consultation document

There is an obligation to review NZ ETS unit settings. As part of this, it is appropriate to reconsider the status quo for a number of reasons, including:

* use of more recent emissions data and global warming potentials for greenhouse gases
* sale of units from the cost containment reserve (CCR) volume in both 2021 and 2022
* setting of New Zealand’s first emissions budgets
* new information on the composition of the ‘stockpile’ of privately held units
* advice from the Commission on changing these settings.

The Commission has provided advice on the NZ ETS unit settings. In some cases, the Commission’s advice is consistent with the status quo. Although alternatives to the status quo are presented here, this should not be taken to mean that the status quo is not the best option for the NZ ETS unit settings.

The status quo is compared against alternative options where the Commission’s advice is to move away from current settings. Options are presented for:

* whether to make technical adjustments to reflect a possible discrepancy between the NZ ETS and emissions reported in the Inventory
* how to address stockpile reduction to reflect the liquid, or ‘excess’, component of the privately held stockpile of units
* auction reserve price settings
* cost containment reserve volume structure
* cost containment reserve trigger price(s).

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

For a number of other steps and decisions, the option the Commission presented in its advice is consistent with the current approach. In these cases, this consultation document does not present options and alternatives or assess them against the status quo using the table 1 criteria. We are interested in your feedback on whether there are alternative options that should be considered at these steps.

|  |
| --- |
| Question1. Do you think alternative options should be considered for parts of the advice other than the settings that this consultation document focuses on?
 |

# Updating NZ ETS limits for units

## Background

The Act requires[[4]](#footnote-5) updates to regulations every year to prescribe limits for the following five calendar years. These limits include:

* **a limit on the NZUs available by auction** (annual auction volume + 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 means 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.[[5]](#footnote-6) 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 2022–25. The first Government NZU auction took place in March 2021. Regulations then updated unit limits with effect from 1 January 2022, which currently cover the years 2022–26.

## **Methodology to calculate limits for units**

To update the NZ ETS limits for units, this document proposes following the same methodology used to calculate the original limits in the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020, and again when it updated these limits in 2021. This methodology involves a series of six calculation steps to arrive at auction volumes, which are then used with other data points, including the cost containment reserve volume, to calculate the limits that regulations will prescribe.

This Commission also used this methodology, along with an additional step, to calculate its recommended limits for units. The additional step is the first one listed below, but it had no impact on the outcome of the Commission’s calculations. 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 need not strictly accord with these if the Minister is satisfied that any discrepancy is justified after considering other prescribed matters.

The Commission has 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 additional step has no impact on the auction volumes calculated in 2022 compared with the existing methodology.

#### 2. Allocate the emissions budgets to NZ ETSand 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 emissions for sectors the NZ ETS covers – that is, sectors for which emissions must be reported and that are obliged to surrender units for these emissions.

Sectors the NZ ETS does not cover include:

* agriculture
* non-municipal waste
* fluorinated gases covered by the SGG levy
* methane and nitrous oxide emissions from biomass combustion
* a small subset of industrial process and product use emissions
* post-1989 forests that are not registered in the NZ ETS.

This is the first year that NZ ETS limit settings have been updated since the Government set the emissions budgets.[[6]](#footnote-7) In setting the emissions budgets, the Government referred to updated global warming potentials for gases. Most of the impact of this update came from the component of emissions related to biological methane.

The Commission has recommended using emissions data from its demonstration path to calculate the component of emissions budgets allocated to NZ ETS and non-NZ ETS sectors.

The Commission’s recommendation at this step results in annual volumes of units allocated to sectors covered by the NZ ETS that are very similar to those calculated for previous settings of NZ ETS limits for units. For the data used to inform this step, see the Commission’s website.[[7]](#footnote-8)

Table 4 summarises the calculations for this step.

Table 4: Calculation of the emissions budget allocated to NZ ETS sectors

|  |  |
| --- | --- |
| Calculation components | Year (Mt CO2-e) |
| **2023** | **2024** | **2025** | **2026** | **2027** |
| Point year portion of emissions budget (D) | 73.6 | 72.1 | 69.7 | 66.5 | 63.9 |
| Emissions budget allocated to non-NZ ETS sectors (C = A + B), made up of:  | 41.3 | 41.0 | 41.0 | 40.3 | 40.2 |
| * Non-NZ ETS gross emissions (A)
 | 43.5 | 43.0 | 42.5 | 42.0 | 41.6 |
| * Unregistered post-1989 forest carbon removals (B)
 | –2.2 | –2.0 | –1.5 | –1.7 | –1.5 |
| Emissions budget allocated to NZ ETS sectors (D – C) | 32.3 | 31.1 | 28.7 | 26.2 | 23.7 |

Note: Mt CO2-e = million tonnes carbon dioxide equivalent.

Table 5 compares the component of the provisional emissions budget allocated to NZ ETS sectors under previous settings with the allocation of the emissions budget. The origins of the variation from the status quo include:

* use of updated global warming potentials for greenhouse gases in setting emissions budgets
* updates to forestry data
* updates to the demonstration path.

Table 5: Status quo and recommended emissions budget allocated to NZ ETS sectors

|  |  |
| --- | --- |
| Source | Year (millions of units) |
| 2023 | 2024 | 2025 | 2026 | 2027 |
| Commission recommendations  | 32.3 | 31.1 | 28.7 | 26.2 | 23.7 |
| Status quo settings  | 32.9 | 31.3 | 28.2 | 26.6 | not set |

Although we are not presenting alternative options at this step, we are interested in your views. We welcome them in your response to the question below seeking general feedback on the methodology for calculating auction volumes.

#### 3. Make technical adjustments

In previous years, no technical adjustments have been made. This year, this step is intended to address any misalignment between emissions reported into the NZ ETS and those reported in New Zealand’s Greenhouse Gas Inventory.

Work during 2022 has uncovered what appear to be material discrepancies between emissions reported in the Inventory and those in the NZ ETS. Previous thinking was that there were no material discrepancies to consider as part of this technical adjustment step.

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

Officials across agencies began work on this potential discrepancy when the Commission first raised the question earlier this year. While the Commission has concluded that an issue exists and that it does require technical adjustments, work in this area is ongoing.

We expect a full understanding of the discrepancy will inform final policy decisions this year.

#### 4. Account for free NZU allocation volumes

Some units are freely allocated to emission-intensive, trade-exposed businesses to reduce the risk of losing economic activity overseas, while gaining no environmental benefit, because of emissions pricing. This kind of loss is known as emissions leakage.

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

Free allocation volumes are calculated on the basis of production output. They are allocated after firms submit their applications based on production level reports at the end of the year.

Because of this, the free allocation used to calculate auction volumes must be 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 large-emitting business shuts down.

We have reviewed the projections on industrial allocation that the Commission made and used to inform its recommendations. Based on this review, we agree with the assumptions it used to determine its projections.

Notably, the Commission’s projections consider:

* the reduction in industrial allocation resulting from the phase-down of the level of assistance provided
* the update to the allocative baseline used to calculate the free allocation for aluminium production by New Zealand Aluminium Smelters Limited (NZAS) to reflect current electricity contracts
* changes in Methanex New Zealand Limited’s production facilities
* the June 2021 closure of Norske Skog’s Tasman Mill
* an expectation that NZAS will remain in operation and that volumes will need to change if NZAS stops smelting aluminium.

Table 6 sets out the forecast free allocation volumes for 2023–27. This forecast does not consider any changes likely as a result of the recently (July 2022) announced decisions to address over-allocation.[[8]](#footnote-9) These decisions will not affect 2023 allocation. Once accurate data are available on the impacts on the level of industrial allocation from 2024 onwards, these can be incorporated into future updates to limit settings for units.

Table 6: Forecast industrial allocation volumes

|  |  |
| --- | --- |
|  | Year (millions of units) |
| 2023 | 2024 | 2025 | 2026 | 2027 |
| Forecast industrial allocation  | 6.4 | 6.3 | 6.3 | 6.3 | 6.2 |

#### 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.

This approach also provides market liquidity, which is essential for enabling the price discovery that is fundamental to the design of emissions trading schemes.

A large quantity of units has accumulated in private accounts. This ‘stockpile’ of units provides liquidity in the market, but it could also dampen the NZU price and cause challenges in meeting emissions budgets. The size of the stockpile needs to be managed. It is larger than anticipated at this stage due to the sale of units from the cost containment reserve at auctions during 2021 and 2022.

Units move in and out of the stockpile as they are:

* sold by auction
* transferred for industrial allocation
* transferred for removal activities
* 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 units from the stockpile to meet their NZ ETS surrender obligations.

Estimating the excess liquid component of the stockpile is difficult. The Commission has analysed the units held at 1 June 2022, after the 31 May deadline for meeting surrender obligations for 2021 emissions. Of the 144 million privately held units, a number 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 units indefinitely
* provide a vehicle for investment exposure to NZU price changes.

The Commission has estimated that the excess liquid, or ‘surplus’, component of the stockpile is 49 million units. This is consistent with previous estimates by both the Commission and the Ministry for the Environment (the Ministry).

The Commission has calculated the stockpile reduction step by considering removal of the entire excess liquid component of the stockpile by 2030. The Commission has noted that reducing liquidity could “increase price volatility and increase the risks of market-gaming activity (like market cornering, where current unit holders gain excessive control over the market)”.[[9]](#footnote-10)

An alternative approach is to estimate the degree of excess liquidity required to enable a functioning secondary market in which emitters can access units required to meet their surrender obligations, while also supporting effective price discovery. The level of liquidity required to achieve this is difficult to estimate. One approach is to consider this to be equivalent to one year of unhedged surrender liability.

The Commission has estimated hedged liability to be around 21 million units, or just over half of expected surrender obligations due in 2023. On this basis, it uses the remaining unhedged liability component of the NZ ETS budget of 11 million units for 2023 as a proxy for required liquidity in the unit stockpile in 2030.

It is worth noting that under current policy a large and increasing volume of unencumbered forestry units will be entering the market by 2030, increasing the liquid stockpile. Forest land owners using averaging accounting or the permanent forests policy only need to surrender units if they change land use entirely.

The Commission has recommended reducing auction volumes to reach the liquid stockpile endpoint by an equal proportion of the emissions budget allocated to NZ ETS sectors each year. This is considered appropriate, and means that surplus reduction is greater in earlier years when this ‘cap’ is higher.

Table 7 presents the annual surplus reduction considered in calculating auction volumes for each target liquidity in the stockpile.

Table 7: Options for addressing the surplus component of the unit stockpile

|  |  |
| --- | --- |
| Option | Year (millions of units) |
| 2023 | 2024 | 2025 | 2026 | 2027 |
| Option one: Status quo | 5.4 | 5.4 | 5.4 | 5.4 | not set |
| Option two: Surplus reduction – Commission recommendation  | 8.0 | 7.7 | 7.1 | 6.5 | 5.9 |
| Option three: Surplus reduction – alternative option | 6.2 | 6.0 | 5.5 | 5.0 | 4.6 |

|  |
| --- |
| Questions1. What are your views on the estimates of the ‘surplus’ or ‘excess liquid’ component of the unit stockpile?
2. What level of ‘surplus’ or ‘liquidity’ do you think is required for a functional market?
 |

Table 8 assesses the above options. We are interested in your views on our assessment and will reconsider these assessments when we prepare recommendations for policy decisions.

Table 8: Assessing options for reducing the stockpile against the status quo

|  |  |  |  |
| --- | --- | --- | --- |
|  | Option one: Status quo | Option two: Commission recommendation  | Option three: New stockpile assessment, 11 million unit target volume |
| Accords with New Zealand’s emissions budgets, NDC and the 2050 target | 0 | **++**Reducing stockpile reduces risk of the stockpile preventing the achievement of emissions budgets, NDC and 2050 target | **+**Same as option 2, but less pronounced |
| Supports the proper functioning of the NZ ETS | 0 | **+**Reduced liquidity in the stockpile addresses oversupply risk, but presents some risk to market function | **++**Reduced liquidity in the stockpile addresses oversupply risk while retaining market function |
| Improves regulatory certainty and predictability | 0 | **-**Similar to present approach; however, stockpile adjustment volumes are different | **-**Similar to present approach; however, stockpile adjustment volumes are different |
| Supports consistency of NZU prices with the level and trajectory of international emissions prices | 0 | **+**Reduced supply will have an upwards price pressure | **+**Reduced supply will have an upwards price pressure |
| **Overall assessment** | 0 | **+** | **+** |

#### 6. Set the approved overseas unit limit

International mitigation will be required for New Zealand to achieve its 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. Therefore, consistent with current regulations, the proposed approved overseas volume limit will remain at zero units per year.

#### 7. Calculate the annual auction volume

This step calculates the annual auction volumes for the 2023–27 period on the basis of the steps described above.

Table 9 shows these calculations based on the Commission’s recommendations.

Table 9: Example of calculated annual auction volumes, based on the Commission’s recommendations

|  | Year (millions of units) |
| --- | --- |
| Step | 2023 | 2024 | 2025 | 2026 | 2027 |
| Step 1  | 73.6 | 72.1 | 69.7 | 66.5 | 63.9 |
| Step 2 – allocate | –41.3 | –41.0 | –41.0 | –40.3 | –40.2 |
| Step 3 – technical adjustments | –1.6 | –1.4 | –1.3 | –1.3 | –1.3 |
| Step 4 – free allocation | –6.4 | –6.3 | –6.3 | –6.2 | –6.1 |
| Step 5 – surplus reduction | –8.0 | –7.7 | –7.1 | –6.5 | –5.9 |
| Step 6 – approved overseas units | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Step 7 – NZU auction volumes | 16.3 | 15.6 | 14.0 | 12.1 | 10.4 |

The resulting auction volumes will vary depending on the options chosen at steps 3 (technical adjustments) and 5 (surplus reduction). Table 10 presents the range of auction volumes resulting from these options.

Table 10: Range of annual auction volumes in step 7 resulting from decisions made in previous steps

|  |  |
| --- | --- |
| Origin of auction volume   |   Auction volumes (millions of units) |
| Year |
| 2023 | 2024 | 2025 | 2026 | 2027 |
| Status quo  | 18.6 | 18.0 | 16.5 | 15.0 | not set |
| Upper end of options presented  | 18.9 | 17.9 | 15.7 | 13.6 | 11.6 |
| Commission advice  | 16.3 | 15.6 | 14.0 | 12.1 | 10.4 |

### 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 above and below.

**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 above and below.

|  |
| --- |
| Question1. 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 an emissions budget. 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 controls settings are deliberately set outside the bounds we currently expect price discovery to occur.

## Reason for updating price controls

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

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

## 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 were updated in 2021 with effect from 1 January 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’.

## 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.

These price measures 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. 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 prevent further increases or declines in the NZU price.

The settings for the auction reserve and CCR trigger price act as a proxy for what are seen as the lower and upper ends of the acceptable range for NZU prices. Views on what is and is not ‘acceptable’ will vary.

The impacts at various price points are presented under ‘Impacts at various emissions prices’ below. We seek your views on likely impacts at various price points, and whether these impacts are acceptable.

In its advice, the Commission states that: “Managing the effect of sustained increased prices, if these are required for meeting emissions budgets, is also not the intended purpose of the CCR.”[[10]](#footnote-11) , while also noting that: “The potential for increasing costs show the importance of a price corridor in providing guard rails that allow the NZ ETS to work as intended without significant undue impact.”[[11]](#footnote-12)

### 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.

### 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 demand for units in the short term.[[12]](#footnote-13) 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 discounted, and is additional to the ongoing requirement to meet the original obligation to surrender units. As reference, the prescribed rate of carbon for the 2022 calendar year is $36.50, and for the 2023 calendar year will be between $65 and $70.

### Sale of cost containment reserve volume in 2021 and 2022

As described above, the CCR trigger price signals 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.

The entire CCR volume has sold in both 2021, during one auction, and 2022, across two auctions. This has released an additional 14 million units into the stockpile, effectively nullifying the ‘stockpile reduction’ component of setting annual auction volumes.

The reasons for this are speculative. Market participants are only expected to be prepared to pay at or above the CCR trigger price at auctions if sufficient volumes are not available for purchase at a lower price on the NZ ETS secondary market.

|  |
| --- |
| Question1. What do you think the main drivers of market demand for NZUs are?
 |

## Factors to consider in making price control settings for units

The NZU price has a flow-on effect across the New Zealand economy, ranging from petrol prices and electricity to the food we eat. The main driver of the NZU price is not 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. It also allows the NZ ETS market to respond to NZU price changes or significant shifts in the New Zealand economy. Ensuring that it is possible to adapt to the impacts of the NZU price is a key part of the just transition towards a low-emissions 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), as outlined 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:

* 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](https://legislation.govt.nz/act/public/2002/0040/latest/link.aspx?search=ts_act%40bill%40regulation%40deemedreg_climate_resel_25_a&p=1&id=LMS363540" \l "LMS363540)
* 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.

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

## Considering gross or net emissions reductions in setting price controls

In *Ināia tonu nei: a low emissions future for Aotearoa*,[[13]](#footnote-14) the Commission states that its modelling indicates meeting the 2050 target will involve marginal abatement costs to reduce emissions from energy use that are higher than current NZ ETS auction price control settings, at around $140 in 2030.

In arriving at new recommendations for price control settings, the Commission considers gross emissions reductions in its advice. 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 has recommended that New Zealand should prioritise gross emissions reductions and manage the net emissions reductions from forestry.

The Commission then tested for the emissions price path required to meet this overall target level under the different scenarios we 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”.[[14]](#footnote-15)

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. No decisions have been made on this work yet.

Unit settings are required to accord with net emissions reduction settings. The Commission’s use of gross emissions reduction ‘targets’ as the fundamental input to its recommendations on price control settings is inconsistent with this.

The Commission has previously highlighted in *Ināia tonu nei: a low emissions future for Aotearoa* that: “the more the Government chooses to complement the NZ ETS with other policies, the more likely it is that the New Zealand Unit (NZU) price in the NZ ETS can be lower while still achieving the same overall emissions reductions.”[[15]](#footnote-16)

The Commission also indicates that its modelling will likely understate mitigation responses at higher prices: “We caution here that the ENZ model[[16]](#footnote-17) will very likely understate the mitigation response to much higher emissions prices.”[[17]](#footnote-18)

The Commission has considered these uncertainties in reaching its recommendations.

|  |
| --- |
| Question1. What do you think of the approach of setting price controls with reference to prices required to deliver gross emissions reductions?
 |

## 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 units 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 units at auction. Its stated purpose is to act as a safety valve that helps guard against NZU prices dropping below the level needed to meet emissions budgets. 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.

The NZ ETS also includes a confidential reserve price, based on the secondary market price, below which units cannot be sold at auction. This means the price floor only influences auction outcomes when the secondary price is already close to or below it.

### Price floor history

When price control settings were first set, the auction reserve was $20, increasing at two per  cent per annum. In 2021, the Commission included recommendations on price settings as part of Ināia tonu nei: a low emissions future for Aotearoa:

“The auction reserve price trigger should also step up to a higher value closer to recent market prices, to ensure price continuity and to safeguard existing investments (we note the afforestation levels in our modelling are based on an assumed emissions price of $35). Annual increases after this can be more moderate than those to the cost containment reserve trigger price, to manage risks of creating unintended speculative opportunities”

The Government agreed to the Commission’s 2021 recommendation of an auction reserve price of $30, increasing at seven per cent per annum and amended regulations during the 2021 update to price control settings. Current settings, and settings when regulations were first made, are provided in table 11.

Table 11: Price floor history

|  |  |
| --- | --- |
|  | Year |
| 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| As set in 2020 | $20.00 | $20.40 | $20.81 | $21.22 | $21.65 | not set |
| As updated in 2021 – based on Commission recommendations | not set | $30.00 | $32.10 | $34.35 | $36.75 | $39.32 |

### When the price floor affects auction outcomes

The auction reserve price becomes relevant where the volume of bid demand above the auction reserve price is less than the volume available for sale at that auction.

This situation could be the result of one of the following:

* NZ ETS participants with surrender obligations already hold sufficient units to meet their immediate obligations and their hedging requirements
* something has caused the secondary market price to fall below the auction reserve price.

The Commission has identified the following situations that might cause these scenarios.

The auction reserve price could become relevant in situations where:

* emissions reductions are significantly easier to achieve than expected
* an influx of forestry units occurs, diluting the signal for gross emissions reductions
* a large portion of the surplus units come to market at once, reducing prices and allowing emissions above emissions budgets
* a downwards reset in price expectations occurs due to factors such as changing government signals about its decarbonisation path and policies.[[18]](#footnote-19)

### Updating price floor settings

#### Three considerations

When assessing auction reserve prices, it is useful to consider the following three price points either individually or in combination:

* auction reserve price trajectory start point
* auction reserve price trajectory end point
* trajectory/rate of change.

As indicated above, the current auction reserve settings are based on two of these points: the trajectory start point and the trajectory/rate of change.

The existing values are calculated on the basis of an annual inflation rate of 2 per cent, meaning a constant rate of increase of 7 per cent a year. Inflation has recently moved well above the long-term expected average of 2 per cent. Table 12 presents the Treasury’s projected inflation rates in its *Budget Economic and Fiscal Update 2022*.[[19]](#footnote-20)

Table 12: Consumer price index projections of inflation rate

|  |  |
| --- | --- |
|  | Year |
| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
| Inflation rate | 6.7% | 5.2% | 3.6% | 2.7% | 2.2% | 2.0% |

Adjusting existing auction price reserve settings to consider these rates of inflation results in increased auction reserve prices (table 13); in the updated settings, the 2027 auction reserve price would be $45 rather than $42. It is recommended that auction reserve prices are updated to reflect updated inflation projections.

|  |
| --- |
| Question1. Do you think it is appropriate to consider inflationary impacts in adjusting settings?
 |

Table 13: Current price floor, and current floor adjusted for inflation

|  |  |
| --- | --- |
|  | Year |
| 2023 | 2024 | 2025 | 2026 |
| Current price floor | $32.10 | $34.35 | $36.75 | $39.32 |
| Current price floor, inflation adjusted | $33.06 | $35.90 | $38.67 | $41.45 |

#### What the Commission recommends

The Commission recommends updating the price floor considering:

* inflation forecasts (as described above)
* a set of quantitative benchmarks, using the criteria listed below.

The Commission has based its recommendation on assessment of three options (status quo,[[20]](#footnote-21) 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).[[21]](#footnote-22)

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](#_Considering_gross_or).

Table 14 presents the auction reserve values based on the original regulations, the updated 2021 regulations, and the Commission’s recommendations.

The Commission has considered two options for 2030 trigger price levels, from which we have derived a trajectory. Notably, extending the Commission’s methodology of including inflation in calculating auction reserve settings would result in a price floor of $86 in 2030.

#### **Options**

Table 14 presents the following options:

1. Option one – status quo, exactly reflecting the Commission’s 2021 recommendations for auction reserve price
2. Option two – status quo settings, adjusted to reflect changes in inflation
3. Option three – two years of status quo settings adjusted to reflect changes in inflation, then increasing in a linear way towards the Commission’s recommended 2030 auction reserve (‘delayed ramp’)
4. Option four – an immediate rapid increase, using the mid-point between inflation adjusted values and the Commission’s recommendations (‘high ramp’)
5. Option five – based on the Commission’s most recent advice.

We are interested in hearing your views on this range of options and any alternatives you propose. Impacts at various emissions prices are described in the [Impacts at various emissions prices section](#_Impacts_at_various).

Table 14: Auction reserve price under each option

|  |  |
| --- | --- |
| Option | Year |
| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
| Option one – status quo (Commission’s 2021 recommendations) | $30.00 | $32.10 | $34.35 | $36.75 | $39.32 | not set |
| Option two – status quo, inflation adjusted | $30.00 | $33.06 | $35.90 | $38.67 | $41.45 | $44.35 |
| Option three – ‘delayed ramp’  |  | $33.06 | $35.90 | $44.79 | $53.68 | $62.57 |
| Option four – ‘high ramp’ |  | $46.53 | $49.95 | $53.33 | $56.23 | $59.68 |
| Option five – Commission’s 2022 recommendations |  | $60.00 | $64.00 | $68.00 | $71.00 | $75.00 |

Table 15 assesses the options outlined above. We are interested in your views on our assessment, which will help us prepare recommendations for policy decisions.

Table 15: Assessing options for auction reserve price against the status quo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criterion | Option one: Status quo | Option two – status quo, inflation adjusted | Option three – ‘delayed ramp’ | Option four – ‘high ramp’ | Option five – Commission’s advice |
| Accords with New Zealand’s emissions budgets, NDC and 2050 target | 0 | 0Change from status quo is small | 0Allows auctioning of units in early years even if oversupplied | **++**Aligns better with emissions budgets; prevents auctioning of units when demand is low and supply high | **++**Aligns better with emissions budgets; prevents auctioning of units when demand is low and supply high |
| Supports the proper functioning of the NZ ETS | 0 | 0Change from status quo is small  | **-**Increases complexity due to non-linear setting path | **-**Increases complexity due to non-linear setting path; opportunity for speculative return | **-**Increases complexity due to non-linear setting path; reduced opportunity for speculative return |
| Improves regulatory certainty and predictability | 0 | 0No change to regulatory certainty other than from this proposal | **-**Increases risk of regulatory change due to ramp and step | **-**Increases risk of regulatory change due to ramp and step | 0No change to regulatory certainty other than from this proposal |
| Supports consistency of NZU prices with the level and trajectory of international emissions prices | 0 | 0Change from status quo is small | **+**Aligns better with international emission unit price expectations | **+**Aligns better with international emission unit price expectations | **++**Aligns best with international emission unit price expectations |
| Considers the impact of emissions prices on households and the economy, and inflation | 0 | 0Change from status quo is small | 0Change from status quo is small and has no immediate impact | **-**More likely that higher emissions prices will have a greater impact | **- -**Most likely that higher emissions prices will have a greater impact |
| **Overall assessment** | 0 | 0 | 0 | **+** | **+** |

|  |
| --- |
| Question1. What do you think of the proposed auction price floor settings? What impacts do you think will result from different settings?
 |

## Cost containment reserve structure

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

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

#### What the Commission recommends

After assessing the available options, the Commission has recommended having two tiers. It sets out its reasoning in its advice, outlining the benefits of “balancing the risk of excessive price increases against the risk of CCR releases increasing the NZU stockpile and enabling domestic emissions to exceed emissions budgets”.[[22]](#footnote-23)

Table 16 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 a standalone section at the end of this consultation document.

Table 16: Assessing options for cost containment reserve structure against the status quo

|  |  |  |
| --- | --- | --- |
|  | Option one: Status quo, single reserve volume | Option two: Commission’s advice of two reserve volumes |
| Accords with New Zealand’s emissions budgets, NDC and 2050 target | 0 | **++**Having tiered volumes reduces the risk of slowing stockpile drawdown, in turn supporting the achievement of emission targets |
| Supports the proper functioning of the NZ ETS | 0 | **-**Having tiered volumes makes participating in auctions more complex |
| Improves regulatory certainty and predictability | 0 | 0No change to regulatory certainty or predictability other than this proposal |
| Supports consistency of NZU prices with the level and trajectory of international emissions prices | 0 | 0Limited, if any, difference from status quo in terms of comparison between NZU prices and international emissions prices |
| Consider the impact of emissions prices on households and the economy, and inflation | 0 | 0The prices of tiers determine cost impacts rather than the use of tiers  |
| **Overall assessment** | 0 | **+** |

|  |
| --- |
| Question1. Do you think the cost containment reserve should consist of one or two tiers?
 |

## Cost containment reserve trigger price

The CCR is an additional reserve of units 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 Commission has considered three options for 2030 trigger price levels, from which we have derived a trajectory.

### What the Commission recommends

The Commission recommends updating the cost containment reserve trigger price considering:

* inflation forecasts (as described above)
* prices needed to meet sectoral gross emissions sub-targets published in the ERP.

Notably, extending the Commission’s methodology for calculating cost containment reserve trigger settings would result in a tier 1 trigger of $247 in 2030, and a tier 2 trigger of $308 in 2030.

### **Options**

Four options are presented in the table below. This is a range of options, and we are interested in hearing your views on these, and any alternatives.

1. Option one – status quo, exactly reflecting the Commission’s 2021 recommendations for cost containment trigger price.
2. Option two – status quo settings, adjusted to reflect changes in inflation
3. Option three – a ramped approach of two years of status quo settings adjusted to reflect changes in inflation, then increasing in a linear fashion towards the Commissions recommended 2030 cost containment trigger prices (‘low ramp’).
4. Option four – an immediate rapid increase, using the mid-point between inflation adjusted values and the Commission’s recommendations (‘high ramp’).
5. Option five – The recommendations provided by the Commission in their most recent advice.

Table 17: Auction reserve price options

|  |  |
| --- | --- |
| Option | Year |
| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
| Option one – status quo | $70 | $78.4 | $87.81 | $98.34 | $110.15 | not set |
| Option two – status quo, inflation adjusted | $70.00 | $80.64 | $91.61 | $103.24 | $115.84 | not set |
| Option three – two tiers, ‘low ramp’ | Tier 1 | $80.64 | $91.61 | $117.52 | $143.43 | $169.34 |
| Tier 2 | $80.64 | $91.61 | $127.62 | $163.64 | $199.65 |
| Option four – two tiers, ‘high ramp’ | Tier 1 | $126 | $137 | $160 | $183 | $207 |
| Tier 2 | $147 | $160 | $179 | $199 | $219 |
| Option five – Commission’s recommendation | Tier 1 | $171 | $182 | $193 | $203 | $214 |
| Tier 2 | $214 | $228 | $241 | $254 | $268 |

Table 18 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 at various emissions prices section](#_Impacts_at_various).

Table 18: Assessing options for cost containment reserve trigger price against the status quo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Option one: Status quo | Option two: Status quo + inflation adjusted | Option three: Two tiers, ‘low ramp’ | Option four: Two tiers, ‘high ramp’ | Option five: Commission advice |
| Accords with New Zealand’s emissions budgets, NDC and 2050 target | 0 | 0Change from status quo is small | **+**Lower risk of releasing CCR | **+**Lower risk of releasing CCR | **++**Lowest risk of releasing CCR |
| Supports the proper functioning of the NZ ETS | 0 | 0Change from status quo is small | **-**More complex due to non-linear setting path, opportunity for speculation return | **-**More complex due to non-linear setting path; opportunity for speculation return | **+**High stability of supply and low speculation return |
| Improves regulatory certainty and predictability | 0 | 0Change from status quo is small | **-**Increased risk of regulatory change due to ramp and step | **-**Increased risk of regulatory change due to ramp and step | 0No change to regulatory certainty or predictability other than this proposal |
| Supports consistency of NZU prices with the level and trajectory of international emissions prices | 0 | 0Change from status quo is small | **+**Aligns better with international emission unit price expectations | **+**Aligns better with international emission unit price expectations | **+**Aligns better with international emission unit price expectations |
| Considers the impact of emissions prices on households and the economy, and inflation |  | 0Change from status quo is small | **-**Higher emissions prices more likely to have an impact | **-**Higher emissions prices more likely to have an impact | --Higher emissions prices are most likely to impact households, economy and inflation |
| **Overall assessment** | 0 | 0 | **-** | **-** | **+** |

|  |
| --- |
| Question1. What do you think of the proposed cost containment reserve trigger price settings? What impacts do you think will result from different settings?
 |

## Cost containment reserve volume

The CCR is the volume of units 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 units allowed for release, and the impact this additional supply has on demand.

The status quo has an additional 5 per cent volume to be released above the cap. This is intended to provide an additional safety valve for situations where the total units set within the NZ ETS cap are insufficient to supply the market with units.

The two options presented here are:

* option one, status quo methodology – set the CCR as equal to the stockpile adjustment amount decided, plus 5 per cent of the ‘NZ ETS cap’
* option two – set the CCR as equal to the stockpile adjustment amount decided, following the Commission’s recommendation.

Both these options depend on the decisions made on the level of stockpile adjustment used in determining auction volumes. For more detail, see [Methodology to calculate limits for units](#_Methodology_to_calculate).

Table 19 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.

Table 19: Assessing option for auction cost containment reserve volume against the status quo

|  |  |  |
| --- | --- | --- |
|  | **Option one: Status quo – stockpile adjustment + 5%** | **Option two: Commission’s recommendation – stockpile adjustment**  |
| Accords with New Zealand’s emissions budgets, NDC and 2050 target | 0 | **+**No volume additional to ETS cap as in status quo |
| Supports the proper functioning of the NZ ETS | 0 | 0No change to scheme compliance or complexity |
| Improves regulatory certainty and predictability | 0 | 0No change to regulatory certainty other than this proposal |
| Supports consistency of NZU prices with the level and trajectory of international emissions prices | 0 | 0 |
| **Overall assessment** | 0 | **+** |

|  |
| --- |
| Question1. How do you think of the cost containment reserve volume should be calculated?
 |

## Impacts at various emissions prices

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, Aotearoa New Zealand needs a balanced 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 as a coherent, strategic package to meet the first emissions budget and set 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. Such actions sit alongside broader measures to support workers and households to manage the impacts and seize the opportunities of Aotearoa 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 20 shows.

Table 20: Impact of emissions price on the price of electricity

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

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 21).

Table 21: Impact of emissions price on the prices of fossil fuels

|  |  |  |  |
| --- | --- | --- | --- |
| Type of fossil fuels | Sector | 2021 price | Emissions 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 the tables above 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

In August 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 week.

In its analysis of impacts, 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.

#### Impacts on emissions-intensive and trade-exposed firms

Some businesses are eligible to be allocated emission units 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, ETS cost. Allocation is calculated based on providing a percentage of ETS costs faced, in the form of NZUs. As NZU prices rise, the net 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 ETS costs,[[23]](#footnote-24) meaning the residual ETS cost after taking industrial allocation into account. Table 22 displays 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 $200, this translates to net ETS costs after allocation of $26 a tonne, and this will continue to rise as industrial allocation is phased out.

Therefore, if prices rose 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 in New Zealand unless they rapidly decarbonise. While analysis of other industries is less thorough, submissions and initial modelling as part of the recent work on industrial allocation reform 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 22: Net ETS cost, and corresponding NZU price in 2030 at which activities eligible for industrial allocation close

|  |  |  |  |
| --- | --- | --- | --- |
| Criterion | Activity A | Activity B | Activity C |
| Net ETS cost | NZU price | Net ETS cost | NZU price | Net ETS cost | NZU price |
| EBIT falls to zero: activity expected to wind down | $30–$80 | $150–$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 = earning 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 ETS over time is potentially large in comparison with New Zealand’s gross emissions. As such, the price at which conversion to forestry becomes cost-effective could set the emissions price in New Zealand for many years.

The Commission has repeatedly urged the Government to develop a credible response to the gross:net imbalance in emissions reductions. Decisions on permanent exotic forestry in the NZ ETS will influence this response.

#### Impacts on emissions reductions

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. The advice does not highlight specific additional sources of emissions reductions.

#### 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 Aotearoa 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 primary 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.[[24]](#footnote-25)

### Impacts are a key consideration when making 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.

|  |
| --- |
| Questions1. Are there further impacts at these prices that should be considered?
2. Is it appropriate to rely solely on complementary measures to manage impacts?
3. What role should price controls play in containing the level of impacts, and what price control settings would be required for this?
4. 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?
5. Could you change behaviours or make new investments to mitigate the impact of higher prices on yourself?
 |

# Consultation questions and providing feedback

1. What do you think of the criteria we have chosen to assess options?

2. Do you think alternative options should be considered for parts of the advice other than the settings that this consultation document focuses on?

3. What are your views on the estimates of the ‘surplus’ or ‘excess liquid’ component of the unit stockpile?

4. What level of ‘surplus’ or ‘liquidity’ do you think is required for a functional market?

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

6. What do you think the main drivers of market demand for NZUs are

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

8. Do you think it is appropriate to consider inflationary impacts in adjusting settings?

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

10. Do you think the cost containment reserve should consist of one or two tiers?

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

12. How do you think of the cost containment reserve volume should be calculated?

13. Are there further impacts at these prices that should be considered?

14. Is it appropriate to rely solely on complementary measures to manage impacts?

15. What role should price controls play in containing the level of impacts, and what price control settings would be required for this?

16. 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?

17. 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 8 September 2022 and ends on 6 October2022.

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/nz-ets-limit-and-price-settings-2022](https://aus01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fconsult.environment.govt.nz%2Fclimate%2Fnz-ets-limit-and-price-settings-2022&data=05%7C01%7CDave.Hodson1%40mfe.govt.nz%7Cd65b3e216edf4aa1830a08da8584de29%7C761dd003d4ff40498a728549b20fcbb1%7C0%7C0%7C637969102949462960%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=A2QFneN4IgjrJo9MSfkT7xN4gggcAmyPeAzhOWSGWYU%3D&reserved=0).
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 6 October 2022.**

## 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](http://www.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.

1. The SGG levy ensures imports of synthetic greenhouse gases in goods and vehicles face comparable emission costs to bulk imports of SGGs subject to the NZ ETS. The SGG levy simplifies NZ ETS obligations for the many importers of SGG-containing goods and motor vehicles. [↑](#footnote-ref-2)
2. [NZ ETS unit limits and price control settings for 2023-2027 – Climate Change Commission.](https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/nz-ets/our-advice-on-the-nz-ets/nz-ets-unit-limits-and-price-control-settings-for-2023-2027/)  [↑](#footnote-ref-3)
3. Every country needs to set an NDC under the Paris Agreement. The main purpose of an NDC is to outline the contribution a country will make towards delivering on the goals of the Paris Agreement. [↑](#footnote-ref-4)
4. 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. [↑](#footnote-ref-5)
5. 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. [↑](#footnote-ref-6)
6. The Government set New Zealand’s first emissions budgets in May 2022. [↑](#footnote-ref-7)
7. The Commission’s calculations of limit settings for units are available in the ‘Supporting spreadsheet for technical annex 1’ available on the Climate Change Commission’s website: [Technical annexes and supplementary documents: 'Advice on NZ ETS unit limits and price control settings for 2023-2027' Climate Change Commission.](https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/nz-ets/our-advice-on-the-nz-ets/nz-ets-unit-limits-and-price-control-settings-for-2023-2027/technical-annexes-and-supplementary-documents-advice-on-nz-ets-unit-limits-and-price-control-settings-for-2023-2027/) [↑](#footnote-ref-8)
8. 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. Policy decisions to address this were announced in July 2022. [↑](#footnote-ref-9)
9. Te Pou a Rangi – Climate Change Commission. 2022. Advice on NZ ETS unit limits and price control settings for 2023-2027. Wellington: Te Pou a Rangi – Climate Change Commission, p 41. [↑](#footnote-ref-10)
10. Te Pou a Rangi – Climate Change Commission, 2022 (above footnote 7), p 51. [↑](#footnote-ref-11)
11. Te Pou a Rangi – Climate Change Commission, 2022, section 5.1.3, p 68. [↑](#footnote-ref-12)
12. This is technically called demand inelasticity, meaning demand is largely independent of price. [↑](#footnote-ref-13)
13. 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. [↑](#footnote-ref-14)
14. Te Pou a Rangi – Climate Change Commission, 2022 (above footnote 7), p 49. [↑](#footnote-ref-15)
15. Te Pou a Rangi – Climate Change Commission, 2021 (above footnote 10), p 241. [↑](#footnote-ref-16)
16. ENZ is an economy-wide model that covers all the main emitting sectors in Aotearoa – energy, industry, transport, agriculture, forestry and waste. The Commission uses the ENZ model to understand the scale of the emissions reductions that each sector can achieve over time. [↑](#footnote-ref-17)
17. Te Pou a Rangi – Climate Change Commission, 2022 (above footnote 7), p 50. [↑](#footnote-ref-18)
18. Te Pou a Rangi – Climate Change Commission, 2022 (above footnote 7), p 63. [↑](#footnote-ref-19)
19. Treasury. 2022. [*Budget Economic and Fiscal Update 2022*](https://www.treasury.govt.nz/sites/default/files/2022-05/befu22.pdf). Wellington: Treasury. Retrieved from <https://www.treasury.govt.nz/sites/default/files/2022-05/befu22.pdf> (6 August 2022), p 158. [↑](#footnote-ref-20)
20. The Commission has characterised the status quo auction reserve price using an annual rate of increase of 5 per cent rather than the actual 7 per cent. As a result, the numbers presented in the advice differ slightly from those in regulations, but the difference is not enough to impact the Commission’s conclusions. [↑](#footnote-ref-21)
21. Te Pou a Rangi – Climate Change Commission, 2022 (above footnote 7), p 26. [↑](#footnote-ref-22)
22. Te Pou a Rangi – Climate Change Commission, 2022 (above footnote 7), p 55. [↑](#footnote-ref-23)
23. [Potential for emissions leakage from selected industries in the ETS | Ministry for the Environment](https://environment.govt.nz/publications/potential-for-emissions-leakage-from-selected-industries-in-the-ets/). [↑](#footnote-ref-24)
24. Te Pou a Rangi – Climate Change Commission, 2022 (above footnote 7), p 82. [↑](#footnote-ref-25)