Generation Zero

Climate Change Commision 2021 report submission

March 2021

Contents

I started doing climate activism when a freak storm sent waves crashing into my childhood neighbourhood and knocked over my elderly neighbour in his living room. Climate change is above all lived experiences - those most impacted by the rising seas aren't lucky enough to have the privileges and resources our community had. Beyond the numbers and figures is the simple question of whether the CCC advice will honour these lived experiences and the indigenous wisdom that is essential for meaningful climate action. For the air we breathe, the water we drink, and the places we call home, we urge you to raise the ambition of the CCC report.

- Adam Currie, GZ member

I live in Ohawe, Taranaki. The shoreline is the New Zealand version of the White Cliffs of Dover - let's call them the Kōwhai Cliffs of Ohawe. They tower above the beach, but they also dramatically kamikaze drop onto the beach as well, clifftop first. The extent to which these cliffs are eroding is so intense that as locals, we don't even sit under them because the rocks come down that often. And yet, nothing is being done to stop it. The cliffs remain the fragile edge of dairy grazing paddocks without any tree-planting program or other nature-based solutions to keep us safe. I wonder if my home will be falling down into the waves before my grandkids ever get to play by the ocean where my whānau arrived from Hawaiki many moons ago.

- Alison Anitawaru Cole, GZ member

Summary and Key Reccomendations

1.The pace of change: Do you agree that the pace of change we have proposed would put Aotearoa on a path to meet the 2050 target?

We believe the pace of change is inadequate, as detailed throughout this submission and specifically in the ETS (page 23) and NDC (page 29) sections.

2. Future generations: Have we struck a fair balance between the action required of the current generation, and the action required of future generations to meet the 2050 target and beyond?

No; we believe there is too large a burden placed on future generations, as detailed throughout this submission.

3. Our contribution: Do you agree with the changes we have proposed to make the NDC more likely to be compatible with the 1.5°C goal?

We believe the changes should go much further to ensure our NDC is compatible with the 1.5°C goal, as detailed in the NDC section (page 29).

4. Role and types of forests: Do you agree with our approach to meet the 2050 target that prioritises growing new native forests to provide a long term store of carbon, and limits the amount of new exotic forestry needed to meet the 2050 target?

We haven't assessed the forestry advice, but in general we advocate for ambitious forestry policy that is consistent with the 1.5°C goal and is not a substitute for real emission reductions.

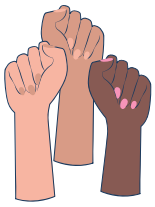
5. Policy priorities to reduce emissions: What are the most urgent policy actions needed to help meet our emissions budgets

Detailed throughout this submission.

6. Technology and behaviour change: Do you think our proposed emissions budgets and path to 2035 are both ambitious and achievable considering the potential for future behaviour and technology changes in the next 15 years?

No; we believe they lack ambition, as detailed throughout this submission.

Our key values that underscore this submission



Climate Justice

Climate justice must guide and permeate climate action.

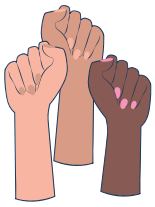
The effects of climate change will disproportionately negatively impact structurally oppressed or more vulnerable groups of people. Without a social justice lens, climate action has the potential to do the same. The benefits and costs of climate policies - and the ability to shape such policies - are not equally distributed across time, space, and social contexts: those who might suffer the most do not have as much power in shaping such policies. Various intersecting demographic facets such as ethnicity, gender, age, ability, socioeconomic status, sexuality, and more, can influence the impact of interventions (Abram & Pegram, 2020).

Climate action needs to centre equity throughout for a just transition, to ensure everyone has what they need to thrive; no one should get left behind. From the beginning we must ask ourselves questions regarding who has the privilege, and how we can share power:

- Who are the decision-makers shaping the questions and answers?
- Which groups are left behind?
- How do we ensure that everyone's interests and wellbeing are looked after, with everyone having a seat at the table?
- How do we honour everyone through seeking procedural, distributive, recognition and restorative justice throughout the transition?

More than just job creation, the particularities of such jobs - including security, access and education - require fine-tuning for a just transition. Inequality is growing in Aotearoa, and the Salvation Army's State of the Nation 2021 report suggests that inequality and some societal outcomes have been exacerbated by Covid 19.

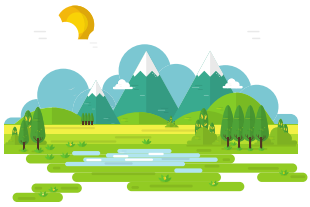
Our key values that underscore this submission



Climate Justice

Our transition to net-zero will not be credible nor sustainable if it creates or worsens social inequalities. A high level of care is required. Societal backlash against decarbonisation might occur if it is not considered just; buy-in could be facilitated through public debate and participation. Climate justice is required to create and cultivate the equity and solidarity needed to uphold a liveable planet and fairer society.

Our key values that underscore this submission



Te Tiriti

Whatungarongaro te tangata, toitū te whenua
As people disappear from sight, the land remains

Te Tiriti of Waitangi is a binding covenant that must be honoured. To uphold this kotahitanga, the articles of Te Tiriti - not the Treaty Principles - should be integrated throughout policy recommendations. The Treaty Principles should not dilute the guarantees and duties of Te Tiriti. It is important to acknowledge that Treaty Principles are concepts that have been developed in Pākehā Court and Tribunal settings to inform those forums of the terms of Te Tiriti. Significantly, historical and current Te Tiriti breaches have deeply contributed to the oppression and inherited social deprivation of tangata whenua. Movement forward must redress this and act towards reparation, equity, and significantly empowering tino rangatiratanga and ultimately mana motuhake.

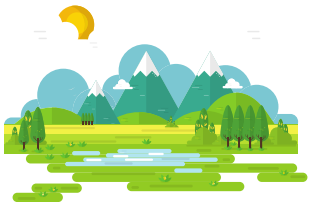
What honouring Te Tiriti of Waitangi looks like in a climate change context

1. Tangata whenua have unqualified exercise of rangatiratanga over their taonga - as outlined in Article Two of Te Tiriti o Waitangi - and should be supported by:

- Governmental compliance with binding best practices that require co-governance of land, water and air, led by whānau, hapū and iwi.
- Te Tiriti of Waitangi should be accorded full effect, through tangible implementations of the Matike Mai report recommendations, in partnership with whānau, hapū and iwi.
- It is essential that our approach to forestry considers how sovereignty will be returned to mana whenua to manage and protect the environment.

2. Tangata whenua resource management is imperative to equitable emissions reduction; this must be reflected in climate action.

Our key values that underscore this submission



Te Tiriti

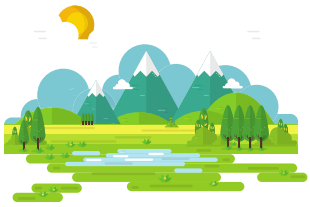
3. The tools and wisdom needed to achieve New Zealand's climate targets already exists. Tangata whenua in Aotearoa - and indigenous communities around the world - have the wisdom that could have prevented the climate crisis entirely. Now, this wisdom and mātauranga should be recognised and uplifted, as it can help navigate us through this crisis. In drawing on mātauranga Māori, we must follow the leadership of tangata whenua - the embodiment of kaitiakitanga - who are on the frontlines of climate impacts. In doing so, tangata tiriti must recognise Māori governance, ownership, access and sovereignty over mātauranga Māori.

4. We are bound together by the land, water and air. We must remember that we are Tane's pōtiki (youngest child); the rākau, manu and all living creatures of the forest are tuākana (elder) to us, the people. The natural world as tuākana and imbued with its own mauri demands respect and its right to a healthy and protected life.

5. Our actions in mitigating and adapting to climate change must also work towards repairing the historic oppression of frontline and vulnerable communities. This will mean positive government intervention to address inequities, by providing 'equality of access' as well as 'equality of outcomes' for deprived and vulnerable communities. Climate action, centering climate justice, presents an opportunity not only to care for the world, but also to care for our people by restoring social justice.

6. Climate issues are social justice issues which are most poignant for indigenous communities; those who have been structurally oppressed, and who often are the least responsible for climate change - including groups such as tangata whenua - but who are disproportionately negatively impacted by climate change.

Our key values that underscore this submission



Te Tiriti

Furthermore, we disagree that the Commission's current advice strikes a fair balance between the climate action required by the current and future generations; the recommendations pose an unfair burden on future generations. This submission sets out the stronger demands that are non-negotiable in the face of scientific evidence. Moreover, for the sake of Earth and future generations, the average is simply not good enough. Given all of this, policy approaches need tohave an equity lens; they must not unfairly impact tangata whenua, and other structurally oppressed communities. Accordingly, the cost of transitioning to a low-carbon future needs to fall upon central government and upon the industries more responsible for climate change, rather than individuals.

7. Meaningful community engagement is required to understand the wider social impacts of the Advice. If the Commission and the Government do not centre climate justice and work alongside structurally oppressed communities, they will continue to be the hardest hit.

Co-benefits framing for a better Aotearoa

Climate change is created by the production, consumption, and transportation of goods, as well as the infrastructure that enables New Zealand's current society. The same structures that cause climate change intersect with broader social and ecological issues; namely poverty, the housing shortage, colonialism, inequity, pollution, and the biodiversity crisis. If the Government chooses to take action on climate in a way that addresses intersectional issues, it will be making Aotearoa a better, more livable, and equitable place for all.

It's in this way that co-benefits can lead to better decision making by government officials who are often lobbied and pressured to consider short term mitigation costs rather than long-term gains in regards to climate change. Because most co-benefits are enjoyed at the local or regional scales, especially for welfare and public health, they provide incentives for decision makers to engage in more resolute climate action.

The Government has not sufficiently prioritised the co-benefits of climate action, which has led to the complete lack of decarbonising within the social infrastructure initiatives in the COVID-19 recovery (Fast-Track Consenting) Act 2020, despite the emphasis on wellbeing (not economic growth) in the previous year's budget.

There has been a wealth of literature written on co-benefit analysis for climate change. We recommend that the Commission leans heavily on a more holistic, systems co-benefit analysis so that the Government can make the best decisions for New Zealand's future.

Transport

Our Position:

Consultation question 14: Transport

Q. Do you support the package of recommendations and actions for the transport sector? Is there anything we should change, and why?

We consider the Commission's recommendations touch on the main solutions to decarbonise transport. However we seek a reallocation of priority; a complete transformation to how New Zealanders move around. Aotearoa must first focus on decreasing vehicle traffic volumes, prioritising active and public transport, and improving proximity to reduce trip distances before relying on electrification of the remaining vehicle fleet to reduce emissions. Principle 7 'leverage co-benefits' of the Commission's seven key principles should be appropriately weighted to reflect the wider benefits possible through this approach - including for social outcomes - over a vehicle-electrification centred approach. Due to this, we call for the policy recommendations to reflect this hierarchy of urgency.

Consultation question 13: An equitable, inclusive and well-planned climate transition (as applied to transport)

Q. Do you support the package of recommendations and actions we have proposed to increase the likelihood of an equitable, inclusive and well-planned climate transition? Is there anything we should change, and why?

Although we commend the Commission's aim for an equitable transition, we submit that climate justice, a focus on equity, and honouring Te Tiriti should be more integrated throughout the entire process and purpose for a just transition. No one should get left behind.

1 Increase funding for active transport *(Time-Critical Necessary Action)*

Currently the Government Policy Statement on Land Transport 2021/22 is allocating $95-$180 million to active transport improvements in 2021/22, compared to $800-$1250 million on highway and $100-$300 million on local road improvements. Furthermore, this active transport budget decreases to $80-$120 million by 2027/28.

Funding to active transport must drastically increase to create **safe, accessible, and affordable** infrastructure such as separate bike lanes and "car-free" or "car-light" areas and neighbourhoods, as well as low-emission zones. A report published by NZTA on increasing public engagement in cycling states that "negative perceptions and experiences may discourage people from using a particular route or encourage them to drive instead of walk or cycle, especially if the walking and cycling infrastructure is poor." The significance of good cycling infrastructure as a leading cause for bike use has been demonstrated in many international studies, and we urge the Commission to apply to the empirical evidence from across the globe.

2 Increase the usability of public transport through urgent reprioritisation of funding *(Time-Critical Necessary Action)*

Currently the Government Policy Statement on Land Transport 2021/22 is allocating $390-$600 million on public transit services, $450-$770 million on public transit infrastructure and $120-170 million to rail in 2021/22. This creates a total of $960-$1,540 million towards public transport. In comparison, local roads and state highways have a whopping $2.29 -$3.27 billion budget.

To see the shift in modes away from private vehicles as stated in the Advice we need investment to reflect desired outcomes. This needs to be done urgently as current investment locks in emissions for decades to come. Furthermore the funding model for public transport must move away from its farebox recovery roots, to allow for more innovative funding and pricing schemes which will encourage public transport use for a wider variety of journeys. Fares must be affo-

rdable with further discounts for certain groups as we have previously suggested in our Freeze the Fares research.

3 Urgently speed up public transport electrification *(Time-Critical Necessary Action)*

To make public transport the truly sustainable option for a zero carbon Aotearoa it requires electrification of bus services and rail networks for moving both people and freight. Electrification of bus services can help reduce air pollution in urban areas and deliver a more attractive public transport service through improved ride quality and quieter buses.

4 Set and monitor more robust national targets for active and public transport use *(Time-Critical Necessary Action)*

The Active Living and Environmental Symposium 2019 recommends doubling the amount of commuters who bike, walk and use public transit respectively every 10 years. This would result in 55% of commuters using active and public transport by 2050, and almost halving the proportion of commutes by car from the current 82% to 45%.

5 Ban sprawl *(Time-Critical Necessary Action)*

A stronger policy directive should see the Government banning sprawl in major urban areas with all new development to occur within the existing built area through brownfield and infill development. Valuable land currently being used for council parking facilities in cities are an easy place to begin intensification and provide more residential options in close proximity to household needs.

6 Increase incentives to walk, cycle or use public transport

(Necessary Action)

Examples include incentivising employers to promote active transport to and from work, (France has recently implemented a sustainable mobility fee, meaning cycling commuters can get 400 Euros a year from companies for cycling to work), removing Fringe Benefit Tax from public transport passess so companies are more likely to offer it to employees, add Fringe Benefit Tax to vehicles, supporting community interventions such as bike libraries and repair locations, incentives for e-bikes, congestion pricing, travel demand management, and increasing the safety of walking and biking by decreasing speed limits and creating spaces without cars.

Transport

Background - Consultation Question 14:

Electric Vehicles

We support the strategy of integrating electric vehicles into society to reduce carbon emissions, particularly given their role in moving people in rural areas. However, an over-reliance on electric vehicles rather than active and public modes of transport limits accessibility for disadvantaged groups, creates issues of safe battery disposal and manufacturing emissions, and fails to address other factors such as congestion and city livability and health.

We believe a multifaceted approach is needed to address carbon emissions from transport. We are in favour of the development of support structures to reduce barriers to electric vehicle ownership for those who must continue to rely on private transport, but we also need to implement strong and transformative active and public transport infrastructure across the country.

The Advice outlines that "accelerat[ing] light electric vehicle uptake" is a time-critical necessary action (pg. 108), however the uptake of active and public transport is not currently included in this category but it's inclusion is essential.

Further, while the electric vehicle targets are robust (ensuring at least 50% of our fleet is electric by 2027) (pg. 108), targets for walking cycling and public transport are lacking (an increase of 25%, 95% and 120% respectively) and only aim to "see total household travel staying relatively flat despite a growing population" rather than seeing a decrease in reliance on private vehicle trips (pg. 58).

A 95% growth rate on 1% cycling mode share in Auckland will mean less than 2% by 2030. For comparison, Auckland Transport's 2018-2028 $600m cycling plan proposed a 4% mode share (though has not been delivered) and Beckenham, Christchurch has an 18% cycle to work mode share at the 2020 census (despite no particular infrastructure).

Transport

Persistent expansion of road capacity is incompatible with targeting climate change. We propose that active and public transport be considered a time-critical necessary action, and that targets for active and public transport use are increased significantly with the goal of decreasing reliance on vehicle transport.

Active Transport

We support implementing robust and transformative active transport infrastructure within Aotearoa as part of our transition to a carbon zero economy. Active transport such as walking and cycling produces zero emissions, and includes a wide range of co-benefits such as increased physical and positive and mental health, resilience and adaptability of the city, as well as decreased congestion and cost. The Government Policy Statement on Land Transport 2021/22 states that "The purpose of the transport system is to improve people's wellbeing, and the liveability of places." (pg. 5). Active transport is consistently supported as one of the most effective and beneficial zero-carbon transport models, however it has been vastly under-utilised and under-funded in New Zealand. In particular, the Advice does not cover the huge opportunity provided by electric bikes for both inner-city deliveries and private transport use. A Deloitte study (2020) in the US found that e-bikes will soon outpace the uptake of other e-vehicles. Active transport infrastructure does not need to be expensive with reallocation of existing road space (i.e. car lanes, median strips or roadside parking) able to be turned into cycle lanes (or bus lanes) through tactical urbanism-type rollout while longer term infrastructure upgrades are investigated.

Public Transport

Public transport investment must be at the forefront of our zero carbon transition. We therefore support the Advice that we need a shift towards increased public transport use. However, the Advice places less emphasis on public transport than we would expect given the benefits it could bring over a car-centred approach. Waka Kotahi (2013) are aware that public transport moves New Zealanders more efficiently than individual cars. The electrification of the vehicle fleet will not change this fact, and in fact increased car dependency usually results in diminished provision and use of public transport making it harder to achieve the Commission's

public transport recommendations. Policy recommendations must also take into account the expected population growth in Aotearoa before 2050. Investment in public transport supports everyone - whether they use the service or not - by reducing congestion for vehicle users, and increasing accessibility/mobility for those who do not need to rely on private vehicles to travel.

For public transport to truly be a green alternative we need to accelerate the electrification of bus fleets and rail networks. We also need to ensure it is attractive in terms of coverage, frequency, reliability and regularity. The Advice implies that we will need better coordination between local/regional councils, central government, and Waka Kotahi to do this, and we argue this should be made more clear as lack of coordination could seriously hamper future progress.

There are many levers to be pulled in making public transport more attractive. Further investment in light rail and rail (both within cities and inter-regionally) is required. At an interregional level both light rail and rail can become a viable alternative to domestic flights as well as for freight between cities - further reducing transport emissions. Expansion in coverage and frequency of bus networks, integration between active modes and public transport for first-/last-mile trips (which isn't covered in the Advice), and changing fare structures to make public transport more accessible and competitive compared to other modes are all needed to improve public transport.

For any of this to be possible there needs to be an urgent reprioritisation of transport funding allocation and true cross-government support. Ongoing budgets released this year for the next decade are locking in transport emissions with continued investment in roading projects. We must ensure that where we are investing carbon emissions in infrastructure, it will achieve the transport mode shift we need. So far this is not occuring: for example ATAP (Auckland Transport Alignment Project) will increase emissions by 6% in the next ten years. This highlights the need for immediate action to reprioritise projects and put more emphasis on improving public transport.

Transport

Compact Urban Form

Transport and urban form are inherently linked and we commend the Advice in recognising the need to design compact urban areas to reduce emissions in a sustainable and accessible way (pg 58, 105, 117). However, we need stronger actions than the suggested legislative reform in 'Necessary action 10: reduce emissions from urban form'. A stronger policy directive should see the Government banning sprawl in major urban areas, with all new development to occur within the existing built area through brownfield and infill development. Future development should be centred around transport hubs in what is commonly referred to as Transit-Oriented Development (TODs).

It has been shown that creating a compact urban form results in reduced vehicle ownership and use rates, and vehicle mode share. Furthermore, creating low traffic neighbourhoods across all urban areas can help to deliver significant walking and cycling mode shares for commutes and other journeys, including by improving access to public transport.

Given the equity issues of an electric vehicle centred response, compact urban form has clear gains in achieving a just transition. Not only does this facilitate sustainable forms of travel with more use of active modes and public transport, but it also helps protect New Zealand's agricultural lands, alongside many other varied co-benefits. In Auckland alone, the Unitary Plan is enabling over 31,000ha of our most productive land to be developed over the next 35 years (Forbes, 2021).

As part of this, we support the Commission's point that the review of resource management legislation should enable low emissions transport and building systems. There needs to be more specific actions around creating livable, compact, accessible and equitable cities, where infrastructure is interconnected to reduce emissions (transport, buildings, housing, etc.).

Transport

Background - Consultation Question 13:

Crucially, climate justice must be central to the process and outcomes of transport climate action.

When social justice is ignored in transport, various social issues emerge. Transport-related social exclusion (TRSE) describes the inability to participate in the everyday routine activities and life-enhancing opportunities of a society (e.g. educational, employment, recreational, access to basic goods and services etc.) due to lack of feasible travel options (Rose et al., 2009; Smith, 2016). Safety concerns, lack of transport options to required locations or at required times, cost, inaccessibility for people with disabilities, and other transport issues can cause people to forego such activities. The importance of an equitable approach, the variation in experiences for different groups, and the needs of marginalised communities have generally been absent from transport planning. These communities, including tangata whenua, Pasifika, people who are older, who live with disabilities, who are on lower incomes, those with mental illness, and families with children, are all vulnerable to TRSE.

The needs of people who are transport-disadvantaged should be centred in transport decisions. It is imperative that transport decision-makers ask: do these changes reinforce inequities, or help bring equity? Providing space for voices of marginalised groups at the decision-making table will support the prioritisation and understanding of transport experiences that influence their wellbeing.

The recommendations outlined above in the transport section of our submission are consistent with a climate justice approach. In Aotearoa, society has been designed around the car: since the 1960s private vehicles have been prioritised as the dominant personal transport mode in transport planning policy. Thus, New Zealanders lacking access to a private vehicle are disadvantaged. Some people may own a car but struggle with purchase and maintenance costs. It has been found that some households make serious trade-offs to expenditure on necessary items or services (e.g. food, education, healthcare), or choose to drive illegally, in order to travel. For some people, active and public transport do not meet mobility

needs with the lack of feasible public transport (due to problems with frequency, regularity, reliability, coverage, cost, safety, limited timetabling, and limited locations) creating, maintaining, and worsening TRSE. Thus, many New Zealanders have severely restricted access to the places, goods, and services needed for full participation in life, thereby resulting in negative impacts on their quality of life.

In this context, the Commission's current decarbonisation strategy's over-reliance on electric cars - rather than system-wide improvement to public and active transport systems - would perpetuate the marginalisation of such people. Decreasing societal dependence on private vehicles through mode shift and shaping urban form towards public and active transport can help decrease the need for a private vehicle for full participation in society, and will benefit the most transport-disadvantaged. For example, while some people with disabilities must rely on private vehicles to travel, others have a significant dependence on public transport, contributed to by lower incomes and the inability to afford private vehicles. People with disabilities and older people have been found to use active and public transport much more in environments where there is better infrastructure, thereby benefiting their health and social contact.

Importantly, any climate action needs to be done with a robust climate justice approach. The shift to electric vehicles needs to be equitable and accessible to all members of the community. The following points express perspectives from the submission guide on the Commission's Advice developed by a collaboration of 11 activist groups across Aotearoa. Sustained Ability notes that a disability-responsive electric vehicle policy is required to ensure that people with disabilities are able to participate in all modes of low-carbon transportation. We must ensure that the shift to a zero carbon Aotearoa doesn't create more accessibility barriers for communities, and instead, improves overall accessibility. Unintended consequences of mass electric vehicle adoption should be considered, and policy co-created with those affected. For example, the lack of audible sound emitted from electric vehicles poses an increased safety risk to pedestrians and blind or low vision communities. As another example, active and public transport should be affordable to all New Zealanders. We support the recommendation of reduced fares for targeted and more marginalised groups.

Transport

Public and active transport must be implemented in alignment with climate justice. The current public transport system poses mobility barriers to various groups (e.g. people with disabilities, older people, caregivers with children, etc.), and needs to be designed with their needs in mind. For example, regarding people with disabilities, lack of accessible public transport has been described as one of their largest hindrances to their active participation in society. Transport challenges have been identified as compounding the systemic disadvantages of people with disabilities regarding education, household income, employment, and living standards. As another example, although public transport is deemed poor in many urban regions, transport options are nearly totally non-existent in many rural regions, which can deeply restrict opportunities. Rose et al. (2009) described rural youth's engagement and aspirations being reduced through mobility barriers as a particular issue. Active transport systems need to work for people with disabilities. For example, pedestrians with walking aids and bikes being used as mobility aids further reinforces the need for grade-separated cycle lanes (from both walking and vehicle traffic).

Furthermore, the curb-cut effect describes how policies that benefit people with disabilities often benefit all. However, the opposite is not true. Instead of framing policies that need to support people in vulnerable situations as burdens, we should frame them as opportunities to improve environments for everyone.

A recent study analysing cycling among Māori and the patterns, influences and opportunities found that Māori face particular barriers such as inflexible employment conditions, lack of support for social cycling, concerns about neighbourhood security among others. Upholding Te Tiriti means that these barriers are the highest priority to address as they are the result of colonisation and structural racism. Furthermore upholding Te Tiriti is critical for transport planning and associated social policy.

Honouring Te Tiriti in transport decisions is imperative as a means of achieving climate justice. Colonisation processes have resulted in transport systems designed to privilege the dominant group and marginalising indigenous communities. Raerino et al. (2013) conducted research that centred indigenous views of wellbeing and transport and highlighted how previous literature on trans-

port disadvantage involved normative assumptions about the needs and aspirations of non-dominant groups. Urban transport was identified as not accommodating urban Māori needs. One key finding was how transport systems are deeply important for allowing access to sites and activities relevant to the lived experience of tangata whenua.

Colonial processes such as urbanisation have led to a majority of Māori living far from their tūrangawaewae. Badly designed transport systems pose hindrances that negatively affect cultural wellbeing and whānau ora; the lengthy distances necessitate car dependence, which participants identified as conflicting with kaitiaki responsibilities. Raerino et al. (2013) also posited that participants' expression of desire for improved health demonstrated an unfulfilled demand for active transport.

Significantly, this research is an example of how Māori identified weak links in the transport system that otherwise would have been ignored. Raerino et al. (2013) recommended that, although public transport improvements that prioritised low-income communities would likely be beneficial to tangata whenua, Māori-centred strategies (e.g. marae-based public transport) were also needed for transport equity. Raerino et al. (2013) recommended greater representation and participation of indigenous peoples at multiple levels of transport policy development and implementation. The participation of indigenous peoples in collective decision-making is an essential ingredient for transport equity, consistent with Te Tiriti obligations. This will facilitate sustained transformation to transport patterns that support indigenous wellbeing. Justice and sustainability are considered by many as deeply interdependent.

Agriculture

Our Position:

We need more ambitious action to reduce biogenic agricultural emissions. Specifically, by reducing cow numbers, not relying on non-existant technologies, and diversifying our food system to include plant-based sources. The Commission should look to traditional indigenous knowledge and regenerative agriculture for further recommendations. This change must be actioned alongside a just transition for farmers to support their capacity and wellbeing.

Background:

The agriculture sector makes a significant contribution to the GDP and food supply in Aotearoa. It is known as one of the most efficient and lowest emitting agriculture systems internationally. Farmers in Aotearoa have generally been improving their farm management, and pay a levy to support Dairy NZ Scientists to provide expert environmental advice and solutions.

Agriculture is the largest contributing sector (48%) to greenhouse gas emissions in Aotearoa, according to the latest figures in the 2018 Greenhouse Gas Inventory. Aotearoa was highest for the share of environmental damage attributable to the agriculture industry from 2000-2010 for nitrogen balance and contribution of GHG emissions among all OECD countries. Life-cycle Analysis (LCA) research shows that the biggest area for emission reduction across the life-cycle of the food system in Aotearoa is within the farming and processing stage for ruminant-based products (e.g. beef and lamb). This contribution is significantly less than emissions associated with importing plant-based foods from overseas for example.

To help improve our environment and the health of our people, the food system in Aotearoa therefore needs to shift towards sustainable healthy diets (SHD) with our agriculture sector being a large player in this food system shift. There are also significant benefits to health from shifting to a sustainable and healthy food system. Currently nutritional issues include reducing the consumption of meat, highly processed foods and high sugar, fat, and salt foods. A shift towards more plant-based diets has been modelled to provide $14-20 billion in health savings across the lifetime of the current population.

1 Diversifying towards plant-based foods and sources *(Time-Critical Necessary Action)*

There should be a stronger focus on recommending that the food system in Aotearoa diversifies towards plant-based foods and sources. This is suggested in the Advice outlining that 10% of emissions reductions will come from culling the dairy herd, but a broader focus on what sources of food we are growing in a sustainable and Te Tiriti based food system is needed. This transition is recognised by a Ministry for Primary Industries commissioned report emphasising that the overreliance of protein production in Aotearoa from dairy and meat requires a change. This includes not only the food consumed and produced in Aotearoa, but also what is exported to other countries.

The dominance of ruminant-based products such as meat and dairy being promoted and manufactured as the primary protein source does not align with the average New Zealander's diet, as at least 40% of adults' average daily protein intake is plant-based. Suggested crops to grow in Aotearoa to provide plant-based protein included alfalfa (lucerne), barley, beans (various), hemp, kumara, and linseed.

It is important that this is simultaneously actioned alongside the infrastructure and support needed for farmers. We recommend that there should be a stronger recommendation in the Advice to the government on diversifying the food system towards plant-based foods and sources.

Co-benefits are found to health and the environment when diversifying our food system towards plant-based foods. This is especially important given that there currently are health inequities relating to unsustainable diets that disproportionately affect structurally oppressed groups, and are in violation of the articles of Te Tiriti - especially article 3 of oritetanga. These health inequities are apparent in key outcomes such as obesity, cardiovascular disease, and cancer. This is important given that red meat and processed meat have been deemed 'probably carcinogenic' and 'carcinogenic' respectively by the International Agency for Research on Cancer (IARC).

To met the targets outlined in the Zero Caron Act and meet our obligations as signatories of the Paris Agreement, swift action is needed to transition to a sustainable food system as outlined by the World Health Organisation (WHO) and the Food and Agriculture Organisation of the United Nations' (FAO) guiding principles of sustainable healthy diets.

2 Dairying land-use change to regenerative agriculture *(Time-Critical Necessary Action)*

In New Zealand there is a groundswell of farmers transitioning to regenerative agriculture (RA). Many see RA as a solution for some of New Zealand's most acute environmental and societal challenges, such as the declining health of our waterways, the widespread loss of topsoil, the increasing threats from more frequent and severe droughts, and the pervasive wellbeing crisis of rural farming communities.

We support more efficient farm management as a tool of decarbonisation but this needs to have buy-in and support from farmers so that they are supported to enact such practices. We also think that this is only one policy option, and a broader approach to reducing biogenic methane emissions is required.

This includes a broader focus on regenerative and ecological farming that would have numerous benefits such as ensuring land quality is improved, improving food security, and healthier soil among others. Furthermore, action is needed to diversify towards plant-based crops and food sources, as this is a key action that would have the most benefit in reducing biogenic methane emissions and improving health outcomes.

Some immediate recommendations for reducing traditional intensive dairying are outlined below:

- Regulating synthetic nitrogen fertiliser, ultimately eliminating it by 2024. Synthetic nitrogen fertiliser has increased 670% since 1990, correlated with an 86% increase in New Zealand's national dairy herd over the same period of time. Synthetic nitrogen fertiliser releases nitrous oxide, a long lived greenhouse gas with a global warming potential 160 times that of CO_2. Reducing synthetic fertiliser would have significant co-benefits for soil health and sequestration, and freshwater health in the surrounding environment.

Further co-benefits to New Zealand's communities occur when synthetic fertiliser factories are shut down, as these have a history of non-compliance with environmental standards as well as reducing the health of surrounding neighbourhoods. We also recommend the Government supports workers transitioning from the synthetic fertiliser industry, through training support to a zero-carbon industry.

- Imposing a sinking cap on imported feed which eliminates imported feed by 2024. Importing feed from overseas creates emissions associated with transportation, resulting in higher greenhouse gas emissions in agricultural farms vs those not using imported feed.
- Regulate that a prohibition be placed on all new dairy conversions.
- Impose a maximum stocking rate limit which is set low enough to drive a significant reduction in the national herd.
- Advise that agriculture enters the Emissions Trading Scheme in 2021 and with no subsidies.

3 Support for farmers
(Time-Critical Necessary Action)

Given the changes that are required to the agriculture sector, the capacity and wellbeing of farmers needs to be centered throughout the transition to a zero-carbon future and a sustainable and healthy food system. Education, collaboration, and the necessary support for farmers is needed - farmers themselves must have buy-in and feel supported through the entire process, which is a key principle to a just transition and climate justice.

Their wellbeing must also be centered given the need to improve and support the mental health of our farmers in Aotearoa. We think the Commission should recommend that the Government develop a strategy that outlines how farmers will be supporters towards a zero-carbon future.

4 Promoting and centering food sovereignty of Māori as tangata whenua *(Time-Critical Necessary Action)*

To uphold the articles of Te Tiriti and provide a healthy and sustainable food system, the food sovereignty of Māori as tangata whenua is critical for climate justice and enabling a just transition. This includes the Māori farmers and those working in the primary industries must equitably be provided with the support and resources to transiting to a zero-carbon future. Upholding article 1 (kāwanatanga) would mean that this support is iwi-led to enable this partnership with the Government. We support the Commission's recommendations around partnership with Māori but want to see a recommendation on enabling food sovereignty for Māori as tangata whenua.

5 Carbon Sequestering in Soil (Necessary Action)

We understand that regarding carbon sequestering in soil the Commission has reported that "there is currently no robust evidence of their long-term effectiveness in Aotearoa" but we think the Commission should recommend that the Government provide funds for research & development into assessing the potential of carbon sequestering in soil in Aotearoa. This is because soil carbon as well as soil quality is important when producing food sustainably. A recent report by the Ministry for the Environment echoes this, through highlighting that more research is needed to more robustly estimate carbon stock change in vegetation and soils on farmland, and identify where sequestration could be increased.

6 We do not support

- Using possible regulation in other sectors - such as water regulations - as an excuse for not pursuing direct climate regulation.
- Unproven and currently non-existent technologies such as methane vaccines, or incremental techno-fixes such as nitrous oxide inhibitors.
- Relying on unenforceable industry self-regulation, voluntary measures, or agreements such as He Waka Eke Noa, and possible regulation in other sectors - such as water regulations

Energy

Our Position:

We support more ambitious targets for renewable energy, given that renewable energy underpins de-carbonisation of other sectors. We also urge the Commission to recommend a date for the end of coal in Aotearoa.

Our Suggestions

Consultation Question 15: Heat, industry and power sectors

Q. Do you support the package of recommendations and actions for the heat, industry and power sectors? Is there anything we should change, and why?

1 Recommend a ban on coal mining *(Be Part of Time-Critical Necessary Action 3)*

There can be no justification for continued coal mining in Aotearoa. The Advice should recommend a ban on new and expanded coal mines in Aotearoa, and an end date to all coal mining in Aotearoa. This would provide sufficient time to adapt for those industries that presently use coal. There should also be an immediate ban on any coal mining on conservation land. This should be part of time-critical necessary action 3 (see below). The risk of reaching a tipping point is too great to ignore and requires us to take bold action now.

2 Bring forward the date for ending the use of coal in process heat for food production to 2030

The end of coal is essential to the transition to renewable energy and de-carbonisation. The Advice foresees ending coal use for food processing by 2037 (Draft Advice, section 3.8.5). This date should be brought forward to 2027. The transition should be to renewable energy, and not gas.

3 Make the renewable energy target (60% by 2035) more ambitious, including by swiftly reducing reliance on natural gas and oil

The "time-critical necessary action 3" in the Advice is that the Government set a renewable energy target to increase renewable energy by at least 60% by 31 December 2035. We don't believe this is ambitious enough given that de-carbonising energy will facilitate the de-carbonisation of other sectors, particularly transport and industry. Aotearoa is forecast to require 20% more electricity by 2035 (Draft Advice, section 5.2.2), meaning that de-carbonisation is essential to meeting increased electricity demand in a way that does not increase emissions.

We consider that we can and should be more ambitious. In 2018, New Zealand's energy was 40% renewable (Draft Advice, section 6.1.2). The Commission is only recommending conversion of a further 20% over 15 years, i.e. a 50% increase from today. Furthermore, the Commission has not explained why the target is only 60% by 2035. More than 100 countries have recently increased their ambitions by making stronger NDC commitments in advance of COP26. Aotearoa should be a leader and not a follower in being as ambitious as possible.

A more ambitious target for renewable energy can be supported by a swift reduction in reliance on natural gas and oil. While we recognise that natural gas presently plays a significant role in backing up renewable electricity generation (Draft Advice, section 3.8.4), ultimately reliance on fossil fuels must end for us to survive as a species.

4 Recommend that the Government carry out a life-cycle analysis of energy systems in formulating its long-term national energy strategy

(Part of Time-Critical Necessary Action 3)

The Advice does not address the embodied carbon in renewable energy systems, i.e. the carbon required to create the system. If we are to reach net zero, it is essential that the embodied carbon is accounted for in any renewable energy system. That is what a life-cycle analysis reveals, and it is therefore a recommended tool for policymakers.

In the UK, for example, a most widely-used type of solar panel has been found to have high levels of embodied carbon, such that it significantly negates the emissions saved by using the panels. The problem is compounded by lack of data from solar panel manufacturers as to the embodied carbon in their products.

Life-cycle information is often highly site-specific and there is very little data regarding New Zealand's renewable resources. Research on the life cycle of New Zealand's renewables is critical and it must inform the long-term national energy strategy.

The Advice should therefore recommend that the Government carry out a life-cycle analysis of energy systems in formulating its long-term national energy strategy. This should be part of time-critical necessary action 3.

5 Recommend that the Government's long-term national energy strategy assesses the extent to which fossil fuels will be required to build low-emissions infrastructure

Building the infrastructure necessary to transition to net zero will require fossil fuels, which will need to be offset by fossil fuel cuts elsewhere. This should be explicitly recommended as a matter to be assessed in formulating the long-term national energy strategy.

Buildings

Our Position:

We note that while the Advice assume progress on energy efficiency, it includes no policy recommendations beyond transitioning away from gas. While we understand MBIE is introducing improvements to the NZ Building Code as part of their Building for Climate Change programme, this alone will not be enough to reduce the emissions of our homes and buildings.

Our Suggestions

1 Bring forward energy efficiency targets for new homes and buildings *(Necessary Action)*

The Advice notes that 'under our approach to meeting the 2050 targets, Aotearoa would need to improve the energy efficiency of buildings, alongside decarbonising the energy used for heating, hot water and cooking', and the path proposed assumes:

- An improvement of building quality for new build commercial and public buildings and a program of retrofits to existing buildings that results in a 30% improvement in energy use by 2035
- Existing homes' energy intensity improves by 6% by 2035
- Newly built homes are 35% more energy efficient by 2035

These targets lack ambition, can be achieved sooner, and are inconsistent with MBIE's own Building for Climate Change work programme which states, 'by 2035, New Zealand's new buildings are using as little energy and water as possible'. Technology required for highly efficient homes and buildings already exists, is widely used overseas, and is implemented in Aotearoa already. Ockham Residential's Daisy Apartments has a 10 Homestar rating in 2018 (3 years ago!), Beca's Aorangi House won international awards for its energy efficient retrofit, Kāinga Ora already committed to developing a carbon-neutral homes programme of work, and the Alderman Apartments are likely to achieve net positive energy.

There are significant co-benefits of setting ambitious timelines for energy efficiency in our homes and buildings:

- The Advice recommendations will require a significant increase in capacity for the national grid to power the shift to EVs etc. Energy efficiency will reduce load on the grid, which will increase the available capacity for other purposes and reduce the amount of new electricity generation required in the first place.
- Energy efficiency will result in significant cost savings for the operation of buildings and homes. More efficient homes are more comfortable and cheaper to heat which will significantly improve the quality of life for disadvantaged communities and is an important component of a just transition. Cost savings will also benefit the Government, who is the country's largest builder and occupier.
- Efficiency is important for resilience to Climate Change: passive design requires less energy input which will keep homes and buildings warm and safe in the case of power shortages and natural disasters.

The Climate Change Commision has underestimated the ability of the industry and these timelines should be shortened to 2030 or earlier.

2 Recommend mandatory Energy Performance Certificates (EPCs) for homes and buildings

(Time-Critical Necessary Action)

Requiring the disclosure of a building or homes' operational performance at point of sale or lease will empower people to choose more efficient and comfortable buildings, and drive the market to higher standards. Aotearoa is one of the only countries in the OECD that does not currently require EPCs.

3 Recommend the scope of MBIE's Building for Climate Change programme be expanded to include existing buildings

(Time-Critical Necessary Action)

At present, this programme is focusing on new buildings only. The majority of the buildings we will be using in 2050 have already been built which means we need a

strong focus on energy-efficient retrofits of existing buildings and homes. Developing and implementing standards for existing buildings will reduce their operational energy-use (and therefore carbon).

4 Recommended caps for the embodied carbon of building and lifecycle analysis

(Time-Critical Necessary Action)

The way the Advice has broken down emissions by sector is miss-leading and de-emphasizes the contributions of the building industry. Due to the conventions of the Paris Agreement, the embodied carbon of building products like concrete and steel are attributed to the industrial heat category which means the emissions associated with buildings are limited to the operational emissions. This gives the impression that the building industry contributions are small, and therefore less likely to be a focus for emissions reduction.

A 2019 report from Think Step ANZ estimates the built environment to be responsible for 20% of New Zealand's emissions when accounting for cross-sector emissions, such as industrial heat emissions from the production of materials like concrete and steel, as opposed to 2% as estimated in the Advice. For the construction of an average commercial office building with a 60 year lifespan, Think Step estimates 28% of its life cycle emissions occur before occupation (embodied carbon).

In addition to this report, BRANZ has estimated new build homes in Aotearoa are currently emitting 5x as much carbon as they are budgeted if Aotearoa is to meet its commitments in the 2 degree warming scenario - a large portion of this is the embodied carbon of construction materials as well.

Therefore, it is critical there are strongs caps on embodied carbon for new buildings, as proposed in the Building for Climate Change programme, and a commitment to life cycle analysis of construction materials.

Waste

Our Position:

The Commission's general waste advice takes us in the right direction but the recommendations need to be more specific, holistic, and ambitious to harness the power of reduction, reuse, and recovery strategies to reduce our emissions.

Background:

When we reduce waste, we reduce emissions. Aotearoa can make a just transition from a throwaway culture to a low waste, low carbon circular economy by transforming our relationship with waste, and by strengthening and resourcing local communities to develop innovative, bold new solutions to prevent and reduce waste.

Achieving this requires comprehensive education programmes and a balance of multiple urgent policy interventions. The waste hierarchy, which prioritises prevention, reduction, and reuse, can be used as a 'climate lens' to help guide decisions, policy, and investment.

The Advice focuses on reducing methane emissions from organics that end up in landfills. However, long-lived GHG emissions are also generated from the extraction, production, transport and consumption of packaging and goods, which is intrinsic to our current, unsustainable 'take-make-throw' linear economy. For Aotearoa to meet 2050 emissions targets and play an equitable role on the global stage, the Commission should expand its advice to consider all waste streams and build consumption-based measurements into its analysis.

We recommend the following points in response to 'Necessary action 13: Reduce emissions from waste' to harness the power of reduction, reuse, and recovery strategies to reduce our emissions

1 Increase waste reduction targets and recommend specific policy tools for addressing organic waste

The Commission's path sets a waste reduction target for organic waste to landfill of 23% by 2030 – we should aim higher. Furthermore, the Commission should provide more detail on the interventions needed to reduce organic waste to landfill. For example, mandating separate collection of organics (in the first emissions budget period) and banning organic waste from landfill (in the second emissions budget period) to halve food waste at source by 2030 (in line with the NZ Food Waste Champions 12.3 goal), and diverting more organic waste to local and regional composting. The Commission should also recognise the preference for local communities to build soil and sequester carbon through decentralised local composting systems, rather than centralised anaerobic digestion.

2 The Advice should recommend binding reduction targets for all waste streams

When we reduce waste, we reduce emissions – policy interventions are needed to reduce waste across the board. The Advice focuses on methane generated by organics in landfill. Government needs to set binding waste reduction targets in the Waste Strategy and the Waste Minimisation Act for all waste streams; organic and inorganic. This includes single use plastics and packaging, e-waste, textile, and construction and demolition waste.

3 Invest waste levy revenue in community-scale solutions at the top of the waste hierarchy *(Time-Critical Necessary Action)*

Waste Levy revenue must be invested in systems and infrastructure that support local communities to work at the top of the waste hierarchy, to prevent and reduce waste in the first place and grow the reuse economy. To ensure a just transition, the Government needs to invest in local community-scale solutions and SME innovators who are driving change. Local communities need to be strengthened and resourced to enable them to shorten supply chains and improve wellbeing. For example, being able to produce locally-grown kai and locally-made goods, to develop and deliver reusable packaging systems, and to run

community-scale resource recovery hubs where resources can be salvaged and helped to circulate in small local loops.

4 Measuring and increasing circularity in our economy is urgent

(Time-Critical Necessary Action)

Accounting for the emissions reduction potential of a circular economy requires a greater role for the consumption-based approach to calculating emissions. Consumption-based emissions data follows the lifecycle of products and materials, exposing both embodied emissions generated offshore and the upstream emissions cost of short-lived consumer goods. We need to apply tools like consumption-based emissions data and material flow analysis to successfully quantify and deliver on the GHG reduction potential of zero waste and the circular economy, as noted most recently by the Circularity Gap Report 2021. The fact these emissions are difficult to measure will not make them go away, and we can't afford to ignore them if we wish to stay within 1.5oC of warming. The Commission is the agency best placed to lead this analysis.

5 Strengthen advice around product stewardship

(Necessary Action)

We support the recommendation to expand product stewardship, which is a critical tool for designing waste out of the economy. However, the Government's approach to product stewardship must be strengthened to ensure schemes create reuse, repair, and resource recovery systems that keep materials in circulation and extend product lifespans. Products that cannot be effectively reused, repaired, recycled, or composted should be designed out of the economy.

Ultimately, to trigger meaningful GHG reductions, product stewardship must drive a reduction in New Zealand's overall material consumption, which requires a transformation in how we use goods in modern economies - away from ownership models towards sharing models, featuring long-lasting products with high levels of reusability and reparability, and fewer and fewer toxic additives and components. The provisions in the Waste Minimisation Act need to be tightened to ensure that product stewardship can achieve these outcomes rather than simply creating a litany of glorified recycling schemes

Emissions Trading Scheme

Our Position:

Aotearoa needs immediate, bold action to transform our Emissions Trading Scheme (ETS). Current policies incentivize afforestation but are not robust enough to hold polluting firms to account for their emissions or to promote emissions reductions. We support the measures outlined in the Advice but urge greater urgency to facilitate a swift transition to a low carbon future.

Our Suggestions

We support the following <u>Time-Critical Necessary Actions:</u>

1. **The elimination of the Fixed Price Option (FPO), effective immediately.**
2. **Following FPO elimination, increasing the auction reserve trigger price to at least $30 and the cost containment reserve trigger price to at least $70.**
3. **Outlining a long-term schedule for increases to the auction reserve and cost containment reserve trigger prices to promote investment and market certainty.**
4. **Aligning unit volumes with the proposed emissions budgets.**
5. **The development of a strategy to ensure that the ETS delivers the optimal balance between afforestation and emissions reductions.**

6. **A review of market governance to ensure that risks to market function are mitigated and that carbon markets are fully integrated into our financial system.**

7. **Immediate increases in reductions to industrial allocation.**

And the following <u>Necessary</u> Actions:

1. **A first principles review of New Zealand's policies to reduce emissions leakage, including industrial allocation.**

2. **A review of overseas policies to identify emergent risks, particularly to market access.**

3. **Developing a clear revenue plan to maximise use of funds generated through the ETS.**

4. **Improve market governance and insulate decisions on unit volumes and trigger prices from political pressures.**

Emissions Trading Scheme

Background:

Short-term Actions to Fix Market Function and Promote Emissions Reductions

Case studies of the New Zealand ETS have identified multiple flaws that limit market function and prevent price discovery (Leining et al, 2020). The Fixed Price Option (FPO) effectively introduces a price cap at $35 (Ministry for the Environment, 2021). and thus limits market prices to well below current estimates of the social cost of carbon - which are often $80 or more (e.g. Pindyck, 2019, Ricke et al, 2018, International Monetary Fund, 2019). As a result, the FPO prevents the ETS from functioning as an effective tool to reduce emissions.

The Commission should recommend the immediate elimination of the FPO and replacement with an auction system as detailed in section 30GA of the Climate Change Response Act 2002.

Following the elimination of the FPO, it will be necessary to update trigger prices for the cost containment reserve and auction reserve trigger prices to support price discovery and provide certainty for market participants. We support the recommendations of the Commission in 7.a.ii.

Furthermore, to reduce uncertainty the Government should outline a clear schedule for further price increases (as recommended in 7.a.ii). This schedule should cover the first two emissions budgets, with a review at the end of the period covered by the first emissions budget. Any price schedule should be indexed for inflation to ensure that any unexpected rises in price levels do not erode the efficacy of the ETS market. We also recommend the government reserves the right to update price levels if the market fails to deliver emissions reductions.

Emissions Trading Scheme

Coupled with these changes, we strongly support the Commission's recommendation in 7.a.i to align unit volumes with the proposed emissions budgets. Without reducing unit volumes, changes in the price triggers will not necessarily lead to efficient price discovery.

As well as failing to promote price discovery, current ETS settings have resulted in extensive afforestation, but this afforestation has been primarily driven by increased planting of exotics (Liening et al, 2020). Furthermore this afforestation has often occurred at the expense of emissions reductions (Liening et al, 2020). To align the ETS with the proposed balance of afforestation and emissions reductions outlined in the draft budgets, it will be necessary to amend the scheme to a) prevent excessive land-use change that negatively impacts other stakeholders and to b) encourage the further planting and management of native species.

Our approach to forestry must consider how sovereignty will be returned to mana whenua to manage land, to uphold article 2 of Te Tiriti.

Care should be taken to enable small land-owners to participate in the scheme where possible, to support changes in marginal land use and maximise co-benefits (Liening et al, 2020). We support the Commission's recommendations in 7.b and advise that the Commission further recommends the development of a strategy to ensure small landowners can participate in carbon markets.

We further support the Commission's recommendations in 7.c. Sound market governance is critical to ensuring that investors remain confident in the functioning of the ETS and in the ongoing value of carbon credits.

Finally, it is necessary to immediately alter current industrial allocation policies. Current policies are not aligned with either a 1.5°C target or with a net-zero by 2050 goal (Liening et al, 2020). As a result, the Government should immediately accelerate the proposed phase-out of industrial allocation while undertaking a first-principles review of industrial allocation policy. We recommend the addition of a further time-critical action 7.d, which would urge the Government to increase the phase-out of industrial allocation to 2% points per year.

Emissions Trading Scheme

In summary, we support the time-critical actions outlined in 'time critical action 7'. We further recommend the immediate elimination of the FPO, as is implied by the Advice. In addition, the Commission should recommend that changes to the ETS to ensure optimal afforestation levels and types should enable the participation of small landowners where possible. The Commission should recommend that the phase-down of industrial allocation is accelerated to two percentage points per year, until a first-principles review of industrial allocation policy can be completed. The policy package recommended by the Commission will go a long way to restore the ETS to full functionality and ensure that it prices emissions appropriately. However, further actions are needed to ensure that the ETS remains functional and fit-for-purpose in the long term.

Long Term Actions to Manage Emerging Risks and Increase Efficiency

In the long-term, it is critical to amend industrial allocation levels to ensure consistency with the proposed pathway to net-zero by 2050. Current inconsistencies will only grow greater as time passes, so the first-principles review recommended by the Commission is necessary to ensure compatibility with New Zealand's overarching climate goals. We further support the Commission's recommendation to explore alternative policy instruments to limit emissions leakage, but it is important to recognise these policies form twin halves of a whole. Rather than a first-principles review of the industrial allocation scheme itself, we support a review of New Zealand's strategy to minimize emissions leakage. This strategy should consider industrial allocation as one possible tool among many, and carefully consider how changes in the landscape of climate policies since the inception of industrial allocation might have altered the optimal selection of policies to minimize emissions leakage.

Furthermore, the Government should also develop a strategy to ensure that Aotearoa exporters will retain market access in the event of other countries implementing alternate emissions leakage policies. Emergent risks from carbon adjustment tariffs, such as those proposed in the EU, could pose a significant risk to Aotearoa firms unless the Government takes a proactive approach to ensure continued market access.

Emissions Trading Scheme

As well as identifying and eliminating risks associated with the ETS, the Government should also identify opportunities to leverage the ETS to generate benefits for New Zealand. If the ETS is managed appropriately, it will provide a temporary (but potentially significant) source of revenue for the New Zealand Government. Under the provisional emissions budgets, the Beehive (2019) expected permits for 90 million metric tonnes of C02e gasses to be auctioned between 2021 and 2025. Under a conservative assumption of constant emissions and prices at the reserve trigger price, this would generate $630 million in 2021. Clearly prices should exceed the reserve trigger price and so revenue will be correspondingly higher.

Thus, while emissions reductions should lead to reduced revenue, revenues generated in the interim could be non-trivial. As a result, the Government should develop a clear revenue plan to re-invest proceeds of the ETS (as in necessary action 19.a). The Commission should further recommend that funds generated by the ETS are earmarked for policies with clear and tangible positive outcomes for New Zealanders. By ensuring that spending from ETS revenues is transparent, the Government can reduce the risk of backlash against increased carbon prices (Wynn, 2021). Policies such as a carbon dividend can also eliminate the possible regressive effect of carbon pricing schemes (Akerlof et al, 2017).

Overarching our recommendations is the need to increase investor confidence in the long-term functioning of the ETS. Some of these issues, such as risks to market function, should be tackled in the short term. In the long term, ensuring that the ETS is not impacted by political changes is crucial to ensuring its effectiveness and making long-term goals more credible. We recommend the establishment of an independent institution to set unit volumes, trigger prices, and regulate trading. Past experience (with central banks in particular) has suggested that independent institutions can produce better outcomes, at least when policy objectives are simple and decisions may be influenced by political factors (Kokoszczyński & Mackiewicz-Łyziak, 2020). Since control of pricing and unit volumes for the ETS market fits this criteria, vesting management of the scheme with an independent institution could improve outcomes by insulating decision-making from undue pressure.

Emissions Trading Scheme

To rebuild the ETS, the Government must immediately reform pricing and unit supply, improve governance, and review industrial allocation policy. We support the recommendations outlined by the Commission but believe that more must be done to improve the function of the ETS. In particular we support an immediate increase to phase-out rates for industrial allocation and a first-principles review of New Zealand's policies to reduce emissions leakage. Furthermore, we believe that the operation of the ETS should ultimately be insulated from political pressures through the establishment of an independent authority to set unit volumes and trigger prices.

Targets

Our Position:

Aotearoa needs much more ambitious targets that are aligned with science and will give us a high chance of achieving a 1.5oC planet. This means more ambitious targets, emissions budgets, and biogenic methane emissions reductions. It also means a truly equitable NDC consistent with a high chance of keeping us entirely below 1.5oC. Without these, Aotearoa cannot satisfy its responsibilities to its people or to the world.

The following section will be discussed by Chapter, with the background and key suggestion/s included within each answer to the consultation question.

Chapter 2

Consultation Question 1: Principles to guide our advice

Q. Do you support the principles we have used to guide our analysis? Is there anything we should change, and why?

Yes, however, assuming the principles are given in a hierarchical order, we recommend moving 'Principle 4: Avoid unnecessary cost' to the end of the list. This is because we consider the subsequent principles more important, especially 'Principle 5: Transition in an equitable and inclusive way', but also 'Principle 7: Leverage co-benefits' should come before quantifying the 'cost' of an action. As detailed in this submission, there are abundant co-benefits which should be considered.

If they aren't in hierarchical order, then we recommend stating those listed above as more important, and emphasising them more.

Consultation Question 2: Emissions budget levels

Q. Do you support budget recommendation 1? Is there anything we should change, and why?

We believe they must be more ambitious, particularly budget 1 out to 2025.

Targets

We know the quicker we act to reduce emissions the greater the chance of meeting the aim of the Paris Agreement. As such, we believe the first budget should make bigger cuts to our emissions, to ensure we can achieve a 1.5oC planet. From there, the subsequent budgets should carry that momentum and further decrease emissions beyond the current budgets.

We also consider there to be another potential benefit of more rapid action in the budget 1 period: galvanising New Zealanders around climate action. Similar to how New Zealanders came together during the COVID-19 pandemic to take immediate and drastic and necessary action, with a budget 1 that has more urgent reductions there's an opportunity to bring people together to take similarly drastic and necessary action to cut emissions. This would make New Zealand's (and New Zealanders') job easier in the future and be aligned with your principle to create options for our pathway.

Consultation Question 3: Break down of emissions budget
Q. Do you support our proposed break down of emissions budgets between gross long-lived gases, biogenic methane and carbon removals from forestry? Is there anything we should change, and why?

We recommend more ambitious budgets as detailed in our answer for Consultation question 2. We also recommend more ambitious biogenic methane cuts (so a slightly different relative breakdown) for the reason's detailed in our answer for Consultation question 24.

Consultation Questions 4 to 9
Yes.

Chapter 3

Consultation Question 10 & 11: Locking in net zero
Yes.

Consultation Question 12: Our path to meeting the budgets
Q. Do you support the overall path that we have proposed to meet the first three budgets? Is there anything we should change, and why?

Targets

We have answered this question through our recommendations throughout this entire submission.

Chapter 8

Consultation Question 21: Nationally Determined Contribution (NDC)

Q. Do you support our assessment of the country's NDC?

Yes, we believe the existing NDC of 30% is unserviceable, as detailed below.

Q. Do you support our NDC recommendation?

We recommend:

- Reframing the NDC discussion and recommendations around the fact that the 'Upper quartile IPCC reductions' presents an acceptable chance of success, as the 'Midpoint reductions' mean a 34-50% chance of failure which is far too high and unacceptable.
- You state what an appropriate NDC that satisfies you as an organisation would be, as opposed to just stating that it should be 'much more than' a target which is entirely and obviously inadequate.
- Due to New Zealand's global responsibilities under the principle of differentiation, our NDC should be consistent with staying below 1.5oC altogether (as opposed to achieving 1.5oC with no or limited overshoot).

We too believe the NDC should be much higher, however we do not agree with 'NDC recommendation 2' as it is currently in the Advice. As you've stated, 'Aotearoa has a responsibility to take the lead in reducing emissions and to support developing countries to transition and has already agreed it will do so'.

Your NDC recommendation says 'much more than 35%'. However, as stated, a 35% reduction means 'there is still a 34-50% chance that warming will exceed 1.5oC'. 35% is effectively the average reduction Aotearoa would need under an approach that expects the same proportional reductions from all countries.

We believe that taking a path with a 34-50% chance of failure and one where we don't meet our responsibility to do more as a developed nation is entirely inadequate and unfit for purpose. The starting point of our NDC should be the 'Upper quartile IPCC reductions', which would be 44%. This would provide a higher and acceptable chance of keeping to a 1.5oC world, and so we recommend NDC recommendation 2 and its preceding section be re-framed with this at its core.

Targets

However, this NDC is only the acceptable target on a path where Aotearoa expects the same proportional reductions from all countries. In essence, an NDC of 44% is also insufficient because the path itself is insufficient.

You've stated the emissions reduction pathways you've accepted as adequate in your analysis were those that IPCC SR15 listed as 'no or limited overshoot'. We agree that Aotearoa should be on pathways consistent with no or limited overshoot in terms of our emissions budgets (i.e. our local emissions and how we reduce them, including local offsets). However, because Aotearoa has a 'responsibility to take the lead', we consider the NDC – which includes what we contribute globally, not just what we do locally as in our emissions budgets – should be much more ambitious, and effectively in line with pathways that would be in the 'below 1.5oC' category in IPCC SR15.

In other words, we consider our NDC should be consistent with average proportional efforts required to stay below 1.5oC entirely (not achieve 1.5oC with 'no or limited overshoot' as currently recommended).

This would mean satisfying our responsibility as a developed nation with historically high emissions and emissions per capita. We expect the form this satisfaction of responsibility would take would involve 'promoting sustainable development and environmental integrity', and supporting 'developing countries to transition' to low emissions while increasing their quality of life.

As stated, we consider a 'below 1.5oC' NDC to be appropriate and what Aotearoa should have. However, we also understand the value of non-mitigation contributions to support climate change efforts, which could potentially be more beneficial to developing countries than off-shore mitigation. As such, while we consider a 'below 1.5oC' NDC to be appropriate, an adequate decision may involve an NDC target of minimum 44% (due to the reasons detailed above) with supplementary commitments within the NDC to provide significant non-mitigation contributions – such as climate finance – to make up the difference between the 44% '1.5oC with no or limited overshoot' NDC and a 'below 1.5oC' NDC. Ultimately, an equitable approach is the goal, and so the NDC should be set at what would be the most equitable NDC for us as a developed country to contribute to developing countries.

Targets

We also believe it is an abdication of responsibility to not recommend an NDC that you yourself would be satisfied with. Just stating that it should be 'much more than' a target that doesn't meet our global responsibility and potentially has a 50% chance of failure is stating the obvious. While we understand legislating a target may be a political decision, recommending an NDC that fully reconciles the science and the urgency required is not. We also believe you are the authority on climate change in Aotearoa and New Zealand's response to mitigate it, and so have a remit for stating what NDC you think would be appropriate and equitable. As noted, we consider an appropriate NDC to be one consistent with entirely staying below 1.5oC.

Your mandate is to assess the scientific realities and make recommendations to safeguard the survival of the human race and stave off the Sixth Extinction. You cannot moderate that in light of political points such as whether COVID has impacted the economy or how the transition will feel. We must have the evidence and the pathway to achieve our own survival without political adjustments, even if those are profound steps, indeed massive leaps, in the right direction.

We also note that other nations consider a lower NDC because of our split gas approach to be shirking our responsibilities. As such, our global reputation would also improve with a higher NDC, the benefits of which are discussed in our answer to Consultation question 24 around higher biogenic methane emissions reductions.

Consultation Question 22: Form of the NDC
Q. Do you support our recommendations on the form of the NDC?

Yes, and we strongly support the recommendation to continue contributing climate finance and actively participate in mitigation mechanisms for international aviation and shipping.

Consultation Question 23: Reporting on and meeting the NDC
Q. Do you support our recommendations on reporting on and meeting the NDC? Is there anything we should change, and why?

Yes we support your recommendations.

Targets

Chapter 9

Consultation Question 24: Biogenic methane

Q. Do you support our assessment of the possible required reductions in biogenic methane emissions?

We recommend:

- That you recommend to the Minister that they direct you to advise on changing the target range for biogenic methane (and all other) emissions set for 2050. This is because we consider there has been significant change in:
  a. Global action
  b. New Zealand's economic or fiscal circumstances
  c. Social, cultural, environmental, and ecological circumstances
- Reframing the advice on 'Consideration 1' around a reduction target that would provide a high chance of success – such as over 60% - as opposed to the current advice of 37% which could potentially have a 50% chance of failure.
- You advise much higher biogenic methane (and nitrous oxide) reduction targets are necessary - currently they don't even align with IPCC SR15 - and should be achieved using methods we've detailed in the Agriculture section, remove positive framing around unproven methane reduction technology, and acknowledge the significant effect alternative proteins will have on New Zealand's agriculture sector

Firstly, we disagree with your assessment that 'there has not been a significant change in circumstances that would justify changing the 2050 target'. Of the categories listed in Section 5T of the CCRA, we consider there has been a significant change in:

a. Global action: As a result of the COVID-19 pandemic there has been huge amounts of government spending around the world to stem the resulting recession. Not enough of this spending has been on climate justice and greening economies to transition countries away from fossil fuels quickly enough to meet the targets under the Paris Agreements.

Further, huge spending occurring now that doesn't reduce emissions limits potential spending in the near future that would reduce emissions i.e. the

recession has caused countries to spend money now on projects which lock in emissions for decades to come because the money can be spent quickly, as opposed to projects that decarbonise countries but may be slower to employ large amounts of people. An example of this in Aotearoa is the Government providing immediate funding for roading projects which will increase transport emissions and are the opposite of what Aotearoa needs to decarbonise, just because the projects can begin immediately.

As a result, the window to act to stay consistent with the Paris Agreement is narrowing. We consider the COVID-19 pandemic, the resulting recession, and the failure to act by governments around the world, a significant change in 'global action'. With governments spending now there's a significant risk they won't be able to decarbonise quickly enough by 2030, when it counts most.

b. New Zealand's economic or fiscal circumstances: Following on from the above point, Aotearoa has also been affected by the recession, and spent a large amount to combat it. In doing so, Aotearoa has accrued much more national debt than in recent history, which may dissuade successive governments to act on climate change in ways that are potentially costly but also effective and necessary. However, there is a historically low cost of servicing this debt.

Further, New Zealand's pandemic response has globally been deemed to be one of the most successful, and has allowed our economic activity to resume much faster than comparative countries. This means the relative economic position of Aotearoa in the global context has significantly improved from when the targets were set. As such, we have an obligation to reassess our targets to be more ambitious, and reflect our enhanced relative economic standing.

We consider the COVID-19 pandemic, the resulting recession and historically low cost of servicing debt, and our improved relative economic standing to represent significant changes in 'New Zealand's economic or fiscal circumstances'.

Targets

> **c.** Social, cultural, environmental, and ecological circumstances: The national lockdown (and subsequent national and local lockdowns) in response to the COVID-19 pandemic has led to a change in social and cultural circumstances in Aotearoa. Following the experience of lockdown, a significant amount of New Zealanders desire a more sustainable lifestyle and society: less commuting and more working from home, more kindness and equity for marginalised groups, more meaningful consumption. The pandemic and the actions Aotearoa took were inconceivable just a year ago, yet are proof of our national ability to overcome crises. We consider the lockdown in response to COVID-19 and the societal and cultural changes it has caused to be significant.

Due to the above, we believe it would be appropriate for you to recommend to the Minister that they direct you to advise on changing the targets in the CCRA As per Section 5T of the Act. We believe the biogenic methane target for 2030 and 2050 should be more ambitious as detailed below, and there should be a 2030 target for net emissions excluding biogenic methane.

Secondly, we disagree with your summary for 'Consideration 1'. The IPCC model scenarios provide a range for what the reductions will likely need to be. In the summary you've stated 'at least a 37% reduction' is required by 2100 'to have a 50-66% chance of limiting warming to 1.5oC'.

Similar to our response to Consultation question 21, we consider advising this target – a target at the very bottom of the range of emissions reductions which would result in a 37-50% chance of failure to limit warming to 1.5oC – as unserviceable.

These targets are the interquartile range of the '1.5oC with no or limited overshoot' pathways in IPCC SR15. As stated, these pathways only have a 50-66% chance of success. We believe a potential 50% risk of failure is too high.

This pathway also assumes the same proportional reductions from all countries. However as we've stated earlier and you acknowledge, Aotearoa has a responsibility to do more as a developed nation, and has agreed to do so.

Targets

In order to achieve a higher chance of success of achieving '1.5oC with no or limited overshoot', we consider the pathway used to answer 'Consideration 1' should be more ambitious. In the absence of more ambitious pathways, we consider as a minimum the answer to 'Consideration 1' should be the top of the range – i.e. 60% – instead of the bottom. As the risk of failure decreases with greater emissions reductions, the starting point for your recommendations should be the top end of the range (i.e. the upper quartile, not the bottom of the interquartile which is the lower quartile)in order to minimise risk.

In other words, we recommend reframing your advice on 'Consideration 1'around the fact that in order to have a high chance of meeting a 1.5oC world, agricultural methane reductions would likely need to be much higher than the upper quartile on the existing pathway (which has a potential 50% chance of failure) of 60% by 2100.

Thirdly, we disagree with the advice that you 'consider that the country's national circumstances do not provide sufficient reason to reduce biogenic methane emissions by less than other developed countries'. As above, we also consider the framing and reduction ranges given to be too weak with too high a chance of failure: the upper quartile (or alternatively the mid-point in the interquartile range of a below 1.5oC pathway) should be the starting point for these targets and advice framing.

In your NDC analysis you conclude that Aotearoa should make 'significantly deeper' reductions that the global average required for limited to no overshoot of 1.5oC, as discussed in Consultation question 21 on the NDC. We believe that these 'significantly deeper' reductions should both be for the NDC as well as our local biogenic methane emissions.

Due to the higher proportion of biogenic methane in our national emissions, and the lower reductions in methane required than for CO2 in the IPCC SR15 pathways modelled, our target percentage of emissions reductions is lower than other comparable countries when expressed in terms of all gases. We consider it appropriate to increase our emissions reductions in biogenic methane to a minimum of the upper quartile required in IPCC SR15 – along with all other gases

as previously stated – in order to make our headline all gas reductions target higher than comparable countries.

As Aotearoa has a higher proportion of biogenic methane emissions, globally we are looked at for leadership in how to approach biogenic methane reductions. If we make drastic and necessary and ambitious curbs on these emissions, other countries will hold us as an example of rapid and achievable action. Our methane emissions are relatively significant, so to tackle them ambitiously would give us greater leverage in discussing international efforts to reduce emissions, and enables us to more effectively pressure bigger countries. This is something you've noted Aotearoa relies on, and will need to continue to rely on to ensure higher emitting countries act to reduce their emissions.

A higher biogenic methane reductions target is also more in line with New Zealand's global commitments to do more as a developed country, and reducing methane emissions will be more effective in limiting warming (up to and beyond

the timescale of the CCRA) than an equal cut in CO2. This gives us a great opportunity to act faster to reduce our contribution to climate change. These increased reductions to biogenic emissions should come through what we've detailed in the Agriculture section of this submissions. We note you advise that to reach the upper end of the interquartile range of methane reductions – which as stated we consider an inadequate target – would require currently undeveloped methane reducing technologies, or reduced agricultural production and land use change.

We recommend reframing this advice away from methane reducing technologies, and towards what we've advised in the Agriculture section. As you've stated, these technologies are currently undeveloped and cannot be relied on to set emissions budgets (which you rightly used to justify excluding their effect in setting the emissions budgets). Yet in this section of the Advice you state they are 'promising emissions reducing options'. This is inconsistent, and the positive framing of these technologies should be removed (and replaced with emphasis on our solutions in the Agriculture section).

Targets

We also believe you've understated the risk alternative proteins pose to our agriculture sector. While Aotearoa does have natural advantages for pastoral farming, ultimately the environmental impacts at the core of intensive animal agriculture are massive relative to alternative proteins. As such, it's likely that as alternative proteins continue to drop in price, they will become the first choice for consumers not just in North America and Europe, but in emerging/'global south' markets too. This is because alternative proteins represent a significantly more sustainable and efficient way to feed populations, while still satisfying requirements like flavour and texture. These changes in global appetite should be accounted for in a long term strategy for New Zealand's agriculture sector, but should begin with you recommending land use change and other factors – as detailed in the Agriculture section – in your advice.

While it's likely that some form of pastoral farming will always exist (if only to service ultra-premium markets) it is unlikely Aotearoa can rely on these markets to form the basis of our agriculture industry – and therefore economy – as they currently exist. As such, Aotearoa should focus on making less meat much more 'cleanly' (e.g. without synthetic fertilizers) for export, while investing in local alternative proteins, with central government assisting farmers with a shift to regenerative agriculture. The Government should also promote diets more in line with the 'planetary health diet' using a public service announcement campaign. These methods are all detailed and in more depth in the Agriculture section.

Who is Generation Zero?

We are a youth-led climate action organisation. We mobilise New Zealanders to engage with decision-making and campaign for intergenerational climate justice. Our previous campaigns have included the conception and successful passing of the Climate Change Response (Zero Carbon) Amendment Act 2019 (CCRA), which established the Climate Change Commission.

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We appreciate and thank you for the opportunity to submit on this important report!

Generation Zero
A FUTURE THAT'S NOT SHIT