McGuinness Institute title: [NK] 2023 update to the New Zealand Emissions Trading Scheme: limits and price control settings for New Zealand Units

Ministry for the Environment
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PROACTIVE RELEASE COVERSHEET

Minister	Minister Shaw	**Portfolio**	Minister of Climate Change
Name of package	2023 update to the New Zealand Emissions Trading Scheme: limits and price control settings for New Zealand Units	**Date to be published**	30 August 2023

List of documents that have been proactively released		
Date	***Title***	***Author***
5 May 2023	Approval to consult on annual updates to New Zealand Emissions Trading Scheme limits and price control settings for units	Office of the Minister of Climate Change
10 May 2023	Minute of Decision	Cabinet Economic Development Committee
3 April 2023	Draft Cabinet paper, Approval to consult on the annual update to New Zealand Emissions Trading Scheme unit limit and price control settings	Ministry for the Environment
21 July 2023	2023 update to the New Zealand Emissions Trading Scheme: limits and price control settings for New Zealand Units	Office of the Minister of Climate Change
24 July 2023	Minute of Decision	Cabinet Office

Information redacted **YES**

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Summary of reasons for redaction

The following redactions have been applied in these documents in line with the Act:

- S9(2)(f)(iv) - the confidentiality of advice tendered by Ministers of the Crown and officials.
- S9(2)(h) - maintain legal professional privilege.

Sensitive

Office of the Minister of Climate Change

ENV - Cabinet Environment, Energy and Climate Committee

2023 update to the New Zealand Emissions Trading Scheme: limits and price control settings for New Zealand Units

Proposal

1. I seek Cabinet approval to update limit and price settings for units (unit settings) under the New Zealand Emissions Trading Scheme (NZ ETS). Amendments to settings are required so that these unit settings continue to cover five calendar years at all times.

2. To make these updates, I seek Cabinet approval to issue drafting instructions to amend the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020.

Relation to government priorities

3. The Government declared a climate change emergency on 2 December 2020. The Cabinet Business Committee (CBC) agreed that climate change "demands a sufficiently ambitious, urgent, and coordinated response across government to meet the scale and complexity of the challenge" [CBC-20-MIN-0097 refers].

4. Enabling an equitable transition to a low-emissions, climate resilient future is also a Government priority. This was emphasised by the CBC when they noted the intention to "put the climate at the centre of government decision-making" and agreed that "climate change requires decisive action by all levels of government, the private sector, and communities" [CBC-20-MIN-0097 refers].

5. The proposals in this paper relate to the Cooperation Agreement between the Labour and Green Parties. Achieving the purpose and goals of the 2019 zero carbon amendments to the Climate Change Response Act 2002 is an agreed area of cooperation.

6. The proposals in this paper relate to action 5.1 of New Zealand's first emissions reduction plan, aligning the NZ ETS settings with emissions budgets.

Executive Summary

7. The NZ ETS is a tool to facilitate the efficient price discovery of New Zealand Units (NZUs) that aligns with New Zealand's emissions budgets to create incentives for participants to reduce their emissions.

8. Limits and price control settings (unit settings) for NZUs are key instruments. They include:

8.1 limits on the number of units available in each year, including NZUs allocated by auction, approved overseas units and NZUs provided for industrial free allocation;

8.2 the cost containment reserve (CCR), which is a quantity of NZUs to be released to the market when auction prices exceed an upper limit; including the trigger price(s) and the number of NZUs in the reserve(s); and

8.3 auction reserve prices, which set a minimum price for auctions of NZUs, below which the government will not sell NZUs.

9. Unit settings enable the Government to influence the supply of NZUs and indirectly influence their prices:

9.1 the price of NZUs in the market is set through supply/demand expectations, so units supplied by Government influence the price but do not solely determine it;

9.2 effective price settings provide an upper and lower bound for prices, while leaving room for the market to discover appropriate prices for the target level of emissions reductions.

10. As Minister of Climate Change, I am required under the Climate Change Response Act (Act) 2002 to:

10.1 update unit settings annually so they always cover the next five calendar years;

10.2 be satisfied that unit settings are in accordance with New Zealand's emissions budgets and targets; and

10.3 consider the recommendations made by the Climate Change Commission (the Commission) about the unit settings for the following five years, before making a recommendation on them.

11. Under section 30GC of the Act, I do not have to accept the Commission's recommendations. However, I must be satisfied that NZ ETS unit settings are in accordance with New Zealand's emissions budgets, the Nationally Determined Contribution (NDC) and 2050 target (or if not strictly in accordance with the emission budgets and NDC, that the discrepancy is justified with reference to prescribed statutory criteria).

12. Last year, the Government largely accepted the Commission's recommendations on volumes, but chose to maintain the (then) status quo on price settings, rather than follow the Commission's price recommendations.

13. Since then, the NZU price has dropped in secondary markets, from around $80 in December to a low of $37; and bids at this year's auctions were below reserve prices, meaning that no NZUs were sold. Market commentators have attributed this to considerable uncertainty that has built up in the market from not following

the Commission's price recommendations and the recently announced NZ ETS review.

14. The Climate Change Interdepartmental Executive Board (IEB) has assessed that there are risks to the achievement of the first emissions budget. While some projections indicate that we are on track to meet the budget, there are some important qualifications (methodological adjustments, projection ranges, prices) and hence material risks to the achievement of the target.

15. In its 2023 advice, the Commission expressed serious concerns that current unit settings are constraining the role of the NZ ETS in helping New Zealand meeting emission targets.

16. In particular, the Commission has estimated that there is a surplus stockpile of between 33-66 million NZUs above what is needed by the market to meet their obligations. If this surplus persists, NZ ETS participants will be able to use it to meet their surrender obligations rather than invest in emissions reductions.

17. The Commission recommended reduction in unit limits and significant price control increases to address this surplus stockpile. Decisions to tighten the unit settings per the Commission's recommendations would significantly reduce or even eliminate the surplus stockpile by 2030.

18. We have an opportunity to demonstrate this Government's commitment to the NZ ETS as a key tool to meet emissions budgets. Our commitment also provides clear signals to the market to support investments that reduce emissions.

19. I am strongly of the view that maintaining the status quo is not an acceptable option as it generates a material risk that we will not meet our emissions targets, given existing uncertainties over projected emissions and the surplus stockpile. This risk is sufficiently high that I cannot be satisfied that current NZ ETS unit settings are in accordance with New Zealand's emissions budgets and targets, and therefore recommending continuing with them would not meet my statutory obligations.

20. For this reason, I propose to adopt the Commission's recommendations in full.

21. Following the Commission's recommendations would reduce unit limits and significantly increase price control settings (compared to current settings). In 2023, this option would:

    21.1 decrease auction volumes[1] offered in 2023 by 16%, from 17.9 million to 15.0 million units;

    21.2 increase the auction reserve price from $33.06 to $60; and

    21.3 increase the cost containment reserve trigger price, from $80.64 to $173.

[1] Excluding the cost containment reserve volume

22. This would be followed by reductions in auction volumes and increases in prices in later years.

23. The key environmental benefit of adopting the Commission's recommendations is an additional 17.6 million reduction in NZUs auctioned over 2023-2028 compared to current settings. Given forestry removals are relatively fixed in the short term, this reduction in auction volumes will need to be met through a combination of gross emission reductions by firms and households, contributing to meeting emissions budgets and targets, and from the surplus stockpile.

24. Furthermore, any additional emissions reductions that can be achieved domestically will reduce the volume of offshore emissions mitigation that need to be purchased to meet our Nationally Determined Contribution (NDC) under the Paris Agreement.

25. I acknowledge that emission prices impact on New Zealand households, primarily through fuel and energy costs. However, these impacts are modest – an increase of $10 per NZU increases annual expenditure by about $87 for the average household ($1.67 per week) and increases consumer inflation by just 0.1%.

26. I consider that the impacts of emissions pricing are more effectively and efficiently addressed via separate measures that target households directly, rather than by reducing the effectiveness of the NZ ETS. The indexation of benefits and superannuation partly compensates many lower income households for the impacts of increasing emissions prices. Officials are preparing advice on further potential compensatory mechanisms for discussion at the Climate Response Ministerial Group (CRMG) meeting on 26 July.

27. Generally, ETS settings for the next three years can only be updated in exceptional circumstances. The court judgment on the LCANZI case requires government to reconsider settings for 2023-2027. The ability to reconsider these years is unlikely to exist in 2024. This year’s decision locks in settings for 2024 to 2026.

28. Overall, I judge that the benefits of adopting the Commission’s recommendations outweigh the costs to households, particularly once existing and proposed household support mechanisms are considered.

Legal proceedings

29. Lawyers for Climate Action New Zealand Incorporated (LCANZI) has taken legal action against me challenging the 2022 decisions on unit settings, on the basis that they were not made in accordance with the requirements of the Act.

30. The Applicants and the Crown agreed to resolve the matter by consent, with the Crown admitting that I did not have reasonable grounds to believe that Cabinet’s preferred unit settings (which were ultimately adopted) met statutory requirements. The Court confirmed this agreement in a judgment issued 13 July 2023, meaning that the 2022 decisions must be remade and I am required to

reconsider unit settings for 2023-2027. Therefore, this paper is seeking decisions on unit settings for 2023-2028.

Background

Purpose of NZ ETS unit settings

31. The Act requires NZ ETS participants to surrender NZUs, which represent allowances to emit one metric tonne of carbon dioxide equivalent. Participants obtain NZUs through auctions operated by the government four times a year, purchasing from brokers or others in the secondary market, conducting carbon removal activities (e.g. forestry) and industrial free allocation.

32. Participants can bank NZUs to manage risks, such as possible price volatility. The quantity of privately held NZUs, also termed 'the stockpile', has built up over time for various reasons and is presently 160 million units[2], approximately four times the annual emissions in the NZ ETS. Of this 33 – 66 million units are estimated to be surplus.

33. The Government sets a cap on net emissions by setting a limit on NZUs available by auction. Over time, the cap will decrease in line with emissions budgets, reducing the supply of NZUs and requiring NZ ETS participants to reduce their collective emissions. A well-functioning market for NZUs incentivises businesses in the NZ ETS to undertake investments to reduce their emissions or increase removals, including through forest planting.

34. The quarterly NZU auctions are subject to limits and price control settings (unit settings), including:

    34.1 limits on the number of units available in each year by auction (after allowing for approved overseas units[3] and NZUs provided for industrial free allocation);

    34.2 the cost containment reserve (CCR), which is a quantity of NZUs to be released to the market (above what is offered for auction) when auction prices exceed an upper limit; including the trigger price(s) and the number of NZUs in the reserve(s); and

    34.3 the auction reserve price, which set a minimum price for auctions of NZUs, below which the government will not sell NZUs.

35. Together, limits and price controls enable the Government to influence the supply of NZUs and indirectly influence their prices.

36. Limit settings influence the supply side of the market, alongside NZUs transferred for removal activities (eg, carbon sequestration by forests) and the stockpile of NZUs owned by participants. As the price of NZUs in the market is

[2] Number of NZUs held as of 30 June 2023, Privately held units | EPA.

[3] Currently no overseas units are available.

set by the interaction of supply and demand expectations, units supplied by the Government influence the price but do not solely determine it.

37. Price settings provide the Government with a mechanism to help manage unacceptably low or high prices in the NZ ETS, setting an upper and lower bound for prices within which the market can discover prices for the target level of emissions reductions.

38. The CCR trigger price is supposed to be rarely met in auctions, if at all. It manages the risk of extremely high prices in the NZ ETS from shocks and unforeseen events. It should be set at a level above the NZU prices needed to drive the emission reductions needed for meeting emission targets. There is uncertainty about those prices, as they depend on demand, the effect of non-pricing policies, and the costs of options to reduce emissions.

39. The auction reserve price ensures NZU prices do not fall to a level that weakens the incentives for NZ ETS participants to invest in emissions reductions and protects the value of investments already made.

40. While unit settings set boundaries for price discovery in the market, the secondary market can (and has) traded outside these boundaries.

41. Unit settings are reviewed annually to ensure continuing alignment with New Zealand's emissions targets, in light of changing circumstances and new information about progress in meeting emission targets.

42. The NZ ETS is an important tool in the suite of policies to meet emission targets, but not the only one. Complementary measures are required to overcome barriers to achieving many low-cost emissions reduction opportunities. A mix of regulation and policies, such as innovation, equitable transition measures, behaviour change and finance, are needed alongside emissions pricing.

43. Emissions budgets act as interim milestones indicating progress towards reaching our legislated 2050 emissions reductions target. For each emissions budget, an emissions reduction plan must be prepared and made public. In May 2022, New Zealand published its first emissions reduction plan which contains the policies and strategies needed to meet the first emissions budget and put New Zealand on a path to achieving the 2050 target.[4] This includes the role of the NZ ETS in how it supports New Zealand to meet emissions budgets and the 2050 target.

44. The more effective other policies are, the less reliance there is on price signals from the NZ ETS to meet emission budgets and the 2050 target. However, the opposite is also true; if other policies under-perform, the NZ ETS has to provide stronger incentives through pricing. In effect the NZ ETS acts as a backstop tool in the emissions target policy package that manages the risk of under-delivery elsewhere.

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4 New Zealand's first emissions reduction plan was published in May 2022. Emissions reduction plan | Ministry for the Environment

45. The surplus stockpile poses significant risk to that important role. Holders of stockpiled NZUs can sell them to emitters, who can increase emissions such that net emissions exceed the budget. Uncertainties exist for this outcome, including the opportunity costs of holding NZUs versus other investments and, most importantly, views of future returns to investment in NZUs. A low NZU price path therefore results in a greater risk of stockpiled NZUs being released and budgets being exceeded.

The role of the NZ ETS in meeting the NDC

46. To meet our 2030 NDC, an estimated 99 $MtCO_2$-e of additional abatement is needed over and above achievement of our first two domestic emissions budgets. In 2021, Cabinet noted that the government's priority is to meet the NDC through domestic action as much as possible, and agreed to complement domestic action with international cooperation to access offshore mitigation [CAB-21-MIN-0435].

47. In July 2023, Cabinet agreed to an NDC strategy that gives effect to the priority for domestic action [CAB-23-MIN-0283]. This involves using the process of developing the second emissions reduction plan to identify, develop and assess significant new proposals that could support over-achievement of the second emissions budget and further close the gap to the NDC.

48. Notwithstanding, the NDC strategy recognises previous advice from the Climate Change Commission that attempting to achieve the NDC through drastic domestic action, well beyond emissions budgets, would likely lead to severe social and economic costs on communities, people, and businesses. This is why considerable offshore mitigation is needed. The NDC strategy establishes an adaptive approach for assessing the appropriate mix of domestic and offshore mitigation over time. This means domestic action can be maximised, and offshore mitigation accessed in response to how we are tracking domestically.

49. In its 2023 advice on ETS settings, the Commission noted that it would be inappropriate to recommend NZ ETS settings that would support meeting the entire NDC domestically, highlighting the severe social and economic risks of doing so. This is consistent with the government's agreed NDC strategy which does not attempt to meet the entire NDC with domestic action.

50. Instead, the Commission has recommended setting NZ ETS unit limits that align with emissions budgets. The Commission noted that this approach creates risk as the Government had no clear plan for how it will secure offshore mitigation to meet the NDC. However, I consider this risk mitigated by the NDC strategy and associated work programme on accessing offshore mitigation, which the Commission would not have been aware of.

NZ ETS unit settings must be reviewed and updated this year

51. I am required under section 30GB of the Act to recommend regulations to update limits and price control settings for NZUs. Section 30GB(3)(b) of the Act

requires that, at any given time, unit limits and price control settings must be in place for the next five calendar years.

52. Under section 30GB of the Act, changes to the settings for the next two years can only be considered if defined special circumstances are met; namely:

    52.1 a change to the relevant emissions budget or NDC;

    52.2 a change that has significantly affected any matter that was specifically required to be considered when the settings were put in place;

    52.3 the triggering of the price controls, such as the release of NZUs from the CCR; or

    52.4 a *force majeure* event.

53. Unless the criteria in section 30GB are met next year, Cabinet's decisions made through this Cabinet paper on NZ ETS settings for 2024 to 2026 will be unable to be changed. This structure provides regulatory certainty to NZ ETS participants.

54. This would normally apply to last year's decisions also. However, the 2022 decisions have been held to be unlawful by the Court. This resulted from Lawyers for Climate Action New Zealand Incorporated (LCANZI) taking legal action against me challenging the 2022 decisions on unit settings, on the basis that they were not made in accordance with the requirements of the Act. In particular, that I lacked sufficient information to be satisfied that the settings preferred by Cabinet were either in accordance with the emissions targets or that any discrepancy was justified.

55. Therefore, this paper is seeking decisions on unit settings for 2023-2028.

56. This Cabinet paper is an opportunity for Cabinet to correct the NZ ETS unit settings framework. Cabinet can strengthen the NZ ETS in reducing emissions and clarify the role it wishes to play in meeting emission targets.

57. Regulations must be published in the New Zealand Gazette by 30 September 2023.

Legal framework for the NZ ETS auction settings

58. The LCANZI litigation has brought into sharp relief the legal framework applying to unit settings decisions. I have sought legal advice to underpin the options in this paper.

59. Before recommending unit settings to the Governor-General in Council I must be satisfied that one of two tests are met. Either:

    59.1 that the unit settings [strictly] accord with all extant emissions budgets, New Zealand's NDC, and the 2050 target (section 30GC(2)); or

59.2 if the unit settings do not strictly accord with the emissions budgets and the NDC, that the discrepancy is justified (section 30GC(3)). Even if a discrepancy can be justified, settings must always strictly accord with the 2050 target.

60. Before determining whether either test is met, I must consider prescribed statutory matters including emissions trends, the Commission's advice, the operation of the NZ ETS and international markets, New Zealand's international obligations, and the economic effects of emissions prices.[5]

61. The unit settings decisions are also one aspect of my overall duty under section 5X(4) of the Act to ensure emissions budgets are met.

62. A letter from the Crown Law Office (Appendix Two) sets out how these requirements are to be interpreted and applied to unit settings decision-making. Appendix Three contains the analysis of different unit settings options against those requirements.

The market for NZUs has been highly variable

63. The first iteration of the Commission's NZ ETS settings advice was provided in July 2022. The Government broadly agreed with the Commission's recommendations for unit limits but chose to maintain the (then) status quo settings for price controls [CAB-22-MIN-0533 refers]. My report on the reasons for differences was made available in December 2022.[6]

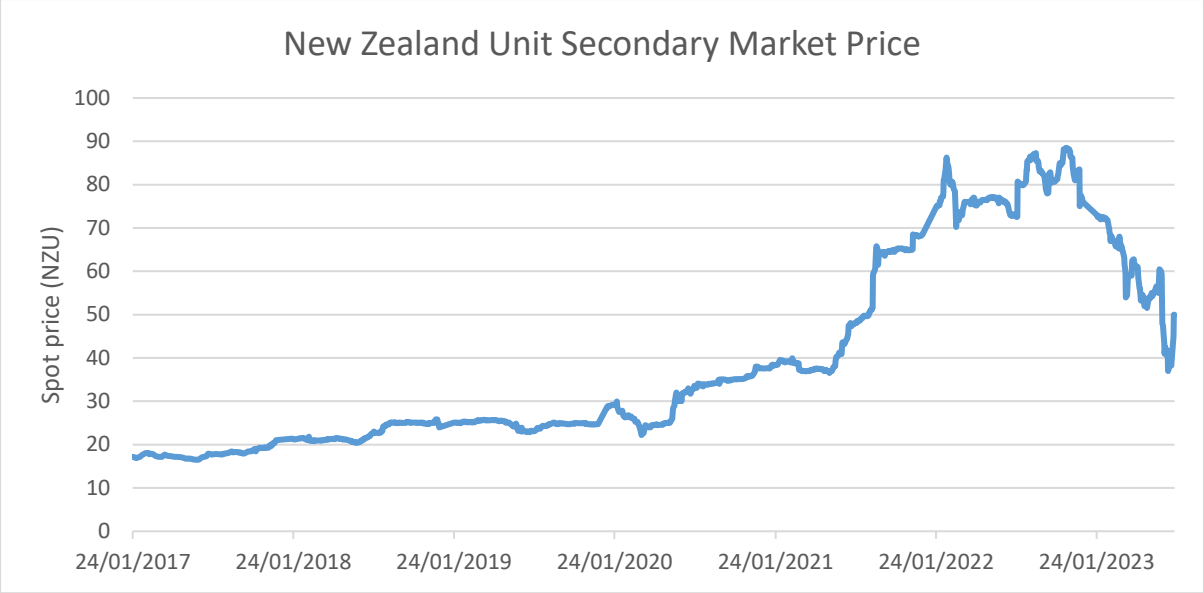
64. Since this decision was announced, NZU prices have dropped from over $80 in December 2022 to around $50 currently (see chart over page).[7] Bids at the March and June 2023 auctions were below the confidential reserve price, meaning that no NZUs were sold.

65. Market commentary attributed the fall in NZU prices to this decision to depart from the Commission's recommendations, as well as the recent commencement of consultation on the NZ ETS review. During the most recent consultation on unit settings, the majority of submitters indicated that the Government's decision on settings in 2022 had undermined confidence in the secondary market. The most recent recovery in NZU prices has resulted from the release of the Court's judgement on the LCANZI proceedings.

[5] For the full statutory matters see sections 30GC(5) and 30GC(6) of the Act, and Appendix Three.

[6] He Pou a Rangi Climate Change Commission, Report on reasons for differences between prescribed NZ ETS limits and price control settings for units and the Climate Change Commission's advice on these settings, 14 December 2022 (bills.parliament.nz)

[7] CommTrade



Source: CommTrade 20 July 2023

There is uncertainty about future trends in emissions reductions

66. In May 2023, the Climate Change Interdepartmental Executive Board (IEB)[8] reported to CRMG on how New Zealand's emissions are tracking towards the first three emissions budgets. It found that the central projection was on track to meet the targets in those budgets, but only due to changes in accounting methodologies.

67. With regard to the first emissions budget (2022-25), the IEB noted some important qualifications and hence material risks to the achievement of the target:

    67.1 an important reason for this outcome was a change in emissions accounting methodologies; had the previous methodologies been used, the target would have been exceeded;

    67.2 the projection was based on NZU prices at the mid-point of status-quo NZ ETS price control settings, i.e., $54 in 2023 and higher thereafter; actual prices have been trending downwards over 2023, weakening the incentives for NZ ETS participants to invest in emissions reductions.

The Commission provided advice on unit settings in March 2023

68. The Commission provided its 2023 advice to me in its report *Advice on NZ ETS unit limits and price control settings for 2024-2028*.[9] This advice was subsequently tabled in the House and made public on 13 April 2023. The Commission emphasised that its advice is developed as an integrated package and cautioned against selecting some elements and omitting others.

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8 The IEB was established to oversee the emissions reduction plan and monitor and report on progress.

9 2023-advice-on-NZ-ETS-unit-limit-and-price-control-settings.pdf (climatecommission.govt.nz)

69. There has been a major investment in building the Commission's statutory role and analytical capacity so that it can provide robust advice on highly complex and technical matters. While we are not bound to follow its advice, my view is that we should do so unless there are compelling reasons to do otherwise.

Analysis

Unit settings alternatives

70. This paper analyses three alternatives:

    70.1 *status quo*: leave settings unchanged for 2023 to 2027, with an extension to 2028[10];

    70.2 *option 1:* adopt the Commission's recommended settings in full for 2024 to 2028 and also remake 2023 settings (preferred)

    70.3 *option* 2: apply the Commission's latest recommendations from 2026 to 2028 while retaining status-quo settings for 2023-2025. This was the Commission's recommended approach if reconsideration of the 2023-2027 settings was not required because there was no basis for updating the next two years under the Act.

71. Other options were consulted on, including for lower cost containment reserve trigger prices.

72. Feedback from consultation on these settings fell broadly into two categories, those supportive of the Commission's recommendations, and those supportive of retaining status quo settings. Some submitters supported some elements, but not others, of the Commission's advice, or recommended alternative options that had not been considered in the discussion document. There was little support shown for middle ground options.

Continuing with the status quo is high-risk

73. The Commission highlighted the risk that current unit settings make meeting New Zealand's emissions targets problematic:

> *"The Government's 2022 NZ ETS settings decisions [to leave price settings unchanged] increased the likelihood that extra [NZU] volumes would come to market and add to the existing surplus. Each of these units would be surrendered in place of emission reductions in the future, taking Aotearoa New Zealand further from its emissions targets."*

74. I share the Commission's concern regarding the risk that current NZ ETS settings could make it harder to meet our emission targets. If the NZ ETS plays a reduced role in emission reductions, because of the extent of potential supply from the surplus stockpile, additional regulations and actions will be needed to ensure emission targets are met.

[10] Updated for new inflation and industrial allocation forecasts

75. In the absence of these additional measures, I do not consider that maintaining current unit settings is in accordance with emissions targets, and so consider this option does not satisfy the legal requirements of the Act. Therefore, I cannot recommend continuing with these settings.

76. The decisions Cabinet made last year on NZ ETS settings included consideration of the policies and plans in the emissions reduction plan as described at that time. Accordingly, the decisions reflected the prices likely to be needed for the NZ ETS to play its part in combination with these policies to achieve emissions budgets. However, some of these policies, such as the biofuels mandate, have not progressed as expected.

77. As noted in paragraphs 66 and 67, the IEB has assessed how New Zealand's emissions are tracking towards the first three emissions budgets. It found that there are currently some risks to the achievement of the first emissions budget for the period 2022-2025.

78. I consider that based on this assessment, stronger NZ ETS settings are required to put New Zealand in a better position to meet the first three emissions budgets. I consider that maintaining current unit settings is not consistent with the policy objectives and my statutory mandate.

The recommendations in Option 1 are preferred to the status quo

79. The Commission provided recommendations if unit settings for 2024 and 2025 needed to be changed in its latest advice. These recommendations use the same methodology as the Commission's core recommendations, including incorporating the most recent information such as forest registration in the NZ ETS, as discussed below. As such they provide a suitable basis to remake the 2022 decisions.

80. Remaking the 2022 decisions has implications for the settings for auctions in 2023.[11] I am mindful of the potential consequences of significant regulatory change mid-way through a year. The statutory framework for Government decisions on settings was intended in part to increase regulatory and investment certainty, and NZ ETS participants may have made trading decisions assuming that certainty.

81. Adopting materially different settings only for 2024 onwards and maintaining the status quo for the remaining auctions in 2023 creates a serious risk of a short-term 'run' on NZUs in my view. This would be driven by market concerns that new settings in the years after 2023 will lead to a significant increase in unit prices. It is possible the entire auction volume, including the CCR, could be sold. This would extend the surplus stockpile and unacceptably add to the risk of not achieving the emission targets. Consequently, I recommend adjusting settings for 2023.

[11] Applying to the December auction only. Regulations require the September auction notice to be published, including all settings, at least 30 days ahead of the auction date (6 August 2023). Regulation changes will only take effect after regulations are published in the New Zealand Gazette, currently planned for mid-September.

Options for unit limit settings

82. The limits that must be prescribed in regulations are:

82.1 a limit on the total number of NZUs available by auction. This is comprised of annual auction volume plus the volume available within the CCR and is shown in table 4 below;

82.2 a limit on approved overseas units; which, given the current state of accessing offshore mitigation, is zero, and

82.3 an overall limit on units. This is often referred to as the NZ ETS cap, which consists of units available by auction and by other means and approved overseas units. This excludes consideration of units transferred for removal activities.

83. The differences between the status quo and option 1 are primarily due to the adoption of the technical adjustments explained in Appendix Five. These include adjustment for the change in the amount of forest land now within the NZ ETS. The differences also include a reduction in auction volume to account emissions reporting discrepancies between the National Greenhouse Gas Inventory and the NZ ETS. The sources for those discrepancies have been identified.

Table 1: Auction volume options

Auction volume for each year (millions of NZUs)						
Options	2023	2024	2025	2026	2027	2028
Status quo[12]	26.1	25.0	22.6	20.2	17.8	15.1
Option one (preferred)	23.0	21.9	19.7	17.2	15.0	12.3
Option two	26.1	25.0	22.6	15.0	13.0	10.6

84. The proposed overall limits for units can be calculated by combining the auction volumes proposed in table 1, projections on industrial allocation and the CCR volume (being aligned directly with the stockpile adjustment volumes). I therefore recommend setting overall limits for units as shown in Table 2 below.

[12] This differs from what is current in the regulations for 2023-2027 because the status quo includes updating the auction volumes when free allocation projections are updated.

Table 2: Overall limits for units

Unit Limits (millions of NZUs)						
Options	2023	2024	2025	2026	2027	2028
Status quo[13]	32.3	31.1	28.7	26.2	23.7	20.9
Option one (preferred)	29.2	28.0	25.8	23.2	20.9	18.1
Option two	32.3	31.1	28.7	21.0	18.9	16.4

Price control settings

85. Price control settings manage the risks of excessively high and low auction prices, well beyond or below those needed to meet emission targets.

86. Status quo price control settings risk suppressing market prices, to the extent that the emission reductions and removals New Zealand needs are not achieved. I have noted how the NZ ETS provides a backstop for other policies and actions. Reducing this role through the current weak NZ ETS settings places the policy framework and the achievement of our desired outcomes at considerable risk.

87. The Commission repeated its 2022 recommendations for significant changes to price control settings. Firstly, for large increases in CCR trigger prices, and secondly to move to a two-tier system, under which the current CCR would be split, with:

    87.1 approximately one-third in Tier 1, with substantial increases in the trigger price;

    87.2 the balance of the CCR in Tier 2 with an even higher trigger price.

88. Under this option, there are substantial adjustments to price control settings in 2023, including moving to a two-tier model for the CCR.

[13] This differs from what is current in the regulations for 2023-2027 because status quo includes updating the auction volumes when free allocation projections are updated.

Table 3: CCR price options

Cost containment reserve price for each year (NZD)						
Options	2023	2024	2025	2026	2027	2028
Status quo	$82	$93	$105	$118	$133	$149
Option one						
Tier 1	$173	$184	$194	$205	$215	$226
Tier 2	$216	$230	$243	$256	$269	$283
Option two						
Tier 1	$82	$93	$105	$205	$215	$226
Tier 2				$256	$269	$283

Table 4: CCR volume options

Cost containment reserve volume for each year (millions of NZUs)						
Options	2023	2024	2025	2026	2027	2028
Status quo	8.0	7.7	7.1	6.5	5.9	5.4
Option one						
Tier 1	8.0	2.8	2.6	2.3	2.1	1.9
Tier 2	-	4.9	4.5	4.2	3.8	3.4
Option two						
Tier 1	8.0	7.7	7.1	2.3	2.1	1.9
Tier 2				4.2	3.8	3.4

89. If the Government do not wish to move to a two-tier model, the Commission recommends using the Tier 1 prices and volumes (an effective reduction in the CCR).

90. The Commission also proposed significantly higher auction reserve prices below which NZUs would not be sold at auction. Such a setting would likely increase NZU prices, supporting investments in emission reductions and removals through improved economic and regulatory certainty. This improves the accordance of settings with the emission targets.

Table 5: Auction reserve price options

Auction reserve price for each year (NZD)						
Options	2023	2024	2025	2026	2027	2028
Status quo	$33	$36	$39	$41	$44	$48
Option one	$60	$64	$68	$72	$75	$79
Option two	$33	$36	$39	$72	$75	$79

General comment on option 2

91. This option, as a package, is more likely to support emissions targets to be met than the status-quo, but still poses a substantially risk than option 1.

92. The significant drop in auction volume from 2026 shown in table 4, along with a significant rise in price controls from that year poses risks to the achievement of emissions budgets and market stability. This option is likely to encourage high demand for units in the next two years as the market seeks to accumulate NZUs before availability is limited at auction, potentially accessing the CCR. As for the status-quo option this would extend the surplus stockpile and unacceptably add to the risk of not achieving the emission targets.

Other price control settings were considered, consulted on, and discarded

93. Other 'mid-point' price control settings were considered for the CCR trigger price and the auction reserve price, between the status quo and the Commission's recommendations. Submitters provided little support for mid-point options and there is no modelling to support assessing the impacts of mid-point settings.

94. I have discussed above how price control settings materially above the status quo are likely to reduce the risk of triggering the release of the CCR. Mid-point options reduce the likelihood of the NZ ETS incentivising emission reductions through a wider corridor, and there is a continued risk that the CCR could be seen as a 'target' or 'magnet' for NZU investors. A magnet effect would mean there is a continued risk of the CCR being triggered, preventing the surplus stockpile from being reduced.

95. The Commission previously considered more stringent options, including the removal of the CCR. The Commission's model found a higher price path could be necessary to meet the third emissions budget under a scenario with much weaker mitigation from other policies than estimated in the emissions reduction plan. The Commission considered this would represent an excessive reliance on the NZ ETS. A higher price would also exceed prices expected in almost all international pricing systems and risks impacts becoming unmanageable.

96. In its 2022 advice, the Commission considered disabling the CCR. The Commission determined the CCR was still necessary because there is significant underlying uncertainty in carbon markets, a risk of excessive price variability, risk of ad hoc interventions by the Government and because it is common practice internationally to include price control mechanisms. The Commission also noted that the CCR, if set appropriately, can help reduce regulatory and price uncertainty and an upper bound on future price expectations.

Further work

97. I am considering alternatives to the current process of determining unit settings, as I consider there are advantages in doing this through an independent body, in particular the Commission.

98. Officials have advised that there are three key policy questions requiring further analysis to progress work to consider the role of the Commission as decision-maker on NZ ETS settings. These include clarifying the role of the NZ ETS, considering institutional architecture and considering Te Tiriti o Waitangi implications.

99. I intend to progress work to consider making the Commission the decision-maker for NZ ETS settings.

Impacts on the NZU market

100. The recommended changes to the NZ ETS settings would better enable the NZ ETS to play its role in ensuring it caps net emissions to budgeted levels, while allowing the market to set the price of NZUs.

Impacts on groups affected by the changes and the wider economy

101. These impacts are discussed below. NZ ETS unit and price control settings do not directly set a price path for the NZ ETS. This analysis assumes that the preferred option leads to NZ ETS prices that are relatively higher than the status quo option in the near term, all else equal.

Table 9: Costs and benefits of the preferred option

Affected groups	**Additional benefits of the preferred option compared to the status quo option**	**Additional costs of the preferred option compared to the status quo option**	**Net impact of preferred option**
Landowners (eg foresters and farmers)	Returns to foresters are closely linked to NZ ETS prices, with relatively higher prices likely to lead to higher returns. Higher returns on forestry land also increases the opportunity cost of farming and other land that is suitable for forestry use and is likely to result in greater levels of land use change to forestry	Greater land use change to exotic carbon forestry, if left unchecked and without any management oversight or requirements, has the potential for unintended impacts on the environment, rural communities, and regional economies. Increased cost to landowners of deforestation due to increased price.	In the short term, the preferred option is likely to marginally increase the rate of afforestation and farm conversions, subject to existing capacity constraints (labour, seedling supplies etc). Likely to lower net emissions from increased removals, although these will not be realised for several years. Increased afforestation now may lead to greater downward pressure on prices in the 2030s when these forestry NZUs enter the market in material volumes.

Affected groups	Additional benefits of the preferred option compared to the status quo option	Additional costs of the preferred option compared to the status quo option	Net impact of preferred option
Emitting firms subject to NZ ETS obligations	Increased certainty on the direction of future emissions prices for investment decisions	Higher costs for firms to meet surrender obligations. This may be mitigated by the extent to which firms have hedged their forward obligations, and by the extent to which these additional costs can be passed through to households (see household row below).	The short-term response to relatively higher NZU prices is likely to be fairly inelastic and result in limited additional emission reductions relative to the status quo. Over longer timeframes, relatively higher NZ ETS prices would increase the incentive for firms to invest in emissions reduction actions.
Emissions-intensive trade-exposed (EITE) firms (*additional to firm impacts above*)			At NZU prices over $100 there is increased risk that industrial allocation is no longer effective in preventing emissions leakage for some activities.
Other NZ ETS participants	Relatively higher NZU prices would increase the financial value of stockpiled NZUs, both those held for hedging purposes and the liquid stockpile		
Households	See next section *Cost-of-living implications*		
Wider economy	Relatively higher NZU prices are likely to induce greater emissions reductions and removals, although in both cases these are likely to take time to materialise.	Relatively higher NZU prices are likely to marginally increase inflationary pressures.	The net increase in emissions reductions if there are relatively higher NZU prices within the first emissions budget period is likely to be small. A sustained relatively higher NZU price could lead to much larger emission reductions in the second budget period. A $10 increase in NZU prices is estimated to contribute to a 0.1% increase in inflation (see next section *Cost-of-living implications*).

Cost-of-living implications

102. The impact of NZU prices on New Zealand households is primarily through fuel and energy costs. Impacts on other goods and services are more indirect, reflecting fuel and energy inputs into production of those goods or services, or as part of freight costs.

103. While the dollar value of NZ ETS-related costs tends to rise with income, these costs are larger relative to income of lower-income households. In other words, emissions prices have a regressive impact on households. At a price of $50 per NZU, annual costs resulting from the NZ ETS are equivalent to about 0.5% of household gross income on average (about $430 per household).

104. The Ministry for the Environment estimates that an increase of $10 per NZU will increase average annual household costs by about $87 ($1.67 per week). For lower income households, the increase is estimated at $46-49 per annum ($0.88-0.95 per week), while for higher income households it is estimated at $125-145 per annum ($2.39-2.78 per week).

105. Similarly, a $10 increase in NZU prices is estimated to contribute to a 0.1% increase in inflation as measured by the Consumer Price Index (CPI), largely due to higher fuel and electricity prices. Because this assumes that higher NZU prices are passed through to households fully and immediately, it represents an upper-bound estimate of the impact on inflation.

106. Regressive effects of environmental policy, including emissions pricing, are more effectively and efficiently addressed via separate measures that target households directly, rather than by reducing the effectiveness of the environmental policy itself. Compromising otherwise effective environmental policy would mean we need to make up the shortfalls elsewhere at higher cost.

107. The indexation of benefits and superannuation to the CPI or wage growth[14] partially compensates many lower income households for the impacts from higher emissions prices. Consideration is being given to whether further support for households, including additional targeted support or a potential "carbon dividend", is necessary. The Climate Response Ministerial Group (CRMG) are discussing advice on potential compensatory mechanisms on 26 July.

108. Other policies are in place to help households reduce their emissions footprint and therefore their exposure to emissions prices. For example, the Warmer Kiwi Homes program helps lower income households better insulate their homes or purchase more efficient heating systems such as heat pumps, while the Clean Car Discount scheme helps households transition to lower emission vehicles.

Use of external resources

109. The Ministry for the Environment engaged with both an external consultant (Envisory) and contractor.

110. Envisory was contracted for a period of two months to provide specialist expert advice related to the liquid fossil fuel technical discrepancy between the Inventory and the NZ ETS.

[14] The shift from CPI indexation to wage indexation for main benefits theoretically decouples price increases from transfers. However, in practice wages tend to grow faster than CPI in New Zealand and therefore households are still likely to be buffered from emission price rises.

111. An experienced contractor was hired as a surge resource to support the team with drafting this paper for several weeks, while they in turn supported the litigation process and focused on options analysis.

Financial Implications

112. Amendments to unit settings can have fiscal impacts as they may affect the proceeds of auctions of NZUs.

113. All options propose a reduction in the volume of NZUs offered at auction, although the timing and amounts vary considerably between options. This should be expected to reduce the proceeds of auctions. However, this also depends on the number of NZUs actually sold and sale prices. For this reason, we have not forecast auction proceeds.

114. This is not considered a material concern as NZ ETS auctions are not intended to raise revenue.

115. Changes in NZU prices that result from changes in unit settings may also have indirect fiscal impacts such as:

    115.1 changes in vehicle kilometres travelled, and hence revenue from fuel excise and road user charges;

    115.2 measures to mitigate cost of living pressures on households;

    115.3 increased costs of purchases by Government agencies.

Legislative Implications

116. Amendment to the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 is required to give effect to Ministers' decisions on unit settings. I seek Cabinet approval to issue drafting instructions to Parliamentary Counsel Office to amend these Regulations.

117. The amendment regulations need to be published in the New Zealand Gazette by the end of 2023, to meet the requirement that unit settings are prescribed for each of the next five years.

s 9(2)(h)

Impact Analysis

Regulatory Impact Statement

119. The Ministry for the Environment Regulatory Impact Analysis panel (the RIA panel) has met and reviewed the Regulatory Impact Statement: 2023 update to New Zealand Emissions Trading Scheme limits and price control settings for units (Appendix One). The RIA panel considers the information and analysis summarised in the RIS meets the Quality Assurance criteria.

Climate Implications of Policy Assessment

120. The Climate implications of Policy Assessment (CIPA) team has been consulted and confirms that the CIPA requirements apply as this proposal will potentially have a significant impact on emissions. A quantitative assessment of emissions impacts has not been completed as the extent which this proposal is likely to impact emissions is very difficult to estimate because ETS unit and price settings do not directly impact emissions.

121. The recommended changes to NZ ETS settings are expected to reduce total net emissions to the atmosphere because they will change the total number of NZUs made available to the market. NZUs are allowances to emit, and it is assumed that all NZUs available will be used, with price adjusting in response to available supply. The proposed changes would create a wider corridor within which price discovery is expected to occur.

122. Option 1 would reduce auction volumes by 17.6 million tonnes over 2023-2028 compared to the status quo. If those NZUs are sourced by emitters from the stockpile instead, this option will result in lower net emissions than the status quo.

123. However, there is a high amount of uncertainty around the NZ ETS prices that would occur under the proposed settings as well as uncertainty as to what impact those price changes would then have on net emissions. This is also true for existing settings which means any assumed or estimated counterfactual is highly uncertain. The impact of NZ ETS price and unit settings on emissions is also dependant on several other factors such as the impact of non-price policies and individuals and firm decision making.

124. Currently there is a significant stockpile of NZUs which will allow future emissions. The proposed changes to the settings aim to reduce the stockpile by limiting auction volumes, including by making the CCR less likely to be released. Under the status quo price control settings, the likelihood of the CCR being released is much higher, creating a greater risk that the stockpile is not reduced. The Government's ability to reduce the stockpile diminishes over time because auction volumes are reducing to zero even under the status quo.

125. The emissions impact of the NZ ETS and unit and price settings will be assessed in further detail under the NZ ETS review and analysis for the second emissions reduction plan.

Population Implications

126. Impacts could occur if NZU prices increase in response to changes in these settings. These are described in the cost-of-living impacts section above.

127. Higher emissions costs disproportionately impact lower socio-economic groups, include Māori and Pasifika. The Government is addressing these concerns through supporting policies to accelerate New Zealand's transition to a low emissions economy.

Te Tiriti o Waitangi implications

128. Māori have a significant stake in climate change action, and a significant interest in the NZ ETS. Māori have a large asset base sitting predominately in the primary industries, as well as Treaty-based rights and interests in natural resource management.

129. While the limit and price control settings for auctions do not directly set the price of NZUs in the secondary market, it is possible that these settings can have an indirect influence on market decisions and NZU prices. If the NZU price increases, this will have flow-on impacts on households and communities. Māori households are estimated to experience a slightly larger than average impact than the average New Zealand household as they are disproportionately represented amongst lower-income and rural households.

130. If the NZU price increases in the secondary market, it could benefit Māori landowners in the form of returns on NZ ETS forestry investments. Māori freehold and Māori customary land is disproportionately on remote, less versatile land and there are considerable challenges raising capital on this land. Carbon revenue from exotic forests provides an important opportunity for development and investment and Treaty settlement entities own significant forestry assets.

131. I am satisfied under section 3A of the Act, that iwi and Māori have had the opportunity to provide feedback on proposed changes. I note that the NZ ETS review is seeking broader feedback from Tiriti partners on how to approach an equitable transition for Māori to a low-emissions, more sustainable and resilient Aotearoa in the face of climate change. This feedback will help inform future unit settings advice.

Human Rights

132. The proposals in this paper are consistent with the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993.

Consultation

133. The Treasury, Ministry of Foreign Affairs and Trade, Ministry for Primary Industries, Ministry for Business, Innovation and Employment, Environmental Protection Authority, and the Ministry of Transport were consulted on this paper. The Department of Prime Minister and Cabinet, Ministry of Social Development, and Te Puni Kōkiri were informed.

134. Public consultation on updates to unit settings in response to the Commission's advice began in May and concluded on 16 June 2023. Sixty-one submissions were received. Submissions expressed a range of views, and these are summarised in Appendix Four.

Communications

135. Announcements about the NZ ETS need to be managed carefully to avoid market risks and to ensure that information does not advantage some market participants over others or compromise investments in NZUs or decarbonisation actions.

136. I will announce decisions via press release, an email sent to NZ ETS stakeholders, and publication on the Ministry for the Environment's website.

Proactive Release

137. I propose to proactively release this paper on the Ministry's website, subject to redactions as appropriate under the Official Information Act 1982. I intend to do this at the same time as decisions are announced.

Recommendations

The Minister of Climate Change recommends that the Committee:

Statutory requirements

1. **note** that the Minister of Climate Change (Minister) is required under section 30GB of the Climate Change Response Act (2002) to update limit and price settings (unit settings) for New Zealand Units (NZUs) under the New Zealand Emissions Trading Scheme (NZ ETS) so that they continue to cover five calendar years at all times

2. **note** that regulations extending these settings need to be made and published in the New Zealand Gazette before 30 September 2023

3. **note** that the Minister is required to be satisfied either: that NZ ETS unit settings are in accordance with New Zealand's emissions budgets, nationally determined contribution (NDC) under the Paris Agreement, and 2050 target under the Act; or if not strictly in accordance, that the discrepancy is justified by reference to criteria set out in sections 30GC(5) and (6) of the Act

4. **note** an analysis of the options presented below against the criteria set out in section 30GC is attached as Appendix Three

5. **note** that the Minister must consider the recommendations made by the Climate Change Commission (Commission) on unit settings on an annual basis

6. **note** that under section 5ZOA of the Act, if the Minister recommends prescribing unit settings that differ from recommendations made by the Commission, the

Minister must as soon as reasonably practicable prepare a report of the reasons for the difference and present this to the House of Representatives

7. **note** that I intend to progress work to consider making the Commission the decision-maker for NZ ETS unit settings

The Commission's 2023 advice on unit settings

8. **note** that the Commission's 2023 advice was provided to the Minister and tabled in the House and was the subject of consultation in May and June 2023

9. **note** that the Commission has expressed concerns that under current unit settings, a large surplus of NZUs has been accumulated by NZ ETS participants, and this risks the achievement of New Zealand's emissions budgets

10. **note** that in response to these concerns, the Commission has recommended reductions in NZUs offered at auction and increases in the auction reserve price and cost containment reserve trigger price

11. **note** that in the absence of additional measures to reduce the risk posed to meeting emission budgets by the stockpile, I do not consider that maintaining current unit settings accords with emissions targets, and so consider the status quo option does not satisfy the legal requirements of the Act

12. **agree** that, in line with the Commission's advice, current unit settings are posing a material risk to achieving emissions budgets; and for this reason, changes to unit settings are required

Legal challenge

13. **note** that since Cabinet's 2022 decisions on unit settings, a legal challenge was successful against the Minister by Lawyers for Climate Action New Zealand Incorporated (LCANZI) on the basis that the decisions did not meet legal requirements

14. **note** the 2022 decisions were held to be unlawful by the High Court, which ordered the decisions to be remade in its judgement issued 13 July 2023, and therefore this paper is seeking decisions on unit settings for 2023-2028

15. **agree** that there are three options for decisions on unit settings:

    a. *status quo*: leave settings unchanged for 2024 to 2027, with an extension to 2028[15]

    b. *option 1:* adopt the Commission's recommended settings in full for 2024 to 2028 and also remake 2023 settings (preferred)

[15] Updated for new inflation and industrial allocation forecasts

c. *option* 2: as consulted on, apply the Commission's latest recommendations from 2026 to 2028 while retaining status-quo settings for 2023-2025.

16. **note** I consider the status quo option does not satisfy the legal requirements of the Act

17. **note** I consider option two has significant risk of not being in accordance with emission targets and would also have negative impacts on the proper functioning of the NZ ETS

Limit settings for NZUs

18. **note** that it is important for the accordance with the emission targets that options on unit settings with emission targets are decided as a consistent package across unit limits and price controls settings

19. **agree** to update limits for units under each option as follows:

Either

13.1 Status quo option

Unit limits (millions) – status quo	2023	2024	2025	2026	2027	2028
NZUs available by auction	26.1	25.0	22.6	20.2	17.8	15.1
Approved overseas units used	0	0	0	0	0	0
Overall limit on units	32.3	31.1	28.7	26.2	23.7	20.9

Or

13.2 Option one (preferred)

Unit limits (millions) – option one	2023	2024	2025	2026	2027	2028
NZUs available by auction	23.0	21.9	19.7	17.2	15.0	12.3
Approved overseas units used	0	0	0	0	0	0
Overall limit on units	29.2	28.0	25.8	23.2	20.9	18.1

Or

13.3 Option two

Unit limits (millions) – option two	2023	2024	2025	2026	2027	2028
NZUs available by auction	26.1	25.0	22.6	15.0	13.0	10.6
Approved overseas units used	0	0	0	0	0	0
Overall limit on units	32.3	31.1	28.7	21.0	18.9	16.4

Price settings for NZUs

20. **agree** to update price settings for units offered at auction under each option as follows:

Either

15.1 Status quo option

Status quo option	2023	2024	2025	2026	2027	2028
Cost Containment Reserve volume (millions of NZUs)	8.0	7.7	7.1	6.5	5.9	5.4
Cost Containment Reserve prices (NZD)	$82	$93	$105	$118	$133	$149
Auction reserve price (NZD)	$33	$36	$39	$41	$44	$48

Or

15.2 Option one – preferred

Option one – preferred	2023	2024	2025	2026	2027	2028
Cost Containment Reserve volume (millions of NZUs)						
Tier 1	8.0	2.8	2.6	2.3	2.1	1.9
Tier 2	-	4.9	4.5	4.2	3.8	3.4
Total	8.0	7.7	7.1	6.5	5.9	5.4
Cost Containment Reserve prices (NZD)						
Tier 1	$173	$184	$194	$205	$215	$226
Tier 2	$216	$230	$243	$256	$269	$283
Auction reserve price (NZD)	$60	$64	$68	$72	$75	$79

Or

15.3 Option two

Option two	2023	2024	2025	2026	2027	2028
Cost Containment Reserve volume (millions of NZUs)						
Tier 1	8.0	7.7	7.1	2.3	2.1	1.9
Tier 2	-	-	-	4.2	3.8	3.4
Total	8.0	7.7	7.1	6.5	5.9	5.4
Cost Containment Reserve prices (NZD)						
Tier 1	$82	$92	$105	$205	$215	$226
Tier 2	-	-	-	$256	$269	$283
Auction reserve price (NZD)	$33	$36	$39	$72	$75	$79

21. **note** mid-options for the price control settings were considered and disregarded as I am not satisfied they accord with meeting emission budgets because of the risk of triggering the cost containment reserve

22. **note** the dollar values above have been rounded to the nearest dollar and I intend to continue this for the regulations

23. **note** The Commission's recommended Cost Containment Reserve and Auction Reserve prices have been updated to reflect more recent inflation forecasts from the Treasury

Legislative implications

24. **authorise** the Minister of Climate Change to issue drafting instructions to Parliamentary Counsel Office to amend the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 to incorporate the above update to unit settings

25. **authorise** the Minister of Climate Change to further clarify and develop policy matters relating to the amendments recommended above, in a manner not inconsistent with Cabinet's decisions

Addressing the distributional impacts of emissions prices

26. **note** that the distributional impacts of emissions pricing are more effectively and efficiently addressed via separate measures that target households directly, rather than by reducing the effectiveness of the NZ ETS

27. **note** that advice on measures for addressing the distributional impacts of emissions prices will be discussed at the Climate Response Ministerial Group (CRMG) meeting on 26 July 2023

Authorised for lodgement

Hon James Shaw

Minister of Climate Change

Appendix One: Regulatory Impact Statement

Regulatory Impact Statement: 2023 update to New Zealand Emissions Trading Scheme limits and price control settings for units

Coversheet

Purpose of Document	
Decision sought:	Cabinet approval for the 2023 annual update to New Zealand Emissions Trading Scheme limit and price control settings for units
Advising agencies:	Ministry for the Environment
Proposing Ministers:	Hon James Shaw, Minister of Climate Change
Date finalised:	20 July 2023

Problem Definition

The NZ ETS settings need to be reconsidered annually to ensure they meet the legislative requirement that they prescribe limits and price controls for each of the next five years.

Current settings are considered to generate a material risk that we will not meet our emissions targets. In particular there is a stockpile of NZ Units held by NZ ETS participants that appears surplus to what is required to meet emissions targets. Changing unit settings to reduce this surplus stockpile is the rationale for the proposed updates.

Executive Summary

The Government makes annual decisions on units supplied into the scheme for the upcoming five years. This limits or 'caps' the quantity of net emissions that can occur, in line with New Zealand's emissions targets.

The supply settings are prescribed in regulations, which are updated annually.

The supply settings are required to accord with New Zealand's emissions targets, unless the Minister of Climate Change (the Minister) is satisfied that the discrepancy is justified.

The Climate Change Commission (the Commission) is required to give annual advice on updates to these settings. The Commission's advice has been considered in determining preferred options.

Unit limits

The limits for units prescribed in regulations are:

- a limit on the NZUs available by auction;
- a limit on approved overseas units (currently zero); and
- an overall limit on units (often referred to as the NZ ETS cap, which consists of units available by auction and by other means, and approved overseas units).

This RIS recommends the limits to be prescribed. Most of the calculation steps take data from other sources, or previously agreed projections, and these are described in the RIS.

However, three steps used to calculate the annual auction volume are explored in more detail. In each case there are two options considered, the status quo or the recommendation of the Commission.

- calculation and treatment of forestry emissions outside the NZ ETS;
- technical adjustment; and
- additional stockpile adjustment.

In summary, we generally recommend agreeing with the recommendation of the Commission in each of these steps to calculate the annual auction volumes as these are most likely to support the achievement of emissions budgets and reduce the stockpile.

Price control settings for units

The price control settings for units are:

- auction reserve price (ARP) - the price below which the Government will not sell units at auction;
- cost containment reserve (CCR) trigger price(s) - below; and
- CCR volume(s).

Alternatives to the status quo for the ARP considered in this RIS involve an increased price. The Commission's recommendation was preferred as it provides a greater certainty of return for gross emission reductions and afforestation. It could also provide some protection from adding additional supply if a large volume of surplus units come to market at once, which could reduce prices and allow emissions above emission budgets.

Cost containment reserve

The CCR releases additional NZUs for sale at auction if the auction's interim clearing price is above a set 'trigger' price.

The Commission has recommended updating the structure, volume calculation, and trigger price of the CCR. The recommendation on structure was to set two trigger prices along with volumes released under each price.

Decisions on CCR settings require careful consideration of emissions reductions and impacts that could occur or be incentivised at different price points.

The Commission's recommendation was preferred as it increases the likelihood that emissions budgets will be achieved, as it ensures that the CCR trigger price is significantly above the range of NZU prices that would support emissions reductions. A high trigger price reduces the risk of the release of the reserve volume (which would prevent the reduction of the stockpile) and is also more likely to reduce the risk of secondary market prices tracking the CCR trigger price (termed the 'magnet effect') and associated speculative trading.

Updating unit settings from 2023 [Legally privileged]

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

The Commission considered that there was no justification for updating settings for 2024 and 2025. s 9(2)(h)

However, there has been a legal challenge to the 2022 decisions (for the 2023-2027 settings). The Applicants and the Crown agreed to resolve the matter by consent, with the Crown admitting that the Minister did not have reasonable grounds to believe that Cabinet's preferred unit settings (which were ultimately adopted) met statutory requirements. The Court confirmed this agreement in a judgment issued 13 July 2023, meaning that the 2022 decisions have been quashed and I am required to reconsider unit settings for 2023-2027.

This means that this RIS is considering settings for 2023 to 2028.

Consultation feedback

Feedback from consultation on these settings fell broadly into two categories, those supportive of the Commission's recommendations, and those supportive of retaining status quo settings. Some submitters supported some elements, but not others, of the Commission's advice, or recommended alternative options that hadn't been considered in the discussion document.

Those supportive of status quo settings have highlighted the potential impacts on emissions intensive and trade exposed businesses as well as households and the economy allowed for by these settings. A few raised concerns about the modelling approach taken by the Commission.

Those supportive of the Commission's advice have tended to acknowledge potential impacts but consider that these should be addressed via complementary measures rather than via NZ ETS unit settings. They have also highlighted that settings should focus primarily on driving the emissions reductions required to achieve domestic emissions budgets and accord with the NDC. Some submitters also noted that the Commission's role as an independent advisory body means that its recommendations should be followed.

Limitations and Constraints on Analysis

There has only been a short timeframe available for analysis of settings and the Commission's advice, which has limited this analysis. The timing of public consultation and subsequent time available for review of submissions have exacerbated this constraint.

The Commission's model from which its scenarios and price modelling was derived, has not been made available to the Government or the public. This has limited our ability to carry out sensitivity testing.

We have been unable to fully assess possible impacts of changes from updating price control settings. This includes the potential impacts on land use change, households, and the economy.

Responsible Manager

Kate Whitwell

Manager ETS Policy, Markets Directorate, Climate Business Group Ministry for the Environment 20 July 2023	
Quality Assurance	
Reviewing Agency:	Ministry for the Environment
Panel Assessment & Comment:	The Ministry for the Environment Regulatory Impact Analysis panel (the RIA panel) has met and reviewed the Regulatory Impact Statement: 2023 update to New Zealand Emissions Trading Scheme limits and price control settings for units. The RIA panel considers the information and analysis summarised in the RIS meets the Quality Assurance criteria.

Section 1: Diagnosing the policy problem.

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

Current state

1. The NZ ETS is one of the Government's key tools to price greenhouse gas emissions and address climate change.

2. The NZ ETS aims to provide a strong and stable signal of the cost of emissions to the economy. The costs of meeting NZ ETS obligations flow through New Zealand's economy by impacting the costs of goods and services that use fossil fuels or produce significant levels of emissions.

3. Aligning the NZ ETS with New Zealand's emissions budgets, along with expectations of a rising future emissions price, allows it to shape future economic development by flexibly encouraging businesses and households to align investment decisions and choices with low-emissions alternatives.

Annual process for unit limits and price control settings

4. Under the Act regulations are required to set unit limits and price control settings - -unit settings'.

5. Unit limits include:

   - a limit on the NZUs available by auction;
   - a limit on approved overseas units (currently zero); and
   - an overall limit on units (often referred to as the NZ ETS cap, which consists of units available by auction and by other means, and approved overseas units).

6. The price control settings for units are:

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

7. As these price controls set a minimum and maximum price for auctions, and can be adjusted annually, they provide a 'price corridor' over the five year time horizon. Managing the supply and (indirectly) the stock of units limits or 'caps' the quantity of net emissions that can occur, in line with New Zealand's emissions reduction targets.

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

9. Under the Climate Change Response Act 2002 (the Act) NZ ETS unit limits and price control settings are required to accord with New Zealand's emissions budgets and targets, or, if they are not in accordance, the discrepancy must be justified in line with the criteria prescribed in the Act.[1]

[1] See section 30GC of the Climate Change Response Act.

10. The annual updates to unit limits and price control settings are prescribed in the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020. This update will be the fourth time that these settings have been updated since regulations were made in 2020.[2]

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

11. The Commission is required to give annual advice on NZ ETS unit settings.[3] The Commission's 2023 advice was provided to the Minister of Climate Change (the Minister) on 31 March 2023. The Minister must consider the Commission's advice when recommending updates to settings, and must table a report in Parliament if there are any differences.

12. The Commission is required to consider the same matters as the Minister in developing its recommendations – namely that the unit limits and price control settings must be in accordance with emissions budgets and climate change targets; or if they are not in accordance, justify the discrepancy.

13. When the Commission has provided its advice, the Ministry for the Environment ('the Ministry') publicly consults on that advice to secure feedback from stakeholders about the feasibility and impacts of the Commission's recommendations. After assessing the information in the submissions, and its own assessment of the of the Commission's recommendations, the Ministry provides recommendations as to whether the Government should accept the Commission's recommendations or adopt alternative courses of actions.,

Impact of decisions in 2022

14. The first iteration of the Commission's NZ ETS settings advice was provided in July 2022.[4] The Government did not agree with all of the Commission's 2022 recommendations, and a report on reasons for differences was made available in December 2022.[5] The Government broadly agreed with the Commission's recommendations for unit limits, but continued status quo settings for the price controls.

15. Since this decision was announced, NZU prices have dropped from over $80 in November 2022 to around $50 currently.[6] Market commentary on the divergence from the Commission's recommendation attributed the recent fall in NZU prices to this decision, as well as the recent commencement of consultation on the NZ ETS review. The majority of submitters thought that the Government's decision on settings in 2022 had an impact on NZ ETS market behaviour. Most attributed this impact to undermined confidence in the secondary market. Some also noted the impact on regulatory certainty resulting from not taking the Commission's advice. A smaller number of business and industry participants considered that the drop in the price of NZUs indicated that the secondary market was returning to normal operating levels as speculative activity reduced.

Meeting emissions budgets

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2 The previous impact assessments can be found at the links below:
- 2020 Regulatory Impact Assessment - Full Impact Statement Template (environment.govt.nz)
- 2021 Regulatory Impact Statement: Updates to NZ ETS unit limit and price control settings regulations - 29 July 2021 - Regulatory Impact Assessment - Ministry for the Environment (treasury.govt.nz)
- 2022 Regulatory Impact Statement: Annual update to the New Zealand Emissions Trading Scheme limits and price control settings for units 2022 (treasury.govt.nz).

3 This requirement is described in section 5ZOA of the Climate Change Response Act 2002. The Commission's 2023 advice: NZ ETS unit limits and price control settings for 2024-2028 » Climate Change Commission (climatecommission.govt.nz)

4 The Commission's 2022 advice: NZ ETS settings for 2023-2027 (climatecommission.govt.nz)

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

6 CommTrade

16. The first emissions reduction plan contains the policies and strategies needed to meet the first emissions budget and put New Zealand on a path to achieving the 2050 target.[7] This includes the role of the NZ ETS in how it supports New Zealand to meet emissions budgets and the 2050 target.

17. The Minister is required to set emissions budgets and ensure that they are met. This specifically means ensuring that 'net accounting emissions' do not exceed the limit imposed by the emissions budget. If faced with information and evidence indicating that an emissions budget is unlikely to be met, the Minister is required to take steps to achieve the budget.

What is the policy problem or opportunity?

18. NZ ETS unit limits and price control settings need to be updated annually to ensure they are fit-for-purpose to assist New Zealand in meeting its emissions budgets and climate change targets. They also need to be extended to cover an additional year to meet the requirement that there must always be 5 years of settings in place.

19. In its 2023 advice the Commission warned that the status quo settings are at risk of being out of step with emissions targets. It considers that the status quo settings increase the likelihood that extra NZU volumes would come to market, adding to the existing surplus of units and reducing the likelihood that emissions targets are met. It also noted that status quo settings are more likely to require the government to adjust the emissions reduction plan to include further regulations and other policies to drive emissions reductions and ensure that emissions budgets are met.

20. In particular, there is a stockpile of NZ Units held by NZ ETS participants that appears surplus to what is required to meet emissions targets. Changing unit settings to reduce this surplus stockpile is the rationale for the proposed updates. The stockpile is around 160 million NZUs as of 30 June 2023.[8] In 2022 the Commission estimated that the surplus stockpile was between 33-66 million units.

21. Status quo settings were set last year based on the policies and plans in the emissions reduction plan, and the prices likely thought needed for the ETS to support these. The Climate Change Interdepartmental Executive Board (IEB)[9] have since assessed how New Zealand's emissions are tracking towards the first three emissions budgets. It found that there are currently some risks to the achievement of the first emissions budget. While projections indicate emissions may fall within the first emissions budget limit, this is mainly due to methodological changes. Stronger NZ ETS settings could help support achievement of the first emissions budget.

What objectives are sought in relation to the policy problem?

22. The objective of the unit settings is to satisfy the Minister of his legal obligations that one of two tests are met under the Act. Namely, before recommending unit settings to be prescribed in regulations, the Minister must be satisfied, either:

    a) that the unit settings [strictly] accord with all extant emissions budgets, New Zealand's NDC, and the 2050 target (collectively 'emissions targets') (section 30GC(2)); or

    b) if the unit settings do not strictly accord with the emissions budgets and the NDC, that the discrepancy is justified with reference to prescribed statutory matters (section 30GC(3)). Note – even if applying this test, settings must always strictly accord with the 2050 target.

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7 New Zealand's first emissions reduction plan was published in May 2022. Emissions reduction plan | Ministry for the Environment

8 Privately held units | EPA

9 The IEB was established to oversee the emissions reduction plan and monitor and report on progress.

23. In determining whether either test is met, prescribed statutory matters must be considered, including emissions trends, the Commission's advice, the operation of the NZ ETS, international markets, and New Zealand's international obligations, and the economic effects of emissions prices.

s 9(2)(h)

s 9(2)(h)

Section 2: Deciding upon an option to address the policy problem

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

33. The criteria used to assess the options are described in table 1 below. They broadly align with the factors in section 30GC of the Act (see Appendix One).

Table 1: Criteria for options analysis of limit and price control settings for units

Criteria	Description
Likelihood of incentivising emissions reductions	The NZ ETS supports gross emissions reductions by incentivising the uptake of low-emissions technology, energy efficiency measures, and other abatement opportunities as quickly as real-world supply constraints allow. It does this by providing a strong and stable price signal to incentivise gross emissions reductions. The NZ ETS drives levels of removals sufficient to help meet our climate change goals in the short-to-medium term and to provide a sink for hard-to-abate emissions in the longer term. It does this by providing a strong and stable price signal that rewards removal activities. Due to the risk the stockpile creates to the achievement of emissions budgets, options that are more likely to reduce the stockpile will rate more highly on this criterion.
Support the proper functioning of the NZ ETS	Settings should allow the NZ ETS to function as an efficient and effective market. The NZ ETS should operate in a transparent and durable manner that allows participants to form expectations about supply and demand to support investment in cost-effective opportunities for domestic emissions abatement. The restrictions on how settings are updated allow changes to be made in response to new information, while maintaining regulatory predictability. Options that undermine this standard approach rate negatively in this criterion. It also includes NZ ETS participants being able to attain and surrender NZUs to meet NZ ETS obligations.
Support consistency of NZU prices with the level and trajectory of international emissions prices **	NZ ETS settings should support efforts to allow access to offshore mitigation, including keeping NZU prices in line with international prices.
Manages overall costs to the economy and households **	The costs imposed by the NZ ETS on the economy, household, different sectors, regions, and the government are broadly acceptable. Additional costs imposed by the NZ ETS on vulnerable groups and communities are mitigated as much as possible through NZ ETS settings and companion policies. Changes to revenue earned by the government from NZ ETS auctions enable continued support for these companion policies.

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

34. We have weighted the criterion of likelihood of incentivising emissions reductions more highly than the other critera because of the ongoing uncertainty on the achievement of emissions budgets.

35. Assessment of each option against the criteria is given a rating outlined in the key below:

Key for assessing options against the status quo	
++	much better than the status quo
+	better than the status quo
0	about the same as the status quo
-	worse than the status quo
- -	much worse than the status quo

What scope will options be considered within?

36. Options for controlling unit supply and mitigating unacceptable prices are being considered in the context of adjusting the existing auctioning regulations.

37. The following matters are out-of-scope:

a) **The methodology for calculating unit limits.** The methodology for calculating unit limits was developed in 2020 for the NZ ETS limits for units. The Commission followed this methodology in their 2022 advice on NZ ETS unit limit settings. We consider there is no reason to change the sequential set of calculations, as the process remains the appropriate way to determine these limits.

b) **Policy on gross and net emissions.** New Zealand's emissions targets are premised on net emissions - the combination of emissions and removals of CO_2e to and from the atmosphere. The Commission has recommended amending the NZ ETS to prioritise gross emission reductions. The Commission's draft advice[10] on the second emissions reduction plan also included a recommendation for a specific level of gross emission reductions, their final advice is expected by 31 December 2023.

Consideration of the incentives for gross emission reductions and emissions removals towards meeting New Zealand's net emissions targets is out of scope for this analysis. The Government is considering this issue through the NZ ETS review[11] and the second emissions reduction plan.

c) **Strategy for meeting the NDC.** The Government is currently developing a strategy to meet NDC1 and set the foundation to meeting subsequent NDCs. The strategy provides an adaptive management approach for the balance of domestic and offshore mitigation towards meeting the NDC over time. If the Government decides further domestic action is needed, auction volumes may need to change to enable this. These decisions would be considered in future NZ ETS settings decisions.

Updating unit settings from 2023 [Legally privileged]

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

39. There was legal action against the Minister challenging the 2022 decisions on unit settings, on the basis that they were not made in accordance with the requirements of the Act.

[10] 2023 Draft advice to inform the strategic direction of the Government's second emissions reduction plan » Climate Change Commission (climatecommission.govt.nz)

[11] Review of the New Zealand Emissions Trading Scheme: Discussion document | Ministry for the Environment

40. The Applicants and the Crown agreed to resolve the matter by consent, with the Crown admitting that the Minister did not have reasonable grounds to believe that Cabinet's preferred unit settings (which were ultimately adopted) met statutory requirements. The Court confirmed this agreement in a judgment issued 13 July 2023, meaning that the 2022 decisions have been quashed and I am required to reconsider unit settings for 2023-2027.

41. This means that this RIS is unusual and will be recommending settings for 2023-2028.

What options are being considered?

42. Changes are being considered to the limits for units and the price control settings for units prescribed in schedule 3 of the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020.

43. The options have been divided into the limits for units (section 3), the price control settings (section 4).

Section 3: Limits for units

44. The limits for units that are prescribed in regulations are:

    a) **a limit on the NZUs available by auction** (annual auction volume + volume available within the CCR);

    b) **a limit on approved overseas units**; and

    c) **an overall limit on units** (often referred to as the NZ ETS cap, which consists of units available by auction and by other means[12], and approved overseas units).

45. A methodology for calculating the annual auction volumes was first developed in 2020, and the same broad approach has been used both by the Government and by the Commission in its 2022 and 2023 advice to the Minister. The methodology moves through a series of steps, which is then used as an input, alongside other data, to calculate the limits prescribed in regulations.

46. The methodology for calculating the auction volumes uses the following calculation steps:

    1. Align with climate change targets
    2. Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors;
    3. Make technical adjustments;
    4. Account for free NZU allocation volumes;
    5. Set the reduction volume to address the unit surplus;
    6. Set the approved overseas unit limit; and
    7. Calculate the base auction volumes.

47. There are options considered for step 2, step 3, and step 5. The remaining steps have been agreed previously and further changes are not considered, as they are primarily derived from other sources.

48. The recommended option for each step is then incorporated into the calculation of auction volumes (table 7). This is used to inform the limits for units to be prescribed in regulations, which are provided in Section 6: *Delivering an option*.

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

49. This step allocates emissions budgets between sectors that the NZ ETS covers and those that it does not. It recognises that emissions outside the ETS will already account for a portion of the emissions budget.

[12] This does not include units supplied from forestry.

50. Last year the Government followed the Commission's recommendation to allocate the emissions budget between NZ ETS sectors and non-ETS sectors on the basis of the sectoral gross emissions reductions implied by the sector targets in the emissions reduction plan, as well as unregistered post-1989 forest carbon removals.[13] This approach means that if projections for gross emissions outside the NZ ETS (mainly agricultural emissions) change, there would not be a change to the emissions reductions required by sectors covered by the NZ ETS.

51. In its 2023 advice, the Commission updated its estimates of forestry emissions outside the NZ ETS to account for recent changes in levels of forest land registered in the NZ ETS. The Commission's analysis suggests that an increase in the level of forest land registered means the portion of the emissions budget allocated to the NZ ETS should now be smaller. Their recommendation would reduce auction volumes.

52. There are two options for this step. Maintain the status quo or update the forestry estimates.

Option One – Status Quo

53. This would not update the 2022 estimates of forestry outside the NZ ETS used to calculate auction volumes.

Option Two – update estimates of forestry outside the NZ ETS

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

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

    b) The volume of post-1989 exotic forest land has increased from approximately 297,000 hectares to 471,000 hectares, 81 per cent planted before 2019.

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

56. The updated estimates including forestry are compared with previous estimates (status quo) of emissions outside the NZ ETS in table 2.

Table 2: Impact of change to forestry estimates of emissions outside the NZ ETS

	Year					
Option	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Option 1: Status quo emissions outside the NZ ETS	41.3	41.0	41.0	40.4	40.2	39.8
Option 2: Commission's advice emissions outside the NZ ETS	42.9	42.7	42.6	42.0	41.6	41.3
Difference (mil NZUs)	-1.5	-1.7	-1.6	-1.7	-1.5	-1.5

[13] See pages 34 – 36 of Full report: Advice on NZ ETS unit limits and price control settings for 2023-2027 (July 2022) » Climate Change Commission (climatecommission.govt.nz)

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

57. An assessment of each option against the status quo is presented in table 3 below.

Table 3: Assessment of changing forestry estimates against the status quo

	Option Two
Likelihood of emissions reductions	++ More likely to see emission reductions as it reduces the risk of additional units being added to the stockpile
Supports proper functioning of the NZ ETS	- Unexpected change as method for calculation was determined last year, to minimise the need for further changes. Material reduction in auction volumes, expected to be buffered by the stockpile.
Overall assessment	+ Although this option will have a negative impact on proper functioning of the ETS as it undermines regulatory certainty, it would increase the likelihood that emissions budgets are met.

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

Accordance with emissions budgets

58. Option 2 supports the objective of according with emissions budgets, as it reduces the risk of adding additional units to the NZ ETS that have already been accounted for by non-NZ ETS sectors.

59. Retaining the status quo approach would risk auctioning more units than are available to NZ ETS sectors and could mean the emissions budget is exceeded. It does not accord with emissions budgets.

Consultation feedback

60. Of the submitters that responded, most where satisfied that the Commission's forestry estimates were accurate. Two business submitters questioned the reliability of the MPI data used in these estimates.

61. Most submitters agreed that a reduction in auction volumes to reflect the updated estimates was the best course of action. The reasons given for making this adjustment were that it maintains the integrity of the NZ ETS with accurate and up to date data while providing the best chance of meeting New Zealand's emissions reduction targets.

62. Some submitters were opposed to making the adjustment to auction volumes and stated that this could pose a risk to necessary market liquidity and could drive NZU prices higher. A few submitters took a broad approach to the consultation by opposing all auction and surplus stockpile volume reductions due to economic concerns regarding the impacts on businesses and the cost of living.

Recommendation

63. We recommend updating the allocation of the emissions budget to NZ ETS and non-NZ ETS sectors by making the forestry adjustment as this better accords with emissions budgets. This will reduce the total auction volume. A discrepancy is not justified. The estimates are presented in the final auction calculations in table 7.

Step 3: Make technical adjustments

64. Emissions reported into the NZ ETS for covered sectors are intended to align with emissions reported in New Zealand's Greenhouse Gas Inventory (the Inventory) as New Zealand uses inventory data to report progress towards targets. Any accounting misalignment could mean too many, or too few, emission units are supplied into the market. This could risk over- or under- achieving those targets.

65. The Commission has identified two discrepancies between emissions reported in the Inventory and those reported in the NZ ETS. These discrepancies were identified last year, and the decision was to not make the adjustment because the source of the discrepancy was unknown, so it could have had a negative impact on regulatory certainty and because the reduced auction volume could result in a fiscal cost.[14]

66. The two discrepancies are:

Liquid fossil fuels	The variance has been consistent since 2010. Emissions reported in the NZ ETS have been around 0.8 Mt CO_2e per annum lower than emissions reported in the Inventory. The source of the discrepancy has been identified.
Coal and steel	There is no discrepancy for the 2021 Inventory. In 2018, NZ ETS reported emissions were 0.5 Mt CO_2e lower than emissions reported in the inventory, and 0.9-1.0 Mt CO_2e (or around 16%) lower than the emissions reported in the Inventory from 2019-2020. The source of the discrepancy has been identified.

67. Officials have investigated the methodologies and emissions factors used in the NZ ETS and the inventory and it is likely that they are both a result of over-reporting emissions in the Inventory. The coal discrepancy has already been updated in the latest Inventory and it is possible the Inventory will need adjustment for the liquid fossil fuel discrepancy.

Option One – status quo – no technical adjustment

68. No technical adjustments are made during the calculation of auction volumes

Option Two – reduce calculated auction volumes by the full amount of the observed discrepancy – Commission's advice

69. The Commission recommends making the technical adjustment through reducing unit limits in the NZ ETS. This is because emissions budgets may be adjusted in future to reflect changes to emissions reported in the Inventory. If the budgets are reduced to reflect this discrepancy and the technical adjustment is not made now more effort will be required to achieve emissions budgets in future, as too many NZU's will have been sold.

Other options were discarded

70. Consultation considered an in between option of reducing auction volumes to reflect half of the observed discrepancies. This has not been progressed as it was not supported through consultation and because the source of the discrepancies has been identified.

71. An assessment of each option against the status quo is presented in table 4 below.

Table 4: Impact of technical adjustment to auction volumes

	Year (Million NZUs)					
Option	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**

[14] This was based on an emissions price that did not increase significantly in response to the reduction in supply. This is discussed further in the impacts assessment of the unit limits [see para x].

[IN-CONFIDENCE]

Option 1: Status quo, no technical adjustment	0	0	0	0	0	0
Option 2: Commission's advice, make a technical adjustment	-1.6	-1.4	-1.3	-1.3	-1.3	-1.3

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

72. An assessment of each option against the status quo is presented in table 5 below.

Table 5: Assessment of making a technical adjustment against the status quo

	Option Two
Likelihood of emissions reductions	+ Reduces the risk of additional units being added to the stockpile Improves alignment of unit supply in ETS market with inventory
Supports proper functioning of the NZ ETS	- Negatively impacts regulatory certainty as this option was discarded last year. Reduction in auction volumes, expected to be buffered by the stockpile.
Overall assessment	+ Including the additional weighting given to the first criterion, this option is an improvement of the status quo

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

Accordance with emissions budgets

73. Option 2 supports the objective of according with emissions budgets, as it reduces the risk of adding additional units to the NZ ETS in excess of emissions budgets. The unit limits start from the demonstration pathway towards meeting emissions budgets, which is based on the current Inventory.

74. As the source of the discrepancy is likely to be the Inventory, and 'actual' emissions are lower than currently reported, then fixing this would make it easier to meet emissions budgets than expected when the emissions budget was set.

75. Retaining the status quo approach would risk auctioning more units than available for future emissions budgets, increasing the effort to meet future emissions budgets. There is a greater risk that this option does not accord with emissions budgets.

Consultation feedback

76. Feedback from a range of submitters including individuals, NGOs, businesses, and industry participants showed strong support for a reduction in auction volumes to address the technical discrepancy. Some submitters supported the adjustment under the condition that the nature of the discrepancy was well understood. Submitters were widely of the opinion that the inventory and the NZ ETS should be aligned.

77. A smaller group of submitters primarily from business and industry do not support any adjustment until there is a greater understanding of the discrepancy. Some supported no change to volumes at all due to economic concerns.

Recommendation

78. Option 2 is recommended.

Step 7: Calculate the base auction volumes

79. Table 6 displays the calculation of annual auction volumes using the recommended options at each of the steps above for 2023 - 2028. The resulting auction volumes

would vary if different options are chosen at steps 2 (allocating emissions budget), 3 (technical adjustments), and step 5b (discrepancy adjustment)[15].

[15] In its 2023 advice the Commission recommended an additional stockpile adjustment to account for changes that were not made in 2022. These related to; the allocation of the emissions budget (step 2); technical adjustment (step 3); and, new free allocation projections. As the preferred option is to update the unit settings for 2023 based on the Commission's advice, this sub-step does not need to be made, as there are no discrepancies to adjust for.

[IN-CONFIDENCE]

Table 6: Calculation of preferred auction volumes

Step	Data source	2023	2024	2025	2026	2027	2028
Step 1: align with emissions budget	The emissions budgets are for a desired level of emissions over a five year period[16], rather than an annual reduction. A straight- line trajectory is used to determine a point-year emissions budget.[17]	**73.6**	**72.1**	**69.7**	**66.5**	**63.9**	**60.7**
Step 2: allocate to NZ ETS sectors (emissions outside the NZ ETS) **allocated to NZ ETS sectors**	See [Step 2. Allocate the emissions budgets to NZ ETS and non-NZ ETS sectors]	(-42.9) **30.8**	(-42.7) **29.4**	(-42.6) **27.1**	(-42.0) **24.5**	(-41.6) **22.2**	(-41.3) **19.4**
Step 3: technical adjustment	See [Step 3. Make technical adjustments]	-1.6	-1.4	-1.3	-1.3	-1.3	-1.3
Step 4: free allocation	The Government provides free allocation to businesses undertaking activities that are emissions-intensive and trade-exposed. These units take up part of the emissions budget allocated to NZ ETS sectors, reducing the number of NZUs that the Government can sell at auction. Free allocation NZUs are re-forecast each year for the upcoming five years.[18]	-6.2	-6.1	-6.1	-6.0	-5.9	-5.8
Step 5: stockpile adjustment	In its 2022 advice, the Commission recommended reducing the 49 million surplus to zero by 2030 by reducing auction volumes each year.[19] The Government agreed with the recommendation of the Commission.[20]	-8.0	-7.7	-7.1	-6.5	-5.9	-5.3
Step 6: international unit limit	International mitigation will be required for New Zealand to achieve its 2021–30 NDC. Although the Act allows for limits on the use of approved overseas units to be prescribed, agreements for the import of those units have not occurred. Therefore, consistent with current regulations, the proposed approved overseas unit limit will remain at zero units per year.	0	0	0	0	0	0
Step 7: Preferred NZU auction volumes		**15.0**	**14.1**	**12.6**	**10.7**	**9.1**	**6.9**

[16] The first emissions budget is an exception to this and is from 2022-2025.

[17] See the Commission's Workbook-for-NZ-ETS-Settings-2023.xlsx (live.com), "Allocate emissions budget" worksheet.

[18] See the Commission's Workbook-for-NZ-ETS-Settings-2023.xlsx (live.com), "Industrial free allocation" worksheet.

[19] See 2022 Regulatory Impact Statement: Annual update to the New Zealand Emissions Trading Scheme limits and price control settings for units 2022 (treasury.govt.nz).

[20] Due to timing issues, there has not been an update to this figure in the Commission's 2023 advice and they therefore recommend the same reduction figures. The Government has not reconsidered these options or reassessed the size of the surplus as the Commission will reconsider this in 2024.

[IN-CONFIDENCE]

[IN-CONFIDENCE]

Status quo methodology[21]		**18.1**	**17.2**	**15.5**	**13.7**	**11.9**	**9.7**

[21] This assumes that the status quo methodology is continued for each step. This is an increase in auction volumes currently prescribed in regulations, as the status quo methodology is to update free allocation projects with new data.

[IN-CONFIDENCE]

What are the marginal costs and benefits of the option?

80. The impacts of the options are assessed together based on the preferred choices for each step in the methodology. If the NZU price stays the same, reducing auction volume would reduce revenue generated. However, reducing the volume of auctioned units should lead to higher prices over time, all else equal. Therefore, the impact on auction revenue is difficult to determine.[22]

81. Further information can be found in the price controls section, as the total impacts are assessed together.

Section 4: Price control settings

82. Auction price control settings provide the Government with a mechanism to moderating supply of units via auctions.

83. The auction reserve price (ARP) is the price below which the Government will not sell units at auction.[23] The ARP is not a hard price floor as units can be traded at any price on the secondary market. Instead, it prevents the government from adding further NZUs into the market if the prices are below this level, which would be expected to put upward pressure on prices.

84. The cost containment reserve (CCR) is the price control that provides the government with a mechanism to help manage unacceptably high prices in the NZ ETS. It achieves this by releasing additional units for sale at auction if the auction's interim clearing price is above a set 'trigger' price for the CCR.

85. There are three aspects of the CCR that are being considered, these are:

    a) The trigger price or prices

    b) The volume

    c) The structure i.e., the number of tiers of auction volume and trigger prices

86. If set appropriately, price controls are intended to play a role rarely and are not intended to set emissions prices. However, to date a relationship has been observed. The market appears to have been highly responsive to signals sent by the Government on the trajectory of future carbon prices.

87. Decisions to increase the CCR trigger price appeared to act as a 'magnet' for prices, though views from submitters were mixed on whether this is actually the case. Steep and rapid increases in market prices have occurred when the price ceiling value has been increased, or announcements made that indicate this value is likely to be increased.[24] This includes releasing the full CCR in 2021 (7 million NZUs) and 2022 (7 million NZUs). The recent drop in prices around December 2022 also appears related to the Government's decision, announced in December 2022, not to take the Commission's advice.

88. This suggests that the prevailing secondary market price has been heavily influenced by regulatory uncertainty rather than the intended fundamentals of the cost of achieving emissions reductions. Part of the reason for this correlation between price control settings and market prices is likely to be that changes in price do not influence

[22] The NZ ETS is not designed to generate revenue.

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

[24] Since the NZ ETS closed to international markets in 2015, the market price of NZUs has closely tracked the upper price controls, the $25 and then $35 fixed price option, and the more recent $50 and then $70 CCR trigger prices.

participant's demand for units in the short term.[25] Speculative demand is, however, likely to be price-sensitive.

Commission's price control settings were informed by modelling

89. The Commission has modelled the costs to achieve gross emissions reductions from all NZ ETS covered sectors of the economy, excluding forestry. The Commission used sector sub-targets from the emissions reduction plan to set expectations for the gross reductions from emitting sectors and the amount of carbon removed through forestry. This allowed the Commission to account for carbon removal from forests for the first three emissions budgets.

90. The Commission used its ENZ model to estimate the costs to achieve the calculated gross emissions target in a range of scenarios in the context of three sources of uncertainty: baseline emissions from which reductions need to occur, mitigation costs, and other policies affecting NZ ETS sectors. The Commission notes these costs are expressed as emission prices but might be associated with other policies. Due to limitations of their model at higher prices, the results are likely to understate the mitigation response to significantly higher emissions prices. These prices were used by the Commission to recommend lower and upper bounds for the price controls.

91. The Commission's modelling of the prices needed to achieve its gross emissions reduction target decoupled the incentives for reductions and removals. Under current NZ ETS design the NZ ETS is likely to drive more afforestation than gross emissions. However, the Commission noted the afforestation response to higher NZU prices would not assist New Zealand to meet the first emissions budget as forests have initially slow rates of carbon sequestration. However, by the third budget period, the removals from afforestation from 2023 would be material.

Option assessment

92. The Commission has recommended that the ARP and the CCR are considered together as a package as the trigger prices materially shift the 'price corridor' and impact the appropriate unit volumes. We agree with this assessment and consider the impacts of the trigger prices together.

93. All the ARP and CCR trigger price options have been adjusted for inflation using the most recent inflation figures from Treasury's Budget Economic and Fiscal Update 2023.[26] The inflation adjustment avoids the effectiveness of settings being eroded over time in real terms. This is consistent with the considerations in section 30GC(6)(c) of the Act and is supported by the advice of the Commission.[27]

Section 4.1 Auction reserve price

Options

Option 1 - status quo – increasing at 5 per cent and adjusted annually for inflation

94. The status quo has an ARP starting from $30 in 2022 and increasing at 5 per cent and adjusted for inflation.

Option 2 – mid option - immediate increase to $45, increasing at 5 per cent and adjusted annually for inflation

95. This would involve an immediate increase to a 2023 value of $45, increasing annually by 5 per cent and adjusted for inflation. The rate of increase of 5 per cent was selected, to manage risks of creating unintended speculative opportunities and is the default discount rate recommended by the Treasury.

[25] This is technically called demand inelasticity, meaning demand is largely independent of price.

[26] Budget Economic and Fiscal Update 2023 (treasury.govt.nz) see *Table 1.1 Economic Forecasts*

[27] 2023-advice-on-NZ-ETS-unit-limit-and-price-control-settings.pdf (climatecommission.govt.nz) page 48

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Option 3 – Commission's 2023 advice - immediate increase to $64, and adjusted annually for inflation

96. The Commission estimated the current value using a forward-looking approach, with a lower benchmark 2030 price of $70 in real 2023 dollars. This was discounted back to 2023 by 3 per cent, using as a conservative assumption of the likely rate of return available for other investments.

Table 7 Options for the auction reserve price

		Auction reserve price for each year, in dollars				
Option	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Option 1 – Status quo methodology	$33	$36	$39	$42	$45	$48
Option 2 – mid option	$45	$48	$52	$56	$60	$64
Option 3 – Commission's advice	$60	$64	$68	$72	$75	$79

Other options

97. No option more stringent that the Commission's recommended ARP is considered in this RIS. A higher ARP would require greater effort than expected in the emissions reduction plan by sectors covered by the NZ ETS to achieve emissions budgets.

98. The discussion document considered other mid-range options between the status quo and the Commission's recommendation. Although they could be implemented differently, these options are considered together in this RIS as they are broadly similar. Feedback from submitters showed little support for the mid-range options with the majority of feedback supporting either the status quo or the Commission's recommendations.

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

99. An assessment of each option against the status quo is presented in table 8 below.

Table 8: Assessment of options against the status quo

	Option Two	Option Three
Likelihood of emissions reductions	+ Supports investment in net emissions reductions from afforestation (beneficial for the third emissions budget)	++ Supports investment in net emissions reductions from afforestation and gross reductions as there is a greater certainty of return, so higher likelihood of emissions reductions (beneficial for all future budgets)
Supports proper functioning of the NZ ETS	- Abrupt and significant increase in ARP level could undermine regulatory certainty	-- Abrupt and significant increase in ARP level could undermine regulatory certainty Above prevailing market prices, risk of speculative trading. Slower annual increase could mitigate this somewhat.
Support consistency of NZU prices with the level and trajectory of international emissions prices	+ Closer to current and expected international prices	++ More in line with floor prices and low end of expected price ranges
Manages overall costs to the	-	--

economy and households	High signal for land-use change to forestry. Increased costs on households and businesses, although prices have traded higher than this previously	High signal for land-use change to forestry. Greater cost impacts on household and business from higher NZU prices, although prices have traded higher than this previously
Overall assessment	+ This option is an improvement on the status quo with the higher weighting given to the first criterion.	++ This option ranks the best and is an improvement on the status quo with the higher weighting given to the first criterion.

Section 4.2 Cost containment reserve trigger price

100. Triggering the CCR releases an additional supply of units. While the trigger price is considered here, the impact assessment needs to consider the price and volume together. This is because lower trigger prices are more likely to result in the release of this volume, which would increase the stockpile and allow more emissions.

Climate Change Commission advice

101. The Commission recommends a two tier CCR (in effect two trigger prices and two volumes (see the section Cost containment reserve structure). Each of the Commission's recommended trigger prices is considered below as an option for the trigger price of a single CCR volume.

Options

Option 1 - status quo – increasing at 10 per cent and adjusted annually for inflation

102. The status quo has a trigger price of $70 in 2022 and increasing at 10 per cent and adjusted for inflation.

Option 2 – immediate increase to $160, increasing at 5 per cent and adjusted annually for inflation

103. This would involve an immediate increase to a 2023 value of $160, increasing annually by 5 per cent and adjusted for inflation. $160 was selected as the mid-point between the status quo and the Commission's proposed second tier. The rate of increase of 5 per cent was selected, to manage risks of creating unintended speculative opportunities and is the default discount rate recommended by the Treasury.

Option 3 – Commission's low trigger – immediate increase to $184 and adjusted annually for inflation

104. The Commission used a forward-looking approach, with a benchmark 2030 price of $200 in 2030 selected as it is halfway between the status quo 2030 value ($150) and their upper 2030 benchmark of $250. This was discounted back to 2023 by 3 per cent per annum, as a conservative assumption of the likely rate of return available for other investments.

105. The Commission recommended that if the Government maintained a single tier for the CCR, that the lower trigger price and volume should be used.

Option 4 - Commission's high trigger – immediate increase to $230 adjusted annually for inflation

106. This is the trigger price that would be used if a two-tier structure for the CCR is agreed (see the section Error: Reference source not found).

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107. Again, the Commission used a forward-looking approach, with a benchmark 2030 price discounted back to 2024 at 3% per annum. Their modelling provided an upper 2030 benchmark of around $270; however, they adjusted this down to $250 due to the limitations in the model's ability to capture the full likely effect of high emissions prices on emissions.

Table 9 Options for the cost containment reserve trigger price

	CCR trigger price for each year					
Option	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Option 1 – Status quo methodology	$82	$93	$105	$118	$133	$149
Option 2 – mid option	$160	$172	$185	$198	$213	$228
Option 3 – Commission's low trigger	$173	$184	$194	$205	$215	$226
Option 4 – Commission's high trigger	$216	$230	$243	$256	$269	$283

Other options

108. No option more stringent that the Commission's recommended CCR is being considered. The Commission's model found a higher price path could be necessary to meet the third emissions budget under a scenario with much weaker mitigation from other policies compared with the impact range estimated in the emissions reduction plan. They considered this would represent an excessive reliance on the NZ ETS. A higher price would also exceed prices expected in almost all international pricing systems and risks impacts becoming unmanageable.

109. In its 2022 advice, the Commission considered whether the CCR should be disabled. The government's 2023 consultation document asked feedback on this issue. At this stage the government agrees with the Commission's assessment that the CCR should be maintained. This is because there continues to be significant uncertainty in the market, and the NZ ETS market appears to be thin with significant price variability. However, the need for the CCR should decrease over time. We will reconsider this option in future.

110. Submitter views were mostly aligned on this point and supported the CCR remaining in place. The general rationale described by submitters was that the CCR plays an important role at present in mitigating extreme market conditions, however, there were differences in opinion regarding the appropriate trigger price level. Some submitters expressed support for the CCR being disabled in future but were comfortable deferring to the Commission's advice for now. A smaller portion of submitters argued for the removal of the CCR stating that supply and demand should set the price and the CCR is a risk to achieving New Zealand's required emissions reductions.

111. The discussion document considered other mid-range options between the status quo and the Commission's recommendation. Although they could be implemented differently, these options are considered together in this RIS as they are broadly similar. Similar to last year, feedback from submitters showed little support for the mid-range options with the majority of feedback supporting either the status quo or the Commission's recommendations.

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

112. An assessment of each option against the status quo is presented in table 10 below.

Table 10: Assessment of cost containment reserve trigger price options against the status quo

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	Option Two	Option Three	Option Four
Likelihood of emissions reductions	**0/+** Allows higher prices to generate net emissions reductions, but unlikely to be sufficient for the first and second emissions budgets. May not be high enough to reduce the risk of being triggered, which would prevent the stockpile reduction.	**+** Allows higher prices to generate emissions reductions.	**++** Allows higher prices to generate gross emissions reductions. In line with Commission's modelling of upper prices needed to meet emissions budget in a range of scenarios
Supports proper functioning of the NZ ETS	0/+ May not be high enough to prevent a magnet effect. Significant increase likely to undermine regulatory certainty	**+** The slower increase per annum is less likely to have a magnet effect, reducing speculative trading. Widens the price corridor, allowing the market to find the price. Significant increase likely to undermine regulatory certainty.	**+** The slower increase per annum is less likely to have a magnet effect, reducing speculative trading. Widens the price corridor, allowing the market to find the price. Significant increase likely to undermine regulatory certainty.
Support consistency of NZU prices with the level and trajectory of international emissions prices	**+** Closer to current and expected international prices	**++** In mid-to-high range of current and expected international prices.	**++** High trigger is around high range of current and expected emissions prices.
Manages overall costs to the economy and households	**-** Increased risk of greater impacts on households and the economy, including inflationary impacts, could occur before price controls take effect. Risks driving faster land use change, impacting rural communities	**--** Increases the risk of significantly greater impacts on households and the economy, including inflationary impacts, could occur before price controls take effect. Risks driving rapid and extensive land use change, impacting rural communities.	**--** Increases the risk of significantly greater impacts on households and the economy, including inflationary impacts, could occur before price controls take effect. Risks driving rapid and extensive land use change, impacting rural communities.
Overall assessment	**0/+** More likely to allow higher prices sufficient for net emissions reductions. May not support gross emission reductions for the first 2 emissions budgets.	**+** More likely to allow higher prices to support some gross emissions reductions. Below the upper bound modelled by the Commission. However, it is likely to have impacts that need to be managed.	**+** More likely to allow higher prices to support gross emissions reductions. In line with the upper bound modelled by the Commission. However, it is likely to have impacts that need to be managed.

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

Accordance with emissions budgets

113. All options provide a price pathway that could potentially allow New Zealand to meet its emissions budgets. The status quo price control settings were informed by the Commission's estimate from *Ināia tonu nei*, and in its 2023 advice the Commission

reiterated that these remain its best estimate of the abatement costs associated with meeting emissions budgets.[28]

114. However, meeting emissions budgets is dependent on a range of policies and actions, not just emissions pricing. There is a significant risk that status quo settings will not support emissions budgets to be met and may not be in accordance. Status quo settings were based on policy actions in the first emissions reduction plan being progressed. There is now a material risk of a shortfall in emissions reductions needed to achieve the first emissions budget.

115. Status quo settings also pose a risk that the CCR is triggered as it is closer to current prices and similar to prices seen previously. This would risk the release of units that add to the stockpile or prevent it from being reduced.

116. Price control settings materially above the status quo increase the likelihood of emissions reductions and the achievement of emissions budgets.

117. The middle ground options to increase the price control settings would encourage investments by providing a greater certainty of return and providing a wider corridor for prices. This is likely to encourage net emission reductions, through increased forestry, although there is likely to be a smaller impact on gross emissions.

118. New forest planting in response to higher emission prices will not result in material removals over the first or second emissions budget period and so cannot assist the Government with achieving these emission budgets the same way incentivising gross emission reductions can. This will start to have an impact over the third emissions budget period, providing greater levels of removals.

119. The mid-option CCR also continues the risk of providing a magnet effect and increased speculative trading. A continued magnet effect would mean there is a continued risk of the CCR being triggered, preventing the stockpile from being reduced.

120. The Commission's price corridor is likely to better incentivise emissions reductions, and act to safeguard investments already being made to reduce emissions. It is consistent with the prices modelled by the Commission to be needed for gross emissions reductions in a range of scenarios. This has the least risk that emissions budgets will not be met, as it supports net and gross emissions reductions. The Commission's recommended ARP is more likely to provide investment certainty for gross emission reductions.[29]

121. The Commission's price corridor is also more likely to support the NDC. The Government has stated its intention to use offshore mitigation to support meeting the NDC, and that there are some risks with this approach. Price controls that allow higher prices in the NZ ETS are more likely to allow for increased emissions reductions to support meeting the NDC, if the Government decides these are required.

Consultation feedback

122. Submitters whose key focus was on driving behaviour change and meeting targets, generally agreed that a focus on gross reductions is necessary, potentially through reflecting this in setting price controls, or otherwise avoiding overreliance on afforestation. Some submitters noted that setting price controls with reference to gross reductions could unintentionally drive afforestation instead, where difficult-to-abate emissions existed.

123. Submitters generally supported following the Commission's recommendations if all years are updated. These submitters tended to highlight either the positive impact of a general increase in prices for achieving gross and/or net emissions reductions. They also saw lower price options as more likely to result in the possible 'magnet' effect.

[28] S5.3.1, p 69, NZ ETS settings for 2023-2027 (amazonaws.com)

[29] NZ ETS settings for 2023-2027 (climatecommission.govt.nz) table 18 – breakeven for boiler conversion to process heat $50

124. Submitters that did not support the Commission's recommendation generally supported the status quo settings. The rationale was due to the concern that the Commission's option could create rapidly rising prices, noting this could have unacceptable market, economic, or other impacts.

Recommendation

125. The Commission's options for the ARP and the CCR trigger prices are recommended as they are most likely to drive emissions reductions. This differs from the recommendation last year.

What are the marginal costs and benefits of the option?

126. The impacts of the preferred option unit and price control settings are considered together and assessed in table 12 below. NZ ETS unit and price control settings do not directly set a price path for the NZ ETS. Price controls set the boundaries within which price discovery by the market is largely expected to occur. However, the secondary market could (and has) trade outside these boundaries. This analysis assumes that the preferred option leads to NZ ETS prices that are relatively higher than the status quo option in the near term, all else equal. Further analysis on the impacts on emission reductions and on households are provided in appendix one.

Table 12: Cost and benefits of the preferred price control settings

Affected groups	Additional benefits of the preferred option compared to taking no action	Additional costs of the preferred option compared to taking no action	Net impact of preferred option
Landowners (e.g. foresters and farmers)	Returns to foresters are closely linked to NZ ETS prices, with relatively higher prices likely to lead to higher returns. Higher returns on forestry land also increases the option value of farming and other land that is suitable for forestry use (regardless of whether this option is exercised).	Large-scale change in land use for exotic carbon forestry, if left unchecked and without any management oversight or requirements, has the potential for unintended impacts on the environment, rural communities, and regional economies. Increased cost to landowners of deforestation due to increased price.	In the short term, the preferred option is likely to marginally increase the rate of afforestation and farm conversions, subject to existing capacity constraints (labour, seedling supplies etc). Likely to lower net emissions from increased removals, although these will not be realised for several years. Increased afforestation now may lead to greater downward pressure on prices in the 2030s when these forestry units enter the market in material volumes.
Emitting firms subject to NZ ETS obligations	Increased certainty on the direction of future emissions prices for investment decisions	Higher costs for firms to meet surrender obligations. This may be mitigated by the extent to which firms have hedged their forward obligations, and by the extent to which these additional costs can be passed through to households (see household row below).	The short-term response to relatively higher NZU prices is likely to be fairly inelastic and result in limited additional emission reductions relative to the status quo. Over longer timeframes, relatively higher NZ ETS prices would increase the incentive for firms to invest in emissions reduction actions. See appendix one for estimates of emission reductions under plausible price paths.
Emissions-intensive trade-exposed (EITE) firms that receive free allocation of NZUs (additional to firm impacts above)			At emissions prices over $100 there is increased risk that industrial allocation is no longer effective in preventing emissions leakage for some activities. The preferred option increases the likelihood of this occurring.
Other NZ ETS participants	Relatively higher prices would increase the financial value of stockpiled units, both those held for hedging purposes and the liquid		

Affected groups	Additional benefits of the preferred option compared to taking no action	Additional costs of the preferred option compared to taking no action	Net impact of preferred option
	stockpile		
Households		The impacts of emission prices on households are regressive, and relatively higher NZ ETS prices will likely increase these impacts somewhat. The mitigating factors will be the extent to which businesses pass through additional costs, and the extent to which households are able to change their consumption patterns in response.	A $10 increase in NZU prices is estimated to increase annual household expenditure on emissions costs by about $87 for the average household ($1.67 per week).[30] For lower income households, the increase is estimated at $46-49 per annum, while for higher income households it is estimated at $125-145.
Wider economy	Relatively higher prices are likely to induce greater emissions reductions and removals, although in both cases these are likely to take time to materialise.	Relatively higher NZ ETS prices are likely to marginally increase inflationary pressures, in an already overheated economy, although we judge this highly unlikely to influence the trajectory of monetary policy.	The net increase in emissions reductions from relatively higher prices within the first emissions budget period is likely to be small, on the order of 0.1-0.2 million units.[31] A sustained relatively higher price could lead to much larger emission reductions in the second budget period. A $10 increase in NZU prices is estimated to contribute to a 0.1% increase in inflation as measured by the Consumer Price Index (CPI), largely due to higher fuel and electricity prices.[32]

Cost containment reserve structure

127. The Act allows for the CCR design to include one or more trigger prices. For example, there could be two or three trigger prices, each with a reserve of units to be released at that price point.

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

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

31 For context, under status quo settings auctioned units will decline by 4.0 million units in the budget period.

32 This assumes 100 per cent instantaneous pass through of ETS costs to households, and no resulting change in household consumption. Therefore, this is an upper bound estimate of the impact on inflation.

Options

Option 1 - status quo - a single tier cost containment reserve

129. The status quo prescribes a single trigger price at which additional units are released for sale at auction.

Option 2 – Commission's recommendation - a two tier cost containment reserve

130. This option would prescribe two trigger prices at which additional units are released for sale at auction.

Other options have been discarded

131. A third option of a three tier CCR was considered last year and then discarded [see xx]. It has not been considered again this year. would require consideration and decisions on multiple trigger prices.

How do the alternative options compare to the status quo?

132. The alternative option of a two-tier CCR with volumes as proposed by the Commission is compared to the status quo in table 13 below.

Table 13 Assessment of options against the status quo

	Option Two
Likelihood of emissions reductions	+ Tiered volumes reduce the risk of slowing stockpile drawdown as not all the reserve units would become available at once.
Supports proper functioning of the NZ ETS	**0** Having tiered volumes makes auctions marginally more complex. This is balanced by two tiers reducing the risk of potential magnet effects
Manages overall costs to the economy and households	- A two-tiered CCR is marginally less effective at dampening prices (depending on the volume available it may be more likely to smooth price increases)
Overall assessment	A tiered CCR is a slight improvement on the status quo given the weighting of the criteria.

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

133. The status quo of a single tier CCR equal to the stockpile reduction volume performs better against the criteria listed above. However, it does not perform as well as a two-tiered option in relation to the likelihood of emissions reduction. This is because a single tier increases the likelihood that the full CCR volume will be sold when compared with a two-tier system with a small initial volume and a larger volume only released at a much higher price.

134. Overall, both options rank similarly. Given two tiers is a strong recommendation of the Commission, the Ministry recommends creating a two tier CCR.

According with emissions budgets

135. How the options accord with emissions budgets depends on how the volume available in the reserve is determined and the trigger price.

Cost containment reserve volume

Total reserve volume

136. The volume of the CCR needs to be sufficient to enable it to perform its function of increasing supply enough to mitigate against unacceptably high prices.

137. The Commission has retained their advice from last year, which was accepted by the Government. This was that the CCR volume should be equal to the surplus stockpile reduction volume. They have not increased this volume with the additional volume they recommend reducing the stockpile in Step 5b. They consider this is unrelated to the estimate of the underlying surplus volume.

138. The Ministry considered options for calculating the reserve volume in 2022. It determined that the Commission's recommendation to set the reserve volume equal to the stockpile reduction volume would be within the emissions budget and reduce the fiscal risk of the Government needed to purchase offshore mitigation if the release of the reserve caused emissions budgets to be exceeded.

139. At this stage we do not consider that this decision needs to be revisited. It can be reassessed for future years if the CCR is triggered.

Volume available at each tier

140. The Commission has recommended that the first tier contains a portion of the total CCR based on an estimate of the average demand gap between the NZ ETS cap and forecast emissions under current policies for sectors covered by the NZ ETS. The lower tier volume should meet demand if NZ ETS participants find it more difficult than expected to reduce their emissions, while avoiding enabling emissions above current forecasts. Under this approach, tier 1 comprises around a third of the total CCR volume.

161.The second tier should contain the balance of the CCR.

Section 6: Delivering an option

How will the new arrangements be implemented?

141. Implementation of any updates to NZ ETS unit settings will be relative straightforward, as they are technical changes to an existing regulatory framework. Schedule 3 of the Climate Change (Auctions, Limits, and Price Controls for Units) Regulations 2020 will be updated to reflect the new settings.

142. The amendment regulations will be published in the New Zealand Gazette in September 2023, to take effect from 1 January 2024.

143. The 2024 auction calendar will be published on the Ministry for the Environment's website to reflect the agreed auction volumes for 2024, once decisions have been made.

How will the new arrangements be monitored, evaluated, and reviewed?

144. Agencies will closely monitor the impacts of NZ ETS unit settings. The Ministry for the Environment routinely tracks the price of NZUs and informs the Minster of this, as well as the flow of units within the NZ ETS and the secondary market. It also measures and reports domestic emissions annually. This will be used to assess the impact of the NZ ETS under the proposed settings.

145. Agencies will continue to update and refine emissions projections that will be used for future emissions budgets and informing unit limit and price control settings. The broader economic impacts of the proposed NZ ETS settings will be monitored and assessed by an array of Government agencies, and public and private institutions.

146. The legislated coordinated decision-making process in the Act includes provision to review the NZ ETS settings under certain circumstances. The Government is obliged to review the settings if the price controls are used such as if the CCR is triggered.

147. The Commission will continue to have a role monitoring and reviewing unit limits and price controls settings. Under section 5ZOA of the Act, the Commission must recommend to the Minister limits and price control settings, including any desirable emissions price path, each time regulation updates are required.

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

148. As described above, the Act requires that the limits and price control settings are in accordance with the NDC, the emission budgets, and the 2050 targets.

149. Section 30GC of the Act also provides relevant factors for determining settings. These relevant factors can also justify settings that do not strictly accord with these emissions targets.

150. The relevant factors are provided in table 1 below. The table also explains how the factors have been considered our analysis. Some of the relevant factors have been used to derive criteria to evaluate how these options compare with the status quo. These criteria are provided in table 2.

Table 1: Considerations for determining unit limits and price control settings

Relevant matters in s30GC of the Act	**Criteria that reflect this matter**
The Minister must be satisfied that the limits and price control settings are in accordance with (a) the emissions budget and the nationally determined contribution and (b) the 2050 target	The criterion *Likelihood of meeting emissions budgets* described in table 2 is used to assess whether the option increases or decreases the likelihood that emissions budgets will be met. This recognises that there may be a range of options that might accord with emissions budgets, but have different risk levels.
Matters the Minister must consider	
Projected trends in greenhouse gas emissions, including both emissions covered by the NZ ETS and those that are not covered	This is considered when determining the unit limits as an input to emissions inside and outside the ETS.
The proper functioning of the NZ ETS	This is considered as a criterion, described in table 2
International climate change obligations and contracts New Zealand may have for accessing offshore mitigation from other carbon markets	New Zealand has no current instruments or contracts with other jurisdictions to access emissions reductions in their carbon markets.
The forecast availability and costs of ways to reduce greenhouse gas emissions that may be needed for New Zealand to meet its emissions reduction targets	This is derived from the policies and measures in the emissions reduction plan and is considered when the unit limits are calculated in step 1 and step 2.
The recommendations made by the Climate Change Commission under section 5ZOA	The Commission's recommendations are included among the options considered for all NZ ETS unit settings decisions in this RIS.
Additional matters the Minister must consider in analysing price control settings	
The impact of emissions prices on households and the economy	This is considered as the criterion *Manages overall costs to households and the economy* as provided in table 2
The level and trajectory of international emissions prices (including price controls in linked markets)	This is considered in the criterion *Support consistency of NZU prices with the level and trajectory of international emissions prices* as provided in table 2
(6)(c) Inflation	All price control options have been adjusted for forecast inflation.

	Inflationary impacts of the NZU price are considered in the criterion *Manages overall costs to households and the economy* as provided in table 2

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

Criteria	Description
Likelihood of incentivising emissions reductions	The NZ ETS supports gross emissions reductions by incentivising the uptake of low-emissions technology, energy efficiency measures, and other abatement opportunities as quickly as real-world supply constraints allow. It does this by providing a strong and stable price signal to incentivise gross emissions reductions. The NZ ETS drives levels of removals sufficient to help meet our climate change goals in the short-to-medium term and to provide a sink for hard-to-abate emissions in the longer term. It does this by providing a strong and stable price signal that rewards removal activities. Due to the risk the stockpile creates to the achievement of emissions budgets, options that are more likely to reduce the stockpile will rate more highly on this criterion.
Support the proper functioning of the NZ ETS	Settings should allow the NZ ETS to function as an efficient and effective market. The NZ ETS should operate in a transparent and durable manner that allows participants to form expectations about supply and demand to support investment in cost-effective opportunities for domestic emissions abatement. The restrictions on how settings are updated allow changes to be made in response to new information, while maintaining regulatory predictability. Options that undermine this standard approach rate negatively in this criterion. It also includes NZ ETS participants being able to attain and surrender NZUs to meet NZ ETS obligations.
Support consistency of NZU prices with the level and trajectory of international emissions prices **	NZ ETS settings should support efforts to allow access to offshore mitigation, including keeping NZU prices in line with international prices.
Manages overall costs to the economy and households **	The costs imposed by the NZ ETS on the economy, household, different sectors, regions, and the government are broadly acceptable. Additional costs imposed by the NZ ETS on vulnerable groups and communities are mitigated as much as possible through NZ ETS settings and companion policies. Changes to revenue earned by the government from NZ ETS auctions enable continued support for these companion policies.

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

Appendix Two: Emissions and Household Impacts of NZ ETS Unit Settings

Context

NZ ETS unit and price control settings do not directly set a price path for the NZ ETS. Auctioned units make up a significant portion of the supply side of the market. However, forestry removals units and stockpiled units also have a significant influence on supply.

The demand side of the market, to meet surrender obligations, is likely to be fairly inelastic in the short term and is largely linked to economic activity levels and hedging positions. Over longer timeframes, demand will be more elastic as firms can invest in emissions reducing actions, which in turn will be influenced by emissions prices. Speculative demand is likely to be elastic in either direction, though to date this appears to be mostly on the long side, based on an expectation of rising NZ ETS prices over the long term.

Price controls set the boundaries within which price discovery by the market is largely expected to occur. However, the secondary market could (and has) trade outside these boundaries.

As such, it is difficult to predict a likely price path based on unit and price control settings alone. This appendix uses some plausible price paths that fit within these general parameters to explore potential emissions reductions and related impacts on households.

Emissions Reductions

Emissions reduction methodology

The Commissions ERP, emission budget, and unit settings advice relies in part on the bottom-up, multi-sector ENZ model. The ENZ model has multiple abatement opportunities that are linked to emissions prices. MfE's NZU Supply and Demand has converted the ENZ abatement options into a single abatement cost curve. This analysis uses that econometrically derived abatement cost curve to estimate the potential emissions reductions from different plausible price paths.

Figure 1 below shows the different price paths used for this analysis. Four paths relate to the reserve price and CCR trigger price of the status quo and the Commission's proposed settings. The demonstration path is taken from the Commission's ERP1 advice, with 2022 and 2023 set at the actual average price (YTD in the case of 2023). The mid-path starts from the 2022 average price and rises linearly to a mid-point between the demonstration path and the Commission's CCR trigger price in 2030. The purpose of the mid-path is to show a relatively high price that is still well below the Commission's CCR trigger.

Figure 2 shows the estimated emissions reductions based on these different price paths. Emissions reductions for 2022 and 2023 are taken from the NZU model. Emissions reductions from 2024 onwards are based on the relevant price path and the ENZ-derived equation. The ENZ equation is essentially an autoregressive function that relates emissions reductions in the current period to emissions reductions in the prior period and the emissions price. The NZU model uses a forward looking price while this analysis uses the contemporary price (for simplicity).

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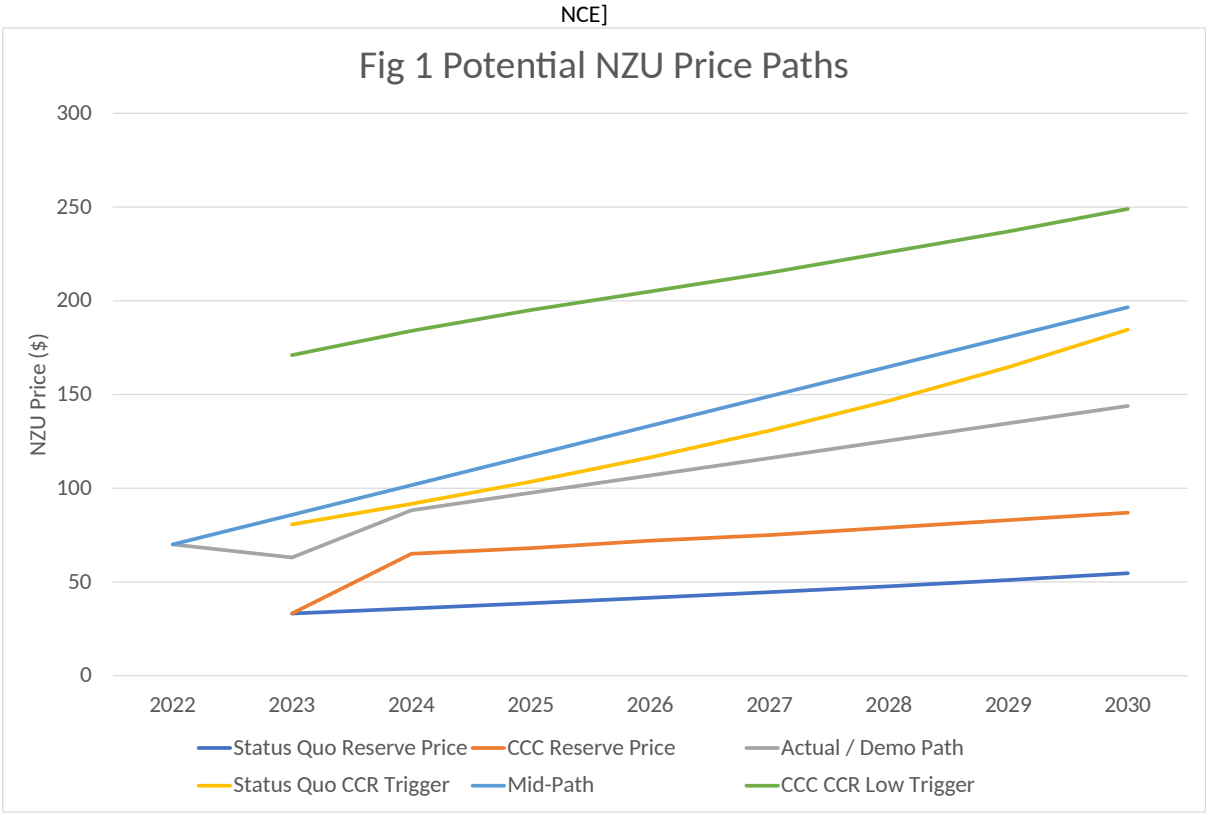

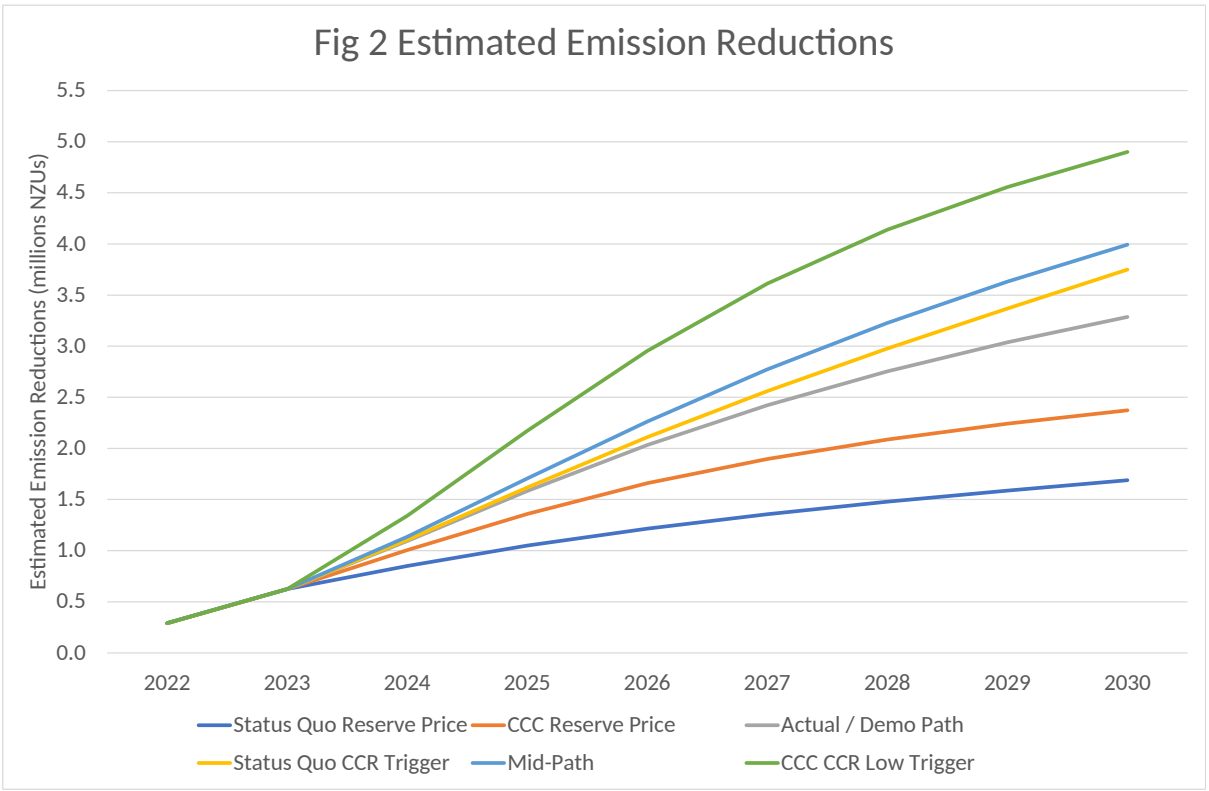

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Emissions Reductions Insights

Under the demonstration path, emissions reductions induced by price are estimated to amount to 3.6 million NZUs in the first emission budget (EB1) period and 13.5 million units in the second budget (EB2). The EB1 reduction is roughly consistent with the decrease in the NZ ETS cap over that period of 4.0 million NZUs (allowing for some stockpile reduction). The overall emissions reduction target for EB1 is 11.5 million tonnes, noting this also covers sectors outside the NZ ETS.

The CCC reserve price path which sits in the high 60s for 2024 and 2025 is a useful proxy for a continuation of market conditions from the first half of 2023 (NZU secondary price is $60 as of 16/6/23). Estimated emissions reductions for EB1 are approximately 0.3 million NZUs lower than the demonstration path. This illustrates the risk that a relatively flat NZ ETS price increases the risk of not meeting EB1.

The mid-path is a useful proxy for a situation in which unit settings and market behaviour lead to higher prices (in the low $100s) over 2024 and 2025 (and beyond). On these higher prices, estimated emissions reductions are around 0.2 million units higher than the demonstration path for EB1. However, over EB2 there are about 2.4 million units more emission reductions in the mid-path than in the demonstration path. This helps illustrate the importance of long run price signals in generating emissions reductions.

The most extreme situation is an immediate shift up to the Commission's CCR low trigger price of $171 in 2024 and then rising beyond. This is fairly implausible as it involves a tripling of price from 2023 levels, and a large part of the rationale of a much higher CCR trigger price is to break the "magnet effect". Nonetheless, estimated emissions reductions are 0.8 million units higher than the demonstration path for EB1 and 6.6 million units higher in EB2.

Impacts on Households

This section of the analysis uses the same price paths as above and applies them to the household costs model. The household cost model estimates the exposure of different households by income decile to emissions prices. A full model description can be found here.

Impact on consumer price inflation

The household model estimates that a $10 increase in NZU prices contributes to a 0.13% increase in inflation as measured by the Consumers Price Index (CPI), largely due to higher fuel and electricity prices. The key caveats are that this assumes 100% instantaneous pass through of NZ ETS costs to households, and no behavioural change by households in response to higher prices. As such, this is best viewed as an upper bound estimate of the impact on inflation, particularly for larger changes in NZU prices.

The starting context is that NZU prices have been steadily falling over the first half of 2023. To the extent this is being passed through, this implied the NZ ETS is currently have a deflationary impact. It is more probable that businesses are using these lower costs to offset cost pressures elsewhere, so the decline in NZU prices is more likely to be having a small disinflationary impact, slowing the rate of inflation.

An increase from mid-2023 secondary market price levels ($60 as of 16/6/23) to the status quo CCR trigger implies a 0.28% increase in CPI inflation. A doubling in prices from here would see a 0.81% increase in inflation. In the current context of inflation running a little under 7%[33] these would be relatively small contributions, albeit still unwelcome to households facing pressure elsewhere. These contributions to inflation would be more material in an environment when inflation is within the RBNZ's target range of 1 – 3%, although by the same token households would be less pressured from other directions in this situation.

Impact on household budgets

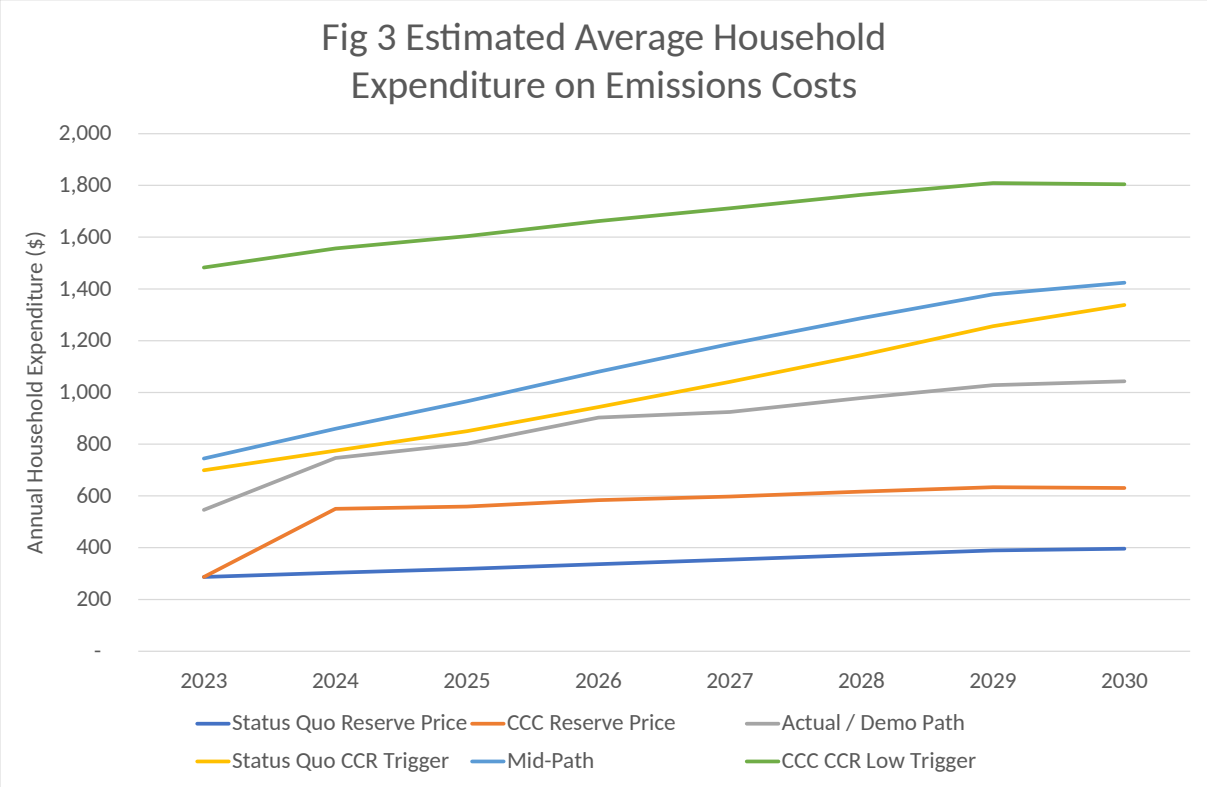
The household model can estimate the dollar expenditure by households on costs resulting from the NZ ETS for a given NZU price. As with the inflation analysis, these are likely upper

[33] 6.7% in the year to March 2023.

bounds. Some behavioural change is proxied using the decrease in emissions expected under the Commissions demonstration path. This assumes household emissions are about 16% lower by 2030.

Figure 3 plots the estimated expenditure by the average household for each of the different price paths, including the behavioural change proxy noted above. As with the price paths, there is a wide range of estimates. Under the most probable paths, the cost for the average household is expected to increase from around $700-900 per annum in 2024 to around $1,000-1,400 per annum in 2030.

Looking at the average household masks the considerable variation between households. Figure 4 estimates household expenditure for different households by income decile, using just the demonstration price path. Lower income households are expected to face an emissions price cost of around $400 per annum in 2024, rising to around $600 per annum in 2030. Expenditure by higher income households, who consumer considerably more in absolute terms, increase from around $1,100-1,200 per annum in 2024, to around $1,500-1,700 in 2030. While the absolute figures rise with income, the impacts are regressive, as emissions costs make up a larger share of income for lower income households than they do for higher income households.



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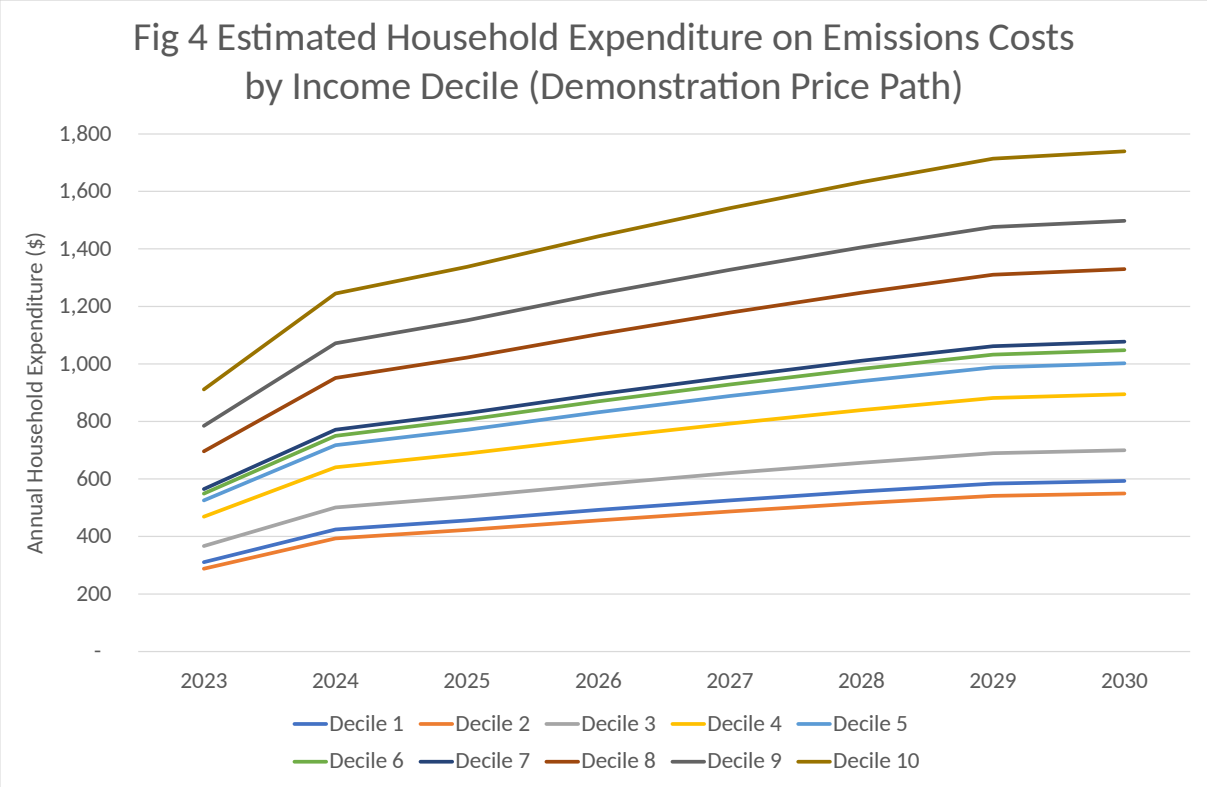

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Appendix Two: Crown Law Advice

[Legally Privileged]

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Appendix Three: Assessment of Accordance

Assessment of Accordance

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Mandatory matters – in general terms, not assessed against any option.

<table>
<tr><th>Matter</th><th>Information</th></tr>
<tr><td>30GC(5)(a)[1]: The projected trends for New Zealand's greenhouse gas emissions in the 5 years after the current year, including:

(i) the anticipated volumes of greenhouse gas emissions to which the emissions trading scheme applies (meaning emissions for which participants are required to submit returns or surrender units under this Act); and

(ii) the anticipated volumes of greenhouse gas emissions to which the emissions trading scheme does not apply.</td><td>The projected emissions trends for New Zealand's greenhouse gas emissions in the next 5 years after the current year, as well as for 2023, are as follows:[2]

<table>
<tr><th></th><th>2023</th><th>2024</th><th>2025</th><th>2026</th><th>2027</th><th>2028</th></tr>
<tr><td>Total net emissions (kt CO_2e)</td><td>63.55</td><td>65.79</td><td>63.76</td><td>63.98</td><td>63.59</td><td>62.54</td></tr>
</table>
The anticipated volume of greenhouse gas emissions projected to fall within the New Zealand Emissions Trading Scheme (NZ ETS) and outside (non-NZ ETS sectors/sources) in the next five years, as well as for 2023, are as follows:[3]

<table>
<tr><th></th><th>2023</th><th>2024</th><th>2025</th><th>2026</th><th>2027</th><th>2028</th></tr>
<tr><td>Total NZ ETS net emissions (kt CO_2e)</td><td>30,798</td><td>29,392</td><td>27,083</td><td>24,523</td><td>22,208</td><td>19,411</td></tr>
<tr><td>Total net emissions outside NZ ETS (kt CO_2e)</td><td>42,851</td><td>42,730</td><td>42,617</td><td>42,004</td><td>41,649</td><td>41,293</td></tr>
</table>
An established methodology is used to calculate the NZ ETS 'cap' and New Zealand Unit (NZU) volume limits. This involves data on emission budgets, any technical discrepancies, forecast industrial allocation, and use of approved international emission units (if any), to arrive at the limit on NZUs available for auction. Consideration is then made of how much volume is available for auction and how much is retained for supply should the cost containment reserve (CCR) trigger be met. Currently, that CCR volume is based on the output</td></tr>
</table>

[1] Of the Climate Change Response Act 2002 (the Act)

[2] This is the 'with existing measures' projection from New Zealand's Eighth National Communication Report released in December 2022 and use Intergovernmental Panel on Climate Change Assessment Report 4 conversion factors. New Zealand's Greenhouse Gas Projections are currently being updated to account for methodology changes and any revisions to emissions reductions policies and are expected to be released by the end of 2023.

[3] Climate Change Commission 2023 Note these figures will not sum the totals in the previous table due to differences in assumptions about what measures are implemented, when they take effect, and what impact they will have.

Matter	Information
	of a separate methodology on estimates of the amount of NZUs already available for surrender (the stockpile) and how many of the stockpiled NZUs are unrelated to hedging for future surrender by emitters (including post-1989 harvest liabilities) or those relating to the pre-1990 forestry allocation plan. That amount is considered the surplus stockpile.[4] If any auction volume remains unsold at the completion of the final auction of the year, that volume is cancelled. Such an outcome would mean the stockpile is reduced, because the potential supply to market was less than allowed. The unit limits methodology ensures that NZU volumes are aligned with the projected volume of greenhouse gas emissions within the NZ ETS allowed in the budget (which in turn refer to the Commission's demonstration path), and that some of the stockpile is reduced depending on the use of the CCR.[5] Because NZUs available for auction includes the CCR volume, if the CCR volume is released, the overall limit will not be exceeded. However, this does not mean the budget will not be exceeded, because of the existing surplus stockpile. In 2023, the Commission made changes to the calculation of unit limits to account for updates to estimates of forestry emissions outside the NZ ETS. It also repeated advice from 2022 that two identified discrepancies between emissions reported in New Zealand's Greenhouse Gas Inventory and those reported in the NZ ETS – relating to liquid fossil fuels and coal and steel – needed to be addressed in the unit limits calculations. It is likely that the discrepancies result from over-reporting emissions in the Inventory. The coal discrepancy has already been updated in the latest Inventory and it is possible the Inventory will need adjustment for the liquid fossil fuel discrepancy. As a result, it is possible that emissions budgets were set higher.
30GC(5)(b): The proper functioning of the emissions trading scheme	The Government described the role of the NZ ETS in its overall climate policy in Chapter 5 of *Aotearoa New Zealand's First Emissions Reduction Plan* (the ERP).[6] The ERP notes that the NZ ETS provides a price signal by setting a cap on emissions and letting trading of NZUs to occur. The chapter described how a strong and stable emissions price provides a signal to invest in abatement and removals and to change actions.

[4] For this analysis see page 37 of 2023-advice-on-NZ-ETS-unit-limit-and-price-control-settings.pdf (climatecommission.govt.nz), page 58 of NZ ETS settings for 2023-2027 (climatecommission.govt.nz) and Technical Annex 1 NZ ETS unit limits (climatecommission.govt.nz).

[5] The demonstration path is described in the Commission's 2021 report Ināia Tonu Nei: A low Emissions Future for Aotearoa New Zealand

[6] Aotearoa New Zealand's First Emissions Reduction Plan

Matter	Information
	The ERP noted the NZ ETS needs to be complemented by additional measures to address market barriers and failures so that the overall cost of the transition to a low emissions economy is manageable. The ERP contains details of those measures, such a regulation, finance, innovation, and equitable transition measures. The success or failure of the implementation of those additional measures has bearing on the functioning of the NZ ETS. For example, the supply of NZUs is impacted through reforms to industrial allocation policy (one of the ERP actions), although there is a possibility that adjustments to auction supply could result. Demand for NZU's is impacted by how successful non-NZ ETS ERP actions are at reducing emissions within NZ ETS sectors; for example, improving energy efficiency in homes. NZ ETS unit settings should allow the NZ ETS to function as intended. This includes auctions that operate as designed every year, and NZ ETS participants being able to attain and surrender NZUs to meet NZ ETS obligations. An important part of managing obligations and NZ ETS costs for participants is their ability to bank NZUs (stockpile) in their accounts in the NZ ETS Register. A large quantity of NZUs has accumulated in private accounts, with the current quantity of privately held NZUs at 160 million units.[7] Of this, the Commission estimated in its 2022 advice that there is uncertainty in the size of the surplus stockpile and estimated it as between 33 – 66 million NZUs. In its 2023 advice, it noted that uncertainty could be managed through adjustments in settings in later years as better information becomes available. It also noted the potential for increases in the future surplus from forestry removals. The stockpile is reduced when NZUs are surrendered to match reported emissions by participants.[8] It is added to through auctions and receipt of allocations and entitlements. The stockpile represents future rights to emit. The Government has previously prescribed unit limits that 'draw down' the surplus component of the stockpile through reduced auction volumes to 2030. That draw down volume rests in the CCR. The success of the draw down is dependent on the CCR volume not being sold. If the CCR is sold to participants, then under current policy, this would mean the auction volumes in later years need to reduce more than currently planned to claw back that volume, given the Government has agreed the surplus should be removed by 2030.

[7] Number of NZUs held as of 30 June 2023, Privately held units | EPA

[8] Or cancelled, but very little of this occurs. See the Environmental Protection Authority webpage on unit cancellations.

Matter	Information
	A quicker draw down of the surplus (than to 2030) would risk impacts to the functioning of the market through damaging liquidity, which would risk prices and the ability of participants to comply with surrender obligations. It would also have fiscal impacts through lowered auction volumes. The CCR volume can be sold to auction participants if trigger prices are hit in auctions. Those prices are intended to be well outside the NZU prices necessary to achieve emission budgets. The CCR functions as a market 'shock absorber', reducing the risk of unacceptable emissions costs by increasing supply, but also as a guide to maximum NZU prices for participants. Due to the extent of potential supply from the surplus stockpile, if those NZUs are surrendered by emitters, additional regulations and actions will be needed to ensure the first emissions budget (and emissions budgets two and three) are met. Should the CCR volume be released, the risk to emission budgets is maintained for longer because that surplus remains available. The Commission recommended two mitigations for this; first, front loading the surplus reduction into the first few years of settings by relating the reduction amount to the cap. This would reduce the risk to later emission budgets where the cap will be smaller and there will be less room for adjustment. The Government applied this approach in its 2022 decisions. Secondly, the Commission recommended any CCR release in the current year be clawed back from the stockpile as quickly as possible through future settings adjustments to immediate years, rather than allowing that volume to carry over into subsequent budget periods. The NZ ETS should operate in a transparent and durable manner that allows participants to form expectations about future market conditions. This is assisted by the Act restricting the ability of the Minister to amend settings for the next two years,[9] which builds confidence in the NZ ETS market and encourages investment in cost-effective opportunities for domestic emissions abatement. The first two years can be amended in specific circumstances, including if the CCR units are released.
30GC(5)(c): International climate change obligations and instruments or	New Zealand's international climate change obligations, including the Paris Agreement and the United Nations Framework Convention on Climate Change, have been considered.

[9] However, on 13 July 2023, the High Court ordered the Minister to remake the 2022 NZ ETS settings decisions. This enables (and requires) reconsideration of settings for 2023, 2024 and 2025.

Matter	Information
contracts that New Zealand has with other jurisdictions to access emissions reductions in their carbon markets	New Zealand has no current instruments or contracts with other jurisdictions to access emissions reductions in their carbon markets.
30GC(5)(d): The forecast availability and cost of ways to reduce greenhouse gas emissions that may be needed for New Zealand to meet its targets for the reduction of emissions	The ERP contains the complete set of information on the policies and actions for reducing emissions and meeting targets. Individual agencies were responsible for the modelling and budgets for costs of related policies and actions. A consistent NZU price path was used in those models, being the mid-point of the NZ ETS price control settings in regulations in 2022. The mid-point used for 2023 was $55. The average NZU price for the first six months of 2023 was $62. In May 2023, the Climate Change Interdepartmental Executives Board (IEB) assessed New Zealand's progress on meeting the first three emissions budgets. It found that the New Zealand was on track to meet the targets in those budgets, although there are currently some risks to the achievement of the first emissions budget for the period 2022-2025. Projections were based on NZU prices of at the mid-point of status quo price control settings, eg, $54 in 2023. Current prices are below this (although recently have risen towards this level again), weakening the incentives for NZ ETS participants to invest in emissions reductions. While projections indicate emissions may fall just within the first emissions budget limit, this is mainly due to methodological changes. Those projections indicate a similar narrow tolerance for emissions budget two but wider comfort for emissions budget three. In its 2022 advice on settings, the Commission modelled the range of NZU prices it considered would be necessary to achieve the abatement and removals for meeting emission budgets.[10] The Commission did not repeat that modelling exercise for its 2023 advice. In 2022, it chose a range of scenarios to account for uncertainty around baseline emissions, mitigations costs and non-NZ ETS policies. For example, GDP growth, oil prices, and rates of energy efficiency improvements. It also chose scenarios where non-NZ ETS policies were under or over performing. Figure 5 on page 11 of the modelling report illustrates the output. The Commission identified that the range of NZU prices needed under those scenarios in 2030 is from $70 to $260.

[10] Technical Annex 2 to the Commission's 2022 advice

Matter	Information
	The Commission's modelling exercise was limited to achieving emission budgets. Considerably different prices would be needed to meet the first Nationally Determined Contribution under the Paris Agreement (NDC1) if this was to be achieved domestically only. The Treasury and Ministry for the Environment's *Climate Economic and Fiscal Forecast* report, published in April 2023, noted that although they cover the same period, emissions budgets 1 and 2 are set at a different level to NDC1, and offshore mitigation will be needed.[11] The report describes a wide range of potential prices and material uncertainty, but gave an example range of $41 to $227 per tonne of carbon dioxide equivalent (tCO_2e). That report provides a full study of the difficulties and uncertainties with accessing offshore mitigation to meet the NDC. The Commission reviewed the ability of NZ ETS settings to be consistent with meeting the NDC through domestic efforts only. It noted the following impacts: • Require large scale cuts to economic output across Aotearoa New Zealand, which would have significant flow-on effects to jobs, broader society, and the economy. • Potentially undermine public support for the transition and reduce Aotearoa New Zealand's resilience and ability to put in place solutions to make continual and lasting emissions reductions. • Environmentally and socially sustainable jobs, a productive economy and the wellbeing of the people who live here are vital for future generations and sustainable prosperity over the long term. • From an intergenerational equity perspective, excessively fast cuts to emissions would have a legacy impact on the quality of life for younger generations as families are left without employment or essential services. • This pace of change would also disproportionately affect Iwi/Māori in terms of the Māori economy, given its large agricultural base, and Māori workforce who are disproportionately represented in agricultural and manufacturing industries.[12]

[11] Climate Economic and Fiscal Forecast Report 2022

[12] P33 of the Commission's 2022 advice which itself cross refers to the analysis in the Commission's 2021 report Ināia Tonu Nei: A low Emissions Future for Aotearoa New Zealand

Matter	Information
	In 2021 Cabinet agreed that it will be necessary to supplement domestic action through cooperation with other countries. Officials are exploring options for a portfolio of international emissions reductions, including in the Asia-Pacific. In December 2023 Cabinet will further consider a proposed International Emissions Reduction Plan (IERP). Key elements of the IERP will include the objective for the portfolio of international emissions reductions that New Zealand needs to help meet the first Nationally Determined Contribution (NDC1
30GC(5)(e): The recommendations made by the Climate Change Commission under section 5ZOA	The Commission provided its 2023 advice in its report *Advice on NZ ETS unit limits and price control settings for 2024-2028*.[13] This advice was subsequently tabled in the House and made public on 13 April 2023. The Commission has emphasised that its advice is developed as an integrated package and cautions against selecting some elements and omitting others. The Commission has recommended updates to settings for years 2026-2028 while retaining status quo settings for years 2024 and 2025. Updates to years 2024 and 2025 are only able to be made if special circumstances are met as determined by the Act. The Commission has determined that the special circumstances have not been met. However, this has been superseded by the recent judgment of the High Court on last year's unit settings decisions, meaning that unit settings for 2023-2027 must be reconsidered alongside this year's new unit settings decisions. The Commission provided recommended settings for 2024 and 2025 in case the special circumstances were met after it had provided its advice. The Commission repeated much of its 2022 advice[14] in its 2023 report. The Commission's recommendations from both reports are summarised below: ▪ Lower auction volumes to account for changes to limits that have not occurred or are unable to occur due to restrictions on updating unit settings for 2024 and 2025. These include technical adjustments related to

[13] The Commission's 2023 advice

[14] The Commission's 2022 advice

Matter	Information
	differences in the Inventory and adjustments to the proportion of the emissions budget allocated to the NZ ETS to reflect updated estimates of the amount of forestry registered in the NZ ETS. ▪ A higher auction reserve price to align it more closely with the prices considered necessary to meet emissions budgets and reflect the potential costs associated with offshore mitigation. ▪ The implementation of a two-tier CCR to reduce the risk of any potential magnet effect.[15] Additionally, to reduce the number of units released that would otherwise add to the existing stockpile and pose a risk to achieving emissions budgets. ▪ A higher CCR trigger price to reduce any potential magnet effect and provide a wider price envelope that is more closely aligned with a range of prices to drive emissions reductions.
30GC(5)(f): Any other matters that the Minister considers relevant.	Amendments to unit settings have fiscal impacts as they affect the proceeds of auctions of NZUs. This is not considered a material concern as it is not the purpose of NZ ETS auctions to raise revenue. Because the forward price path of NZUs cannot be forecast with any certainty, forecasts of auction proceeds are equally uncertain. However, there is an indirect link between auction proceeds and expenditure on ERP policies and actions; variability of proceeds can place fiscal pressure or relief on other parts of the Government's budget. Under section 5X(4) of the Climate Change Response Act, the Minister of Climate Change is required to ensure that emissions budgets are met. The Minister must take proportionate action to identify and address any risks of not achieving the budgets (including when making unit settings decisions).

[15] The magnet effect, also labelled the 'anchoring effect' was defined by the Commission as *a cognitive bias where decisions are influenced by a particular reference point.* For NZ ETS settings, it refers to trading behaviour that pushes NZU prices to the CCR trigger price. See p45 of the Commission's 2023 report.

Matter	Information
30GC(6) – Additional matters, relevant to price settings only	
30GC(6)(a): The impact of emissions prices on households and the economy	Price controls are not intended to be major drivers of NZU price movement on the NZ ETS secondary market. The price of NZUs in the market is set through supply and demand expectations, so NZUs supplied by Government influence the NZU price but do not solely determine it. NZ ETS settings provide guidelines for NZU prices, while leaving room for the market to discover appropriate NZU prices for the target level of emissions reductions. NZU prices currently have a modest impact on households and on inflation. At a price of $50 per NZU, costs resulting from the NZ ETS are equivalent to about 0.5% of household gross income on average, just over $430 per household. An increase of $10 per NZU increases annual expenditure by about $87 for the average household ($1.67 per week) and increases consumer inflation by 0.1%. The indexation of main benefits and superannuation partly compensates many lower income households for the impacts of increasing emissions prices. The Commission recommends that the overall impacts on households and the economy are better managed through separate measures that directly target households than through NZ ETS settings.[16]
30GC(6)(b): The level and trajectory of international emissions prices (including price controls in linked markets)	There is a wide variation in the level and trajectory of international emission prices. Appendix 2 of the Commission's 2022 advice provided an extensive summary of emission prices in other countries, and the Commission noted in its 2023 advice that its recommended price settings remained consistent with that summary.
30GC(6)(c): Inflation	The status quo price control settings and the price control settings in options 1 and 2 have been adjusted for inflation. Inflationary impacts of emissions pricing are considered in the impacts on households.

[16] For example, see p30 of the Commission's 2023 advice

The Status Quo

Strict accordance test

Strict accordance of the status quo against emissions target	Analysis and reasons	Conclusion
Emissions budget 1	The risk posed by status quo settings is due to existing uncertainties regarding projected emissions and the surplus NZU stockpile. For this reason, status quo settings are not considered to be in strict accordance with New Zealand's emissions budget 1. Maintaining the status quo settings would mean not adopting the Commission's recommended settings for 2024 to 2028. All unit settings currently in the regulations would be maintained (except for updates to forecasts of inflation and industrial allocation) and values for 2028 would be added. Maintaining status quo price settings increases the likelihood of extra NZUs coming into the market from the surplus stockpile. This is because people with surplus NZUs will have lower NZU price expectations. Selling those NZUs to emitters could increase gross emissions. Each of these NZUs could be surrendered to match increased NZ ETS obligations, making it harder to meet emission budget 1. Due to the extent of potential supply from the surplus stockpile, if those NZUs are surrendered by emitters, additional regulations and actions will be needed to ensure the emissions budget 1 is met. Under status quo settings, the CCR is closer to current NZU prices and similar to NZU prices seen previously and is at risk of being triggered. If the CCR is released, those additional NZUs will prevent the stockpile from being reduced, which in turn reduces the likelihood that emissions budgets are met.	The status quo does not strictly accord with emissions budget 1 because its settings do not have the requisite level of certainty (i.e., a very high probability) that emissions will stay within emissions budget 1.

Strict accordance of the status quo against emissions target	Analysis and reasons	Conclusion
	Should the CCR volume be released, the risk to emission budgets is maintained for longer because that surplus remains available and carries over into future budget periods. The status quo settings provide a narrower envelope for price discovery and are likely to keep emissions prices lower, including through greater risk of the CCR being released, having a smaller impact on households and the economy. Lower prices are likely to induce fewer gross emissions reductions from firms and households, as well as incentivising fewer removals. The status quo settings are below most current and expected emissions prices in other markets. Finally, under the status quo, adjustments would not be made for the new estimates of forestry removals and the technical discrepancies between the NZ ETS and the Inventory. This means the unit limits in the status quo, while having considered the projected emissions in the NZ ETS, will be inconsistent with that quantity of emissions in the budget and the government will be auctioning more units than needed to be in strict accordance with emission budgets. These additional units will depress auction prices as well as add to the stockpile.	
Emissions budget 2	The risk posed by status quo settings is due to existing uncertainties regarding projected emissions and the surplus stockpile. For this reason, status quo settings are not considered to be in strict accordance with New Zealand's emissions budget 2. Status quo settings constrain the ability of the NZ ETS to deliver emission reductions (as necessary) to address shortfall in meeting emission budgets. Such shortfall can arise through policy changes and external factors. High NZU prices would be needed to ensure abatement within the budget, but status quo settings, through release of the CCR, dampen prices below the costs modelled by the Commission as needed for abatement.	The status quo does not strictly accord with emissions budget 2 because its settings do not have the requisite level of certainty (i.e., a very high probability) that emissions will stay within emissions budget 2.

Strict accordance of the status quo against emissions target	Analysis and reasons	Conclusion
	This assessment assumes status quo settings are applied through to 2028 and unchanged in those years. In reality, the Government must update settings each year and add a fifth year, but can only update settings for the next two years if certain criteria have been met. This means it would be possible for the Government in 2024 to change settings for 2027 and the rest of emissions budget 2. However, option 2 below describes how the claw back of additional auction volume sold for not adjusting for the forestry change and the technical discrepancies, plus a need to accelerate the surplus stockpile draw down, will have negative NZ ETS and fiscal outcomes. Continuing the status quo settings to 2028 has the same issues for achieving emissions budget 2 as it does for emissions budget 1 regarding the auction price envelope and the range of prices that might be needed to achieve the budget. This is in addition to the risk that the surplus stockpile poses and its continuation through the risk of the CCR triggering.	
Emissions budget 3	The risk posed by status quo settings is due to uncertainties regarding projected emissions, the pace of change, and the risk of the stockpile. The draw down of the surplus stockpile is intended to be completed by the end of emissions budget 2 under status quo settings. However, as described above, any triggering of the CCR over emissions budgets 1 and 2 could result in some surplus being carried over into emissions budget 3. Further, status quo settings, by constraining emission unit prices through the CCR, could delay investments in removals and abatement. Additional non-NZ ETS policies and actions will be needed to meet emission budgets. Delaying investment in emission reductions will make the non-NZ ETS abatement task larger in future. Additionally, noting the potential for increasing NZU supply to the market from forestry removal activities in emissions budget 3, which could impact secondary	The status quo does not strictly accord with emissions budget 3 because its settings do not have the requisite level of certainty (i.e., a very high probability) that emissions will stay within emissions budget 3.

Strict accordance of the status quo against emissions target	Analysis and reasons	Conclusion
	market prices, the relatively lower status quo auction reserve price could result supply to be added to that market. This would further depress market prices and incentives and rewards for removals and mitigation.	
NDC	The status quo is not in strict accordance with New Zealand's NDC. The NDC is set at a different level to emissions budgets. To meet our 2030 NDC, an estimated 99 MtCO2-e of additional abatement is needed over and above achievement of our first two emissions budgets. It will be met by prioritising domestic action and complementing this with international cooperation to access offshore mitigation.	Status quo settings are not considered in strict accordance with the NDC due to the very large difference between emission budgets and NDC commitments, and uncertainty associated with obtaining offshore mitigation.
2050 Target[17]	The status quo strictly accords with the 2050 target. The Ministry for the Environment published projections of New Zealand's greenhouse gas emissions to 2050 in early 2022. These projected the 2050 target would be met through some abatement in energy emissions and a very significant increase in forestry removals. Those projections did not include the new policies announced in the first emissions reduction plan but did assume a continuation of the NZ ETS settings in regulations at the time. While there is risk of not meeting the first few emission budgets, which act as stepping-stones towards the 2050 target, that does not mean there will be the same increased NZU volume available in 2050. If those surplus NZUs are surrendered in excess of emission budgets, they are unavailable for further emissions. That is, the risk posed by the surplus stockpile is temporary.	There is a very high probability the 2050 target will be met under status quo settings. But risk remains, especially due to the dependency on forest removals and the implications for unit supply and resulting market prices. Those matters are being considered through the NZ ETS review and the development of the next emissions reduction plan.

[17] The 2050 target, named as such in this analysis, is prescribed in the Act as three targets: (1) emissions of biogenic methane are to be 24-47% below 2017 levels by 2050, (2) with at least a 10% reduction by 2030, and (3) and all other emissions are to be net zero in 2050 and in each subsequent year.

Strict accordance of the status quo against emissions target	Analysis and reasons	Conclusion
	Further, the core reason for attaining the 2050 target under pre-ERP policies is the forecast contribution of forestry removals. Actions to plant forests are known to require a lower NZU price than most gross emission reductions. However, the NZ ETS Review and the Commission has highlighted the risks in relying on forestry removals to achieve the 2050 target. Modelling has shown the risk of NZU oversupply and resulting risk to market NZU prices and to economic returns from abatement and removal investments. Equally fundamentally, the reliance on unlimited offsetting will not transition New Zealand to a low emissions economy, and there are a range of environmental and emissions risks from growth in offsetting. Those concerns are being actively discussed through the NZ ETS Review and in the development of Aotearoa New Zealand's second emissions reduction plan.[18]	

Justification if not in strict accordance?

Justification of status quo if not in strict accordance with emission targets	Analysis and reasons	Conclusion
Emission budgets	The Minister is not able to recommend settings that do not generally accord (which requires at least a good probability the settings will achieve what is necessary) with meeting emissions budgets or the NDC. The status quo settings do not generally accord with meeting emission budgets. The price settings provide for an NZU price envelope which will not incentivise the quantity of mitigation needed under the scenarios modelled by the Commission. That	Status quo settings diverges from both strict accordance and general accordance with emission budgets 1, 2 and 3. The extent of the divergences cannot be justified.

[18] Further information on the risks to the 2050 target from current settings can be found at the Ministry for the Environment's NZ ETS review webpage

Justification of status quo if not in strict accordance with emission targets	Analysis and reasons	Conclusion
	price envelope will also likely continue the surplus stockpile through the release of the CCR volume at auctions. As noted above, surplus units in the stockpile are additional to budgets. Those stockpile NZUs are expected to come to market for use by emitters when there are low price expectations from holders, who will be guided in part by price settings.	
NDC	The status quo settings generally accord with the NDC. The stepping-stones role of emission budgets, and the reduction in the overall limit on units, will contribute to the emission reductions needed for the NDC. The divergence from strict accordance is justified. Of particular note is *the forecast availability and cost of ways to reduce greenhouse gas emissions that may be needed for New Zealand to meet its targets for the reduction of emissions*[19] as detailed above under main matters. Also, as noted above, the Government intends to meet any NDC shortfall through purchasing international mitigation.	The status quo's divergence from strict accordance with the NDC is justified.

Option 1 – Climate Change Commission's advice (adapted to include 2023)

Explanation of this option: this is the Commission's 2023 advice, using its examples of settings from 2024 should the June 2023 auction had triggered the sale of the CCR. That event would have allowed the updating of 2024 and 2025 settings. The Court decided that the 2022 decisions need to be remade, and that enables settings for the 2023 December auction and for 2023 and 2024 to be updated.

[19] 30GC(5)(d) of the Act

Strict accordance test

Strict accordance of option 1 against emissions target	Analysis and reasons	Conclusion
Emissions budget 1	Option 1 settings maintain a surplus stockpile in emissions budget 1. Due to the extent of potential supply from the surplus stockpile, if those NZUs are surrendered by emitters, additional regulations and actions will be needed to ensure the first emissions budget is met.	Option 1 does not strictly accord with emissions budget 1 because its settings do not have the requisite level of certainty (i.e., a very high probability) that emissions will stay within emissions budget 1.
Emissions budget 2	Despite the quicker draw down of the surplus stockpile than in the status quo and option 2 settings, there will remain some surplus in emission budget 2 and therefore some risk that the emission budget will be exceeded. However, the wider price envelope allowed by the price settings will encourage abatement and removal investment. It would also discourage holders of NZUs to sell those to market, as price expectations could be higher than under the status quo. Finally, because there are considerably higher CCR price trigger settings than under the status quo, Option 1 is far more likely to be successful in reducing the surplus stockpile through emissions budget 2.	Option 1 strictly accords with emissions budget 2 because its settings have the requisite level of certainty (i.e., a very high probability) that emissions will stay within emissions budget 2. This is because the CCR price settings are at a level that mean the surplus stockpile is likely to be used by emitters to meet emissions within the budget, rather than additional to it.
Emissions budget 3	The completed draw down of the surplus stockpile by the end of the emissions budget 2, combined with the low likelihood additional NZU's entering the surplus stockpile from CCR release due to high trigger prices, means option 1 settings are in strict accordance with New Zealand's emissions budget three.	Option 1 strictly accords with emissions budget 3 because its settings have the requisite level of certainty (i.e., a very high probability) that emissions will stay within emissions budget 3. This is because the draw down of the surplus stockpile is intended to be

Strict accordance of option 1 against emissions target	Analysis and reasons	Conclusion
		completed by the end of emissions budget 2.
NDC	Option 1 settings are not in strict accordance with New Zealand's NDC. The NDC is set at a different level to emissions budgets. To meet our 2030 NDC, an estimated 99 MtCO2-e of additional abatement is needed over and above achievement of our first two emissions budgets. It will be met by prioritising domestic action and complementing this with international cooperation to access offshore mitigation.	Option 1 settings are not considered in strict accordance with the NDC due to the very large difference between emission budgets and NDC commitments, and uncertainty associated with obtaining offshore mitigation.
2050 Target	Option 1 settings strictly accord with the 2050 target. The Ministry for the Environment published projections of New Zealand's greenhouse gas emissions to 2050 in early 2022. These projected the 2050 target would be met through some abatement in energy emissions and a very significant increase in forestry removals. Those projections did not include the new policies announced in the first emissions reduction plan, but did assume a continuation of the NZ ETS settings in regulations at the time. While there is risk of not meeting the first few emission budgets, which act as stepping stones towards the 2050 target, that does not mean there will be the same increased NZU volume available in 2050. If those surplus NZUs are surrendered in excess of emission budgets, they are unavailable for further emissions. That is, the risk posed by the surplus stockpile is temporary. Further, the core reason for attaining the 2050 target under pre-ERP policies is the forecast contribution of forestry removals. Actions to plant forests are known to require a lower NZU price than most gross emission reductions. However, the NZ ETS Review and the Commission has highlighted the risks in relying on forestry removals to achieve the 2050 target. Modelling has shown the risk of NZU oversupply and resulting risk to market NZU prices and to economic returns from	There is a very high probability the 2050 target will be met under option 1. They are likely to incentivise additional abatement and removals than current settings. But risk remains, due to the dependency on forest removals and the implications for unit supply and resulting market prices. Those matters are being considered through the NZ ETS review and the development of the next emissions reduction plan.

Strict accordance of option 1 against emissions target	Analysis and reasons	Conclusion
	abatement and removal investments. Equally fundamentally, the reliance on unlimited offsetting will not transition New Zealand to a low emissions economy, and there are a range of environmental and emissions risks from growth in offsetting. Those concerns are being actively discussed through the NZ ETS Review and in the development of Aotearoa New Zealand's second emissions reduction plan.[20]	

Justification if not in strict accordance?

Justification of option 1 if not in strict accordance with emissions target	Analysis and reasons	Conclusion
Emission budgets	While the option 1 settings do not strictly accord with emissions budget 1 due to the existence and continuation of the surplus stockpile, this divergence from strict accordance is justified, particularly after considering *the proper functioning the NZ ETS* as detailed above under main matters.[21] Option 1 settings generally accord with achieving emissions budget 1 as there is a good probability the budget will be achieved, especially as the auction price settings would apply from December 2023. Option 1 reduces the surplus component of the stockpile through reduced auction volumes to 2030, however, it does not remove it immediately. The Commission noted risks from options that reduce the stockpile more quickly, including to liquidity, price volatility and market-gaming activity, and recommended against this.[22]	The divergence of option 1 from strict accordance with emission budget 1 is justified.

[20] Further information on the risks to the 2050 target from current settings can be found at the Ministry for the Environment's NZ ETS review webpage

[21] 30GC(5)(b): The proper functioning of the emissions trading scheme

[22] P41 of the Commission's 2022 advice

Justification of option 1 if not in strict accordance with emissions target	Analysis and reasons	Conclusion
	The surplus stockpile was estimated by the Commission in 2022 as between 33 – 66 million NZUs. Given the expected limit on units available for auction in 2024 is 23.3 million NZUs, it is clear an immediate reduction in the surplus stockpile is not available without significant impacts on the matters above. Option 1 moves the CCR trigger price much further away from current prices that the status quo and option 2 (in emissions budget 1). There is a lower risk of the CCR being triggered, which increases the potential for the surplus stockpile to be drawn down over time. This adjustment ensures that the CCR trigger price is significantly above the range of NZU prices that would support emissions reductions. This is also more likely to reduce the risk of secondary market prices tracking the CCR trigger price (termed the 'magnet effect') and associated speculative trading, better allowing for price discovery by buyers and sellers.	
NDC	Option 1 settings do not strictly accord with the NDC. However, they generally accord, and that divergence from strict accordance is justified after noting *the forecast availability and cost of ways to reduce greenhouse gas emissions that may be needed for New Zealand to meet its targets for the reduction of emissions*[23] as detailed above under main matters. Also, as noted above, the Government intends to meet any NDC shortfall through purchasing international mitigation.	The divergence of option 1 from strict accordance with the NDC is justified.

Option 2 – Climate Change Commission's 2023 advice

Explanation of option: This is the Commission's recommended settings for 2024 to 2028 given the June NZU auction did not trigger the CCR. This meant 2022 decisions on settings for 2024 and 2025 would have been retained. Noting the order to reconsider the 2022 decisions, this option assumes existing settings are reconfirmed for 2023 to 2025.

[23] 30GC(5)(d) of the Act

Strict accordance test

Strict accordance of option 2 against emissions target	Analysis and reasons	Conclusion
Emissions budget 1	The risk posed by option 2 settings is due to existing uncertainties regarding projected emissions and the surplus stockpile. This option would maintain the status quo settings for 2023-2025 (emissions budget 1 period), and then adopt the Commission's recommended settings for 2026 to 2028. The risks to emissions budget 1 for option 2 are the same as the status quo.	Option 2 does not strictly accord with emissions budget 1 because the settings do not have the requisite level of certainty (i.e., a very high probability) that emissions will stay within emissions budget 1.
Emissions budget 2	The risk posed by option 2 settings is due to existing uncertainties regarding projected emissions and the surplus stockpile. Continuing status quo settings until 2025 will mean that the surplus stockpile remains over emissions budget 2, with a correspondingly high probability that the emissions budget could be exceeded. This is unless additional non-NZ ETS policies and measures are implemented to avoid those emissions. The increase to the trigger price of the CCR from 2026, coinciding with the start of emissions budget 2, will mitigate the risk of the CCR being triggered over this period.	Option 2 does not strictly accord with emissions budget 2 because its settings do not have the requisite level of certainty (i.e., a very high probability) that emissions will stay within emissions budget 2.
Emissions budget 3	The completed draw down of the surplus stockpile by the end of the emissions budget 2, combined with the low likelihood of additional NZU's entering the surplus stockpile from CCR release due to high trigger prices, means option 2 settings are in strict accordance with New Zealand's emissions budget 3. However, there is more risk than option 1 as the lower price envelope over emissions budget 1 could delay investments, which could reduce abatement needed for emissions budget 3.	Option 3 strictly accords with emissions budget 2 because its settings have the requisite level of certainty (i.e., a very high probability) that emissions will stay within emissions budget 3.
NDC	Option 2 settings are not in strict accordance with New Zealand's NDC.	Option 2 is not considered in strict accordance with the NDC due to the

Strict accordance of option 2 against emissions target	Analysis and reasons	Conclusion
	The NDC is set at a different level to emissions budgets. To meet our 2030 NDC, an estimated 99 MtCO2-e of additional abatement is needed over and above achievement of our first two emissions budgets. It will be met by prioritising domestic action and complementing this with international cooperation to access offshore mitigation.	very large difference between emission budgets and NDC commitments, and uncertainty associated with obtaining offshore mitigation.
2050 Target	Option 2 settings strictly accord with the 2050 target. The Ministry for the Environment published projections of New Zealand's greenhouse gas emissions to 2050 in early 2022. These projected the 2050 target would be met through some abatement in energy emissions and a very significant increase in forestry removals. Those projections did not include the new policies announced in the first ERP, but did assume a continuation of the NZ ETS settings in regulations at the time. While there is risk of not meeting the first few emission budgets, which act as stepping stones towards the 2050 target, that does not mean there will be the same increased NZU volume available in 2050. If those surplus NZUs are surrendered in excess of emission budgets, they are unavailable for further emissions. That is, the risk posed by the surplus stockpile is temporary. Further, the core reason for attaining the 2050 target under pre-ERP policies is the forecast contribution of forestry removals. Actions to plant forests are known to require a lower NZU price than most gross emission reductions. However, the NZ ETS Review and the Commission has highlighted the risks in relying on forestry removals to achieve the 2050 target. Modelling has shown the risk of NZU oversupply and resulting risk to market NZU prices and to economic returns from abatement and removal investments. Equally as important, the reliance on unlimited offsetting will not transition New Zealand to a low emissions economy, and there are a range of environmental and emissions risks from growth in offsetting. Those concerns are being actively discussed through the NZ ETS Review	There is very high probability the 2050 target will be met under option 2. They are likely to incentivise additional abatement and removals than status quo settings. But risk remains, especially due to the dependency on forest removals and the implications for unit supply and resulting market prices. Those matters are being considered through the NZ ETS review and the development of the next emissions reduction plan.

Strict accordance of option 2 against emissions target	Analysis and reasons	Conclusion
	and in the development of Aotearoa New Zealand's second emissions reduction plan.[24]	

Justification if not in strict accordance?

Justification of option 2 if not in strict accordance with emission targets	Analysis and reasons	Conclusion
Emission budgets	The Minister is not able to recommend settings that do not generally accord with meeting emissions budgets or the NDC. Option 2 settings do not generally accord with meeting emission budget 1. The price settings provide for an NZU price envelope which will not incentivise the quantity of mitigation needed under the scenarios modelled by the Commission. That price envelope will also permit the continuation of the surplus stockpile through the release of the CCR volume at auctions into emissions budget 2. As noted above, surplus units in the stockpile are additional to budgets. Those stockpiles NZUs are expected to come to market for use by emitters when there are low price expectations from holders, who will be guided in part by price settings. Option 2 price settings are not considered to be in general accordance with emissions budgets because there is a high risk the budgets will be exceeded. This finding relates to the years that the settings apply to, but also for following years, due to the need to be reducing emissions consistently. Any slow-down in mitigation now will affect the achievement of later budgets.	Option 2 does not generally accord with meeting emission budgets 1 and 2 and the deviation from strict accordance cannot be justified.

[24] Further information on the risks to the 2050 target from current settings can be found at the Ministry for the Environment's NZ ETS review webpage

Justification of option 2 if not in strict accordance with emission targets	Analysis and reasons	Conclusion
NDC	Option 2 settings do not strictly accord with the NDC. However, they generally accord, and that divergence from strict accordance is justified after noting *the forecast availability and cost of ways to reduce greenhouse gas emissions that may be needed for New Zealand to meet its targets for the reduction of emissions*[25] as detailed above under main matters. Also, as noted above, the Government intends to meet any NDC shortfall through purchasing international mitigation.	Option 2's divergence from strict accordance with the NDC is justified.

[25] 30GC(5)(d) of the Act

Appendix Four: Summary of Submissions

Appendix four – Summary of submissions

Summary of Proposals	Submitter Views
Reduce the stockpile according to the Commission's approach	Of the submitters that responded, most were in favour of retaining the status quo approach to the stockpile reduction with the addition of the Commission's recommended discrepancy adjustment step. These submitters view the existing stockpile as a risk to achieving emissions budgets. Some have stated that the alternative option of addressing the discrepancies as part of the annual updates stockpile estimates risks over-supply of units in the short term and there is no guarantee that these can easily be reduced from the stockpile in future. A small number of submitters from business and industry were not in support of the Commission's discrepancy adjustment. They held that reductions to the stockpile in any form pose a risk to market liquidity and the ability for participants to secure the NZUs needed to meet their obligations. Genesis Energy stated that they believed the Commission had over-estimated the surplus component of the stockpile and that much of this was hedged for future surrender obligations.
Increase the auction reserve price to the level recommended by the Commission	Submitters generally supported following the Commission's recommendations for the auction reserve price if all years are updated. However, a small number of submitters supported lower price options where they were concerned about creating an expectation of rapidly rising prices. Most of these submitters were in favour of maintaining status quo prices. In either case, submitters agreed that increasing the price floor would result in increased prices, with the majority of disagreement centring on whether this was desirable to achieve gross and/or net reductions, or would have negative market, economic, or other impacts.
Set the cost containment reserve trigger prices at the levels recommended by the Commission, including setting two tiers.	The majority of submitters supported the Commission's recommendations on the cost containment reserve structure and trigger prices. These submitters tended to highlight either the positive impact of a general increase in prices for achieving gross and/or net emissions reductions, or because of the potential effects on the market "the Commission's recommended low and high triggers […] are the only options that offer sufficiently high trigger prices to limit the risks and impacts of the price controlling mechanism." These submitters generally saw lower price options as more likely to result in the possible 'magnet' effect. Submitters that did not support the Commission's recommendations on CCR structure and trigger prices, generally supported the status quo settings. They were concerned that the Commission's options could create rapidly rising prices, noting this could have unacceptable market, economic, or other impacts.
Update the portion	Of the submitters that responded, most where satisfied that the

Summary of Proposals	Submitter Views
of the emissions budget allocated to the ETS, to reflect the Commission's updated forestry estimates.	Commission's forestry estimates were accurate. Two business submitters questioned the reliability of the MPI data used in these estimates. The majority of submitters agreed that a reduction in auction volumes to reflect the updated estimates was the best course of action. The reasons given for making this adjustment were that it maintains the integrity of the ETS through the use of accurate and up to date data while providing the best chance of meeting New Zealand's emissions reduction targets. Some submitters were opposed to making the adjustment to auction volumes and stated that this could pose a risk to necessary market liquidity and could drive NZU prices higher. A few submitters took a broad approach to the consultation by opposing all auction and surplus stockpile volume reductions due to economic concerns regarding the impacts on businesses and the cost of living.
Technical adjustment should be made	Feedback from a range of submitters including individuals, NGOs, businesses, and industry participants showed strong support for a reduction in auction volumes to address the technical discrepancy. Some submitters supported the adjustment under the condition that the nature of the discrepancy was well understood. Submitters were widely of the opinion that the inventory and the ETS should be aligned. A smaller group of submitters primarily from business and industry do not support any adjustment until there is a greater understanding of the discrepancy. Some supported no change to volumes at all due to economic concerns.

Appendix Five: Technical Adjustments to Unit Limits

Appendix five – Technical adjustments

1. To calculate the limit settings for units, the Government needs to:

    a. first calculate the required auction volumes,

    b. determine the volume of units required in the CCR, and

    c. combine the auction volumes and the volume of units required in the CCR with any approved overseas units (currently set to zero).

2. The Commission's advice uses an established methodology to calculate auction volumes, with

    a. A new adjustment resulting from updates to estimates of forestry emissions outside the NZ ETS, and

    b. an update continued from the previous year's advice on the consideration of a technical discrepancy between emissions reported in the emissions trading scheme and in New Zealand's greenhouse gas inventory; referred to as the 'technical adjustment'

3. The general methodology is presented in the table below:

Step 1: Determine the emissions budgets, the NDC and the 2050 target	
Step 2: Allocate the emissions budget between NZ ETS and non-NZ ETS sectors	See below
Step 3: Technical adjustments	These account for any differences between past emissions estimates in the NZ ETS and actual levels from the national Greenhouse Gas Inventory (the GHG Inventory) and New Zealand's target accounting.
Step 4: Account for industrial free allocation	This refers to NZUs provided by the Government for free to entities whose activities are both emissions-intensive and trade-exposed (EITE).
Step 5: Set the unit surplus reduction volume	This involves estimating the number of surplus NZUs that generate risks that emissions may exceed emissions budgets
Step 6: Setting the approved overseas unit limit	As there are currently no approved overseas units in New Zealand this is set at zero.
Step 7: Calculate the auction volume	

Updates to estimates of forestry emissions outside the NZ ETS

4. The Commission has updated its estimates of forestry emissions outside the NZ ETS to account for recent changes in the levels of post-1989 forest land registered in the NZ ETS. This would reduce the portion of the emissions budget

allocated to the NZ ETS to account for lower removals from non-NZ ETS forestry. If implemented this change would result in a reduction of auction volumes, because more reductions or removals will be required inside the NZ ETS to compensate for higher net emissions outside it.

5. The updated estimates are based on data from the Ministry of Primary Industries (MPI) and the high rates of registration from eligible post-1989 forest land that was already established before 2019. This update was based on the following inputs:

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

    b. The volume of post-1989 exotic forest land has increased from approximately 297,000 hectares to 471,000 hectares, 81 per cent planted before 2019.

6. Drawing on this, updated proportions of total post-1989 forest land area registered in the NZ ETS have been used to update estimates of forestry emissions remaining outside the NZ ETS. The following table shows the previous (2022) and revised (2023) estimates of forestry emissions inside and outside the NZ ETS.

Table 1: Net forestry emissions inside and outside the NZ ETS

Net forestry emissions (kt CO_2e)										
	2024		2025		2026		2027		2028	
	2022	2023	*2022*	2023	*2022*	2023	*2022*	2023	*2022*	2023
Inside ETS	*-4,101*	-5,786	*-5,303*	-6,919	*-7,236*	-8,889	*-9,012*	-10,491	*-11,053*	-12,526
Outside ETS	*-1,950*	-265	*-1,470*	146	*-1,701*	-49	*-1,475*	3	*-1,382*	91
Total	***-6,051***	**-6,051**	***-6,773***	**-6,773**	***-8,937***	**-8,937**	***-10,488***	**-10,488**	***-12,435***	**-12,435**

7. The impact of this on unit limits under both option 1 and 2 is shown below.

Table 2: Impact of forestry estimate updates on auction volume

Updates to estimates of forestry emissions (millions of NZUs)						
	2023	2024	2025	2026	2027	2028
Option 1	-1.5	-1.7	-1.6	-1.7	-1.5	-1.5
Option 2	-	-	-	-1.6	-1.5	-1.5

8. I consider that is important to the strict accordance of unit settings with emission targets to incorporate this adjustment in the calculation of unit limits.

Technical adjustment to address observed discrepancies

9. Emissions reported into the NZ ETS for covered sectors are intended to align with emissions reported in New Zealand's Greenhouse Gas Inventory (Inventory). New Zealand uses inventory data to report progress towards targets.

10. The Commission identified two discrepancies between emissions reported in the Inventory and those reported in the NZ ETS. The two discrepancies are:

Liquid fossil fuels	The variance has been consistent since 2010. Emissions reported in the NZ ETS have been around 0.8 Mt CO_2e per annum lower than emissions reported in the Inventory. The source of the discrepancy has been identified.
Coal and steel	There is no discrepancy for the 2021 Inventory. In 2018, NZ ETS reported emissions were 0.5 Mt CO_2e lower than emissions reported in the inventory, and 0.9-1.0 Mt CO_2e (or around 16%) lower than the emissions reported in the Inventory from 2019-2020. The source of the discrepancy has been identified.

11. The quantity of these discrepancies were identified last year, but the adjustments were not made because:

    a. the sources were not sufficiently well understood;

    b. adjustments consequently could have had a negative impact on regulatory certainty; and

    c. the reduced auction volume could result in a fiscal cost.

12. The Inventory is used to inform decisions on emissions budgets. It is likely that both discrepancies have been a result of over-reporting emissions in the Inventory. The coal discrepancy has already been updated in the latest Inventory and it is possible the Inventory will need adjustment for the liquid fossil fuel discrepancy.

13. It is likely that emissions budgets were set higher than they would have been, if the Inventory had been adjusted earlier. Making the technical adjustment would maintain the level of ambition between projected emissions and budgets that was intended when the emissions budgets were set.

14. The Commission recommends making the technical adjustment through reducing unit limits in the NZ ETS.

15. The emissions budgets may be adjusted in future to reflect changes to emissions reported in the Inventory. If the budgets are reduced to reflect this discrepancy and the technical adjustment is not made now more effort will be required to achieve budgets in future, as too many NZU's will have been sold.

16. The impact of this on unit limits under both options is shown below.

Table 3: Impact of technical adjustments on auction volume

Technical adjustments (millions of NZUs)						
	2023	2024	2025	2026	2027	2028
Option 1	-1.6	-1.4	-1.3	-1.3	-1.3	-1.3
Option 2	-	-	-	-1.3	-1.3	-1.3

17. I consider that we should maintain the level of ambition in the NZ ETS to support the meeting of future emissions budgets and the NDC, and therefore proceed with this adjustment.

Step 5b – Adjusting the stockpile reduction for discrepancies

18. The Commission has recommended an additional stockpile adjustment (Step 5b) to account for adjustments to previous years that have not or cannot be made.

19. This step would only apply if status quo settings were continued for 2023 onwards, or under option 2. As I am recommending unit settings are updated from 2023, based on the Commission's recommendations, there would be no discrepancies to adjust for (ie, the 2023 unit limits would already be reduced to account for these discrepancies, rather than needing to 'claw back' units as part of the stockpile reduction step).