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POWERING A BETTER NEW ZEALAND TOGETHER

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Climate Change Commission

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Submission on Climate Change Consultations 2024

Introduction

1. Energy Resources Aotearoa is New Zealand's peak energy sector advocacy organisation. Our purpose is to enable constructive collaboration across the energy sector through and beyond New Zealand's transition to net zero carbon emissions in 2050.

2. This document constitutes our submission on your three concurrent consultations which we address in turn, as numbered below:

   a) draft advice on New Zealand's fourth emissions budget (2036-2040);

   b) a review on whether emissions from international shipping and aviation should be included in the 2050 target; and

   c) a review of the 2050 emissions reduction target.

Submission

Overarching feedback

3. New Zealand is again faced with choices about whether to do more, go harder and faster on 'climate action' or take the steady and practical approach that has already been laid out in legislation. For reasons outlined below, we believe the latter approach is by far the best for producing the needed outcomes for all New Zealanders, and the planet.

4. The good news is New Zealand's emissions are coming down. With Greenhouse Gas (GHG) reductions being achieved earlier than anticipated by the Commission, we see there is an opportunity to reimagine and collectively curate the optimal pathway towards net zero by 2050, and beyond. The pathway should be economy-wide, least-cost, and encouraging of innovation.

5. When we say 'least cost' we don't simply mean lowest financial cost or lowest quality, we mean the pathway that incurs the lowest cost to New Zealand, and that will have a higher positive impact on community welfare. The optimal pathway will be based on sound cost-benefit analysis and the concept of utility function, which means prices include the wide ranging and subjective preferences of consumers.

6. Earlier than anticipated emissions reductions are nice to have if they can be achieved at least cost, but it is vital that the government can hold true to its coalition agreement statement to "ensure that climate change policies are aligned and do not undermine national energy security".

7. Also important are the concepts of affordability, economic growth, flexibility within stable settings, market-led responses, and no knee-jerk reactions.

8. We see the key risks to manage are **deindustrialisation** and **emissions leakage**, because those outcomes will only shift the problem and cause harm to New Zealand.

9. This is why we encourage the Commission to maintain a firm focus on global net zero emissions by 2050 in its advice. We do not agree with advice that calls for New Zealand to take stronger measures or more radical 'climate action' than what is needed to get to the 2050 target while stepping down net emissions in line with the budgets.

a) Draft advice on New Zealand's fourth emissions budget (2036-2040)

10. Emissions budgets represent the total allowable net GHG emissions across a five-year period. The Commission proposes that the Government set the fourth emissions budget at 134 MtCO2e (total for 2036-40) and 26.8 MtCO2e (annual average) for that period.

Opportunities to reduce and remove emissions in the energy sector

11. By in large we agree with the assumptions made by the Commission and the opportunities identified to reduce emissions. We note a few areas below where we think the assumptions are too hopeful or missing key information or technologies.

Natural gas

12. The Commission recognises the massive growth required in electricity generation to meet the growth in demand for energy but makes light of the importance of fossil fuels in securing the electricity sector over the coming decades. With current demand already going unmet the next ten years will be the most critical, but risks will continue into the future as the system becomes more volatile. Electrification also presents risks during the transition, but the

modelling does not appear to fairly account for the interactions between electricity and gas.

13. At a minimum we expect the Commission to recommend the Government encourage the exploration and development of indigenous petroleum resources and confirm how the forecast energy gap will be met. We also expect the Commission will recommend measures to support biogas. Having to rely on expensive gas imports, if this eventuates, will only increase energy costs for consumers and, assuming these imports have a higher emissions profile, will be counterproductive to climate change goals.

14. Energy policy of recent years disincentivised investment in gas and has made New Zealand's energy system more vulnerable to price volatility and extreme weather events, which will increase with climate warming. More exploration and investment in indigenous gas is preferable to inferior imports and supports a diverse, affordable and secure energy system that underpins the achievement of our climate goals while keeping the lights on and the economy running.

Carbon Capture and Storage

15. The Commission assumes geothermal would play a significant role in the EB4 demonstration path because of the proven success of using carbon capture technology in geothermal plants. However, the Commission does not assume that either CCS, or what it has incorrectly labelled as 'carbon dioxide removals', for natural gas would be required to achieve the proposed EB4.[1]

16. In its 2023 New Zealand country report, the IEA expressly noted the application of carbon capture, utilisation, and storage for major gas users would be consistent with the government's climate policy.[2] Further, it was recommended the government could investigate the coupling of CCUS technology with gas fired generation to provide grid flexibility, particularly in the dry-year scenario.

17. The view formed in the country report by the IEA echoes growing international recognition of the need for CCUS to support decarbonisation efforts. This view is demonstrated (for example) in the commitments from the British and Australian governments.[3]

18. We think **all** CCS technologies should be considered equally for their ability to reduce carbon emissions (rather than be classified as a removal technology) and that their potential to reduce emissions from natural gas plants should be included as an opportunity, not just from geothermal plants.

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1 Note that CCUS ***is not*** an offset or removal, rather it is an abatement technology that eliminates emissions before they enter the atmosphere.

2 See page 140 of the IEA New Zealand 2023 Energy Policy Review, available at: https://www.iea.org/reports/new-zealand-2023

3 Statements from the British and Australian governments on the necessity of CCUS to achieve their decarbonisation commitments are available here and here respectively.

Opportunities to reduce and remove emissions in the transport sector

19. Again, we largely agree with the assumptions and opportunities identified by the Commission, however we think they make heroic assumptions about the contribution of walking, cycling and public transport, and liquid biofuels.

20. Road transport is purported to be able to be completely decarbonised by 2050 through electrification and use of renewable fuels, but concerning is the Commission's statement that we need a rapid increase in electric vehicle (EV) sales so that nearly all vehicles entering the country are electric by 2035. Latest trends have seen a decline in EVs purchased, a slowdown in EV production, and hybrids gaining in popularity for New Zealand purchasers.

Reduction in passenger kilometres travelled

21. Ambitious reductions in kilometres travelled by light vehicles continue to feature in the Commission's modelling, with walking, cycling and public transport as important contributors to meeting emissions reduction targets.

22. We disagree that these activities could have such a significant impact on net emissions and will continue to advocate for New Zealanders to have choice in the ways they choose to travel. Private car travel will continue to be a practical choice for many New Zealanders.

Liquid fuels and biofuels

23. The Commission correctly identifies that there is a growing interest in biofuels to reduce emissions in jet fuel and diesel, and examples today where coal is being replaced by biomass pellets. However, the Commission seems to assume that biomass will be available soon and in large enough quantities to replace coal, diesel and gas, yet biomass is notoriously difficult to extract under current policy settings and market conditions.

24. The market will no doubt find ways to make value from forestry byproducts over time. However, to bring biomass to market at scale the regulatory environment needs standards to be created and harmonised for processed products and fuels, here and internationally, not to mention the considerable practical, economic, health and safety challenges to work through.

25. Sustainable Aviation Fuel (SAF) can be produced synthetically as e-SAF or as bio-SAF and both technologies should be considered for their emissions reducing capabilities. However, the Commission seems to have overlooked e-SAF in its discussions given it is not a 'biofuel'.

The EB4 demonstration pathway

26. We recommend that the Commission revise the demonstration pathway for the fourth emissions budget (EB4). This is because there are at least two very

important data sets that were not available or known to the Commission when the discussion documents were published. The Commission also based its modelling on the previous government's policies, which are now out of date.

Latest Greenhouse Gas Inventory Data

27. The modelling uses data cut off at 1 July 2023. We expect the Commission will update the modelling using the latest available data and the recently published annual Greenhouse Gas Inventory 1990-2022, which revealed New Zealand's GHG emissions had fallen by 4 per cent and were at the lowest level since 1999.

28. The Energy sector had the largest reductions, in part because of the closure of the refinery at Marsden Point, and lower emissions from road transport which can be attributed to the uptake of electric vehicles.

29. We expect the Commission will remodel the demonstration path with this new information, and other data sets and evaluation received through submissions. Refer to paragraph 34 (a) footnotes.

Latest Gas Supply Data

30. Of equal importance is the newly available data on gas supply which will need to be included in the final advice on the fourth emissions budget (EB4).

31. The Commission's own modelling indicates gas use out to 2050 and beyond. New Zealand's existing gas reserves will not be able to meet this demand, and it is unclear how this consumption shortfall will be met.

32. New Zealand's diminishing gas reserves base are a grave concern, and we are surprised to find no mention of the need for further exploration and investment to protect and add to our natural gas reserves.

Previous Government's Policies

33. A shortcoming of the modelling used to determine the demonstration pathway for EB4 is that it is based on the previous government's climate change policies, which blurred the objectives for climate policy across many other sectors and added objectives that have little to do with climate change.

34. While using familiar datasets from those policies may assist analysts to compare apples with apples, we think it strange to advise the new Government on a demonstration path based on policies that are not current nor sensitive to the mood of the new agenda (i.e., less interventionist, more weight on market solutions).

35. We are supportive of the Commission's sensitivity analysis which tested key uncertainties, such as changes in production for large industrial emitters, EV

costs, oil prices and waste diversion rates, uptake of low carbon liquid fuels and landfill gas capture coverage.

36. The Commission's EB4 demonstration path sees energy emissions reduce by 59% by 2040 compared to 2021. It is assumed that renewable energy would increase substantially to meet demand.

37. There are many uncertainties to grapple with. Critical areas for further analysis include:

    a) the urgent need to rebuild New Zealand's petroleum reserves to support the evolution of our energy system to a lower carbon energy mix;[4]

    b) the growing role of biogas;[5]

    c) biofuels considerations (such as feedstocks, competition for supply and standards);

    d) future projections for the vehicle fleet and realistic projections for fuel use in internal combustion engines (ICEs);[6] and

    e) the increase in vulnerability and volatility when electrifying everything, especially too fast, without building in redundancy.

b) A review on whether emissions from international shipping and aviation should be included in the 2050 target

38. We do not support including emissions from international shipping and aviation in the 2050 target.

39. New Zealand is a small island nation that accounts for a tiny fraction of the global sum of GHG emissions. Carbon being only one of the contributing gasses, our greatest impact on reducing emissions will come from agricultural advances and forestry removals.

40. Including emissions from international shipping and aviation would induce the need for costly administration and monitoring for no material gains in net emissions reductions. Not only would this be a poor way to prioritise the government's now lean resources, but would result in worse outcomes for global

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4 See recent reports by EY commissioned by the Gas Industry Company, available here: https://www.gasindustry.co.nz/assets/CoverDocument/Gas-Supply-and-Demand-Study-December-2023.pdf . Also, see MBIE's latest petroleum reserves data here: petroleum-reserves.xlsx (live.com)

5 See the recent report by Blunomy commissioned by Powerco, Clarus, and Ecogas, available here: The potential for biogas in Aotearoa (powerco.co.nz)

6 Note: there is no clear rationale for all ICEs maintaining a level purchase price point in the demonstration path while EVs, PHEVs and BEVs decrease over time. PHEVs and BEVs is allowed to come down over time. ICEs are likely to benefit from the same ongoing manufacturing/design innovation as BEVs and PHEVs. This is material because it appears to be the underpinning of the CCC's claim that EVs reach purchase price parity in 2032.

emissions, and large bills for international offsets incurring even more national debt. It would also:

a) increase anxiety about using these important transport modes for a nation that heavily relies on it for connections and trade, and increase prices; and

b) lead to the two biggest risks of deindustrialisation and emissions leakage.

41. We think the reputational risk is very low. We already meet our obligations under international treaties that have responsibility for these emissions:

a) the International Civil Aviation Organization (ICAO); and

b) the International Maritime Organisation (IMO).

c) A review of the 2050 emissions reduction target

42. We should not change the 2050 target.

43. The target is the 'guiding light' for the transition. Its purpose is to create an element of certainty and investment confidence. Changing the goal posts has a destabilising effect and can have negative chain reactions in multiple directions. It can potentially penalise 'first-movers' but also disincentivise early action if there is a threat of the target being constantly amended.

44. Resetting the 2050 target would not change the outcomes of what is already in place and keeping it 'as is' does not preclude earlier emissions reductions – which we support so long as such an outcome could be achieved at least cost and would not jeopardise national energy security.

45. We support the Commission's conclusion that bringing the target closer to today would be the only direction that could be considered. Moving the target further out should not be under consideration.

Conclusion

46. We appreciate the vast amount and high quality of work and analysis that has gone into these consultation documents.

47. These consultations have legislative mandates. However, consistency and predictability are core to achieving the investments needed to reach solutions to climate challenges and it is unhelpful that these reviews have coincided with, hopefully, the tail end to a period of great uncertainty for the energy and resources sectors. What is needed are stable and predictable policy settings that align with relevant sectoral policies, such as transport, environment, and primary industries. Leaving the 2050 target unchanged is the single most important outcome that could eventuate from these consultations.

48. We are happy to discuss any of the points raised in this submission if that would be helpful.