

CLIMATE RESPONSE MINISTERIAL GROUP MEETING

AGENDA			
Date	Wednesday 31 May 2023		
Time	4.00pm – 5.00pm		
Location	8.5 + Zoom for officials		
Agenda items	Agenda item 1: Climate Change Chief Executives Board – emissions budgets update Agenda item 2: NDC Strategy		
Attendees	Chair: Rt Hon Chris Hipkins – Prime Minister Deputy Chair: Hon James Shaw – Minister of Climate Change Hon. Carmel Sepuloni – Deputy Prime Minister Hon. Kelvin Davis – Minister for Māori Crown Relations: Te Arawhiti Hon. Grant Robertson – Minister of Finance Hon. Megan Woods – Minister of Energy and Resources Hon. Michael Wood – Minister of Transport Hon. Damien O’Connor – Minister of Agriculture Hon. David Parker – Minister for the Environment Hon. Peeni Henare – Minister of Forestry, Associate Minister for the Environment Hon. Kieran McAnulty – Minister of Local Government Hon. Barbara Edmonds – Minister for Economic Development Hon. Willow-Jean Prime – Minister of Conservation Hon. Rachel Brooking – Associate Minister for the Environment Apologies: [TBC]		
#	Time	Agenda Item	Recommendations
1	4.00-4.30pm	Climate Change Chief Executives Board update on emissions budgets Lead Speakers: Rt Hon Chris Hipkins, Hon James Shaw	
	<p>This item provides advice from the Board following the last CRMG:</p> <ul style="list-style-type: none"> Updated emissions estimates information (abatement figures and emissions estimates) to assess whether we are on track to meet emissions budgets 1-3. s 9(2)(h) [REDACTED] Analysis on additional policy options to deliver abatement, in particular the request from Ministers to examine additional options for s 9(2)(f)(iv) [REDACTED] <p>Supporting documents: Report-back to CRMG on meeting our Emissions Budgets</p>	<p>1.1. s 9(2)(h) [REDACTED]</p> <p>1.2. Note that changes to the calculation of New Zealand’s baseline emissions (methodological changes) mean that emissions are projected to land within the Emissions Budget 1 limit of 290Mt.</p> <p>1.3. Note that without the impact of these changes to our emissions baseline, we currently estimate a 1.5Mt shortfall in abatement for EB1 (10Mt of the 11.5Mt envisaged at the time ERP1 was agreed), with significant uncertainty around this estimate.</p>	

<p>Slide presentation: CRMG report back on emissions budgets</p>	<p>1.4. Note that there are a range of risks from relying on the methodological changes in baseline emissions to meet emissions budgets.</p> <p>1.5. Note that all the options investigated by officials for further abatement in EB1 have high risks and significant trade-offs, with the most feasible option for delivering abatement (albeit minor, if any) being revising our NZ ETS settings to tighten the cap on NZETS emissions.</p> <p>1.6. Note that the Board recommends not adding further initiatives to ERP1 and instead maintaining a tight focus on implementing the remaining ERP1 measures to their full effect in order to support emissions reductions required now and in future emissions budgets.</p> <p>1.7. Note that if necessary, and recommended by the Climate Change Commission, there is the option of borrowing up to 1% of the next emissions budget (borrowing) – for EB1 up to 3.05Mt (advice due end 2027).</p> <p>1.8. Either:</p> <ul style="list-style-type: none"> i. Agree to not adding further initiatives to ERP1 and maintain focus on implementing the remaining ERP1 measures to their full effect (Board recommendation). <li style="text-align: center;"><i>or</i> ii. Direct officials to pursue any additional abatement options for EB1 from the six initiatives identified in Appendix 1. <p>1.9. Note that the Board will continue to monitor progress across the ERP actions and update you in the next six-monthly report (due August 2023).</p> <p>1.10. Note the Climate Change Commission will be providing advice on any necessary revision to notified emissions budgets in late 2024, which can include consideration of methodological changes.</p>
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CLIMATE CHANGE CHIEF EXECUTIVES BOARD

Report-back to CRMG on meeting our Emissions Budgets

Date Submitted:	25 May 2023	Tracking #: BRF-3315
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	Action sought:	Response By:
Rt Hon Chris HIPKINS, Chair of the Climate Response Ministerial Group	Agree to forward this briefing note and attached slides to Climate Response Ministerial Group	13 June 2023
CC: Hon James SHAW, Minister of Climate Change	For information and feedback	N/A

Actions for Minister's Office Staff	If agreed, forward this briefing note and appendices to: The Climate Response Ministerial Group
Number of appendices: # 3	Appendix 1: Initiatives to support additional abatement Appendix 2: Slides for CRMG to support its meeting on 31 May 2023 Appendix 3: Information on the uncertainty for emissions projections

Climate Change IEB Unit contacts

Position	Name	Cell phone	1 st contact
Principal Author	Sylvia Frean		
Deputy Exec Director	Chris Nees	s 9(2)(a)	✓
Exec Director	Lisa Daniell	s 9(2)(a)	

Report-back to CRMG on Emissions Budgets

Key messages

This report responds to CRMG's request for updated estimates on how we are tracking against emissions budgets and information on options to address any shortfall

1. Under the Climate Change Response Act 2002, New Zealand expresses its emissions reduction budgets as an amount of maximum allowable emissions over a five-year period (emissions budgets) rather than a specific level of abatement to be achieved in that five-year window.
2. There are three main factors driving whether we achieve these emissions budgets:
 - a) policy changes to reduce emissions (our first Emissions Reduction Plan (ERP1));
 - b) external factors (e.g., economic conditions, oil prices, behaviour); and
 - c) how we measure actual emissions (methodology).

Recent changes to the way we measure our emissions mean our baseline emissions are lower than estimated in ERP1 which, combined with wider impacts, indicate emissions are now projected to land within the Emissions Budget 1 (EB1) limit of 290Mt.

3. s 9(2)(h)
4. Officials note there are risks from relying on methodological changes to meet EB1. These include that future methodological changes could have the opposite effect and make it harder to achieve the budget, and that any decision to reduce abatement efforts now will increase the task in future emissions budgets periods.
5. The Climate Change Commission (the Commission) will provide advice on whether to revise existing budgets as a result of methodological improvements in late 2024.

Emissions estimates including only policy changes and external factors (excluding methodological changes), indicate a 1.5Mt shortfall in achieving the level of abatement sought for EB1 at the time ERP1 was agreed (11.5Mt)

6. There is a large amount of uncertainty around these estimates, which are rooted in the quality of policy assumptions and cannot be quantified with high certainty. In addition, a range of factors outside of government policy (e.g., COVID-19, global oil prices, inflationary pressures) have a material impact on emissions and meeting the emissions budget. As a result, we consider this estimate as a moderately weak rather than strong signal that there will be a shortfall for EB1.

The projections also suggest the trajectory for achieving EB2 and EB3 is now more difficult

- [REDACTED]
7. The projections also downgrade estimates of abatement from policy impacts across Emissions Budget 2 (EB2) and Emissions Budget 3 (EB3), compared to estimates in ERP1. Although the projections suggest we are still broadly on-track to meet these, much of the previously projected buffer (overachievement) has gone and there is a higher degree of uncertainty around these longer run projections. The ERP2 process will need to consider how to address any gap or restore buffers.

s 9(2)(h)

- [REDACTED]
- [REDACTED]

Additional opportunities to increase abatement in order to meet EB1 are limited, emphasising the importance of effective implementation

10. Officials have not identified opportunities to increase abatement s 9(2)(f)(iv) [REDACTED]
11. We have also revisited abatement options that we previously advised Ministers about. **Appendix 1** provides a breakdown of these options which includes increasing fuel excise duties, s 9(2)(f)(iv) [REDACTED] and using the annual review of ETS settings to tighten the cap on ETS auction volumes.
12. Of this set, the most feasible option (albeit delivering minor, if any abatement) is to consider tightening ETS volumes and the cost containment reserve trigger price in the context of the current review of ETS settings. The other options have more significant costs and draw backs and would divert resources from focusing on the delivery of ERP1 and the development of ERP2.
13. The Board considers it critical to maintain a strong focus on delivering the remaining ERP1 actions effectively and preparing for ERP2, with key priorities being:
 - a) The ETS review
 - b) The annual update to ETS unit limit and price control settings
 - c) Agricultural emissions pricing
 - d) Transport mode shift
 - e) The Energy Strategy
 - f) Partnerships to support abatement from New Zealand's largest emitters.

Recommendations

We recommend that you:

- a) **Note** that changes to the calculation of New Zealand's baseline emissions (methodological changes) means that emissions are projected to land within the EB1 limit of 290Mt.

Noted
- b) **Note** that without the impact of the methodological changes to our emissions baseline, we currently estimate a 1.5Mt shortfall in abatement for EB1 (10Mt of the 11.5Mt envisaged at the time ERP1 was agreed), with significant uncertainty around this estimate.

Noted
- c) **Note** that there are a range of risks from relying on the methodological changes in baseline emissions to meet emissions budgets.

Noted
- d) **Note** that all the options investigated by officials for further abatement in EB1 have high risks and significant trade-offs, with the most feasible option for delivering (minor, if any) abatement being revising our NZ ETS settings to tighten the cap on NZ ETS emissions.

Noted
- e) **Note** that the appropriate vehicle for considering NZ ETS settings is through the current review which will set 2024-2028 auction volumes and price controls.

Noted
- f) **Note** that the Board recommends not adding further initiatives to ERP1 and instead maintaining a tight focus on implementing the remaining ERP1 measures to their full effect in order to support emissions reductions required now and in future emissions budgets, reflecting:
 - i. The high degree of uncertainty around emissions projections, including that they are not able to include all ERP actions meaning this estimate is a moderately weak rather than strong signal that there will be an abatement shortfall for EB1.
 - ii. The range of significant risks and trade-offs that come with these the additional options identified in this note; and
 - iii. That adding additional policies now to ERP1 would reduce effort and resources available to focus on delivering the current initiatives and developing ERP2.

Noted

g) **Note** that if necessary, and recommended by the Climate Change Commission, there is the option of borrowing up to 1% of the next emissions budget (borrowing) – for EB1 up to 3.05Mt (advice due end 2027).

Noted

h) **Either:**

i. **Agree** to not adding further initiatives to ERP1 and maintain focus on implementing the remaining ERP1 measures to their full effect (**Board recommendation**).

Agree/Disagree

or

ii. **Direct** officials to pursue any additional abatement options for EB1 from initiatives identified in **Appendix 1**.

Yes/No

i) **Note** that the Board will continue to monitor progress across the ERP actions and update you in the next six-monthly report (due August 2023).

Noted

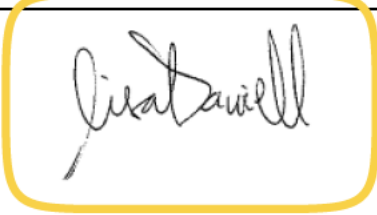
j) **Note** that the Ministry for the Environment will lead separate advice to Ministers for consideration at the next CRMG meeting (26 July) about methodological change more broadly in the context of emissions budgets and the 2050 target.

Noted

k) s 9(2)(f)(iv)

[Redacted text]

Noted

<p>Lisa Daniell Executive Director, Climate Change Chief Executives Board</p> <p>Date: 25 May 2023</p>	
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<p>Rt Hon Chris HIPKINS, Chair of the Climate Response Ministerial Group</p>	
<p>Date</p>	

Purpose

1. This briefing responds to the request from the Climate Response Ministerial Group (CRMG) for additional information on:
 - a. updated abatement figures, to include policies in the 2023 CERF package and the implementation of 2022 CERF package policies
 - b. options for additional abatement in the first emissions budget (EB1) through s 9(2)(f)(iv), and wider options.

Context

2. On 11 April 2023, CRMG met to discuss progress and risks to meeting EB1, following advice from the Climate Change Chief Executives Board (the Board) and revised modelling assumptions provided by MfE [*BRF-2993 4 April 2023 refers*].
3. MfE officials and the Board advised CRMG that we were no longer on track to meet EB1, following risks progressing since the first six-monthly report provided by the Board to CRMG, updated abatement figures, and revised modelling information.
4. CRMG requested officials report-back by June 2023, with revised abatement and sufficiency information, together with options to provide additional abatement, where possible.
5. This briefing is organised in three sections:
 - Section 1:** Retesting whether we are on track to meet our emissions budgets
 - Section 2:** The legal requirement to meet emissions budgets
 - Section 3:** Additional abatement options for EB1
6. We attach slides at **Appendix 2** to support discussion at CRMG's meeting on 31 May 2023.

Section 1: Retesting whether we are on track to meet our Emissions Budgets

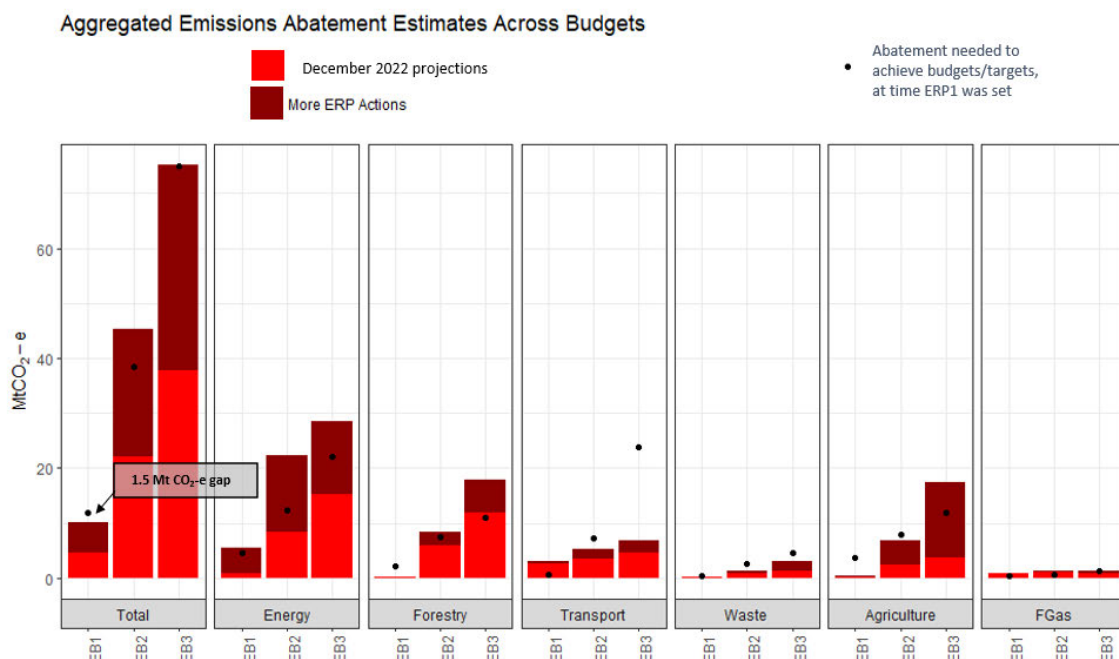
Setting emissions budgets and the challenges of measuring and estimating emissions

- The first three emissions budgets were set in 2022, and the first emissions budget (EB1) set a limit on net emissions of 290Mt for the period 2022-2025. The corresponding abatement sought for EB1 through ERP1 at the time, was 11.5Mt.
- Modelling available when the ERP1 was released indicated that New Zealand could meet EB1 based on projections that accounted for quantified policy impact of some initiatives in the ERP.
- Estimates at the time indicated EB1 would be met if all quantified policies were delivered and achieved at the high impact scenario level (abating a total of 11.9Mt).

We have retested our emissions reduction estimates

- Following direction from CRMG we have updated estimates of emissions reductions to take account of a wider set of ERP1 policy impacts (shown as brown bars in Chart 1) in addition to what was included in our December 2022 projections of policy and key economic variables (shown as red bars in Chart 1) that CRMG considered in April 2023.
- Chart 1 (below) shows that achieving the EB1 through ERP1 abatement is finely balanced, with an estimated 1.5 Mt CO₂-e gap between the level of abatement required at the time ERP1 was agreed, and the latest abatement estimates.

Chart 1: Abatement at the time ERP1 was agreed (without methodological changes)



Note: abatement impacts from Electric Arc Furnace at NZ Steel's Glenbrook mill are included

12. There is considerable uncertainty over these projections and relevant caveats are provided in **Appendix 3**.

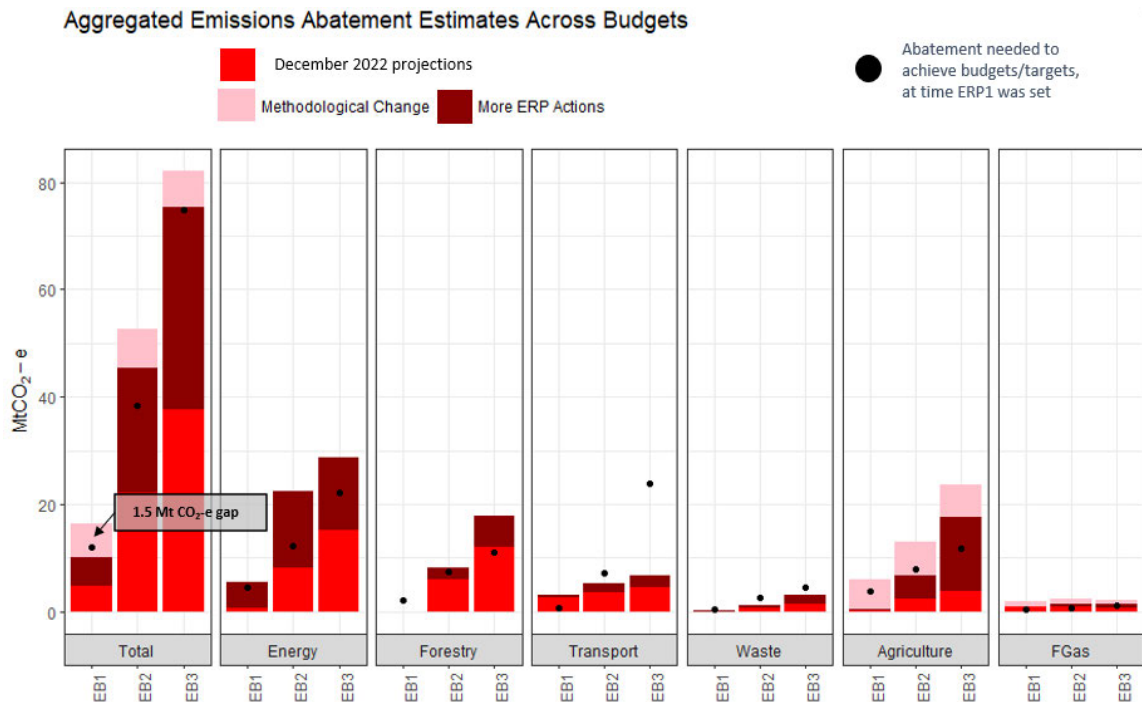
Measuring progress against emissions budgets is challenging and changes can occur as new information comes to light

13. During the course of an emissions budget, a range of factors will affect whether the budgets are achieved, only some of which are within Government's control. These include:
- methodology changes as we improve our estimates of emissions over time, that can revise both historic and projected emissions up or down
 - updates to quantified policy emissions impacts (e.g., performance of the clean car discount)
 - additional impacts from initiatives that were not able to be quantified or fully quantified
 - external factors such as economic conditions, COVID, the Ukraine war and behavioural change.

Methodological changes

14. Every year, methodological improvements are made to the way emissions are estimated in New Zealand's annual greenhouse gas inventory. This follows the Intergovernmental Panel on Climate Change's (IPCC's) guidelines for the preparation and continuous improvement of national greenhouse gas inventories. Accepting the risk of inconsistencies between an emissions budget and the national inventory emissions estimates is considered preferable to delaying science-based updates to the inventory.
15. Subsequent to CRMG's request for further information, the Ministry for the Environment released New Zealand's Greenhouse Gas Inventory (13 April), that include methodological improvements. Of importance is revised calculations on agricultural emissions (e.g., inclusion of non-pasture feed activities in the Agriculture Inventory Model and improved activity data for within-year dairy cattle population fluctuations).
16. These revised calculations mean that agricultural emissions were not as high as projected when emissions budgets levels were set in 2022. The impact of this recent methodological change means our baseline emissions (and emissions inventories) are lower than originally calculated - by approximately 1Mt per year, as shown in Chart 2 below.

Chart 2: Abatement with methodological changes



17. s 9(2)(h)

18. The Ministry for the Environment will lead separate advice to Ministers for consideration at the next CRMG meeting (26 July) about methodological change more broadly in the context of emissions budgets and the 2050 target.

19. From a policy perspective, officials have identified risks associated with relying on these methodological changes for achieving EB1. These include:

- that future methodological changes could have the reverse effect and make it harder to achieve emissions budgets
- that the uncertainty associated with emissions projections is high (**see Appendix 3**)
- that any resulting softening of effort to reduce emissions now risks increasing the task in future emissions budgets periods.

20. The results of methodological changes and our policy initiatives in ERP1 to achieve the required abatement for EB1 will not be known until after the budget period has ended.

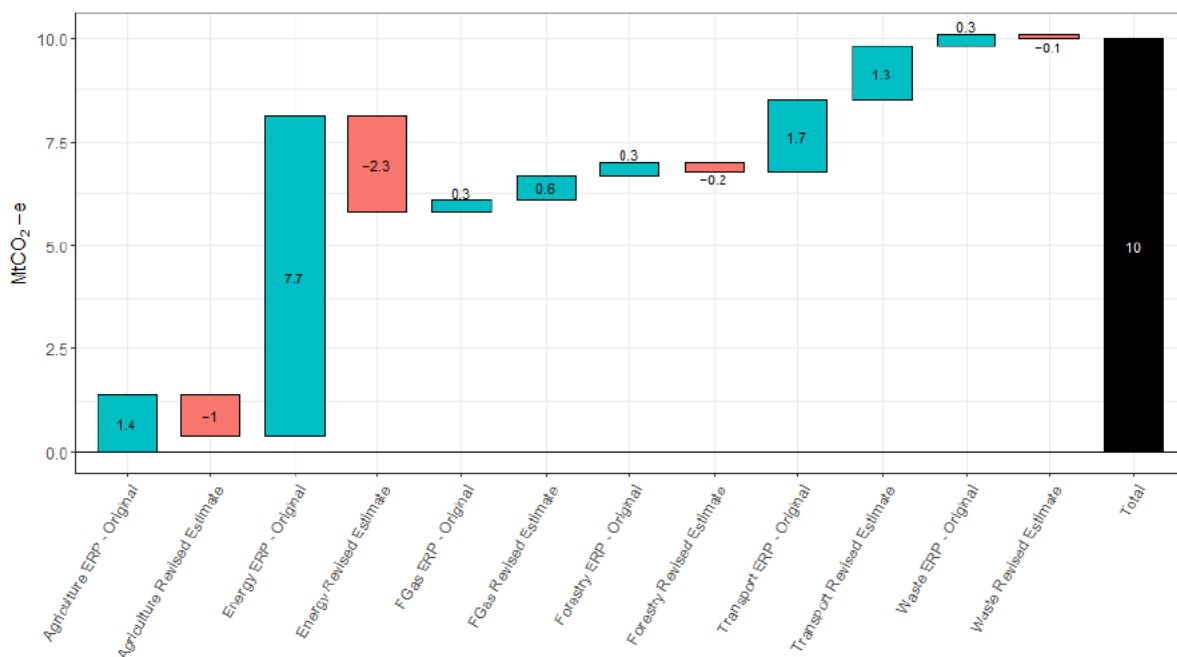
Updates to quantified policy emissions impacts for EB1, EB2 and EB3

21. Our projections downgrade estimates of abatement from policy impacts across Emissions Budget 2 (EB2) and Emissions Budget 3 (EB3). Although we are still broadly on

track to meet these, much of the previously projected buffer (overachievement) has gone.

22. Agriculture abatement estimates have been revised downwards in EB1, EB2 and EB3 due to revised assumptions around the cost effectiveness and adoption rate of on-farm mitigation technologies. This is related to the impacts of the methodological changes discussed above.
23. Energy policy estimates have been revised downwards in EB1, EB2 and EB3 from the original forecasts primarily to account for the following factors:
 - The speed of project delivery has been slower than originally expected due to the global energy crisis, supply chain delays, and worsening economic conditions,
 - Emissions impacts of large emitter partnerships will take longer to implement than originally allowed for, and
 - The Equipment Replacement Scheme has taken longer to implement than originally allowed for. Note that in this modelling the reductions in the forecasts are not completely lost, they are delayed and now fall outside the first three emissions budgets (i.e., the reductions will still happen, but later than originally anticipated).
24. Transport policy abatement estimates in EB1 have increased due to a change in the policy setting for the Clean Car Discount, as well as changes in baseline modelling assumptions for transport emissions projections (e.g., GDP, oil prices), see Chart 3 below.

Chart 3: Estimated Emissions Abatement Changes for EB1 compared to original estimates in ERP1



25. Transport policy abatement estimates in EB2 and EB3 have reduced significantly (compared to at the time ERP1 was agreed) due to the cancellation of the Sustainable Biofuels Obligation, as shown in Charts 4 and 5.
26. Forestry emissions removals estimates have significantly increased in EB2 and EB3 due to the inclusion of several new initiatives not captured in the 'with-existing-measuring' emissions projections such as Maximising Carbon Storage, Establishing Native Forests at Scale, and Investing in expanding the supply of woody biomass. Forestry baseline removals have also increased due to new data on afforestation and deforestation rates.

Chart 4: Estimated Emissions Abatement Changes for EB2

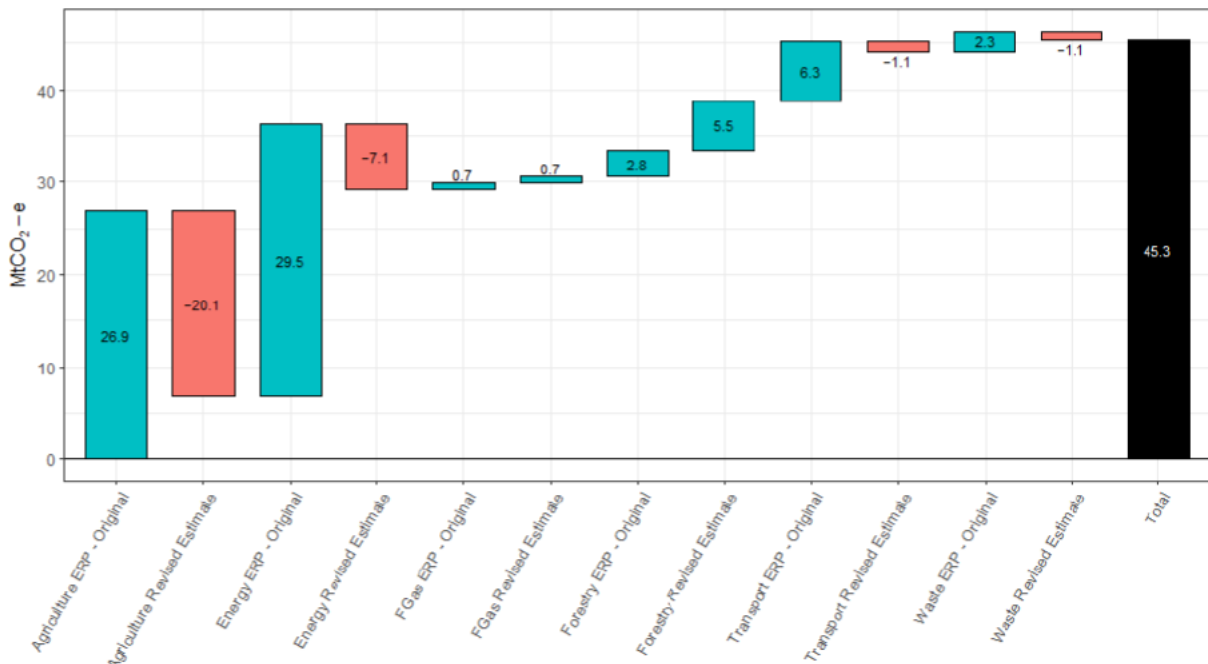
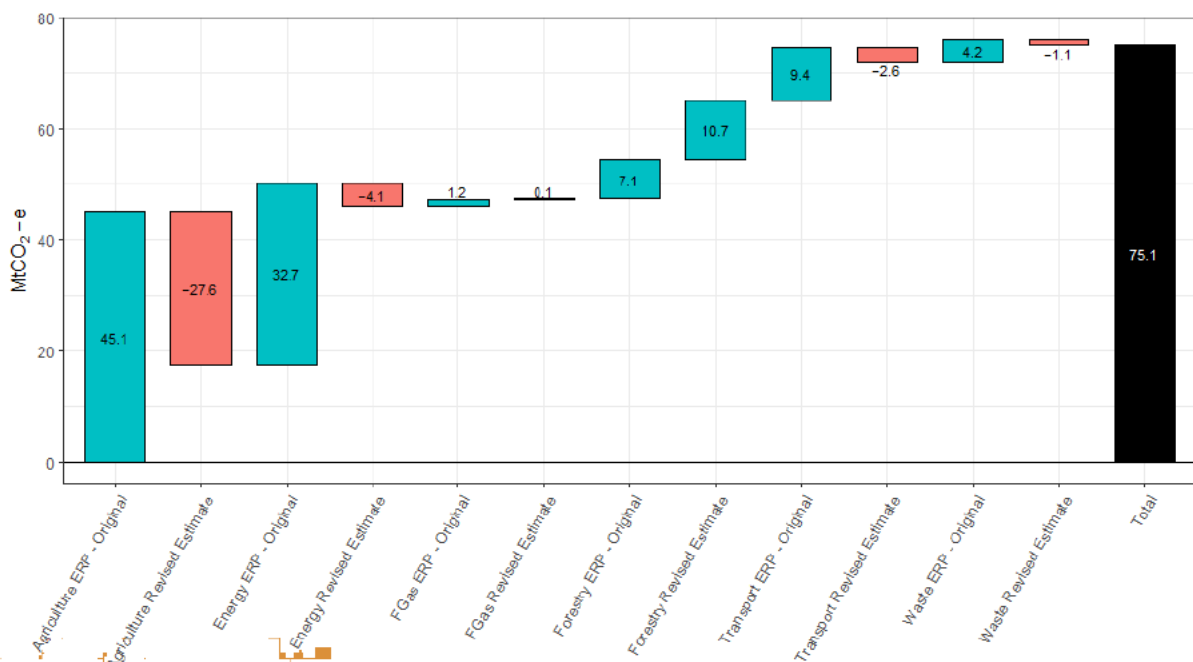


Chart 5: Estimated Emissions Abatement Changes for EB3



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s 9(2)(h)

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Section 3: Additional abatement opportunities to meet EB1

43. CRMG asked officials to provide further information on potential options that could provide additional abatement in EB1, in particular s 9(2)(f)(iv) [Redacted]

44. The emissions abatement projections for meeting EB1 fall within the range of uncertainty and there are no additional options to s 9(2)(f)(iv) [Redacted]. Given this and combined with the uncertainty around emissions projections, the Board's advice is to maintain a tight focus on implementing the remaining ERP1 measures to their full effect. Doing so will also support the significant adjustments and deeper emissions reductions required for future emissions budgets.

s 9(2)(f)(iv) [Redacted]

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Role of the NZ ETS for further abatement in EB1

- 56. Reducing the level of NZU supply could be achieved by reducing the volume of auction supply. One option is to add the reduced auction volume to the cost containment reserve (CCR). In this case, the volume would be released if auction prices were high. Alternatively, the auction volume could be removed from the total available supply. This would require sectors covered by the ETS to do more work to reduce emissions. In both cases, the option would be more effective if the CCR trigger price was increased at the same time so that the supply of CCR volumes was less likely.
- 57. The current NZ ETS settings, including auction volumes for 2024 and 2025 and auction price controls, are being consulted on with policy decisions expected on 3 August 2023. The consultation includes options to increase auction price controls in line with the recommendation of the Commission. Reducing auction volumes without adding these volumes to the CCR is not an option being consulted on. Reducing auction volumes will also have an expected fiscal cost – auctioned volumes will fall, although this will be offset, to some extent at least, by a higher expected price per unit.
- 58. The impact of change to the ETS would be uncertain and likely to be minor in EB1 due to it being late in an EB period and in a context of a high stockpile. Emission reductions delivered by the ETS require investment certainty of high and rising prices, and have a time lag. ETS settings is a much more effective tool to achieve long-term emission reductions. To have any impact on EB1 the changes would need to be dramatic such as:

[REDACTED]

no further auctions in EB1, signalling that there will be no ongoing ceiling on ETS prices, and/or the Government becoming a significant purchaser of units.

59. Consequences would include pass through into higher household prices, possible business closures, a split from the Climate Change Commission's advice, and reduced regulatory certainty in the ETS.

Wider options for further abatement considered for further abatement

60. Officials provide further information on options for abatement in EB1 (discussed at CRMG meeting 11 April) at **Appendix 1**. Some are now funded through Budget '23, but the remainder are unlikely to offer abatement in EB1.

Next steps

61. The Board will continue to monitor progress across ERP1 actions and update you in the next six-monthly report, due with CRMG in August 2023.
62. MfE will lead separate advice to Ministers for consideration at the next CRMG meeting (26 July) about methodological change in the context of emissions budgets and the 2050 target more broadly.

63. s 9(2)(f)(iv)
- [REDACTED]
- [REDACTED]
- [REDACTED]

Appendix 1: Information on additional abatement options to meet EB1

Initiative description	Abatement confidence for EB1	Abatement cost	Complexity to implement	Trade-offs
<p>Tighten the ETS cap via:</p> <ol style="list-style-type: none"> Reducing the number of units supplied in the Government auctions Removing the cost containment reserve or increasing the ETS auction trigger price for the cost containment reserve 	<p>Low:</p> <ul style="list-style-type: none"> Some additional emission reduction possible but unlikely to reduce emissions materially in EB1 due to investment lag; any additional land use change to exotic forestry would not produce reductions fast enough. The cost containment reserve is a market price control mechanism, implemented through auctions. Removing it or increasing the ETS auction trigger price reduces the stockpile risk to meeting budgets (noting the CCR is not expected to be triggered under current settings). 	<p>Medium:</p> <ul style="list-style-type: none"> Likely to have some effect on market expectations of future prices, resulting in higher NZU prices in near term. 	<p>Low</p> <p>Can be implemented relatively quickly via annual ETS settings advice. Consultation already underway on ETS settings</p>	<p>Medium:</p> <p>Maybe some raising of NZU prices, although this will be mitigated significantly by the stockpile.</p> <p>Negative impact on regulatory certainty and confidence in the ETS settings.</p> <p>Not following Climate Change Commission advice.</p>
<p>Significant increases to fuel excise duty and road user charges</p>	<p>Low: No abatement estimate is available. The Ministry of Transport understands that road transport demand in New Zealand is relatively inelastic, or non-responsive, to price changes. Therefore, significant increases in fuel excise duty (FED) and road user charges (RUC) would be required to materially impact vehicle kilometres travelled (VKT). Empirical evidence shows that the predominant response to high fuel prices is for households to reduce other types of expenditure, particularly food, heating or other vehicle costs (inspections, oil changes, tyres). Wealthier households,</p>	<p>High: High direct cost on households and businesses. Higher freight costs could pose a significant burden on households. We understand that the road transport industry is highly competitive, and as a result, any increase in freight costs (including arising from RUC increases) tends to be passed on to consumers,</p>	<p>Medium: From a legislative standpoint, implementing increases could be relatively straightforward. However, it would represent a significant shift in policy. Currently, the rates for Fuel Excise Duty (FED) and Road User Charges (RUC) are designed to achieve a revenue target for planned transport investments. These</p>	<p>High: This initiative would have significant cost of living impacts. Implementing this ahead of increases in public transport and active mode infrastructure and/or services mean that those with limited options for travel modes would be significantly</p>



Initiative description	Abatement confidence for EB1	Abatement cost	Complexity to implement	Trade-offs
	<p>on the other hand, often opt to transition to more fuel-efficient vehicles. Scenario-based modelling suggested that the 25 cent per litre reduction in petrol excise duty (set to end on 30 June) could result in an increase in VKT by 1-2 per cent. However, the accuracy of this modelling is uncertain. Furthermore, the overall pressure on household budgets might offset any increase in travel distances.</p>	<p>especially when internal cost-saving measures are not feasible.</p>	<p>rates are not set with the explicit goal of reducing emissions. Likely to be real challenges related to communication and public acceptance as observed overseas.</p>	<p>disadvantaged which would likely lead to substantial equity impacts.</p>
<p>[Redacted]</p>	<p>s 9(2)(f)(iv) [Redacted]</p>	<p>[Redacted]</p>	<p>s 9(2)(f)(iv) [Redacted]</p>	<p>s 9(2)(f)(iv) [Redacted]</p>
<p>s 9(2)(f)(iv) [Redacted]</p>	<p>s 9(2)(f)(iv) [Redacted]</p>	<p>[Redacted]</p>	<p>[Redacted]</p>	<p>[Redacted]</p>



[Redacted]

Initiative description	Abatement confidence for EB1	Abatement cost	Complexity to implement	Trade-offs
			s 9(2)(f)(iv) [Redacted]	[Redacted]
s 9(2)(f)(iv) [Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]

[Redacted]



Appendix 2: Slides to support CRMG discussion on 31 May 2023

– See attached –



Appendix 3: Information on the uncertainty for emissions projections

The updating of abatement estimates has been a rapid cross-agency exercise. As such, data has undergone peer review to the extent possible but is subject further quality assurance including work on uncertainties.

The data presented are the “best available information” but come with the following caveats:

- a. The latest emissions inventories incorporate the effect of methodological changes, which reflect improvements to how we measure and project GHG emissions.
- b. This is a provisional update only and should only be used to gauge the impact of including the latest Inventory activity data. A complete update will occur near the end of 2023.
- c. All emissions abatement estimates use AR5 conversion factors.
- d. Methodological Impacts refers to “changes in knowledge” and how emissions are measured rather than policy impacts.
- e. We have attempted to ensure the quality of the data and insights presented, however there are some gaps in the quality assurance process for this exercise due to the size of this task and the short delivery timeframe.
- f. There is considerable uncertainty in our abatement estimates and further work is needed to understand uncertainties and abatement bands (high and low estimates).
- g. Estimates assume ETS prices used in the Dec 22 projections run (e.g., a carbon price of \$64 in 2025), and do not incorporate impacts of the ETS review or recent ETS price changes.

These slides accompany Briefing Note BRF-3315, prepared by the Climate Change Chief Executives Board for CRMG, to support its discussion on 31 May 2023

These slides provide:


- 1. Updated information to assess whether we are on track to meet the first emissions budgets.**
- 2. Analysis on additional policy options to deliver abatement, in particular the request from Ministers to examine additional options s 9(2)(f)(iv) .**

Summary and recommendations

Are we on track to achieve emissions budgets?

1. Methodological changes to calculation of New Zealand's baseline emissions mean that **emissions are projected to land within the EB1 limit of 290Mt.**
2. Without the impact of these methodological changes to our emissions baseline, we currently estimate a 1.5Mt shortfall in abatement for EB1.
3. There are a range of **risks from relying on these changes in baseline methodology to meet emissions budgets**, including that future changes may have reverse effects; that any associated less effort to reduce emissions now increases the task in future budgets; and that there is significant uncertainty around the projections.
4. **The trajectory for achieving EB2 and EB3 is also estimated to be more difficult.** Agencies have collectively downgraded projections for policy impacts across these periods. While estimates suggest we are still broadly on track to meet them, much of the previously-projected overachievement has gone. There is also a very high degree of uncertainty around these numbers.
5. MfE will lead advice to Ministers in July about how to manage methodological change in the context of emissions budgets and the 2050 target more broadly.

s 9(2)(h)

A large section of the document is redacted with grey bars. The redaction covers approximately four lines of text, starting from the 's 9(2)(h)' label and extending across the width of the page.

Recommended next steps

7. Officials have investigated a range of options to increase abatement in EB1. Reducing NZ ETS auction volumes as part of the annual process has been identified as the only viable option, but would only have a minor if any impact on EB1 due to lags in investment decisions and the small impact on price due to the stockpile of units. The appropriate vehicle for considering NZ ETS settings is through the current review which will set 2024-2028 auction volumes and price controls.
8. The Board does not recommend adding further initiatives to ERP1. Instead, a tight focus is needed on implementing the remaining ERP1 measures to full effect, to support emissions reductions required now and in future emissions budgets, reflecting:
 - The high degree of uncertainty with emissions projections, including they are not able to include many ERP actions.
 - The range of significant risks and trade-offs that come with the additional options identified in slides 5-6
 - That adding additional policies now to ERP1 would reduce effort and resources available to focus on delivering the current initiatives and developing the foundations for ERP2 and beyond where deeper emissions cuts are required.

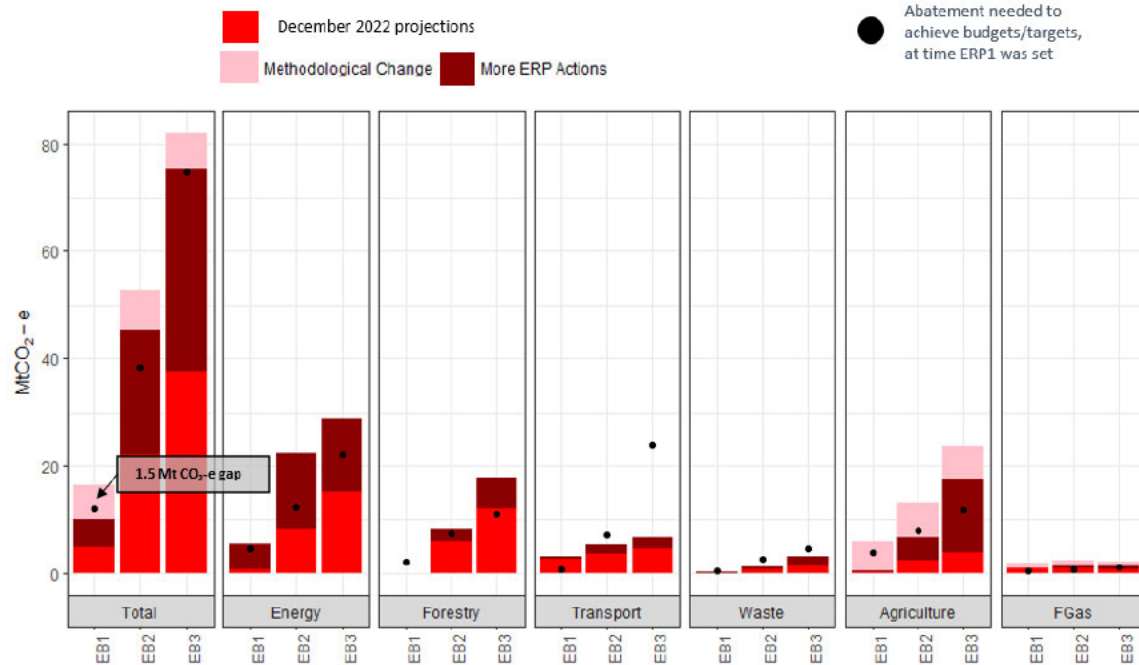
Updated emissions estimates

Three key factors affect whether we achieve our emissions budgets: how we measure actual emissions (methodology), external factors (e.g., economic conditions, oil prices, behaviour), and policy changes designed to reduce emissions (ERP1). The charts show our current estimates of abatement that can be achieved for EB1-3, with and without the impacts of recent methodological changes. They respond to CRMG's request by including the impact of more ERP policies (brown), compared to the previous projections (red).

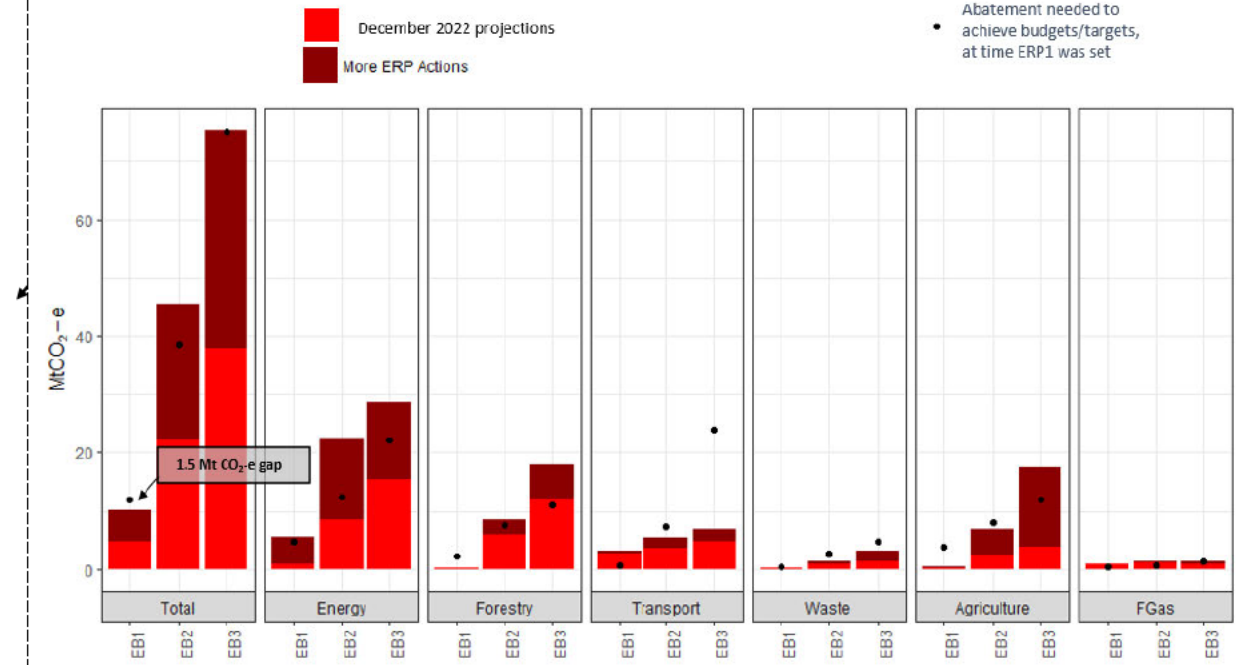
Key messages:

- Methodological changes to baseline emissions mean that emissions are projected to land within the EB1 limit of 290Mt.
- Without these methodological changes to baseline emissions, achieving the abatement necessary for EB1 remains finely balanced with a 1.5Mt shortfall but within the range of uncertainty around these projections.
- The details of how abatement estimates have changed within sectors across EB1 is shown at slide 7

Aggregated Emissions Abatement Estimates Across Budgets (with methodological change)



Aggregated Emissions Abatement Estimates Across Budgets (without methodological change)



Note:

- Data includes expected abatement impacts from Electric Arc Furnace at NZ Steel's Glenbrook mill
- Caveats and risks to these projections are set out in the accompanying Briefing Note

Additional abatement options for EB1

CRMG directed officials to provide further information on potential options that could provide additional abatement in EB1.

Speeding up abatement from GIDI

- Materially increasing EB1 reductions from GIDI is not feasible, due to the lengthy timeframes required to deliver GIDI projects, and global and domestic constraints (e.g., inflationary pressures, labour shortages) which are putting pressure on delivering existing and any new GIDI initiatives
- s 9(2)(f)(iv)

Wider options for abatement in EB1

- The following slides set out further information on wider options for abatement in EB1 that have previously been provided to CRMG.
- Reducing NZ ETS auction volumes as part of the annual process has been identified as the only viable option, but would only have a minor if any impact on EB1 due to lags in investment decisions and the small impact on price due to the stockpile of units. This not recommended due to the impacts on regulatory certainty and overriding the role of the Commissions advice.

Abatement options to meet EB1

Initiative description	Abatement confidence for EB1	Abatement cost	Complexity to implement	Tradeoffs
<p>Reducing ETS auction volumes:</p> <ol style="list-style-type: none"> Reducing the number of units supplied in the Government auctions Removing the cost containment reserve or increasing the ETS auction trigger price for the cost containment reserve 	<p>Low:</p> <ol style="list-style-type: none"> Some additional emission reduction possible but unlikely to reduce emissions materially in EB1 due to investment lag; any additional land use change to exotic forestry would not produce reductions fast enough. The cost containment reserve is a market price control mechanism, implemented through auctions. Removing it or increasing the ETS auction trigger price reduces the stockpile risk to meeting budgets (noting the CCR is not expected to be triggered under current settings). 	<p>Medium:</p> <p>Likely to have some effect on market expectations of future prices, resulting in higher NZU prices in near term.</p>	<p>Low:</p> <p>Can be implemented quickly via annual ETS settings advice. Consultation already underway on ETS settings</p>	<p>Medium:</p> <p>Maybe some raising of NZU prices, although this will be mitigated significantly by the stockpile.</p> <p>Negative impact on regulatory certainty and confidence in the ETS settings.</p> <p>Not following Climate Change Commission advice.</p>
<p>Significant increases to fuel excise duty and road user charges</p>	<p>Low: No abatement estimate is available. Road transport demand in NZ is relatively non-responsive to price changes. Therefore, significant increases in charges and duties would be required to materially impact vehicle kilometres travelled (VKT).</p> <p>Evidence shows the main response to high fuel prices is for households to reduce other types of expenditure, particularly food, heating or other vehicle costs.</p> <p>Wealthier households often opt to transition to more fuel-efficient vehicles.</p> <p>Scenario modelling suggested the current 25 cent per litre reduction in petrol excise duty could result in an increase in VKT by 1-2%. However, the accuracy of this modelling is uncertain. Furthermore, the overall pressure on household budgets might offset any increase in travel distances.</p>	<p>High: High direct cost on households and businesses. Higher freight costs could pose a significant burden on households.</p>	<p>Medium: From a legislative standpoint, implementing increases could be relatively straightforward.</p> <p>However, it would represent a significant shift in policy. Currently, these transport revenues are designed to achieve a target for planned transport investments, and rates are not set with the explicit goal of reducing emissions.</p> <p>Likely to be real challenges related to communication and public acceptance as observed overseas.</p>	<p>High: This initiative would have significant cost of living impacts. Implementing this ahead of increases in public transport and active mode infrastructure and/or services mean that those with limited options for travel modes would be significantly disadvantaged which would likely lead to substantial equity impacts.</p>
	<p>s 9(2)(f)(iv)</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>

Abatement options to meet EB1 continued

Initiative description	Abatement confidence for EB1	Abatement cost	Complexity to implement	Tradeoffs
<p>[Redacted]</p>	<p>[Redacted]</p>	<p>[Redacted]</p>	<p>[Redacted]</p>	<p>[Redacted]</p>
<p>[Redacted]</p>	<p>[Redacted]</p>	<p>[Redacted]</p>	<p>[Redacted]</p>	<p>[Redacted]</p>
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Key changes in EB1 abatement estimates

This chart shows the net effect on abatement from changes in assumptions about policy effectiveness and projections. It excludes the impacts of methodological change.

- Agriculture abatement estimates have been revised downwards in EB1 due to revised assumptions around the cost effectiveness and adoption rate of on-farm mitigation technologies.
- Energy Policy estimates have been revised downwards from the original forecasts primarily to account for:
 - The speed of project delivery has been slower than originally expected due to the global energy crisis, supply chain delays, and worsening economic conditions,
 - Emissions impacts of large emitter partnerships will take longer to implement than originally allowed for, and
 - The Equipment Replacement Scheme has taken longer to implement than originally allowed for. Note that in this modelling the reductions in the forecasts are not completely lost, they are delayed and now fall outside the first three Emissions Budgets (i.e., the reductions will still happen, but later than originally anticipated).
- Transport estimates for emissions reductions compared to ERP baseline have increased due to quantified policy impacts (e.g., the success of the Clean Car Discount), the impact of non-quantified policy and macro settings (e.g., GDP, oil price, etc.).

Note: The briefing note provides similar information for EB2 and EB3 abatement estimates

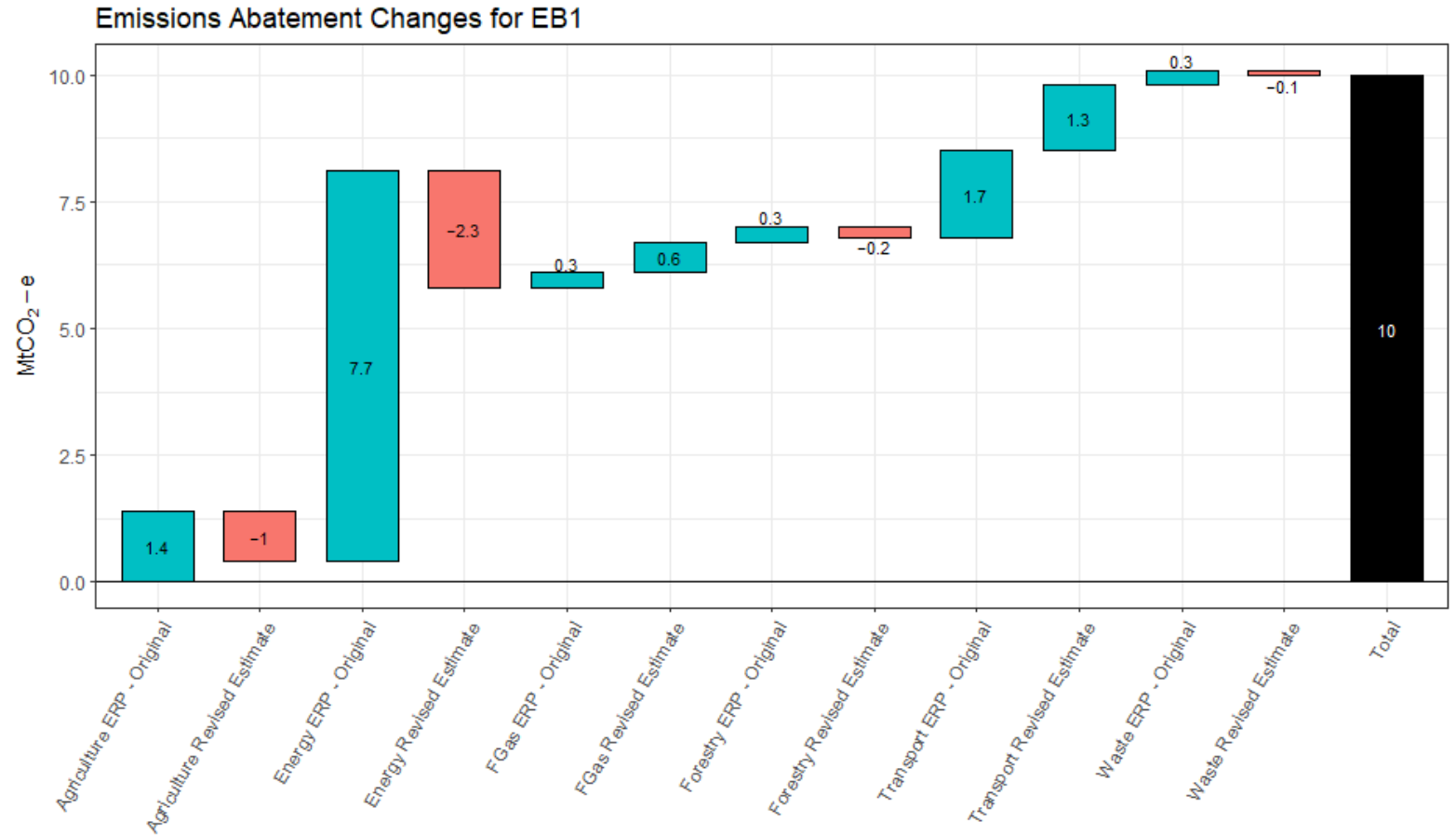


Chart note: bars for each sector are additive. E.g. revised abatement estimate for agriculture is $1.4 - 1 = 0.4$ Mt

s 9(2)(h)

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