He Pou a Rangi
Climate Change Commission

Ref: OIA 2022-024

[redacted]

1 February 2023

Tēnā koe [redacted]

Thank you for your email of 30 November 2022 requesting under the Official Information Act 1982 (the Act):

> *"... all reports used by the Commission to inform its economic modelling since 1 Jan this year. For each report, please tell me whether it was used, or disregarded.*
>
> *In particular, I want any advice from "Sense Partners" – please provide the advice and detail how the advice was incorporated into your agency's economic modelling and advice to the Government".*

On 17 January 2022, the Commission advised it required an extension of the timeframe to provide you with a comprehensive response to your request. This timeframe was necessary to allow for consultation on material within scope of your response in accordance with Section 15(1)(A)(b) of the Act.

Before responding to your request, we wish to clarify our interpretation of *"reports"* as meaning written documents accessible to the Commission either from public sources or through contractual arrangements.

In May 2022, we provided Ministers with our advice on what financial assistance (if any) should be provided to farmers participating in a farm-level emissions pricing scheme, and how assistance fits in with the proposals set out by He Waka Eke Noa. As part of this work, we consulted Lincoln and Massey universities to provide analysis of aspects of the project. We consider their feedback to be within scope of your request for *"reports used by the Commission to inform its economic modelling"*.

These documents, related to our subsequent report: *Advice on Agricultural Assistance: How financial assistance could support Aotearoa New Zealand's agricultural emissions pricing system*, are publicly available on our website, as well as a copy of the full report and additional technical annexes, at: www.climatecommission.govt.nz/our-work/advice-to-government-topic/agricultural-emissions/agricultural-assistance/agricultural-assistance-supplementary-documents/

In July 2022, the Commission provided the Minister of Climate Change with our first advice on updating the New Zealand Emissions Trading Scheme (NZ ETS) unit limits and price control settings for the next five

years. As part of this work, we commissioned two external specialists to review the analytical approach we had used. Both reviewers provided us with reports which we also deem within scope of your request.

The first report by Tim Denne: *"ETS Price Control Mechanisms: a Review of Issues"* is already publicly available and can be found on our website, at: www.climatecommission.govt.nz/our-work/advice-to-government-topic/nz-ets/our-advice-on-the-nz-ets/nz-ets-unit-limits-and-price-control-settings-for-2023-2027/technical-annexes-and-supplementary-documents-advice-on-nz-ets-unit-limits-and-price-control-settings-for-2023-2027/

The second report by Dr Geoffrey Dolphin: *"Review of the advice by the New Zealand Commission on Climate Change to the New Zealand government on the settings of the Emissions Trading System for the period 2023-2027"* was not published at that time. It is therefore enclosed in full as Document 1.

Further, as part of the evidence considered for the advice on NZ ETS unit limits and price control settings for 2023-2027, the Treasury undertook analysis for the Commission on the distributional impacts of emissions pricing using its microsimulation model of the tax and welfare system (the TAWA model). Again, this material is publicly available on our website using the link above, under the supplementary documentation and technical annexes tabs.

Regarding whether reports were *"used or discarded"*, the Commission does not hold a record of decisions in relation to whether or not reports were used or discarded. As such, we are refusing this aspect of your request under Section 18(e) of the Act because the information requested does not exist.

In response to the final part of your request, no advice from Sense Partners exists within the timeframe specified. However, Sense Partner's March 2021 submission to *Ināia Tonu Nei* was considered as part of our analysis process when forming our final advice. A copy of Sense Partner's submission is publicly available on the Commission's website, at: www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaia-tonu-nei-a-low-emissions-future-for-aotearoa/submissions/organisation-submissions/

You have the right to seek an investigation and review of this response by the Office of the Ombudsman, in accordance with section 28(3) of the Act. The relevant details can be found on their website at: www.ombudsman.parliament.nz

Please note that the Commission has a policy of proactive release of responses to requests made under the Act to help others have access to more information. As a result, this letter will shortly be published on the website with your name and contact details redacted to protect your privacy.

Ngā mihi

Grant Blackwell
Chief Science Advisor
Climate Change Commission

Review of the advice by the New Zealand Commission on Climate Change to the New Zealand government on the settings of the Emissions Trading System for the period 2023-2027

Dr. Geoffroy Dolphin

On May 10, 2022, the New Zealand Climate Change Commission contacted me to request an external review of the draft conclusions contained in its advice to the government of New Zealand on the settings of the New Zealand Emissions Trading System. I accepted this request and provided my review through a series of conversations and written exchanges. This document reflects the content of these exchanges.

I start by providing a summary of the context of the Commission's advice and the issues considered as part of this advice. I then provide detailed comments on the review of each of these issues.

Context

The Climate Change Response (Zero Carbon) Amendment Act 2019 established the Climate Change Commission (hereafter, the Commission) as an independent entity to provide expert advice on how to meet legislated emissions targets and how to adapt to climate change. Since 2020, the Commission is also responsible for advising the government on the unit limits and price control settings for the New Zealand Emissions Trading Scheme (ETS).[1]

In 2022, this advice is being given on the yearly settings of the ETS that to be applied in years 2023 through 2027. The Commission is due to provide advice to the Minister for Climate Change on these settings by July 15th, 2022. The key issues considered in the advice are:

1. The determination of New Zealand Unit (NZU) volume limits.
2. The reduction profile (i.e., rate) of surplus units (i.e., the stockpile).
3. The settings of the price control mechanisms. Specifically, the
   3.1. volume and trigger price levels of the Cost Containment Reserve (CCR)
   3.2. Auction Reserve Price (ARP)
4. NZU price path guidance

Detailed comments

1. Determination of NZU volume limits

As part of this advice, three NZU volume limits are being considered:

(i) a limit on the total volume of units to be auctioned into the New Zealand ETS.
(ii) a limit on approved international units that can be used within the scheme.
(iii) an overall limit on units including forecast units available by other means.

The setting of these limits is guided by two considerations. First, New Zealand's domestic and international emissions reduction commitments (i.e., emissions budget(s) and 2050 commitments, Nationally Determined Contribution (NDC) under the Paris Agreement). Second, the split of emissions reduction between sectors covered by the New Zealand ETS and those outside the ETS.

[1] See the Climate Change Response (Emissions Trading Reform) Amendment Bill.

Issue 1a: overall volume limit on NZUs

Advice: The Commission's advice is to:

a. align overall (cumulative) NZU volume with the ETS share of the emissions budget set out by the Government.[2]
b. achieve the remaining emissions reduction needed to meet New Zealand's NDC target through offshore reductions.

Review:

The emissions reduction (through 2030) needed to meet the emissions target contained New Zealand's NDC are larger than those required to meet its emissions budget. Specifically, emissions budgets currently deliver approximately 100Mt less emissions reduction than required by New Zealand's NDC.

I note that achieving all emissions reduction required to meet NZ NDC through domestic emissions reduction would provide stronger guarantees that the NDC target will be met. This is in part due to the absence of institutional arrangements to provide access to offshore emissions reduction at present.

However, the Commission's analysis provides robust evidence that achieving emissions reductions commensurate with the NDC target through domestic reductions only would place a large cost on the New Zealand economy. Such a cost is not warranted in light of the global and domestic benefits that the related emissions reduction would bring.[3]

Issue 1b: Volume of NZUs *planned* to be sold at scheduled auctions

Advice: Determine the volume of NZU to be *planned* to be sold at scheduled auctions such that, within each year, the [overall volume] of NZUs available is consistent with (i) the NZ ETS cap and (ii) the stockpile reduction schedule.[4]

The Commission's approach to determining the auction volume is as follows:

$$NZU_{planned} = \text{NZ ETS cap} - NZU_{other} - NZU_{stockpile} - NZU_{overseas}$$

where NZU_{other} indicates the estimated volume of NZUs available by other means (industrial allocation), $NZU_{stockpile}$ is the volume of NZUs to be withheld from the market as per the stockpile reduction schedule and $NZU_{overseas}$ is the volume of overseas units available.[5]

[2] Under current advice, there is a possibility that the overall limit exceeds the emissions budget. This is due to (i) uncertainty surrounding the final volume of NZUs from industrial allocation in any given year and (ii) the proposed settings of the Cost Containment Reserve. If this were to occur, measures to achieve additional "offsetting" emissions reduction outside the ETS would have to be implemented. For further details, see section on issue 3a below.

[3] This assessment is based on existing knowledge about the cost of emissions reduction opportunities available to the New Zealand economy through 2030.

[4] The stockpile reduction schedule is discussed below. See issue 2.

[5] In addition, the Commission also subtracts a volume of allowances to account for discrepancies resulting from methodological differences between the calculation of GHG emissions in New Zealand's emissions' inventory and in the NZ ETS registry. There are currently no overseas units approved for use in the NZ ETS.

Review:

The volume of NZUs available through scheduled auctions must be consistent with the NZ ETS cap, given the volume of NZUs available by other means and the intended reduction in the stockpile of NZUs. The approach recommended by the Commission to set the volume of NZUs sold at scheduled auctions takes both of these constraints into account.

Together with the settings of the Cost Containment Reserve (see section 3), this ensures that market participants will gradually exhaust the stockpile of NZUs, ensuring that the New Zealand emissions budget will be met.

Nevertheless, it is worth noting that, under proposed arrangements, the NZ ETS cap can be breached in any given year if either "end-of-year" revisions to industrial allocation are significant and/or if the estimation (by the Commission) of NZUs allocated to industrial emitters was substantially below actual allocation.

The multi-year nature of the setting of the NZ ETS settings offers the possibility that *cumulative* NZU volumes remain within the *cumulative* NZ ETS cap. Indeed, the Commission could recommend downward adjustments to future auction volumes in case the volume of units granted under industrial allocation provisions causes the overall cap to be breached in any given year.

I note that if the NZ ETS cap were to be breached several years in a row, this would be the indication of structural barriers to the reduction of emissions, which would likely trigger a revision to New Zealand's emissions reduction strategy.

Issue 1c: Allocation of the total (i.e., economy-wide) emissions budget to NZ ETS and non-NZ ETS sectors

Advice: The Commission recommends splitting the emissions budget according to a fixed share of the total budget.

Review:

The proposed revision to the existing allocation method constitutes an improvement with regard to the fairness of the distribution of emissions reduction across NZ economic sectors: it ensures that all sectors of the NZ economy, including agriculture, will provide emissions reductions. Moreover, it accounts for the fact that reductions in emissions of biogenic methane must be achieved by sectors that are currently not within the scope of the NZ ETS.

This proposed change may also lead to an improvement in the cost of meeting the New Zealand's emission reduction targets. However, this is dependent on the distribution of the cost of abatement across economic sectors.

2. Stockpile (i.e., banked) units reduction profile

Issue 2: Estimation of the stockpile and schedule of stockpile reduction

Advice: the stockpile should be reduced according to a fixed percentage of the yearly NZ ETS cap. The percentage of the cap is calculated as the ratio of estimated stockpile over the cumulative NZ ETS cap over the years of stockpile reduction.

Review:

The existence of a significant stockpile of NZUs creates the possibility that, should the volume of NZUs to be sold at scheduled auctions be set at the level of the NZ ETS cap (minus the volume of NZUs available by other means), entities covered by the NZ ETS could emit more than the emissions budget for the years 2023-2027. Consequently, the Commission is recommending a volume reduction schedule and accounting for it in its determination of the volume of NZUs to be sold at scheduled auctions (see previous section).

The stockpile estimated by the Commission is slightly smaller than the previous estimation (49 million units vs. 54 million units as previously estimated). The Commission recommends that the yearly volume of NZUs to be withheld from auction as part of the stockpile reduction schedule be determined as a "constant proportion" of the NZ ETS cap. As a result, the volume of NZUs withheld from the market in the years through 2027 will be larger than the status quo, and smaller thereafter.

I note the that the approach taken by the Commission to establish the stockpile reduction schedule strikes a balance between the need for reduction of the stockpile and the need to ensure the liquidity of the market by providing sufficient NZU volume.

3. Price control settings

Issue 3a: Volumes and trigger price(s) of the Cost Containment Reserve

Advice: The Commission recommends establishing a two-tier Cost Containment Reserve. The volumes to be placed in the CCR, are:

- Tier 1: a volume equivalent to 36% of the stockpile reduction volume,
- Tier 2: a volume equivalent to 64% of the stockpile reduction volume

Review:

The settings of the Cost Containment Reserve should be set with regard to the estimated NZU price path implied by the target cumulative emissions budget. Specifically, in order to not interfere with the price formation process in the New Zealand ETS, it should be set at a level above the expected NZU equilibrium price.[6]

Modelling undertaken by the Commission and aimed at estimating that price suggests that under a most unfavorable scenario (high baseline emissions and high emissions reduction cost), the marginal abatement cost would reach approximately NZD250/tCO_2e in 2030. This is above current CCR trigger prices.

The Commission is therefore proposing a revision to the trigger prices associated with each tier. The revised CCR trigger prices are consistent with the estimated marginal abatement cost in 2030. This significantly reduce the probability that the CCR will be triggered, which is in line with the purpose of the CCR.

Until the stockpile of NZUs is exhausted, the volume of NZUs placed in the CCR are NZUs from *within* the yearly NZ ETS cap. Thus, if both tiers of the CCR were triggered and all associated NZUs were sold into the market, the stockpile would not be reduced. However, the two-tier structure of the CCR and the level of associated trigger prices recommended by the Commission make such a situation unlikely.

[6] This price is implied by the cumulative emissions target and the cost of emissions reduction options available to sectors covered by the NZ ETS.

Once the stockpile of NZUs is exhausted, the volume of NZUs placed in the CCR may be additional to the volume of NZUs corresponding to the NZ ETS cap (i.e., constitute NZU volumes *outside* the NZ ETS cap). To ensure that the volume of allowances remains within the NZ ETS cap even in the event where all NZUs from the CCR are sold, NZUs to be sold as part of the CCR mechanism could be "borrowed" from future years. For instance, California and Quebec populate their cost containment reserve by borrowing from future years (i.e., from under the cap) and from allowances unsold in auction (if clearing price below reserve price). Borrowing from within the cap would keep the NZ ETS "airtight" while addressing short-term demand – supply imbalances. In the context of the NZ ETS, this could be achieved by the Commission by reducing future years' NZU volumes to account for the volume provided in excess of the NZ ETS cap in earlier years.

Issue 3b: Settings of the Auction Reserve Price (ARP)

Advice: The Commission's recommendation is to set the ARP at NZD 70/tCO_2e in 2030, discounted back at 3%.

Review:

Implementing a price floor in emissions trading mechanisms can help ensure a minimum level of abatement, especially when there is a potential oversupply of emission allowances. To ensure that this minimum level of abatement is aligned with the emissions budget, the price floor must be set at a level consistent with the marginal abatement cost associated with that budget.

The proposed ARP schedule for years 2023-2027 brings it in line with the marginal abatement cost (MAC) estimated by the Commission with the ENZ model given the (gross) 2030 emissions budget.[7] It also presents the benefit of providing greater security with regard to undertaken abatement in light of potential oversupply of NZUs.

4. Price guidance

Issue 4: Desirable price path

Consideration: The Commission considered whether to provide a "desirable price path".

Review:

As part of the development of this advice, the Commission considered the possibility of providing information on a "desirable price path", i.e., a path of prices consistent with the NZ ETS cap. This raises the question of the implications of information provision by the Commission to participants in the NZ ETS and the public.

A first observation is that providing information about the likely path of the emission allowance price helps demonstrate the consistency of the Commission analysis. In particular, it shows that the structure of Marginal Abatement Cost in the NZ ETS sectors makes it unlikely that the price of NZUs would reach the auction reserve price or trigger prices of the CCR recommended by the Commission.

[7] Specifically, it is in line with the marginal abatement cost estimated under the optimistic scenario of abatement costs and baseline emissions.

A second observation is that providing information on the price path may help anchor market participant's expectations. This has potential benefits as aligning expectations with the long-term emission reduction goal affect firms' and households' investment decisions which, in turn, are instrumental to future changes in capital stock and operations enabling emissions reduction.

However, it must be emphasized that these aspects should be carefully weighed against the possibility that participants in the NZ ETS misconstrue the information provided. Specifically, any price information provided by the Commission should *not* be understood as a forecast of NZU prices. Given the recent institutional developments in the NZ ETS and the fact that the price information would be provided under the label "desirable" may make such misinterpretation more likely.