Proposed changes to NZ ETS and SGG levy regulations 2021

Consultation document

Ministry for the Environment
Manatū Mō Te Taiao

New Zealand Government

Disclaimer

The information in this publication is, according to the Ministry for the Environment's best efforts, accurate at the time of publication. The Ministry will make every reasonable effort to keep it current and accurate. However, users of this publication are advised that:

- The information does not alter the laws of New Zealand, other official guidelines, or requirements.
- It does not constitute legal advice, and users should take specific advice from qualified professionals before taking any action based on information in this publication.
- The Ministry does not accept any responsibility or liability whatsoever whether in contract, tort, equity, or otherwise for any action taken as a result of reading, or reliance placed on this publication because of having read any part, or all, of the information in this publication or for any error, or inadequacy, deficiency, flaw in, or omission from the information in this publication.
- All references to websites, organisations or people not within the Ministry are for convenience only and should not be taken as endorsement of those websites or information contained in those websites nor of organisations or people referred to.

This document may be cited as: Ministry for the Environment. 2021. *Proposed changes to the NZETS and SGG levy regulations 2021: Consultation document*. Wellington: Ministry for the Environment.

Published in April 2021 by the
Ministry for the Environment Manatū Mō Te Taiao
PO Box 10362, Wellington 6143, New Zealand

ISBN: 978-1-99-003353-7
Publication number: ME 1562

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

Contents

Tables

Figures

About this consultation

Background

The New Zealand Emissions Trading Scheme (NZ ETS) is one of the Government's main policy responses to climate change. It was established by the Climate Change Response Act 2002 (the Act). The Act also established a synthetic greenhouse gas levy (SGG levy).

The NZ ETS and the SGG levy support and encourage global efforts to reduce greenhouse gas emissions. They help New Zealand to meet:

- international climate change obligations
- the 2050 target and emissions budgets.

The role of the NZ ETS and SGG levy in the emissions reduction plan

The Government is working on the first emissions reduction plan, which will describe how we are going to meet emissions budgets and progress towards our 2050 target. It will include:

- policies and strategies for specific sectors (eg, transport, waste, heat, industry and power, building and construction, agriculture and forestry)
- 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
- any other policies or strategies that are necessary.

The first reduction plan will set out the Government's policies and strategies for meeting the second (2026-30) and third (2031-35) emissions budgets. The Climate Change Commission will provide final advice on the first three budgets, and on the direction of policy in the plan, to the Minister of Climate Change by 31 May 2021.

The plan is an opportunity to set out a coherent set of measures that are complementary and reinforcing. Emissions pricing, through the NZ ETS and the SGG levy, will be a critical part of the policy package. It will take a combination of pricing and other policies and measures to move to a low-emissions economy. This will include a strategy to mitigate unintended impacts that reducing emissions and increasing removals will have on iwi and Māori, employees and employers, regions, and wider communities.

How businesses interact with the NZ ETS and SGG levy

People and businesses interact directly with the NZ ETS and the SGG levy in several ways. These include:

Reporting emissions and surrendering emissions units

Some people and business have obligations to report their emissions. Of these, some have to surrender emissions 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 (EPA) by the end of March the following year, and then acquire and surrender units before the deadline.

This effectively puts a price on greenhouse gas emissions. Regulations set out the requirements for calculating emissions. This document contains proposals that affect some people with these obligations.

Removing greenhouse gases

Some people and businesses may have opportunities to earn emission units by carrying out an eligible removal activity. This must be included in an emission return filed under the NZ ETS. A removal must reduce emissions reported in New Zealand's Greenhouse Gas Inventory (the Inventory), and units are earned to reflect this.

An 'other removal activity' is one in which an eligible product must embed, permanently or at least until exported, a substance that would otherwise emit greenhouse gases to the atmosphere. This ensures that NZ ETS costs are not incurred for emissions that do not occur in New Zealand.

A 'forestry removal activity' is one in which forest growth sequesters carbon dioxide.

This document contains proposals that may affect some people removing greenhouse gases from the atmosphere.

Receiving industrial allocation

Some businesses are eligible for allocated emission units under the NZ ETS. They can participate 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.

The proposed changes do not affect the regulations underpinning these allocations. This document contains proposals that affect some people receiving industrial allocation.

Paying SGG levies

Importers of hydrofluorocarbons or perfluorocarbons in goods and motor vehicles must pay an SGG levy. This document contains proposals that affect some people importing goods or motor vehicles containing synthetic greenhouse gases.

Taking part in auctions

Auctions of New Zealand Units (NZUs) take place on a quarterly basis. These auctions are a key feature of unit supply into the NZ ETS. Any holder of an account in the New Zealand Emissions Trading Register can register to participate in these auctions. Unit volumes available to be auctioned, along with auction price settings are set in regulation. These settings need to be reviewed annually, and updates made as necessary and appropriate. This 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 including auction dates for the next calendar year and the number of units for sale on each date.

NZ ETS and SGG levy regulations

A set of regulations and orders govern the efficient and accurate running of the NZ ETS and SGG levy. Periodically these need to be amended or replaced, or new regulations created, to update technical factors, keep the system current, and address anomalies. This helps ensure the NZ ETS remains fit for purpose and as accurate as possible.

Some updates anticipated for 2020 did not take place due to the prioritisation of Cabinet's response to the COVID-19 crisis.

Criteria for assessing options

NZ ETS and SGG levy regulations contribute to the objectives of the NZ ETS and SGG levy, and must be accurate, efficient and clear.

Each option in this document is assessed against the status quo, using the following four criteria:

1. **Alignment** with the objectives of the NZ ETS and SGG levy. The objectives are to support and encourage global efforts to reduce the emission of greenhouse gases by assisting New Zealand to meet the:
   - international obligations under the Convention, the Protocol, and the Paris Agreement
   - 2050 target and emissions budgets.
2. **Accuracy** requires ensuring the methodologies and emissions factors used in the regulations are as close as practically possible to those used in the Inventory and New Zealand's international and domestic emissions targets. Otherwise, participants or the Government will incur costs for emissions that are either not occurring or not covered by New Zealand's international obligations.
3. **Efficiency** concerns administrative and compliance costs for participants and the Government.
4. **Clarity** means the regulations must be unambiguous and consistent, so the obligations and costs imposed on regulated parties are equivalent and unavoidable.

Assessment of each option against each criterion is given a rating of poor, fair, good or not applicable.

1. Poor – the option performs poorly against the status quo.
2. Fair – the option performs fairly against the status quo.
3. Good – the option performs well against the status quo.

Impacts

The proposals here directly affect those involved in activity covered by the NZ ETS or SGG levy.

If the proposals being consulted on are implemented, there will be direct financial implications for the Crown, participants in the NZ ETS, and importers of goods containing synthetic greenhouse gases. There may also be indirect impacts on other groups and the wider economy.

Your views

We want to know your thoughts on proposed updates to regulations under the Climate Change Response Act 2002 (the Act) as it applies to the NZ ETS and SGG Levy. This document takes you through those updates and asks you to consider related issues.

Your response will help us understand the issues and options, and their impact.

The sections of this document explain the issues, present options and analysis, and include questions to help us fill information gaps and measure support for the options.

Consultation process

This consultation will close at 5pm on Friday 28 May 2021. 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 and amendments to existing regulations should be published in the New Zealand Gazette by late September 2021.

Submitting your views

For details on sending feedback to us, see How to have your say.

Summary of proposals

Table 1: Proposed changes to NZ ETS and SGG levy regulations for 2021

Proposal	
1	Update unit limit and auction price control settings
2	Update the default emissions factors (DEFs) for waste and natural gas fields, and update other DEFs and reference data to reflect new global warming potentials (GWPs)
3	Update the electricity allocation factor used in industrial allocation
4	Improve the methodology that accounts for waste in the NZ ETS
5	Update the schedule of goods covered by the SGG levy
6	Implement new regulations for an NZ ETS auction monitor

1. Update unit limit and auction price control settings

Auction volumes and price settings are set in regulations for five years in advance. These need to be reconsidered, and added to, on an annual basis. This is the first year that these settings will be updated since they were prescribed in regulations in 2020. An auction calendar must also be published by 30 September every year including auction dates for the next calendar year and the number of units for sale on each date.

2. Update default emissions factors

Participants in the NZ ETS calculate their emissions based on the prescribed methodologies and emissions factors. Emissions factors represent the carbon dioxide equivalent greenhouse gas emissions based on the global warming potential of each greenhouse gas released.

Emissions factors change over time for various reasons, and the NZ ETS and SGG levy need to be updated periodically to reflect those changes and maintain accuracy. This consultation proposes changes to emissions factors, and associated reference data, to reflect that there have been changes to the:

- overall composition of waste going to landfill
- chemistry of mined natural gas
- global warming potentials of greenhouse gases used in our international reporting.

3. Update the electricity allocation factor used in industrial allocation

The costs of NZ ETS surrender obligations for fossil fuels and geothermal steam used in electricity generation have a marginal effect on the wholesale price of electricity. We need to estimate this effect to then be able to calculate and update the allocative baselines in the Climate Change (Eligible Industrial Activities) Regulations 2010. The objective for the electricity allocation factor (EAF) is to reflect the actual pass-through of NZ ETS costs as accurately as possible, in line with the purpose of allocation, which is to manage the risk of emissions leakage[1].

4. Improve the methodology that accounts for waste in the NZ ETS

The effects of climate change are increasing the risks to closed landfills from flooding and erosion, creating challenges for the landfill owners. Waste from closed landfills which are vulnerable to these effects may therefore need to be excavated and disposed of elsewhere to address these risks. This consultation presents several options to manage this waste stream in the NZ ETS.

[1] Emissions leakage is where differing climate policies between countries could result in the displacement of New Zealand production, the loss of market share, or the displacement of investment to higher emissions alternatives overseas, with the intent to reduce NZ ETS compliance costs.

5. Update the schedule of goods covered by the SGG levy

It has been found that several unlevied SGG blends are likely to be contained in goods being imported into New Zealand (recorded by Customs under 'other HFC' (hydrofluorocarbons)). Updating the SGG goods levy schedule would ensure the regulations have sufficient coverage to apply to all imported goods containing SGGs that are not otherwise exempt (eg, for medical use).

6. Appointing an ETS auction monitor

The Government introduced auctioning of New Zealand Units (NZUs) in March 2021. In June 2020, amendments to the Act introduced the power to make regulations for appointing an auction monitor. The Government has already agreed to appoint an auction monitor. Creating regulations for the appointment process is a small but important last piece in a suite of decisions to support well-functioning NZ ETS auctions.

Other changes to NZ ETS and SGG regulations

Several other updates to the regulations, and one set of new regulations, are also expected to take effect from 2022. These are not part of this consultation, but appendix 1 outlines the information and context. These matters have either already been consulted on, already have policy approvals, or are minor and technical, and do not require consultation or policy decisions from Cabinet.

1. Update unit limit and auction price control settings

1.1 Update unit limits and auction volumes

Background

The Climate Change Response Act 2002 (the Act) requires[2] annual regulation updates by 30 September to prescribe limits for the following five calendar years for:

- A limit on the New Zealand units (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 (annual auction volume + cost containment reserve volume + a projected free allocation volume + approved overseas units).

These unit limits are the volume of new NZUs the Government can provide to the market, and that participants can use to meet their emissions surrender obligations. Unit limits do not apply to carbon removal units, so they do not apply to the volume of units to be provided for forestry or other removal activities.

The Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 came into force on 4 January 2021, and included unit limits for 2021-2025. The first Government NZU auction was held in March 2021.

Relationship to emissions budgets

Setting unit limit regulations in the NZ ETS is a separate process from setting emissions budgets under the Act, but is an important factor in helping the Government meet the emissions budgets and other climate change targets.

Climate Change Commission Draft Advice for Consultation 2021

The Climate Change Commission (the Commission) was appointed by the Government under the Act to provide the Government with independent advice on climate change.

The Commission released its 2021 Draft Advice for Consultation on 1 February 2021, with consultation closing on 28 March 2021. In this draft advice, the Commission put forward proposals for New Zealand's

[2] See Section 30GB. This section was added in June 2020 by the Climate Change (Emissions Trading Reform) Amendment Act 2020.

first three emissions budgets for consultation[3]. They note that the budgets are ambitious, but also advise on how they could be achieved.

The Commission is required to provide its final advice on the first three emissions budgets to the Government by 31 May 2021, after consultation closes. The Government is then required to set the first three emissions budgets by 31 December 2021.

Setting the first three emissions budgets will have a direct impact on how to calculate the NZ ETS unit supply limits.

Considerations

The volume of units available through unit limit regulations can have a significant impact on how the NZ ETS helps to achieve emissions reduction targets, the price of NZUs, government revenue, and potential linkage with international emissions trading schemes.

To comply with statutory requirements, stay on track to achieve our emissions budgets and targets, and ensure that unit limits allow the scheme to function properly, we must review and update the regulations annually in accordance with requirements in the Act.

The annual updates must comply with the legislative requirements for what to consider.

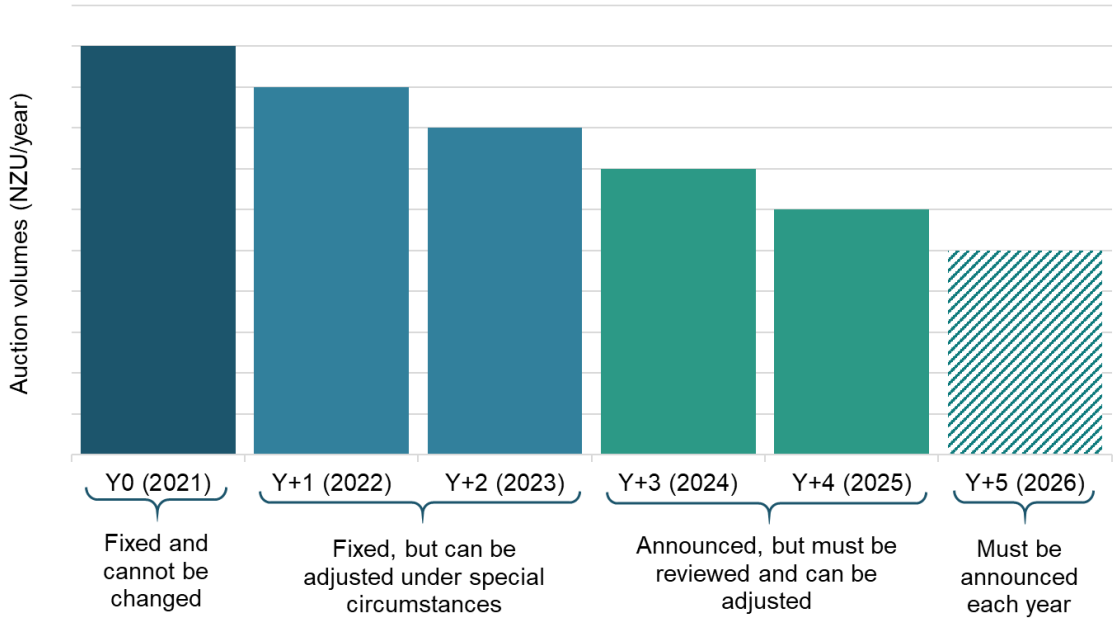
Legislative requirements for regulations about limits and price control settings for units

Section 30GC of the Act sets out specific requirements that annual updates must address. These include emissions budgets, projected emissions trends and the Commission's recommendations.

Unit limit regulation updates are designed to occur on a five-year rolling basis (figure 1). A special circumstance for changing regulations in Years 1 and 2 includes setting new limits and price controls once the Government has officially set the first emissions budget.

[3] See Chapter 2 of the Commission's draft advice: Our proposed emissions budgets advice.

Figure 1: Five-year rolling process for setting unit supply



Base emissions budget

The Government has not set the first emissions budgets under the Act yet, and budgets are not legally required to be set until the end of 2021. However, because of the required timing of this consultation, we are presenting two budget options on which to base the 2021 considerations and updates to unit limits.

The NZ ETS regulations must be set by 30 September 2021. At this time, it is uncertain whether the Government will officially set the budgets before 30 September.

This consultation presents two budget options to inform the unit limits and price control settings:

1. The current Provisional Emissions Budget (PEB).
2. The Commission's draft emissions budget as a proxy for future decisions on budgets.

Current budget: PEB

The original unit limits in the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 were based on the PEB for 2021–25. The PEB totalled 354 Mt CO_2-e and was based on emissions projections from the Fourth Biennial Report (BR4), published in December 2019 by the Ministry for the Environment (the Ministry).

To be met, the PEB required net emissions to stabilise and then reduce on a straight line trajectory towards the 2050 target. It required about 13 Mt CO_2-e of additional abatement between 2021 and 2025, above the BR4 projections.

Draft Commission budgets

The Commission proposed three draft emissions budgets in its February 2021 Draft Advice Report:

1. 2022-2025: 271 Mt CO_2-e
2. 2026-2030: 286 Mt CO_2-e
3. 2030-2035: 223 Mt CO_2-e.

The Ministry has used the Commission's draft budget data to determine an annual budget breakdown across those periods[4].

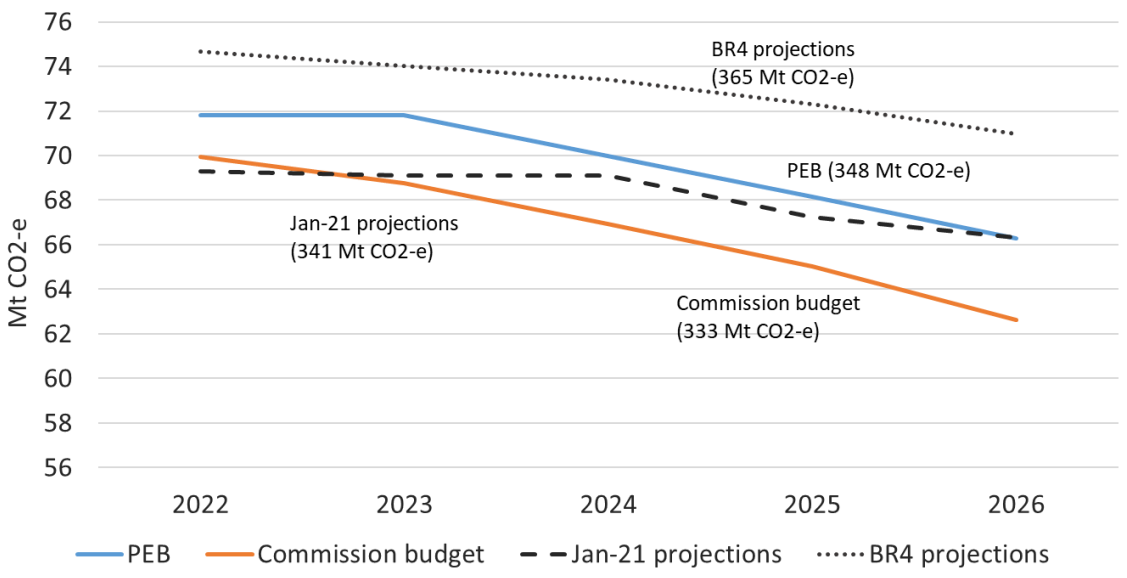
The Commission's draft budget (table 2) is based on its draft advice for consultation. The Commission may adjust its draft budgets in its final advice, delivered to the Government by 31 May 2021. We consider this draft advice a suitable proxy for the basis of this consultation, demonstrating the impact the updated budgets could have on unit limits. It also aligns with the most recent emissions projections, released in January 2021[5].

Table 2: Base emissions budgets (note, total may not match due to rounding)

Budget	2021	2022	2023	2024	2025	2026	2022–26 Total
Extended PEB	71.8	71.8	71.8	70.0	68.1	66.3	348.1
Draft Commission budget		69.8	68.7	67.0	65.2	62.6	333.3

Figure 2 compares the PEB and the draft Commission budget. The graph also highlights the decline in emissions forecasts between the Fourth Biennial Report (BR4) projections, used when the PEB was originally calculated, and the most recent projections from January 2021.

Figure 2: PEB vs draft Commission budget with projections



[4] https://www.climatecommission.govt.nz/get-involved/sharing-our-thinking/data-and-modelling/.

[5] https://www.mfe.govt.nz/climate-change/emissions-reduction-targets/projected-emissions.

Steps to calculate unit supply limits

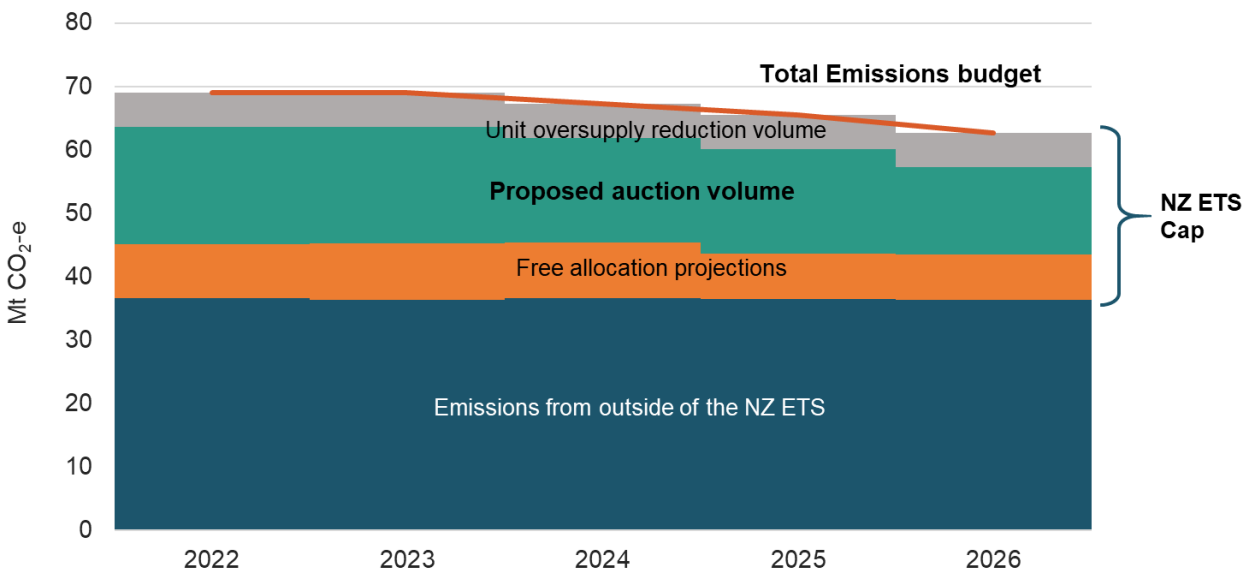
To update the NZ ETS unit supply limits, the Government plans to follow the same methodology used to calculate the original limits in the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020.

After a base emissions budget has been set, there are six key steps to reach the final proposed annual auction volumes:

1. Set the NZ ETS cap.
2. Make technical volume and forestry adjustments.
3. Account for free NZU allocation volumes.
4. Set reduction volume to address unit oversupply
5. Set approved overseas unit limits
6. Calculate annual auction volumes.

For this consultation, there are nil unit volumes or adjustments for technical volume and forestry, so step 2 is not discussed.

Figure 3: Breakdown of total emissions budget



Step 1: Set the NZ ETS cap

The overall NZ ETS cap is currently calculated by removing the forecast emissions in sectors that are not covered by the budget:

- agriculture
- waste emissions outside the NZ ETS
- synthetic greenhouse gases covered by the SGG levy
- post-89 forestry not registered within the NZ ETS.

Table 3 shows previous emissions projections from sectors outside the NZ ETS, based on the December 2019 projections, compared to those updated in 2021.

The significant decline in projections outside the NZ ETS cap is largely due to the agricultural sector.

This decrease means that the portion of emissions within the NZ ETS cap is greater. Therefore, even if the overall emissions budget is smaller, the flow-on effect to the decrease in units available within the NZ ETS cap may not be equally significant.

Table 3: Previous vs updated emissions projections outside the NZ ETS cap (note, total may not match due to rounding)

Emissions projections	2021	2022	2023	2024	2025	2026	2022–26 Total
Previous	39.0	38.9	38.9	38.7	38.5	37.4	192.5
Updated		36.5	36.2	36.3	36.1	36.0	181.1

An alternative approach to consider **in future** is to fix the quantity of emissions attributed to non-NZ ETS sectors, based on the separate targets of those sectors (eg, the 2030 target for biogenic methane).

Step 2: Make technical volume and forestry adjustments

Nil unit volumes and nil adjustments.

Step 3: Account for free NZU allocation volumes

Some units within the NZ ETS cap are allocated free to emissions-intensive, trade-exposed businesses in the market. This means they are not available to be auctioned. Free allocation volumes are calculated on the basis of production output – they are allocated after firms submit their 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 unit volumes set in advance. This makes it important to review the projections annually and adjust to any major changes in businesses that receive free allocations, for example, if a large emitting business shuts down.

Since the current regulations were set, the most significant update in free allocation projections, shown in table 4, relates to the New Zealand Aluminium Smelter (NZAS) announcement that it will shut in 2025. NZAS receives the second highest number of free allocation units, accounting for nearly 20 per cent of all allocations.

Free allocation projections should be updated to reflect this change. More units will be available for auction under the cap, as they will no longer be put towards free allocation.

Table 4: Previous vs updated free allocation projections (note, total may not match due to rounding)

Free allocation projections	2021	2022	2023	2024	2025	2026	2022–26 Total
2020	8.4	8.2	8.9	8.7	8.7	8.6	43.2
2021		8.4	8.9	8.9	7.3	7.3	40.7

If the electricity allocation factor is changed (see section 3), this may result in a further update to free allocation projections, not currently shown in table 4.

Step 4: Set reduction volume to address unit oversupply

The NZ ETS currently has a large surplus of units. A stockpile of units provides elasticity in the market, but it could also dampen the NZU price, causing significant challenges in meeting emissions budgets.

To reduce the stockpile, it was previously proposed to not auction the entire volume of emissions technically available within the NZ ETS cap. This would require use of some units from the stockpile to meet emissions surrender obligations.

After emissions surrenders are due in May 2021, the stockpile will be about 132.8m units, a similar stockpile volume to that present in 2020 when the original 5.4 million units per year stockpile reduction was proposed.

The Climate Change Commission's draft advice supported the Government continuing to factor in the need to reduce the NZU stockpile.

Since the previous proposal to reduce the stockpile, there has been no new reason to alter it. Therefore, we propose that the stockpile reduction volume remains at 5.4 million units per year, as shown in table 5. An important part of setting future limits will be monitoring how the stockpile reduces after auctioning begins, and the fixed price option to meet surrender obligations is no longer available. Settings must be monitored to:

- assess whether they are achieving their purpose and the stockpile is in fact reducing
- allow participants who require units to meet their obligations without prices rising too high.

Potential decisions about implementing voluntary carbon markets in New Zealand may be considered in future when determining unit oversupply reduction volumes.

Table 5: Proposed stockpile reduction volume – no change

Reduction volume	2021	2022	2023	2024	2025	2026	2026–22 Total
Current	5.4	5.4	5.4	5.4	5.4	5.4	27.0
Proposed		5.4	5.4	5.4	5.4	5.4	27.0

Step 5: Set approved overseas unit limits

Setting the unit supply volumes requires setting a limit on approved international units. The NZ ETS currently has no access to units from international carbon markets. Therefore, consistent with current regulations, the proposed approved overseas volume limit will remain at zero units per year (table 6).

The Climate Change Commission's draft report recommends the Government:

- enables the NDC (our nationally determined contribution to the UN Framework Convention on Climate Change) to be met through a combination of domestic emission reductions, domestic removals, and use of international carbon markets
- increases the ambition of the NDC, which would increase the mitigation to be purchased from overseas.

Article 6 of the Paris Agreement provides the framework for the way countries can cooperate to reduce emissions and increase climate change action. Examples include:

- emissions trading schemes which link to each other
- project-based mechanisms which could provide crediting to other countries
- a specific mechanism established by the Paris Agreement (but which is not yet operational).

For the NZ ETS to have an international supply, under Article 6 New Zealand would need to work directly with partners overseas on ways to access offshore mitigation.

Therefore in the future, participants may be allowed to use Government-authorised international units that meet environmental integrity standards. There are two modes by which NZ ETS participants could acquire international units:

- Directly, via market participants purchasing, trading and surrendering international units themselves.
- Indirectly, via the Government purchasing international emission reductions and auctioning NZUs.

The limit for a direct mode of purchase is likely to be at the point of surrender, but could also be on import.

With the indirect mode of purchase, enacting a limit would be straightforward – the Government could purchase and auction its chosen volume of units. The Government is investigating options for accessing international carbon markets with environmental integrity, and is in discussion with potential international carbon market partners. Links to established emissions trading schemes or markets are likely to be an important part of future access to international carbon markets, due to:

- the likely quantity of mitigation required above emissions budgets to meet New Zealand's NDC
- the need to ensure environmental integrity.

If a linking agreement or other access to international carbon markets is secured, the volume limit would be increased.

Table 6: Proposed international unit volume – no change

International unit limits	2021	2022	2023	2024	2025	2026	2022–26 Total
Current	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proposed		0.0	0.0	0.0	0.0	0.0	0.0

Step 6: Calculate annual auction volumes

This step combines all the previous considerations into a final calculation to determine the remaining annual NZU auction volumes available under the NZ ETS cap.

Option 1

Option 1 shows the auction volumes, based on the assumption that:

- The first emissions budgets are not set before 30 September, when the unit limit regulations will be passed.
- Changes in the emissions and industrial allocation projections do not meet the Act's requirements (section 30GB) to significantly justify a change to unit limits for years 2022 and 2023, in the five-year cycle of updates.
- A review and change to current unit limits for years 2024 and 2025 is justified in the update cycle. These, as well as the new unit limit for 2026, are based on the draft Commission budgets, and the updated emissions and industrial allocation projections.

Option 2

Option 2 shows updates to all annual auction volumes from 2022 onwards, based on the draft Commission budgets, and on updated emissions and industrial allocation projections.

Section 30GB of the Act specifies two situations in which years 2022 and 2023 can be updated in the cycle:

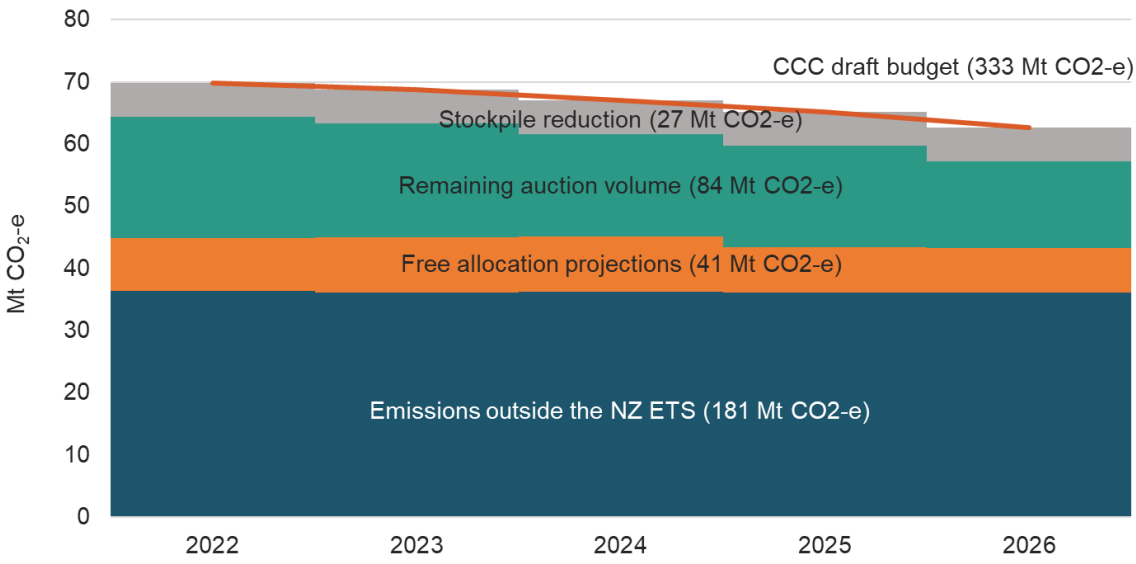
- If the Government sets the first emissions budgets in legislation before 30 September, when these regulations are to be set.
- If the changes in the emissions or industrial allocation projections (steps 1 and 3 above) are substantial enough to meet the legal justifications for adjusting years 2022 and 2023.

Table 7 shows annual auction volumes under each option.

Table 7: Annual auction volumes update for each option

Option	2021	2022	2023	2024	2025	2026	22–26 Total
Status quo	19.0	19.3	18.6	17.2	15.5		
Option 1		19.3	18.6	16.4	16.4	14.0	84.7
Option 2		19.5	18.3	16.4	16.4	14.0	84.6

Figure 4: Breakdown of total emissions budget based on option 2



Points to note:

- Despite some relatively significant changes to the budgets and emissions projections, the flow-on effects on the final auction volumes are small.
- There is a relatively large increase in the auction volumes from the current status quo in 2025. This is based on the assumption that the aluminium smelter will close. This would significantly reduce the volume of free allocation units, which would instead become available for auction.

Assessing the options

Table 8: Assessment of options against status quo

Option	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
Option 1: 2022 and 2023 unchanged. 2024–26 changed, based on draft Commission budgets and updated projections.	Fair – also reflects most current projections. Reflects one approach to meeting targets.	Not applicable – these updates do not affect accuracy.	Not applicable – these updates do not affect efficiency.	Not applicable – these updates do not affect clarity.
Option 2: 202226 changed, based on draft Commission budgets and updated projections.	Fair – also reflects most current projections. Reflects one approach to meeting targets.	Not applicable – these updates do not affect accuracy.	Not applicable – these updates do not affect efficiency.	Not applicable – these updates do not affect clarity.

Auction dates

Auction dates must be set every year for the next calendar year by the Ministry for the Environment's Chief Executive in line with the indicative dates in Schedule 2 of the current regulations. The new dates must then be published by 30 September every year as part of the auction calendar. The auction calendar must also include the number of units for sale on each auction date. Once the auction dates have been set then an auction must be held on that date unless it is postponed for the reasons given in regulations.

There are four auctions scheduled in 2021, one each in March, June, September and December. The Chief Executive must set four auction dates for 2022 on similar dates to 2021 and announce these dates by 30 September 2021.

This year is the first year the Government has held auctions, so we are interested in your feedback on the auction calendar.

Questions

Please note that these settings will also affect updates for cost containment reserve volume.

1. *Are there any specific proposals or updates that you do not agree with in order to calculate the final unit supply auction volumes? If not, why not?*

2. *Do you agree that the options outlined are the correct options to consider? If not, why not? Do you have any further options to suggest?*

3. *Do you think changes to years 2022 and 2023 justify setting a first emissions budget, or only from years 2024 onwards?*

4. *How could the proposed changes to annual auction volumes affect you?*

5. *What are your views on the auction dates that must be set for 2022?*

1.2 Update auction price control settings

Background

Price control settings are a mechanism to prevent NZU prices from selling at unacceptably low or high prices at Government auctions. They are also a form of future price corridor for the market to base certain assumptions on.

The Act requires annual regulation updates to ensure they set price controls for the next five calendar years regarding the:

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

The first price controls were set in regulation in September 2020, and the first NZ ETS unit auction took place in March 2021. Since the price controls were set, the NZU secondary market price has increased significantly, reaching $39.60 at the start of February 2021.

Considerations in setting price controls

The NZU price has a flow on effect across the New Zealand economy, 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 supply and demand of NZUs within the NZ ETS market. The annual review of the unit price control regulations gives investors 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 the impacts of the NZU price are distributed fairly across New Zealand 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 are the same as for setting the unit limits under Section 30GC (see section 1.1 above), as well as:

- the impact of emissions prices on households and the economy
- the level and trajectory of emissions prices
- inflation.

Price control settings must be reviewed and can be amended in the same calendar year if the CCR is triggered, or units are auctioned at the minimum price.

Price floor

To avoid unacceptably low auction prices and give investors some continuity and assurance, regulations must set the minimum auction price for units for the next five calendar years.

The NZ ETS also includes an auction reserve price, based on the secondary market price, to determine a confidential reserve price (CRP) that units cannot be sold below.

Status quo

Current regulations set the auction price floor at $20 in 2021, increasing at 2 per cent per year (table 9). When set, this was considered to provide investors in forestry an indication of the minimum forecast revenue to be earned by investing in new forest planting and protected the Government from making long-term financial losses by selling NZUs for less than the potential cost to the Crown of auctioning the units.

The settings were made in the context that they may change after advice received from the Commission in 2021, and setting the first emissions budgets.

Commission draft advice

Chapter 6 of the Commission’s draft advice (released in February 2021), recommended increasing the auction price floor to $30 as soon as practical, followed by annual increases of 5 per cent plus inflation per year (table 9).

The draft also recommended stepping up the price floor to a value closer to recent market prices, to ensure continuity, and safeguard investments. This would:

- signal the need for a higher emissions price
- provide a wide enough price corridor to allow price discovery by the market to occur in combination with their suggested CCR trigger price.

Table 9: Price floor

Setting	2021	2022	2023	2024	2025	2026
Status quo	$20	$20.40	$20.81	$21.22	$21.65	$22.08
Draft Commission advice		$30.00	$32.10	$34.35	$36.75	$39.32

Analysis

As with unit supply limit settings, price control regulations have strict requirements under Section 30GC of the Act to consider emissions budgets and the Commission recommendations, when they are being set.

Emissions pricing plays a central role in meeting emissions budgets. It should be set in line with the budgets, to ensure the price can fulfil its role in driving down emissions.

A higher price floor would help to provide a price corridor. The rise would signal the higher price required to reduce emissions enough to meet the Commission's more ambitious draft budget.

Impacts

In February 2021 the NZU secondary market price reached an all-time high of $39.60. This was significantly higher than both the current price floor regulations and the draft Commission advice. If, as projected, the NZU prices continue to increase, raising the price floor would have little impact, except to signal the Government's growing ambition to lower emissions.

In addition, due to the confidential reserve price mechanism based on the secondary market price, it is unlikely that the hard auction price floor will be required. The price floor only relates to government auctions, and will not restrict NZUs selling at a lower price on the secondary market.

Cost containment reserve trigger price

The cost containment reserve (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 should ultimately aim to be rarely triggered, if at all. It should represent the range of acceptable prices to reduce emissions and meet emissions budgets. The aim is to protect households and businesses from significant financial effects or any negative impacts on land-use change and forestry.

Status quo

Currently the CCR trigger prices are $50 in 2021 plus 2 per cent inflation per year (table 10).

These regulations were set with reference to international unit prices. A marginal abatement cost analysis indicated that several abatement options were still available under the $50 trigger price. The price was preliminary until the Commission released its initial advice in 2021.

Commission draft advice

In its draft advice, the Climate Change Commission recommended increasing the CCR trigger price to $70 as soon as practical, followed by increases of 10 per cent plus inflation per year.

The Commission's modelling indicated that meeting their draft budgets and the 2050 target would require higher marginal abatement costs than the current $50 trigger price would allow. This was particularly in the sector of process heat, which they expect to play an important role in driving decarbonisation. They suggested there were significant abatement opportunities at costs from $50 and above.

The Commission also recommended this increase to reduce the risk of triggering the CCR and adding to the current NZU stockpile.

Table 10: CCR trigger price

Trigger price	2021	2022	2023	2024	2025	2026
Current	$50.00	$51.00	$52.02	$53.06	$54.12	$55.20
Commission draft advice		$70.00	$78.40	$87.81	$98.34	$110.15

Analysis

There are strong requirements for the Government to consider emissions budgets and the Commission's advice when setting unit price controls. Despite the Commission's advice being draft, we consider it unlikely the final advice will reduce the proposed value of the trigger price. The Commission's draft proposed trigger price is considered suitable to meet the first emissions budgets, while still providing an important backstop for unacceptable prices that could significantly affect households and businesses.

An increase to $70 will help decrease the risk of triggering the reserve in 2022. The NZU price rose by over 40 per cent in 2020. Triggering the reserve is an increasing risk if it remains at $50 in 2022 and the NZU price continues to rise at this rate. It could potentially release an additional 7 million units onto the market. This could add to the already large NZU stockpile of over 120 million units, and comes with a financial cost: the Act requires the Government to back CCR units with equivalent emissions reductions if they exceed the budgets. This would likely have to be met with international units.

Impacts

A higher CCR trigger price does not represent the Government's price forecast. So although we present the option of raising the price in 2022 from $50 to $70, this does not imply that the NZU price would also suddenly jump. The NZ ETS market has already been exposed to the Commission's advice that the proposal is based on, and did not see a sudden price increase.

Treasury conducted a previous analysis, which we discussed in our initial analysis of the CCR trigger price impacts (Reforming the New Zealand Emissions Trading Scheme: Proposed settings, December 2019). The analysis assessed the impact of higher emissions prices on short-term household spending. It showed that a rise from $50 to $75 would increase low-income household spending by $2 per week, and $4.10 per week for high-income households. This was based on 100 per cent pass-through of emissions prices, and an assumption that households did not adjust their consumption to rising emissions prices.

As well as short-term impacts, we must also consider the longer term. This includes the potential costs for New Zealand of not reducing emissions fast enough – such as not meeting our emissions budgets or targets, and the requirement to meet these equivalent reductions with international units.

Cost containment reserve volume

The CCR is the volume of units that is available to be released when the trigger price in an auction is reached. The volume in the reserve affects the CCR's ability to effectively manage emissions prices.

All reserve units sold at auction that are above the NZ ETS cap must be 'backed'. This means the Government must be able to obtain equivalent emissions reductions to match the amount of reserve units.

The current regulations calculate the CCR volume based on:

- the stockpile adjustment volume, plus
- 5 per cent of the NZ ETS cap.

Update options

The **actual volume** of the CCR is calculated directly, based on figures determined by the unit supply limits.

The **specific volume** should be directly linked to unit limit settings for the stockpile adjustment volume and NZ ETS cap.

Table 11 shows the calculated reserve volumes based on the Option 1 unit supply limit volumes, shown in section 1.

Table 11: Example cost containment reserve volumes

CCR volume	2022	2023	2024	2025	2026
Based on option 1 unit limit updates	7.0	7.0	6.9	6.8	6.7

Note: The options resulting in new CCR volumes are the same as those involved in setting other unit supply limits. The questions are in 1.1 above, and there are no new questions about this here.

Assessing the options

Table 12: Assessment of CCR volume update against status quo

Option	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
Based on Option 1 unit limit updates	Fair – reflects one approach to meeting targets.	Not applicable – these updates do not affect accuracy.	NA Not applicable updates do not affect efficiency.	Not applicable – these updates do not affect clarity.

Questions

In your responses, please consider:

- the impacts this would have on you
- whether you think the updates should happen in 2022 or later.

6. *Do you agree that the options outlined are the correct options to consider? If not, why not? Do you have any further options to suggest?*

7. *What are your views on increasing the NZU auction price floor to $30 from 1 January 2022, in line with the Commission's draft recommendation?*

8. *How would a higher price floor affect you?*

9. *What are your views on increasing the auction price floor by 5 per cent plus 2 per cent inflation per annum, in line with the Commission's draft recommendation? If you don't agree, what are your reasons?*

10. *What are your views on increasing the cost containment reserve (CCR) to $70 from 1 January 2022, in line with the Commission's draft recommendation? If you don't agree, what are your reasons?*

11. *What are your views on increasing the CCR by 10 per cent plus 2 per cent inflation per year, in line with the Commission's draft recommendation? If you don't agree, what are your reasons?*

12. *What are your views on updating CCR volumes, as shown in table 10?*

2. Update default emissions factors and reference data

Context

Participants in the NZ ETS calculate their emissions based on the methodologies and emissions factors prescribed in the regulations. SGG levies are calculated in a similar fashion. Emissions factors represent the carbon dioxide equivalent greenhouse gas emissions, based on the global warming potential of each greenhouse gas released.

Emissions factors change over time for various reasons, and the NZ ETS and SGG levy need to be updated periodically to reflect those changes and maintain the accuracy of the NZ ETS and SGG levy. This consultation proposes changes to several emissions factors, and reference data, to reflect changes to:

1. The overall composition of waste going to landfill.
2. The chemistry of natural gas.
3. The global warming potentials of greenhouse gases used in our international reporting.

2.1 Update the default emissions factor (DEF) for waste

Background

The organic content of waste from landfills can change over time, as waste practices evolve. The waste DEF in Regulation 5(1) of the Climate Change (Waste) Regulations 2010, was last amended on 1 January 2016 from 1.31 to 1.19, reflecting a decrease in the organic component of waste.

The existing default emissions factor (DEF) for waste has become inaccurate due to changes in waste composition. This is highlighted in a report released in 2020: the *National Waste Composition Estimate 2020*[6], by Waste Not Consulting Ltd.

Estimates of greenhouse gas emissions from solid waste disposal form part of the New Zealand greenhouse gas inventory. The report refines the 2006 guidelines for waste generation, composition and management data, updating the default waste compositions across New Zealand.

[6] Waste Not Consulting Ltd. 2020. National Waste Composition Estimate 2020. Prepared for Ministry for the Environment.

Why update the DEF?

The change in national waste compositions affects the emissions produced per tonne of waste. This has implications for NZ ETS waste participants when calculating their emissions. The DEF for waste needs to be updated to reflect the new compositions.

If DEFs are not amended, participants will either inaccurately report emissions or have to apply for unique emissions factors (UEFs) for accurate measurements of organic content in their landfills. The latter option will impose additional administrative and compliance costs on participants and the Environmental Protection Authority.

Options

The options for maintaining accurate DEFs for waste are limited to updating the DEFs using the updated composition data, or keeping the status quo. The waste DEF is calculated on the basis of waste composition, so any change depends on robust and reliable composition data.

DEFs can be updated by applying the latest compositional data. The new compositions reflect a lower organic percentage in waste. This increases the accuracy of the NZ ETS, and reduces administrative costs by reducing the need to apply for UEFs.

Status quo: No change to the waste DEF

This will mean no change to the current waste DEF of 1.19 as stated in the Climate Change (Waste) Regulations 2010, Regulation 5(1) C, or to the relevant sections of the Climate Change (Unique Emissions Factors) Regulations 2009.

Option 1: Update the waste DEF

This will involve using the updated waste compositions for each waste stream (National Waste Composition Estimate 2020), shown in the chart below, to develop a revised bulk degradable organic carbon (DOC) component.

Garden	Nappies and sanitary	Putrescibles other than garden waste	Paper	Sewage sludge	Timber	Textile	Inert
5.7%	2.5%	9.0%	5.9%	1.9%	12.6%	5.0%	57.3%

The change estimated on this basis is a decrease from the existing waste DEF value of 1.19 to a new DEF value of 0.91.

Assessing the options

Table 13: Assessment of Option 1 against status quo

Option	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
Option 1: Update the waste DEF in line with the new waste composition data.	Good – reported emissions and associated NZ ETS costs consistent with actual emissions.	Good – better reflects actual emissions.	Good – no change for participants in how they report their emissions.	Good – no change for participants in how they report their emissions.

Your views

We are interested in your thoughts on our assessment against the criteria in table 13. This includes whether you think any criteria should have more or less weighting than others.

Questions

13. *To what extent do you agree with the way we have described the issue? Do you have any further options to suggest?*

14. *Do you think the default emissions factor for waste should be updated to reflect the new waste composition data?*

2.2 Update the DEFs for natural gas

Background

The prescribed emissions factors for natural gas mines need regular updating due to changes in the composition of mined gas over time. We are consulting on updating the set of default emissions factors (DEFs) for natural gas fields. This update occurs most years to maintain the accuracy of emissions reported in the NZ ETS.

Natural gas miners and NZ ETS opt-in participants use the methodologies and emissions factors in the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009 (SEIP Regulations) to calculate their emissions.

Gas miners are required to run various tests on their gas to calculate an emissions factor specific to their field.

Opt-in participants are not required to perform the same gas tests as gas miners. Opt-in participants can report emissions by referring to the gas field-specific and national average DEFs in Table 10, Schedule 2 of the SEIP Regulations. DEFs allow gas purchasing (opt-in) participants to report their emissions without seeking information beyond total terajoules in the natural gas from the gas miner.

Updating these DEFs is routine. The precise changes to DEFs can only be determined, then shared, once the EPA has reviewed the emissions returns of gas miners.

Why update the natural gas DEFs?

The DEFs need to be updated regularly because the chemistry of natural gas from a mine is not constant. If they are not amended, gas purchasing (opt-in) participants will either inaccurately report emissions or have to contact gas miners for detailed information. The latter option will impose administrative and compliance costs on parties.

DEFs have been regularly updated in the past to ensure they reflect current field operations and are accurate. This involves exchange of data between the EPA and the Ministry for the Environment.

Options

The options for maintaining the accuracy of the DEFs for natural gas are limited to updating the DEFs using emissions returns data or not updating them. DEFs are calculated on the basis of gas composition, so any change depends on robust and reliable data on gas composition.

DEFs can be updated for gas fields from emissions returns data. This increases the accuracy of the NZ ETS and potentially lowers administrative costs for participants.

Feedback from 2016 was that opt-in participants in particular (and some gas miners) strongly supported the retention and regular updating of Table 10 in Schedule 2.

The DEFs were last updated on 1 January 2020. This enabled the DEFs to be used for reporting emissions for the 2020 calendar year in 2021. These DEFs have not since been updated, due to prioritising Cabinet time in 2020 to responding to the COVID-19 crisis.

Assessing the options

Table 14: Assessment of option 1 against status quo

Option	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
Option 1: Update natural gas DEFs.	Good – reported emissions and associated NZ ETS costs consistent with actual emissions.	Good – better reflects actual emissions.	Good – no change for participants in how they report their emissions.	Good – no change for participants in how they report their emissions.

Your views

We are interested in your thoughts on our assessment against the criteria in table 14, including whether you think any criteria should have more or less weighting than others.

Approach

Any updates would involve estimating national and field-specific DEFs from the annual emissions returns data that gas miners provide to the EPA. A draft Table 10, Schedule 2 of the SEIP regulations will be separately forwarded to all affected NZ ETS gas mining and purchasing participants for comment by the end of June.

DEFs for the following natural gas classes were updated for the 2020 reporting year:

- Cheal
- Kapuni LTS
- Kowhai
- Kupe
- McKee
- Mangahewa
- Maui
- Ngatoro-Kaimiro
- Pohokura
- Radnor
- Sidewinder
- Turangi
- Waihapa.

Questions

15. *To what extent do you agree with the way we have described the issue? Do you have any further options to suggest?*

16. *Would you prefer the DEFs to be updated, or for the current DEFs to remain unchanged?*

17. *Has the natural gas class you use NOT been updated?*

18. *Are any of the existing classes now redundant?*

2.3 Update DEFs and reference data with new global warming potentials

Background

The Climate Change Response Act 2002 (the Act) requires that for each non-CO_2 greenhouse gas the NZ ETS uses, the global warming potential relative to CO_2 over a 100-year time horizon (also known as GWP_{100}) is in line with our international climate change obligations[7].

The GWP_{100} of greenhouse gases is assessed by the International Panel for Climate Change (IPCC). The IPCC released its Fifth Assessment Report (AR5) in 2014 and updated the GWP_{100} values for all greenhouse gases, including methane and nitrous oxide.

AR5 presents two GWP_{100} values for several gases: one including climate-carbon feedbacks, and one excluding them. Climate-carbon feedbacks recognise that the warming caused by greenhouse gas emissions can further affect atmospheric greenhouse gas concentrations, causing further warming. The Government proposes to use GWP_{100} values that do not include climate-carbon feedbacks to inform any changes to emissions factors. This is most likely to be used for international reporting, and is in line with the Commission's draft advice on measuring progress[8].

Parties to the Paris Agreement have decided that GWP_{100} values from AR5 shall be used for reporting greenhouse gas inventories, and for accounting towards nationally determined contributions (NDCs). The parties have been invited to submit updated NDCs before COP26, the UN Climate Change Conference, scheduled for November 2021.

Why update the GWP_{100} values?

Emissions factors and reference data in the NZ ETS and SGG levy use GWP_{100} values from the Fourth Assessment Report (AR4). New Zealand's first nationally determined contribution (NDC1) under the Paris Agreement was also submitted using AR4 metrics[9].

As part of its international climate change obligations, New Zealand is required to submit a National Greenhouse Gas Inventory (the Inventory). The Inventory is New Zealand's official annual estimate of GHG emissions and removals which have occurred here since 1990. New Zealand's emissions from 2021 onwards (reported in the Inventory in 2023) will be required to use AR5 metrics.

To align NDC accounting with our inventory reporting, a revised NDC1 would likely use AR5 GWP_{100} values. In future, countries will be required to submit subsequent NDCs using AR5 metrics.

In its draft advice, the Climate Change Commission recommends using AR5 for New Zealand's domestic emissions budgets[10]. The Government is required to set the first emissions budgets by 31 December 2021.

---

[7] See 'carbon dioxide equivalent' definition in Section 4 of the Climate Change Response Act 2002.

[8] See Evidence Report, Chapter 3: How to measure progress.

[9] Decision 18/CMA.1 Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement – UNFCCRA.

[10] https://www.climatecommission.govt.nz/get-involved/our-advice-and-evidence/.

The Minister must have regard to our international climate change obligations if there is a change to how NZ ETS participants calculate their emissions. This means if a change in regulations affects the way an NZ ETS participant calculates its emissions, that update will also need to address how to apply the AR5 GWP_{100} values.

Options

We have assessed two options against the status quo (maintaining the current AR4 GWP_{100} values).

Option 1: Update NZ ETS and SGG levy reference data to AR5 GWP_{100} values from 1 January 2022.

Under this option the emissions factors and associated reference data used in the NZ ETS and SGG levy would be updated to reflect AR5 GWP_{100} values from 1 January 2022.

Option 2: Update NZ ETS and SGG levy reference data to AR5 GWP_{100} values in future.

Under this option the emissions factors and reference data used in the NZ ETS and SGG levy would be updated to reflect AR5 GWP_{100} values as appropriate, when decisions on emissions budgets and NDC accounting have been made.

Assessing the options

Table 15: Assessment of options against status quo

Option	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
Option 1: Update NZ ETS and SGG levy reference data to AR5 GWP_{100} values from 1 January 2022.	Poor – reported emissions may not be consistent with NDC1.	Good – the emissions factors would align with Inventory reporting.	Fair – no change for participants in how they report their emissions.	Fair – no change for participants in how they report their emissions.
Option 2: Update NZ ETS and SGG levy reference data to AR5 GWP_{100} values in future.	Fair – reported emissions would be consistent with NDC1 if no changes are made, but are unlikely to be consistent with an updated NDC1. Would likely be inconsistent with emissions budgets.	Fair – the emissions factors would remain inconsistent and would not be comparable with Inventory reporting until at least 2023.	Fair – no change for participants in how they report their emissions.	Fair – no change for participants in how they report their emissions.

Your views

We are interested in your thoughts on our assessment against the criteria in the table above. This includes whether you think any criteria should be given more or less weighting than others.

Analysis

Who would be affected by updating the AR5 GWP_{100} values?

- The changed GWP_{100} values will result in significant changes to emissions factors for waste (landfill methane), underground coal mining (fugitive methane) and those involved with synthetic greenhouse gases. The GWP_{100} values will also reduce for perfluorocarbons emitted in aluminium smelting.
- The GWP_{100} values for synthetic greenhouse gases (SGGs) used as refrigerants are also changing. The proposed changes in this section will affect importers of bulk SGGs.
- There are proposed changes to the SGG levy (which applies to imported goods or vehicles which contain SGGs), including the updates to the GWP_{100} values.
- The change to GWP_{100} values will result in minor changes to other participants. This is due to the small amounts of methane and nitrous oxide released during the combustion of gas, coal and industrial waste products. We estimate that these changes will be of low economic significance; however, we would like your feedback on this.

For the full list of proposed changes see appendix 2 *Updates to NZ ETS and SGG levy data based on a move from AR4 to AR5 GWP*.

Impact on unique emissions factors

The changes to emissions factors will require corresponding changes to the calculation of unique emissions factors. Significant changes are likely to result in the current unique emissions factors expiring. This is because holders of unique emissions factors are required to calculate the impact of any changes in the methodology. The impact of the change is assessed by the Environmental Protection Authority on a case-by-case basis. If the unique emissions factor expires, the participant could reapply, or would need to use the default emissions factor option.

All participants using unique emissions factors must be aware of possible changes to emissions factors, and the potential impacts on their current unique emissions factors.

Emissions factors for the agricultural sector will not be updated now

We are not considering any updates to the emissions factors used to report agricultural emissions, as part of either option. An ongoing work programme through the He Waka Eke Noa Primary Sector Climate Action Partnership aims to develop an appropriate pricing mechanism for agricultural emissions by 2025. If this includes emissions factors based on GWP_{100} values, the AR5 values will be used to inform these.

Allocative baselines

Changes to emissions factors could also result in a subsequent process to incorporate these changes into the allocative baselines for industrial allocations. Any resulting changes are not expected to be economically significant.

Questions

We are seeking feedback on the impact on participants of changing to AR5 GWP_{100} values for calculating emissions and SGG levies.

19. *To what extent do you agree with the way we have described the issue? Do you have any further options to suggest?*

20. *Do you support updating the emissions factors to reflect AR5 metrics? If so, do you think this should apply from 1 January 2022? If not, why not?*

21. *How would you be affected by updates to NZ ETS and SGG levy reference data, including emissions factors, levy rate calculations and allocative baselines?*

22. *Do you think allocative baselines should also be updated? What impact, if any, do you think this would have?*

3. Update the electricity allocation factor

Background

The costs of NZ ETS surrender obligations for fossil fuels and geothermal steam used in electricity generation have a marginal effect on the wholesale price of electricity. We need to estimate this price effect to calculate and update the allocative baselines in the Climate Change (Eligible Industrial Activities) Regulations 2010. These baselines are used to determine the amount of industrial allocation to emission-intensive and trade-exposed industries.

The electricity allocation factor (EAF)

The EAF is an estimate of the effect of the NZ ETS on wholesale electricity prices. It is expressed in tonnes of CO_2e (equivalent) per megawatt-hour (tCO_2e/MWh). Currently, an EAF of 0.537 tCO_2e/MWh is incorporated (where relevant) in each of the published baselines. Close to a third of all industrial allocation is attributable to the cost impact of an emissions price on the electricity price using this current EAF.

Calculating the EAF involves an understanding of the wholesale electricity market, and the use of market modelling tools to estimate the marginal cost the NZ ETS adds to electricity prices

The EAF was set at 0.520 tCO_2e/MWh in 2010, when industrial allocations were first given to industry, and increased to the current value after a review in 2011-12.

These values were set with a forward-looking modelling approach to simulate the operation of the electricity system for about five years ahead.

Reviewing the current EAF

In 2018, the Ministry commissioned and published a report with an updated estimate of the 'actual' pass-through of NZ ETS prices – ie, based on ex-post analysis of the actual market outcomes against a counterfactual – covering the years 2016 and 2017[11]. This report evaluated the EAF based on three different counterfactual scenarios. These used different assumptions about how the offering behaviour of generators would have been different in the absence of the carbon cost. These assumptions are described below.

In 2019, a second report was commissioned to review the input values of the model to set the current value of the EAF. The report compared these with what actually happened in the five-year modelling period.[12] This gave a qualitative indication of what the EAF might have been if the same modelling approach had been used, but using actual market information for each year instead of projections.

Both reports indicated that actual outcomes for the pass-through of NZ ETS costs differed from the projections used in 2013. It is likely that if an 'actual' EAF (one based on ex-post analysis of the

[11] Scientia Consulting. 2018. *Electricity Allocation Factor Estimates for 2016/17*. Ministry for the Environment.

[12] Concept Consulting Group. 2019. *Electricity Allocation Factor Assumptions Review*. Ministry for the Environment.

electricity market, rather than forward-looking) had been in use, it would have been materially lower than 0.537 tCO_2e/MWh for part of that period.

In November 2019 the Ministry published an issues paper seeking submissions on the input parameters and techniques that might be used to remodel the EAF[13]. To help with this consultation, the Ministry commissioned a report by Energy Link on possible values for the input parameters that a new modelling exercise could use[14]. Consultation closed on 20 December 2019.

After this, the Ministry commissioned Energy Link to do an updated, but still forward-looking, modelling exercise. This was published in March 2020 and suggested a new EAF of 0.472 tCO_2e/MWh[15]. However, this report also cautioned that future developments such as generation plant retirements or closure of the aluminium smelter would be likely to require recalculation. It also briefly discussed the possibility of using ex-post or 'actual' EAFs and updating them each year.

The Government decided not to progress work on an updated EAF in 2020, because the COVID-19 pandemic led to material changes in electricity demand. This meant Energy Link's forward-looking modelling would already have needed recalculation, with the prospect of further uncertainty and market changes overtaking any recalculated value as well.

Re-estimated EAFs up to 2020

The Electricity Authority has made a set of ex-post estimates for the five years 2016-20, using the vSPD model[16]. Table 16 shows the estimated EAF values. This updated analysis uses essentially the same methodology that Scientia used for their 2018 report. However, the results are not precisely comparable, because the Electricity Authority has revised and updated the input data and made minor methodological changes.

In summary, the EAF is calculated as:

$$EAF = \frac{Electricity\ price\ with\ ETS - Electricity\ price\ without\ ETS}{NZU\ price}$$

where the prices used are load-weighted means calculated over any required period.

In an ex-post analysis, the electricity prices with NZ ETS are known and the model is run to estimate the counterfactual scenario: the prices that would have been expected without NZ ETS obligations. The analysis has used three different scenarios, based on different assumptions about offering behaviour, as listed in table 16.

[13] Ministry for the Environment 2019. *Modelling the electricity allocation factor: Issues paper*.

[14] EnergyLink. 2019. *Electricity Allocation Factor Review Background Information*. Ministry for the Environment.

[15] Energy Link. 2020. *Electricity allocation factor modelling 2020*. Ministry for the Environment.

[16] Available on the Electricity Authority's Github webpage.

Table 16: Counterfactual scenarios

Scenario	Assumed behaviour	EAF range (approx.)
Scenario 1	High-priced thermal generation is offered at lower prices because the removal of the NZ ETS reduces their marginal costs; all other offers remain exactly as they were with the NZ ETS in place.	0.10
Scenario 2	Hydro generators (if they have controllable storage) also adjust their offer prices in response; lower overall prices mean the opportunity cost of water would be lower.	0.47–0.60
Scenario 3	In addition, low-priced (<$1 per MWh) thermal generation offers are adjusted in quantity in response to the overall lower price levels. The size of the adjustment is based on generators' historic behaviours at different price levels, and the differences between actual and Scenario 2 prices.	0.30–0.42

Scenario 1 assumes that the only difference will be a first-order effect on those generators who see their marginal fuel costs change, and can change their offers immediately in response. The other two scenarios progressively take account of second-order impacts on other offering behaviour. Table 16 also indicates the range of EAF values that result from these different assumptions.

Documentation of the code used and inputs can be found on the Electricity Authority's Electricity Market Information web page[17]. Further details of the methodology used both by Scientia and for this updated analysis can be found in Scientia's report.

Table 17 shows the results for Scenarios 2 and 3.

Table 17: Ex-post estimates for 2016–20

Year	EAF (Scenario 2)	EAF (Scenario 3)
2016	0.483	0.420
2017	0.477	0.297
2018	0.599	0.291
2019	0.547	0..320
2020	0.509	0.336

These results provide some confirmation of the analysis by Scientia and Energy Link in 2018–19, and indicate the estimates made at that time are not likely to have changed radically in the past two years. There are some variations from year to year. The higher Scenario 2 figures in 2018 and 2019 may be associated with an unplanned outage that affected Pohokura gas production near the end of 2018, and market responses to low hydro storage through the first half of 2019. For more analysis of these factors, see the Electricity Authority's discussion of 2018 spot price increases in Energy in New Zealand 2019[18].

Using this methodology would require us to choose which of the three counterfactual scenarios is the most realistic and will give the most accurate estimates. Our view is that Scenario 3, which takes into account more drivers on offering behaviour, is likely to be the most accurate. Experience in the electricity market shows that all generators will rationally adjust their offers in response to prices and market conditions, not just to their own input costs.

[17] The Energy Market Information web page.

[18] Ministry of Business, Innovation and Employment *Energy in New Zealand*.

Why update the EAF?

The current EAF is no longer fit for purpose. The information and modelling from 2018-19 showed that changes in the electricity market up to that time meant that there was a case for a significant adjustment. The COVID-19 pandemic and the prospect of ongoing changes in the generation and industry sectors mean that from now on the NZ ETS costs being passed on to consumers will change from year to year, possibly more than in the past.

The EAF's objective is to reflect the impact of NZ ETS costs on wholesale electricity prices as accurately as is feasible, in line with the purpose of allocation, which is to manage the risk of emission leakage. The risk of leakage is driven by the actual price pass-through over time, which is expected to vary to some extent for each compliance year. We need to do this with a process and calculation methodology that is as simple and transparent as possible, and to provide an acceptable level of certainty for policy and investment.

Issues and options

There are several issues to consider in deciding on an approach to setting and adjusting the EAF for the future.

Forward-looking or actual

The current and previous EAFs were based on forward-looking modelling. The models would generate two sets of estimates of expected wholesale prices for a future period, one with and one without the NZ ETS. The difference between the two tells us what the EAF will be for that period. These updates used five years as a practical look-ahead period. After setting a new EAF, the Ministry used it to recalculate the allocation baselines and set them in regulations.

There has been more volatility in the wholesale market in the past few years. Upcoming structural changes to the market will also affect future price outcomes, particularly the introduction of real-time pricing and transmission pricing reform in the wholesale market. It is likely that a similar forecast made now would be less accurate than in the past.

An alternative is to evaluate the EAF through an ex-post analysis done after each compliance year, so that it is based on the actual market outcomes for that year. The real outcome is known, and a modelled outcome is only required to establish the counterfactual case – what would have happened without the NZ ETS. This 'actual' or ex-post approach will give a more accurate EAF.

The ex-post approach may offer less certainty for firms, because their allocations will change with the EAF from year to year. This could be mitigated by using a rolling average, so that at any time the EAF reflects a longer historical period rather than just the current compliance year.

Process for setting an EAF

When the current and previous EAFs were set, the Ministry engaged in a collaborative process. Firms that receive allocations, as well as the electricity industry, could participate in workshops and reach a consensus on the methodology and basis for setting the EAF, as well as the outcome. Industry submitters have advocated for a similarly open and collaborative process in any future revision or update of the EAF.

However, the process was onerous and time-consuming both for the Government and for industry participants. In our view, a practicable future process may be assisted by separating issues of principle and method from the business of running a model and determining a number. We would establish the principles to be applied, and the calculation method, upfront. Re-estimating the EAF from time to time would then become a technical issue. We would consult stakeholders, as for any change to NZ ETS regulations, for each update but this should not need in-depth engagement and consensus.

Choice of model and methodology

Market participants and Government agencies use several different economic and technical models to represent the wholesale electricity market and to inform decision-making. Scientia used the Electricity Authority's vSPD model in the analysis they reported in 2018. Energy Link used the I-Gen model to produce build schedules for each of their forward-looking scenarios, and EMarket to simulate the wholesale market.

The vSPD model is an audited replica of the market-clearing algorithm used for actual dispatch in the electricity market. It is open source and can be fully used by anyone with a GAMS licence, or in a limited way through the Electricity Authority's online interface[19]. It is our preferred choice for any short-term or ex-post modelling to determine and update EAFs in future.

Regardless of the model used, the choice of inputs for the calculation will be more important in driving the results. In an ex-post analysis, the most important of these is an assessment of the offer behaviour of generators, ie, choosing one of Scientia's three counterfactual scenarios. As noted above, our view is that Scenario 3 is likely to be the most realistic.

If the decision was to use a forward-looking analysis, we would also have to model a broad range of possible hydrological conditions, to project the range of possible outcomes for the market in future years.

Accurate price data and emission factors for all New Zealand generation plant are also necessary for any analysis of the market.

Your views

We would like your feedback on three options for calculating and setting the EAF in future years.

The status quo is to retain the current EAF and defer deciding on any changes or updates until the current COVID-19 pandemic, and developments in the electricity sector and in climate change policy, allow more certainty about future pass-through rates. In principle, this status-quo option would mean that the EAF is stable, and firms would have certainty. However, real certainty would be lacking, as the Government would step in and update it relatively soon. We would be retaining an EAF that is likely to be incorrect about actual current and future pass-through.

[19] https://www.emi.ea.govt.nz/Wholesale/Tools/vSPD.

Option 1: Update the EAF as a one-off

This would mean we essentially repeat the exercise of updating and recalculating the EAF as before, basing the calculation on forward-looking projections of market outcomes up to about 2026, and fixing a new EAF for that period.

In comparison with the previous updates, we would expect to be more confident about the modelling and calculation built on previous experience. On the other hand, this option would introduce a risk, because changes in the electricity and industry sectors may affect the pass-through of costs and make the EAF obsolete. In particular, structural changes in the wholesale electricity market will mean that change may be more rapid than in the past.

Options 2 and 3: A new process to keep the EAF current

Establishing a process to update the EAF regularly, based on ex-post analysis would remove the uncertainties and errors that are inherent in making forward projections.

We would:

- decide on an upfront set of assumptions based on our best estimates of how the wholesale electricity market is likely to respond to NZ ETS costs over time
- apply those assumptions consistently over time, to re-assess the EAF.

It would also be desirable to use an open and transparent model so that stakeholders can replicate the calculations. The EAF would be re-assessed every year and the allocation baselines updated.

Option 2 (below) is to base each update on the latest year's data, so that the EAF is as accurate as possible and reflects any year-to-year variations in the cost pass-through. Option 3 is to smooth out this variability by taking an average over a longer period. A rolling average over three or perhaps four years would remove one-off variations and provide more certainty for firms receiving allocations. This could smooth out variations that are due to one-off events, while responding to overall changes in the electricity market.

Assessing the options

Table 18 sets out the three options against the status quo. We think the single most important criterion for this decision is accuracy. If the EAF is an accurate reflection of actual price pass-through, it will be in line with the purpose of industrial allocation.

Table 18: Assessment of options against status quo

Option	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
Option 1: A one-off update to fix the EAF again, based on a forward-looking assessment of price pass-through.	Fair – EAF will be stable unless unexpected changes require ad-hoc updates; this is more likely than in previous years.	Fair – updating the number would somewhat improve accuracy the status quo.	Fair – initial cost higher, although there is no further implementation cost until market change forces it.	Good – ensures that the input assumptions are clear, and that the modelling is open.
Option 2: Establish a process to update the EAF, based on ex-post assessment, and update it annually to reflect current estimated pass-through.	Fair – less certainty of outcome from time to time, but the process may be durable.	Good – using ex-post assessment reduces errors, and updates can capture changes year to year; the EAF will be more accurate in reflecting actual cost.	Fair – some ongoing cost for updates but this is not onerous once a process is in place.	Good – given clear assumptions, and that a user could replicate the calculations at any time.
Option 3: Process as for Option 2, but use a 3-year rolling average to smooth out variations in pass-through.	Good – a balance between certainty and the real need, based on accurate assessment.	Good – if there is a consistent trend in actual pass-through, the EAF follow it with a lag.	Fair – the same as Option 2.	Good – the same as Option 2.

The EAF should be as accurate as possible as a reflection of the actual price pass-through from time to time.

Your views

We are interested in your views on our assessment against the criteria in table 18. This includes whether you think any criteria should be given more or less weighting than others.

Impact on allocative baselines

If any of the options above were implemented, the EAF in regulations could then be updated by amendment regulations. However, due to current Act wording, a further process is required for any updates to allocative baselines other than for calculating emissions from large electricity contracts. This was not the policy intention and solutions to this problem are being developed, including through the review of industrial allocation policy.

Questions

Options

23. To what extent do you agree with the way we have described the issues? Please explain any additional aspects of the problem that you think we should consider.

24. Do you agree that the options outlined in this consultation document are the correct ones to consider? If not, why not?

25. What options should we consider to solve the problem, either as identified in this document, or as you identify the problem? Do you have a preferred option? Please let us know if there are aspects of any of the options presented that you do not agree with, and why.

26. Do you have views on the timing of implementation of any new EAF methodology and calculation, including the timing of updating allocation baselines and when these should apply from?

Methodology and modelling

27. Do you have any comment on the choices of a modelling approach?

28. Do you have any comment on using the Electricity Authority vSPD model for future updates?

29. We would welcome technical input from experts, industry and the electricity sector on any aspect of the modelling and calculation of an EAF, and on sourcing and updating the input parameters, eg, emission factors for all of New Zealand's generation assets.

30. Do you agree with the assumption that hydro and low-price thermal generators would adjust their offers as described in the Scientia report, as a consistent basis for the counterfactual that is modelled?

4. Improve the methodology that accounts for waste in the NZ ETS

Background

Operators of disposal facilities are mandatory NZ ETS participants under the Climate Change Response Act 2002 (the Act), if the waste is at least partially from households. Such landfill operators calculate emissions by multiplying total tonnes of waste disposed in the year by a default emissions factor, unless use of a unique emissions factor has been approved.

The default emissions factor (DEF) quantifies emissions from the biodegrading waste over the period during which landfills continue to produce methane for that waste. Consequently, landfill operators report potential lifetime emissions from the waste disposed in the year, not the actual emissions from the landfill in that year.

This methodology does not accurately account for the emissions from waste that has already degraded in a closed landfill, and is then redisposed in a facility run by an NZ ETS participant. Closed landfills, sealed and no longer working, are not subject to NZ ETS obligations.

The waste industry has been part of the NZ ETS since 2013. Under the Act, a disposal facility, subject to the NZ ETS, means a facility, including a landfill:

- at which waste is disposed, and
- at which the waste disposed includes waste from a household that is not entirely from construction, renovation or demolition of a house, and
- that operates, at least in part, as a business to dispose of waste, but
- does not include a facility, or any part of a facility, at which waste is combusted for the purpose of generating electricity or industrial heat.

Why improve the methodology?

The effects of climate change are increasing the risks to closed landfills from flooding and erosion, creating challenges for the landfill owners. Waste from closed landfills that are vulnerable to the effects of climate change may need to be excavated and redisposed of in consented, working waste disposal facilities, to address concerns about ongoing management. The current ETS obligations from redisposed waste may be disproportionate to the remaining methane emissions from this waste. The emissions costs from redisposed waste are materially higher than the actual emissions.

The default waste emissions factor in the NZ ETS does not distinguish between different sources of waste, applying a single emission factor. These settings are not appropriate for re-disposed waste, which may differ significantly from general household refuse. For example, relocated waste might be old and almost completely inert.

We note that there is a general exemption from reporting disposal of the waste that had been previously placed at the Fox Glacier landfill and is processed by the facility on or after 1 April 2019. This exemption related to the clean-up and disposal of waste, when flooding in March 2019 dispersed waste from the disused Fox Glacier landfill.

Current settings mean that the redisposal costs cannot be recovered from the person who created the waste. Rather, those relocating the waste from closed landfills will incur the re-disposal ETS costs. This cost will influence the decisions of closed landfill owners in a way that might not have the best environmental outcome. Furthermore, if the waste remains in place, it will not incur obligations, as the NZ ETS does not cover closed landfills.

Any approach which retains or imposes an emissions cost for redisposed waste from closed landfills risks discouraging any work to address climate-related environmental risks from closed landfills.

Landfill operators have two main methods to reduce emissions:

- operating landfill gas collection and destruction systems
- reducing the amount of biodegradable waste being disposed of.

Both allow different emissions factors to be used in calculating emissions.

Options

Each option implies changes to regulations – there are no non-regulatory options. The status quo is included for reference.

Status quo

Current settings mean NZ ETS costs are incurred from redisposal of recovered waste, as though the emissions are the same as from new waste. The settings assume the placement of fresh waste with a defined, default waste composition. However, the composition of waste in historical landfills could be substantially different from the default composition. The remaining organic content of the relocated waste could vary significantly depending on the age of the vulnerable landfill, how it was filled and the conditions after it closed. The waste may be highly degraded, with very little organic content remaining, or it may still contain a high proportion of organic material. These factors could produce a significantly different emissions profile from the default parameters.

The status quo option could result in inaccurate reporting of emissions. It discourages the relocation of waste from vulnerable closed landfills to a working landfill, as the emissions costs are unrecoverable from the person responsible for the waste.

Operational disposal facilities should be able to accurately account for the emissions from the waste of vulnerable closed landfills that is redisposed. Any approach to enable this would need to involve a methodology that is accurate, efficient and meets the objectives of the NZ ETS.

The NZ ETS has an optional method for landfill operators who wish to calculate emissions using observations of waste composition.

No policy intervention is needed to use this method, so it is included under the status quo.

Option 1: Exemption

Option 1 considers an exemption from NZ ETS obligations for redisposed waste. This could apply to all redisposed waste emissions from vulnerable landfills.

The Minister of Climate Change has the power under section 60 of the Act to recommend the making of an Order in Council for an NZ ETS exemption, providing it meets various tests under that section.

Redisposed waste could be exempted from the NZ ETS reporting and associated unit surrender obligations of the receiving disposal facility. This option is consistent with the current treatment of emissions from closed landfills – that is, if the waste had not required excavation and removal to an operating facility, emissions from the waste would have been exempt from NZ ETS obligations.

Exemption would not account for any of the remaining carbon emissions from the redisposed waste. The scale of emissions that may be unaccounted for has not been quantified, but will vary depending on the amount of waste and how much it has degraded.

This option would remove administrative and compliance costs, as NZ ETS participants would not have to report the waste and calculate its emissions, nor incur transaction costs in purchasing emission units from the market. There would be no administrative costs for the Government, beyond this policy change.

Exemption would require a regulatory change, the best course being via an addition to the Climate Change (General Exemptions) Order 2009. This is the mechanism used for the Fox Glacier Landfill.

Option 2: Redisposed waste stream-specific UEF – waste composition

Option 2 is to develop a waste stream-specific unique emissions factor (UEF) based on waste composition.

Solid waste analysis protocol (SWAP)

For disposal facilities that are applying a UEF which incorporates waste composition, a modified solid waste analysis protocol (SWAP) could be developed to more accurately account for degraded waste.

Changing the SWAP could include requiring one or more representative surveys of the waste, rather than two surveys at least three months apart, and developing new methods for safely quantifying organic proportions of waste from other material. There could also be new methane generation potential values and methane decay rate values, to account for the remaining organic content in unrecognisable materials.

A modified SWAP would require amendment of the Climate Change (Unique Emissions Factors) Regulations 2009 (UEF Regulations). After the first UEF calculation, extra costs for the disposal facility are likely to be minimal, as the composition of the vulnerable waste stream would be considered consistent over time.

Option 3: Redisposed waste stream-specific UEF – site-specific calculations

Option 3 is to develop a waste stream-specific UEF based on site-specific calculations.

A more accurate method of assessing the emissions from vulnerable closed landfill waste would use the principles of the NZ ETS and the UEF Regulations, but better reflect the remaining organic content and degraded nature of the waste. This process would be similar to the current UEF process, but specific to waste from vulnerable landfills. It could be a relatively simple method that estimates remaining emissions from the waste.

Site-specific information such as open and closure dates, landfill volume and the rate of filling could be used. It is unlikely there is detailed information about the operation of vulnerable landfills, so remaining emissions would be estimated based on limited information and informed assumptions.

This would require amendment of the UEF regulations.

Option 4: DEF for redisposed waste

A specific default emissions factor (DEF) for vulnerable landfill waste could be developed, based on a typical vulnerable landfill. The value could be calculated using available data from potentially vulnerable landfills to determine the characteristics of these sites.

This option would result in an overestimation of remaining emissions for some sites, and an underestimation for others. The expected over and underestimation could be assessed through a sensitivity analysis using the available data. A degree of conservatism would ensure emissions are not substantially underestimated.

Assessing the options

Table 19: Assessment of options against status quo

Option	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
Option 1: Exemption.	Good – consistency between reporting of emissions from waste in closed landfills, irrespective of subsequent redisposal.	Fair – some emissions will occur from the redisposed waste.	Good – easy to identify and record this waste stream separately.	Good – very simple to explain and understand.
Option 2: Waste stream specific UEF – waste composition.	Good – allows reporting of emissions from redisposed waste.	Good – accounts for variation between closed landfill sources.	Poor – large amount of work required whenever waste from a closed landfill is to be redisposed.	Fair – complex requirement.
Option 3: Waste stream-specific UEF – site specific calculations.	Good – allows reporting of emissions from redisposed waste.	Good – accounts for variation between	Poor – large amount of work required whenever waste	Fair – complex requirement.

Option	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
		closed landfill sources.	from a closed landfill is to be redisposed.	
Option 4: DEF specifically for redisposed waste.	Good – allows reporting of emissions from redisposed waste.	Good – but doesn't account for variation between closed landfill sources.	Fair – requires recording of separate waste stream.	Good – very simple to explain and understand.

Your views

We are interested in your thoughts on our assessment against the criteria in the table above. This includes whether you think any criteria should have more or less weighting than others. All the options require changes to regulations. The assessment in the table suggests a trade-off between accuracy of reporting emissions and efficiency.

Questions

31. *To what extent do you agree with the way we have described the issue? Do you have any further options to suggest?*

32. *Do you agree that emissions from waste redisposed from closed landfills should be calculated differently from other landfill waste? If not, what are your reasons?*

33. *How much effort do you think it would take to calculate redisposed, waste stream-specific, unique emissions factors?*

34. *Do you think emissions from waste redisposed from closed landfills should be reported in the NZ ETS?*

35. *Which of the four stated options do you prefer? Are there any other options you think we should consider?*

5. Update the SGG goods levy schedule

Background

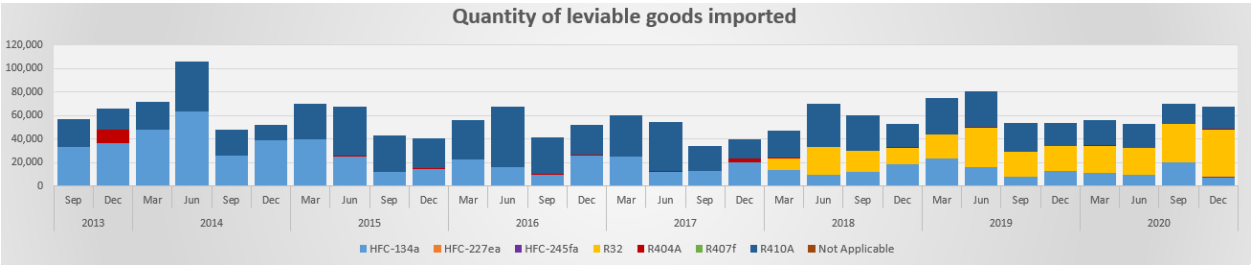
The Climate Change (Synthetic Greenhouse Gas Levies) Regulations 2013 ensure imports of synthetic greenhouse gases (SGGs) in goods and vehicles face comparable emission costs to bulk imports of SGGs subject to the NZ ETS. This policy simplifies NZ ETS obligations for the many importers of SGG-containing goods and motor vehicles.

Importers of goods and motor vehicles must pay a levy through Customs NZ or Waka Kotahi – the New Zealand Transport Agency (NZTA). The Working Tariff Document (WTD) sets out the tariff rates on imported goods. The WTD is maintained by Customs NZ[20]. The motor vehicle and goods levy schedules listing leviable items are in schedules 1 and 2 of the regulations, respectively (see https://legislation.govt.nz/regulation/public/2013/0046/latest/DLM5093451.html).

The SGG levy rates are updated annually in amendment regulations. However, the list of goods subject to a levy (Schedule 2), have been updated just four times since it was first published: in 2015 to add a new class of goods (water coolers); in 2017 to add an alternative gas (R32); in 2018 to exempt a class of refrigerated container ships; and most recently in 2020 to remove redundant descriptions in the schedule.

The Environmental Protection Authority (EPA) reports on the number and type of imported goods and the types of SGG they contain (figures 5, 6).

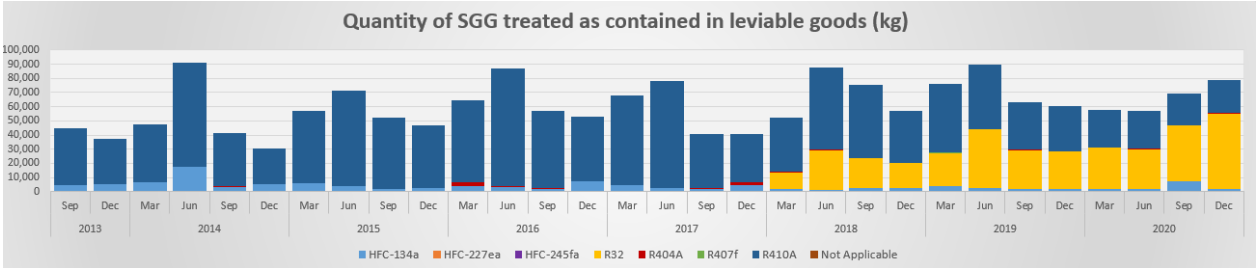
Figure 5: Quantity (units) of leviable goods imported. SGG Levy Report, EPA. 2020[21].



[20] Working Tariff Document: https://www.customs.govt.nz/business/tariffs/working-tariff-document/.

[21] https://www.epa.govt.nz/industry-areas/emissions-trading-scheme/ets-reports/synthetic-greenhouse-gas-levy/.

Figure 6: Quantity (kilograms) of SGG treated as contained in leviable goods. SGG Levy Report, EPA. 2020[22]



Note: these figures represent the amount of SGGs in a leviable category. The figures do not include SGGs contained in goods that are recorded in an 'Other HFC' category.

The Ministry commissioned an expert review of the SGG levy schedules in 2020. This found several unlevied SGG blends that are being imported into New Zealand in goods (recorded by Customs as 'Other HFC'). The review included a second list of unlevied items, but with less certainty and information as to whether they are already being imported.

The review also found that for most of the goods descriptions, the SGG content and amount descriptions were accurate and appropriate, noting only minor changes.

Why update the SGG goods levy schedule?

There is a need to improve the SGG goods levy schedule to ensure it covers imported goods containing SGGs that are not otherwise exempt (eg, for medical use).

The Kigali amendment to the Montreal protocol[23] and domestic policies are resulting in the introduction and substitution of new SGGs in imported goods. Many of these new and alternative gas blends are not yet covered by the levy.

We are not proposing any changes to the motor vehicle levy Schedule 1, even though we are aware of alternatives to HFC134a being imported in vehicle air-conditioning systems. The increasingly common alternative, HFO-1234yf, has a very low climate impact and is not an SGG. The issue of unlevied alternative SGG gas blends being substituted into goods is largely contained to items on the goods levy Schedule 2, and is the focus of this regulation update and consultation.

Ensuring there is consistent levy pricing across SGG emissions is important for two key reasons:

1. *Commercial disadvantag*e – by not pricing all relevant goods containing SGGs, importers of bulk SGGs and domestic manufacturers of bulk SGGs and goods containing SGGs will face an emissions price for these goods, and some importers of goods containing SGGs will not. The unequal pricing may put some importers and domestic manufacturers at a commercial disadvantage relative to goods which are inadvertently not levied. The regulations should require all importers of goods containing SGGS (hydrofluorocarbons/HFCs and perfluorocarbons/PFCs) to pay the SGG levy, except for exempted goods.

[22] https://www.epa.govt.nz/industry-areas/emissions-trading-scheme/ets-reports/synthetic-greenhouse-gas-levy/.

[23] UNEP – The Montreal Protocol on Substances that Deplete the Ozone Layer https://ozone.unep.org/treaties/montreal-protocol.

2. *Pricing emissions* – pricing SGGs is an important part of New Zealand's response to climate change. Pricing the emissions from SGGs in imported goods motivates importers to consider alternative goods that contain lower potency SGGs (and therefore attract a lower levy rate). Lack of consistent and accurate pricing means importers and consumers of goods and vehicles containing SGGs have less incentive to change to lower climate-impact SGGs.

Estimating costs and emissions associated with proposals

There is little available information on the import volume, SGG type or content of goods which are **not** subject to the levy, as they are not individually tracked or monitored. As mentioned, several aggregated data categories relate to descriptions such as 'Other HFC' or 'containing HFCs other than'. We have reviewed a sample of these categories and found they are not detailed enough to use for cost analysis of the options in the next section.

For the same reason, we are also not able to estimate the amount of SGG emissions associated with the items listed in the options below. However, proposals outlined in the next section would provide benefits in this area.

For agencies who administer the levy, including those with monitoring, reporting and compliance responsibilities, there will be a small additional cost to implementing options proposed below.

We also understand that there may be costs associated with updating business processes to accommodate any of the proposed options. However, we do not have information available to ascertain the magnitude of this cost.

Your views

We are seeking your feedback on:

- options to update goods levy Schedule 2 of the Climate Change Response (Synthetic Greenhouse Gas Levies) Regulations
- making minor and technical amendments to this schedule.

Options

The options are split into two parts.

Part A – presents three options to address unlevied goods containing SGGs being imported into New Zealand.

Part B – presents an option to address minor and technical issues in Schedule 2.

Part A – Addressing the import of unlevied goods containing SGGs

Table 20 outlines policy options for improving the goods levy Schedule 2 of the SGG levy.

Table 20: Policy options for updating goods levy Schedule 2 of the SGG levy

Amendment	Options			
Part A – add alternative SGGs to the schedule.	Status quo	Option 1 Only add alternative SGGs very likely to be imported – applies to 47 individual goods.	Option 2 Add possible alternative SGGs being imported AND those likely to be imported in the future – applies to the 47 individual goods in option 1, and a further 117 individual goods.	Option 3 Same as option 2, but applies a 'zero-levy rate' to the 117 individual goods likely to be imported in the future.

Status quo

Any imported goods containing SGG blends not covered by the current schedule will continue to be unlevied. This could create commercial disadvantages for those importers and domestic manufacturers who do pay the levy or face an emissions obligation on SGGs. It would also not apply the proper incentives to support importer and consumer decisions on the emissions and impacts of SGG-containing goods on the climate.

The status quo also includes no additional minor amendments to improve the accuracy of Schedule 2.

Part A

Several options are presented below for levying alternative gas blends that are likely to be, either now or in future, in goods imported into the country.

Option 1: Levy alternative SGG blends in 47 goods

This option proposes to levy five additional SGG blends for a range of commercial and industrial air conditioning and refrigeration units (R407C, R513A, R448A and R449A, and R452A). This option would add 47 new item descriptions for existing goods, in five different classes of the goods levy Schedule 2. These goods would need to be added to the Tariff Working Document.

Currently, Schedule 2 is not providing enough coverage to apply the levy to all SGGs contained in imported goods. This is based on the expert review of the SGG schedules in 2020, as well as import data reported by Stats NZ showing items are being imported under an 'Other HFC' category.

The alternative gases and associated items listed above were identified by the review as being the most likely to already be imported into New Zealand, but not yet subject to the levy.

Proposed additions to the goods levy schedule for Option 1 are summarised in table 21 below, and outlined in more detail in table 1 of appendix 3 *Details of proposed updates to the goods levy Schedule 2 of the SGG levy regulations*.

Table 21: Items for SGG levy under Option 1

Item number	Type of unit	Unit of measurement	Specified SGG
4 Air-conditioning units (large commercial and industrial reversible heat pumps)			
A1-A2	2 items	per kg of specified SGG contained in item	R407C, R513A
6 Air-conditioning units (large commercial and industrial heat pumps not itemised under headings 1 to 5)			
A3-A4	2 items	per kg of specified SGG contained in item	R407C, R513A
12 Refrigerating units (eg, commercial display cooling and freezing equipment)			
A5-A12	8 items	per item	R448A or R449A, R452A
14 Refrigerating units (water coolers, ice or ice-cream makers, refrigerated transport units, other commercial cooling and freezing equipment not itemised under headings 1 to 13)			
A13	1 item	per kg of specified SGG contained in item	R452A
18 Refrigerated vehicles, trailers, tankers and vessels			
A14-A47	34 items	per kg of specified SGG contained in item	R452A

Option 2: Levy alternative SGGs in 162 goods

Option 2 proposes to levy seven alternative gas blends (R407C, R407F, R513A, R448A &R449A, R452A and HFC-365mfc). These blends include those described in Option 1, and a further two. In addition to the 47 items in Option 1, this would add 117 additional items to Schedule 2, across eight goods classes.

These additional gases were not proposed in Option 1 as there is little or no information available on whether they are contained in current imported goods.

This option has several benefits. It provides a degree of future proofing by adding SGGs to the schedules ahead of time. It reduces the risk of competitive disadvantage by efficiently pricing emissions. It also improves reporting accuracy by describing specific goods instead of reporting against an 'Other HFC' category.

However, this option would create longer SGG levy schedules and consequently increase the complexity of the working tariff classifications. This may increase the potential for error in administering the levy. Ensuring administering agencies have robust processes will help.

These goods would also need to be added to the Tariff Working Document.

Table 22 sets out the items and alternative SGGs to be levied. For more on proposed items to be added under Option 2, see table 2 in appendix 3 *Details of proposed updates to the goods levy Schedule 2 of the SGG levy regulations*.

Option 3: Add alternative SGGs in 45 goods to levy, but 'zero-rated'

Option 3 outlines the same additional SGGs and goods as in Option 2, but proposes to 'zero-rate' those that aren't in Option 1 on the goods levy schedule. This means the SGG levy rate would be $0.00 for these additional 117 imported goods.

This approach will improve the accuracy of the SGG levy and future regulation updates. It does not make potentially inaccurate assumptions about SGG blends and quantities in these goods.

This option is allowed under the regulations because there is no requirement to have evidence of an import before adding an SGG blend to the goods levy schedule. There is also no threshold of import volume of SGG-containing goods, to trigger adding an item or gas to the levy.

This option will increase the time it takes to fully levy the alternative SGGs, as it would be tracked first, and then considered for a full application of the levy in future NZ ETS regulation updates.

Table 22 outlines the classes affected by this option. For more on SGGs and goods for Option 3, see table 2 in appendix 3 *Details of proposed updates to the goods levy Schedule 2 of the SGG levy regulations*.

Table 22: Additional items for levy under Option 2, and levied (but 'zero-rated') under Option 3

Item number	Type of unit	Unit of measurement	Specified SGG
1 Air-conditioning units (household and small commercial window- or wall-mounted heat pumps)			
B1-B2	2 items	per kg of specified SGG contained in item	R407C, R513A
2 Air-conditioning units for installing vehicles (not including those already installed in vehicles)			
B3	1 item	per kg of specified SGG contained in item	R513A
12 Refrigerating units (eg, commercial display cooling and freezing equipment)			
B4-B7	4 Items	per item	R407F
14 Refrigerating units (water coolers, ice or ice-cream makers, refrigerated transport units, and other commercial cooling and freezing equipment not itemised under headings 1 to 13)			
B8-B14	7 Items	per kg of specified SGG contained in item OR per item	R407F, R448A or R449A, R452A
15 Parts for refrigerating or freezing units (charged with refrigerant for all types of household and commercial equipment) and some heat pumps			
B15-B23	9 items	per kg of specified SGG contained in item	R407F, R448A or R449A, R452A
16 Refrigerated beverage-vending machines			
B24-B27	4 items	per item	R407F, R448A or R449A
18 Refrigerated vehicles, trailers, tankers and vessels			
B28-B115	88 items	per kg of specified SGG contained in item	R407F, R448A or R449A
19 Polyurethanes			
B116-B4117	2 items	per kg of item	HFC-245fa/HFC-365mfc, HFC-227ea/HFC-365mfc

Part B – Technical amendments to SGG goods levy Schedule 2

Part B outlines several technical amendments to be made to Schedule 2 of the SGG levy. This is to ensure it is accurate and suitable for use through the Working Tariff Document. The changes include updating the unit of measurement to reflect the wide size range of some goods, and in one case updating a GWP_{100} value.

Not undertaking these changes would result in a continuation of the status quo, described above.

For a detailed list of the technical amendments, see table 3 in appendix 3 *Details of proposed updates to the goods levy Schedule 2 of the SGG levy regulations*.

Minor corrections – information

Several minor corrections are being made to Schedule 2. These include fixing issues such as typographical errors in goods and gas descriptions, and incorrect tariff item numbers. These corrections do not need consultation under the SGG regulations.

For details of corrections, see table 4 of appendix 3 *Details of proposed updates to the goods levy Schedule 2 of the SGG levy regulations*.

Summary of options against criteria

Below is a summary of how well the options proposed in Part A and Part B meet objectives for technical regulations in the NZ ETS. Although pricing SGG emissions is the primary aim of the regulations, options must also be accurate and efficient, to ensure the levy applies to the correct SGG type and amount.

Assessing the options

Table 23: Assessment of options against status quo

Objectives	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
Part A				
Option 1: extend coverage of SGG levy to include an additional 47 goods.	Fair – known likely gap in coverage of goods containing SGGs.	Fair – retains likely gap in data on emissions due to SGGs contained in imported goods.	Good – clear, and small number of extra tariff items.	Good – requirements unambiguous.
Option 2: extend coverage of SGG levy to include an additional 164 goods.	Good – addresses known likely gap in coverage of goods containing SGGs.	Good – addresses likely gap in data on emissions due to SGGs contained in imported goods.	Fair – greater number of extra tariff items.	Good – requirements unambiguous.
Option 3: extend coverage of SGG levy to include an additional 164 goods, 117 with a zero levy rate.	Fair – addresses known likely gap in coverage of goods containing SGGs, but would require future updates to	Good – addresses likely gap in data on emissions due to SGGs contained in imported goods.	Fair – greater number of extra tariff items.	Good – requirements unambiguous.

Objectives	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
	price some of these goods if imported.			
Part B				
Option 1: make technical updates to the SGG levy schedule.	Good	Good	Good	Good

Your views

We are interested in your thoughts on our assessment against the criteria in the table above. This includes whether you think any criteria should be given more or less weighting than others.

Questions

To ensure we fully understand the impacts, we would like to know what you think.

36. *What are your thoughts on our description and understanding of the problems with the SGG levy goods schedule?*

37. *If you are an importer of an SGG, or domestic manufacturer of SGGs or goods containing SGGs, subject to either the levy or NZ ETS obligations, can you comment on the implications and evidence for these, in your industry, of the gap in coverage causing some imported goods containing SGGs to not face an emissions price?*

38. *What are likely cost and market impacts from including the proposed imported goods and gases in the SGG levy?*

39. *Have we listed all alternative SGGs that are currently being imported into New Zealand? We would like to hear if you have heard of any others.*

40. *What are your views on the option of an interim tracking approach with a zero levy for some goods? Please let us know why you agree or disagree.*

41. *Should we make the technical amendments proposed in Part B? Please let us know why. We are particularly interested in your views on changing the unit of measurement used to calculate the levy due for some goods.*

6. Appointing an NZ ETS auction monitor

Background

Following the 2015/16 review of the NZ ETS, the Government agreed in principle to introduce auctioning of New Zealand Units (NZUs) to align the NZ ETS with New Zealand's climate change targets. Further public consultation on auctioning regulations took place in November-December 2019.

Since then, after legislative and regulatory changes, as well as work by the Ministry for the Environment and the auction operator, auctioning has begun.

The appointment of an auction monitor requires regulations for the appointment process and the monitor's functions.

Auction monitor's functions

Based on feedback from the 2019 consultation the Government agreed that the auction monitor should:

1. Publish certain information about each auction as soon as practicable following the auction.
2. Publish a report on the outcome of each auction before the next auction occurs.
3. Review the auctioning system after the first year and every following two years.

Interim auction monitoring process

The COVID-19 pandemic contributed to delays in regulating for appointing an auction monitor. After this current consultation, forming the regulations will take several months. This means that all four auctions in 2021 are expected to take place without a monitor for oversight.

For these auctions, the Minister of Climate Change has agreed that the Ministry for the Environment will act as monitor on his behalf.

Why create an appointment process?

The NZ ETS aims to efficiently reduce emissions in line with our targets. To achieve this, we need a fair and competitive NZU price.

Previous consultation and policy work has identified concerns about the risk to the integrity of the NZ ETS market as it expands and becomes more complex. Rising NZU prices and the removal of the fixed price option increases the need to ensure the integrity of this market is maintained.

Section 30GD of the Act empowers the Governor-General to make regulations on the recommendation of the Minister, to prescribe the method or process by which the Minister may appoint an auction monitor.

This must:

- require the auction monitor to be independent of the auction operator and any likely auction participants
- include validation of auction results and publishing reports on the results of auctions as functions of the monitor.

Specified functions

Section 30GD of the Act also empowers the Governor-General to make regulations on the recommendation of the Minister, to specify that the auction monitor's function can include any of the following:

- monitoring the conduct of the auction operator and auction participants
- providing periodic assessments of the auction system and making recommendations for improvements
- calculating additional specified metrics in respect of the auction process and auction results, such as bid volume statistics and relevant aggregate information
- any other functions the Minister considers relevant to the effective conduct of the auction monitor's role.

Options

The Government has already agreed to appoint an auction monitor. Setting regulations for the appointment process is a small but important last piece in a suite of decisions to support well-functioning NZ ETS auctions.

As mentioned, there are concerns about risks to the NZ ETS market. As the price of NZUs rises these risks are exacerbated. Allowing auctioning to go ahead without oversight may increase these risks, and could mar the perception of the NZ ETS. Although an auction monitor may not be able to address all concerns or risks to the primary and secondary NZ ETS markets, being able to collect and publish information, and to assess the operation of the market, would be a significant tool for addressing these concerns.

There are two key considerations in setting regulations for appointing an auction monitor:

- whether there should be guidance on the entity to be appointed
- what functions the monitor should carry out.

Options on the entity to be appointed

Establishing a new entity

The auction monitor could be established as an entirely new entity. This would ensure independence, but would likely be more costly and less efficient than appointing an existing entity. At least initially, one full-time equivalent (FTE), or less, could comfortably fulfil the role. The costs of forming a new entity for a relatively small role should be considered.

Appointing an existing Crown entity

The role could be performed by or set within an existing Crown entity. This would reduce the cost and extra work of forming a new entity. As noted, this role could be fulfilled by one FTE or less. Preferably, it would be within an entity with similar functions.

Appointing an existing organisation

The auction monitor could be appointed through a standard government procurement process. This would ensure transparency, and support efficiency as the Government could choose the most appropriate fit for the role. A range of organisations have experience with functions similar to the monitor role, so this option helps to address concerns about expertise.

Maintaining the monitor's independence is a consideration if an existing organisation (such as a consultancy firm) were appointed, because the monitor must be independent of auction participants and the auction operator. Any risks would need to be addressed by processes to protect neutrality.

This option would allow flexibility to review the monitor's performance and suitability, as the role evolves.

Table 24: Assessment of options against no guidance on entity to appoint

Option	Alignment with NZ ETS objectives	Accuracy	Efficiency	Clarity
Option 1: Establishing a new entity	Good – further insurance against risks to the integrity of the NZ ETS. Their independence might provide an extra layer of assurance.	Good – a new entity focused on this role should perform effectively.	Poor – higher cost and more work than using and existing entity.	Good – their functions would be very clear, but the establishment process may be difficult.
Option 2: Establishing a role within an existing Crown entity	Good – further insurance against any risks to the integrity of the NZ ETS.	Good – they will likely have the skills, or these could be brought in.	Good – administrative costs are comparatively low.	Good – their functions would be very clear.
Option 3: Appointing an existing organisation to fulfil the role	Good – further insurance against any risks to the integrity of the NZ ETS. Conflicts of interest might be harder to manage.	Good – a range of providers will likely have the skills to perform effectively.	Good – administrative costs are comparatively low.	Good – an open and well-understood process is desirable.

Your views

We are interested in your thoughts on our assessment against the criteria in the table above. This includes whether you think any criteria should be given more or less weighting than others.

Specifying the auction monitor's functions

The Act provides for the auction monitor regulations to specify any of several listed functions, and "any other functions that the Minister considers are relevant to the effective conduct of the auction monitor's role".

To view the list, see Specified functions.

We have not assessed each combination of listed functions, nor identified further functions that could be included.

Your views

We are interested in your thoughts on whether:

- any of the listed functions should be included as functions of the auction monitor
- we should include any other factors.

Questions

42. Do you think the regulations should include guidance on the type of entity to be appointed as auction monitor? If so, do you have any preferences? Of the three specified functions that could be included, do you think any should or should not be included? (See Auction monitor's functions.)

43. Are there any other functions you believe the regulations should specify? Please explain why you believe another function is relevant to the effective conduct of the auction monitor's role.

How to have your say

The Government welcomes your feedback on 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 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 20 April 2021 and ends on 28 May 2021.

When the consultation period has ended, recommendations on changes to regulations will be developed.

How to make a submission

You can make a submission in two ways.

1. Use our online submission tool, available at: https://consult.environment.govt.nz/comms/proposed-nz-ets-changes2021
   This is our preferred way to receive submissions.

2. Write your own submission.

If you are posting your submission, send it to: ETS and SGG levy regulation updates, Ministry for the Environment, PO Box 10362, Wellington 6143. 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 28 May 2021.

For more information

Please direct any queries to:

Email: etsconsultation@mfe.govt.nz

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

Publishing and releasing submissions

All or part of any written submission the Ministry for the Environment receives electronically or in printed form, including your name, may be published on our website, environment.govt.nz. Unless you clearly specify otherwise in your submission, the Ministry will consider that you have consented to website posting of both your submission and your name.

Submissions may also be released to the public under the Official Information Act 1982 following requests to the Ministry for the Environment (including by email). Please advise if you object to the release of any information contained in your submission and, in particular, which part(s) you consider should be withheld, together with the reason(s) for withholding the information.

Any personal information you supply to the Ministry when making a submission will only be used by the Ministry in relation to the consultation covered in this document. You have the right to request access to or to correct any personal information you supply to the Ministry.

If you have any questions about the publishing and releasing of submissions, or if you would like to access or correct any personal information you have supplied, please email info@mfe.govt.nz.

Appendix 1: Other changes to NZ ETS and SGG regulations

We expect a number of other updates to NZ ETS and SGG regulations to proceed. They are not part of this consultation.

Below are some details of these updates.

New regulations for infringements

In 2018, we consulted on issues including changes to the NZ ETS compliance regime. That consultation included the details for:

- setting up an infringement offence regime in the Climate Change Response Act
- proposed offences
- proposed levels of fees and fines.

Subsequently, changes to the compliance regime to add penalties, and the ability to make infringement regulations under section 30M of the Act, were incorporated into the Act.

The intention was to amend the Act, to empower the making of regulations in 2019 and to develop regulations for infringement offences in parallel, taking effect in 2020. In fact, the amendments occurred later than expected, and the ability to make regulations for infringement offences entered the Act in June 2020, with the passage of the Climate Change (Emissions Trading Reform) Amendment Act.

We are now progressing these regulations, and planning for their enactment on 1 January 2022.

For details on the original consultation please see the summary of submissions (see section 4.3).

For the proposed infringement fees and fines, see Appendix 1 of the Regulatory Impact Assessment: Impact Statement: NZ ETS Compliance and Penalties - Infringement Offences. These were described in the regulatory impact statement in 2018.

Realignment of tariff item numbers to define obligation fuels in the Climate Change (Liquid Fossil Fuels) Regulations

Several minor amendments are required to ensure the Climate Change (Liquid Fossil Fuels) Regulations reflect updates to the Working Tariff Document and the Excise and Excise-equivalent Duties Table (owned by Customs).

Annual update to the price of carbon

Each year, the price of carbon as described in the Synthetic Greenhouse Gas Levy regulations is updated. The price is used to determine SGG levy rates, in calculating penalties, and in cost recovery.

Annual updates to the SGG levies

As above, the price of carbon is updated annually in the SGG levy regulations. There are also corresponding updates to SGG levy rates.

Glossary

AR4	The Fourth Assessment Report, released by the International Panel for Climate Change in 2007
AR5	The Fifth Assessment Report, released by the International Panel for Climate Change in 2014
Carbon sequestration	Capturing and storing atmospheric CO_2
CCC	The Climate Change Commission
CCR	Cost containment reserve. An additional reserve of units that is released for sale at auction if bidding reaches or exceeds a specific trigger price
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
Commission	The Climate Change Commission
COP26	The UN Climate Change Conference scheduled for November 2021
DEF	Default emissions factor
DOC	Degradable organic content
EAF	Electricity allocation factor. An estimate of the effect of the NZ ETS on wholesale electricity prices. It is expressed in tonnes of CO_2e (equivalent) per megawatt-hour (tCO_2e/MWh)
Emissions factors	Values used in the NZ ETS to calculate emissions
Emissions unit	Represents one metric tonne of CO_2 or CO_2e (ie, the amount of another greenhouse gas that does as much damage as one tonne of CO_2)
EPA	Environmental Protection Authority
GHG	Greenhouse gas
GWP_{100}	The global warming potential relative to CO_2 over a 100-year time horizon
HFC	Hydrofluorocarbon
Inventory	New Zealand's Greenhouse Gas Inventory. The official annual estimate of GHG emissions and removals which have occurred here since 1990.
IPCC	International Panel for Climate Change
Ministry	The Ministry for the Environment
Mt CO_2-e	Megatonnes of carbon dioxide
NDC	Nationally determined contribution to the UN Framework Convention on Climate Change
NDC1	New Zealand's first nationally determined contribution
NZ ETS (New Zealand Emissions Trading Scheme)	The Government's main tool for meeting international and domestic climate change targets. The scheme aims to encourage people to reduce GHG emissions
NZU (New Zealand Unit)	This represents one metric tonne of CO_2 or CO_2e (ie, the amount of another GHG that does as much damage as one tonne of CO_2)

Paris Agreement	A legally binding international treaty on climate change, which came into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels
PEB	Provisional Emissions Budget
PFC	Perfluorocarbon
Price floor	The minimum price that units can be sold at auction
Removal	Withdrawal of a GHG from the atmosphere
Reserve volume	The number of NZUs for sale from the reserve at an auction.
SEIP	Stationary energy and industrial processes
SGG	Synthetic greenhouse gas
SGG levy	The levy sets an emissions price for SGGs in imported goods and vehicles, rather than having an obligation under the NZ ETS.
SWAP	Solid waste analysis protocol
Trigger price	A price ceiling at NZ ETS auctions. When bidding reaches or exceeds the price, this triggers the release of units held in the cost containment reserve
UEF	Unique emissions factor. A value given to an activity based on how emissions-intensive it is
WTD	Working Tariff Document, released by NZ Customs