Ministry for the Environment
Manatū Mō Te Taiao

Proposed changes to New Zealand Emissions Trading Scheme limit and price control settings for units 2022

Ministry for the Environment – Consultation Webinar

Karakia

Tuia i runga
Tuia i raro
Tuia i roto
Tuia i waho
Tuia i te here tangata
Ka rongo te po
Ka rongo te ao
Haumi e
Hui e
Taiki e!

Let us connect to the heavens/sky above
Let us connect to the Earth below
Let us connect within
Let us connect externally
Let us connect to the essence of humanity
Exploring the unknown (night) connection
Realising the potential (day) of connection

Ministry for the Environment
Manatū Mō Te Taiao

Proposed changes to New Zealand Emissions Trading Scheme limit and price control settings for units 2022

Introductions and Webinar process

Ministry for the Environment
Manatū Mō Te Taiao

ETS Fundamentals

ETS price signal

Legislation establishes the right to emit one tonne of CO_2 as a tradeable quantity – the NZU.

Government allocates NZUs into the market and allows them to be traded.

Supply and demand of NZUs creates price signal → economic incentive to reduce emissions.

Behaviour change

The NZ ETS encourages economic behaviour change to drive emissions reductions.

Behavioural outcomes could be:

- Pass on costs to consumers
- Improve process efficiency
- Invest in new technology or sectors
- Change business model.

Reporting and surrender obligations

Firms that carry out certain activities are <u>required</u> to register in the NZ ETS. They need to:

Record emissions data

↓

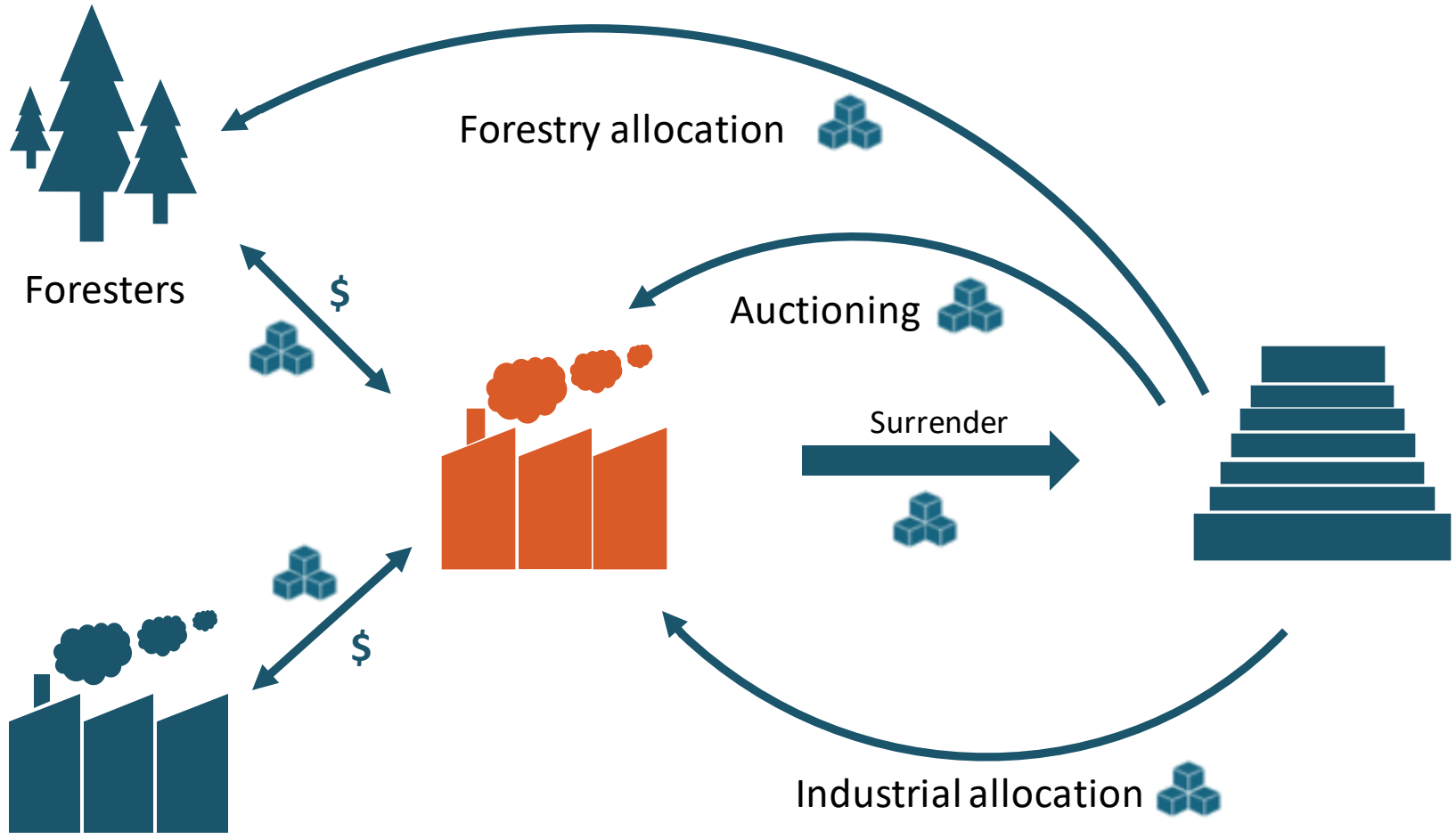
Submit emissions return to EPA

↓

Surrender units to Government

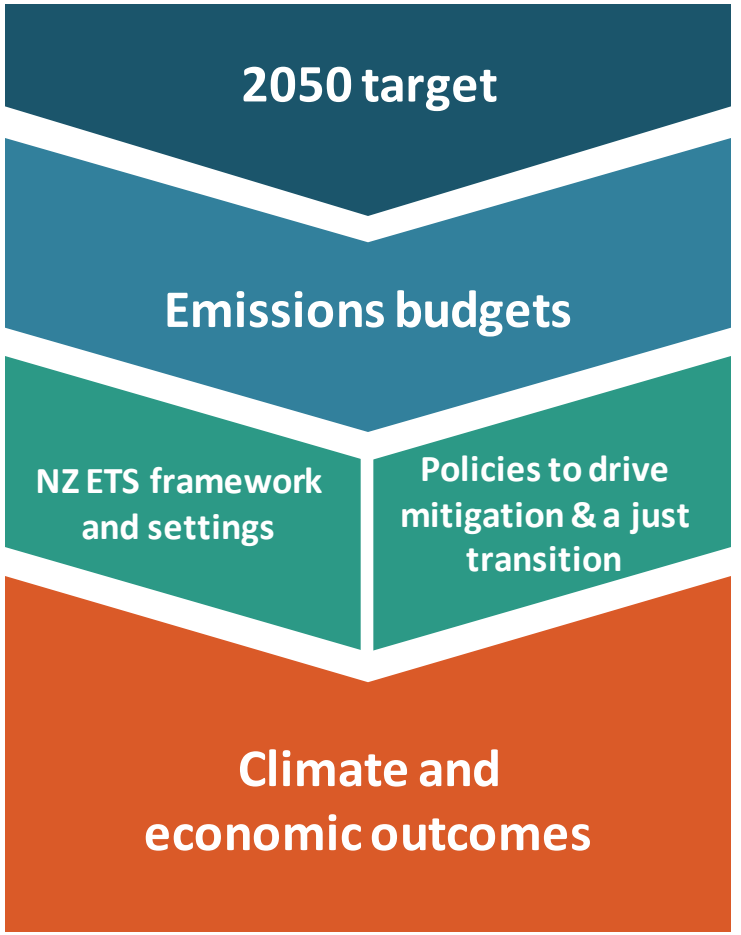
The ETS market

- The ETS market from the perspective of a single participant.
- The Primary Market exists between ETS participants and the Government (roughly right side of diagram)
- The Secondary Market exists between all ETS participants, both emitters and removers, and anyone with NZUs in the registry (roughly left side of diagram)



How targets, budgets and the NZ ETS fit together

The NZ ETS puts into action our targets and budgets to create economic and climate outcomes



Updating NZ ETS limits and price control settings for units

Background

The Act requires updates to regulations every year to prescribe **limits** for the following five calendar years:

- 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)

and **price control settings**:

- a minimum price that units can be sold for at auction (price floor)
- a cost containment reserve (CCR) trigger price
- a CCR unit volume

Ministry for the Environment
Manatū Mō Te Taiao

The Climate Change Commission has provided advice

- The Climate Change Commission is required to give advice on NZ ETS unit settings
- The Commission's advice was provided to the Minister of Climate Change on 15 July
- The Commission needed to consider emissions budgets in preparing its advice
- Emissions budgets were set in May this year
- The Commission's advice must be considered when updating NZ ETS unit settings
- The Commission's advice, including technical annexes, is available on its website

Purpose of limits

- Limits restrict the overall supply of units into the emissions trading scheme – this excludes units transferred for removal activities

- Limits are required to generally be in accordance with New Zealand's emissions budgets, nationally determined contribution under the Paris Agreement, and 2050 targets

Methodology to calculate annual auction volumes

Although the annual base auction volumes themselves are not prescribed in regulations, they are an important component of the calculation of the prescribed limits

The following methodology has been used to date to calculate these auction volumes:

1. Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors
2. Make technical adjustments
3. Account for free NZU allocation volumes (industrial allocation)
4. Set a stockpile reduction volume to address unit surplus
5. Set the approved overseas unit limit (zero in this update)
6. Calculate the annual auction volume

Step 1 - Allocating Emissions Budgets to ETS sectors

Ministry for the Environment
Manatū Mō Te Taiao

Calculation of the emissions budget allocated to NZ ETS sectors

Calculation components	Year (Mt CO_2-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

Step 1 - Emissions Budgets allocation – some options

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

Step 2 - Technical adjustments

- The Commission has identified potential misalignment between emissions reported into the NZ ETS and reported in New Zealand's Greenhouse Gas Inventory
- Work on this is continuing, as it could have material impact on the calculated auction volumes
- We have not included options for this in the consultation paper due to the level of uncertainty
- However, we welcome any feedback or input on how this should be addressed

Methodology to calculate annual auction volumes

Step 3 is based on well understood industrial allocation projections

The following methodology has been used to date to calculate auction volumes:

1. Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors
2. Make technical adjustments
3. Account for free NZU allocation volumes (industrial allocation)
4. Set a stockpile reduction volume to address unit surplus
5. Set the approved overseas unit limit (zero in this update)
6. Calculate the annual auction volume

Step 4 - Stockpile adjustment

- Account holders can hold NZUs in their New Zealand Emissions Trading Register accounts indefinitely.
- This ability to bank units is an essential feature of the NZ ETS
- This ‘stockpile’ is approximately 144 million privately held units
- The very large size of the stockpile has the potential to dampen NZU prices
- It could also cause challenges in meeting emissions budgets
- The annual auction volumes are reduced to address the excess volume in the stockpile

Stockpile adjustment – some options

Ministry for the Environment
Manatū Mō Te Taiao

Options for annual reduction 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

Methodology to calculate annual auction volumes

Step 5 - The approved overseas unit limit is set to zero

Although the auction volumes are not prescribed in regulations, they are an important component of the calculation of the prescribed limits.

The following methodology has been used to date to calculate auction volumes:

1. Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors
2. Make technical adjustments
3. Account for free NZU allocation volumes (industrial allocation)
4. Set a stockpile reduction volume to address unit surplus
5. Set the approved overseas unit limit (zero in this update)
6. Calculate the annual auction volume

Step 6 - Range of annual auction volume options

There is a range of annual auction volume options, depending on decisions made at the preceding steps in the calculation methodology

	Auction volumes (millions of units)				
	Year				
Origin of auction volume	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

Purpose of Price Control Settings

- Price controls provide the Government with a mechanism to help mitigate unacceptably low or high prices in the NZ ETS
- Price controls also limit the risk of prices falling outside of a range needed to meet emissions budgets and targets
- They also enable businesses to develop long-term expectations about their costs of participating in the NZ ETS, better informing their investment decisions and business planning
- Price control settings do not directly determine NZU prices, this is determined by the behaviour of buyers and sellers of units in the secondary market

The Commission has used gross emissions reductions to inform its recommendations

- To inform its recommendations, the Climate Change Commission has used modelling of the prices needed to meet gross emissions targets derived from the sector sub-targets described in the ERP

- This modelling uses a version of the Commission's ENZ model that is modified from the version which is made publicly available. We are seeking access to this to enable review of assumptions and findings

- This approach and modelling is described in more detail in the Commission's advice and technical annexes to the advice.

- We are seeking feedback on this

‘Price Floor’ – or ‘Auction Reserve Price’

1. The minimum price below which units must not be sold by auction is often referred to as the ‘Price Floor’ or ‘Auction Reserve Price’
2. Bids at auctions must be at or above this prescribed price floor
3. The price floor prevents units being supplied into the NZ ETS at unacceptably low prices
4. This is distinct from the confidential reserve price which is calculated for each auction

Auction reserve price – some options

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'	N/A	$33.06	$35.90	$44.79	$53.68	$62.57
Option four – 'high ramp'	N/A	$46.53	$49.95	$53.33	$56.23	$59.68
Option five – Commission's 2022 recommendations	N/A	$60.00	$64.00	$68.00	$71.00	$75.00

Cost containment reserve

- The reserve amount of NZUs available for sale at auction at set clearing prices is referred to as the “cost containment reserve” or “CCR”
- The cost containment reserve functions to mitigate NZU prices that are unacceptably high by increasing the supply of units available to the market
- This acknowledges that at some NZU price point, the economic and social impacts are considered unacceptable
- If impacts at high NZU prices were not an important consideration in NZ ETS settings, there would be no need for an upper price control
- The price points at which a cost containment reserve volume is made available for sale in an auction is described as the cost containment reserve trigger price for that volume.

Cost containment reserve - structure

- Legislation allows for a range of structural options for the cost containment reserve
- This includes having two or more volumes at separate trigger prices
- Currently, the regulations prescribe a single volume of units available at a single cost containment reserve trigger price (i.e. the interim auction clearing price at which the CCR volume is released) for sale
- An alternative approach of having two volumes at separate trigger prices is presented as part of this consultation

Cost Containment Reserve Trigger Price – some options

Option	Year					
	2022	2023	2024	2025	2026	2027
Option one – status quo (Commission's 2021 recommendation)	$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

Options – Calculating cost containment reserve volume

1. 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'
2. Option two – set the CCR as equal to the stockpile adjustment amount decided, following the Commission's recommendation.

Both of these options depend on the decisions made on the level of stockpile adjustment used in determining auction volumes.

Impacts at various emissions prices

1. Emissions prices affect the costs faced by households, businesses, industries, and throughout New Zealand's economy
2. Legislation requires that *"the impact of emissions prices on households and the economy"* are considered by the Commission when providing advice on price control settings and by the Minister when recommending updates to price control settings.
3. The Climate Change Commission has described and considered these impacts in its advice, extract from the Commission's advice below:

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.

Impacts at various emissions prices contd.

Ministry for the Environment
Manatū Mō Te Taiao

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

Impacts at various emissions prices contd.

Ministry for the Environment
Manatū Mō Te Taiao

Impact of emissions price on the price 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

Impacts on household costs

1. 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.
2. 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.

Impacts on industry

Impacts on emissions-intensive and trade-exposed firms

If prices rose to reach the Commission's recommended CCR trigger prices, 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.

	Activity A		Activity B		Activity C	
Criterion	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 Māori

- 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.**

How to provide a submission and next steps

The full consultation document can be found on our website at https://environment.govt.nz/what-you-can-do/have-your-say/

Consultation submissions close at 5:00 pm on 6 October. You can provide your feedback through the following three channels:

- Email your submission to etsconsultation@mfe.govt.nz
- Complete your submission on Citizen space using this link: Proposed changes to NZ ETS limit and price control settings for units for 2022 - Ministry for the Environment - Citizen Space
- Post your submission to: Ministry for the Environment, PO Box 10362, Wellington 6143

We are eager to hear from organisations and individuals on what they think about the proposals.

Pātai | Questions?

Karakia

Kia whakairia te tapu

Kia wātea ai te ara

Kia turuki whakataha ai

Kia turuki whakataha ai

Haumi e

Hui e

Tāiki e!

Restrictions are moved aside

So the pathway is clear

To return to every-day activities

Ministry for the Environment
Manatū Mō Te Taiao


Ministry for the
Environment
Manatū Mō Te Taiao